

Stormwater – Overview, Goals, and Objectives

Overview

The mission of the Stormwater Management Program is to enhance the collection and transport of stormwater through publicly owned infrastructure and, where feasible, implement treatment prior to discharging this stormwater to receiving waters. Elements of the program include maintenance and repair of existing facilities, construction of new facilities where warranted, public education and stormwater studies. These studies would include, but not be limited to, quantity determinations and water quality analyses during various times of the year. The functions of the program are carried out utilizing Town personnel and equipment, contractors when necessary, engineering and scientific consultants, and by working with other local governments and appropriate State agencies.

Stormwater Management in Nags Head is a complex balancing act between several competing factors such as, economic development, natural resource preservation, flood control, and water quality. Development and redevelopment creates a feedback loop with respect to stormwater runoff. As development occurs, stormwater runoff increases from the additional impervious surfaces reducing the amount of pervious surfaces available for infiltration. Evapotranspiration decreases as vegetation is removed and trees are cleared. Furthermore, groundwater elevations tend to increase when vegetation and trees are removed. As groundwater elevations increase, developers are more likely to fill lots to make them buildable thereby eliminating natural drainage features and areas of infiltration. More stormwater runoff enters the system thus continuing the cycle.

Frequent flooding can curtail investment and tourism in a town where tourism is a critical part of the economy. The desire to limit flooding must be tempered by the need to limit pollutant loads to critical waterbodies such as the Roanoke Sound and Atlantic Ocean. Degradation of the waterways can lead to beach closures and shellfishing closures, which can also have an impact on tourism and the economy. The Stormwater Management Program provides the Town with a prioritized list of flood control and water quality capital improvement projects that will help the Town balance competing stormwater management issues and respond to an increasingly strict regulatory environment.

Goals

- Develop environmentally sensitive solutions to drainage infrastructure improvements and maintenance, while maintaining fiscal responsibility. (BOC Values 2, 3, 4 and 5)
- Involve the public in decision-making that balances residential, tourism, and business needs, is fiscally responsible and results in projects that are supportive of community needs. (BOC Values 2, 3, 4 and 5)
- Continually improve customer service and communications. (BOC Values 2, 3 and 5)
- Establish an affordable long range action plan for progressively improving the Town's stormwater drainage infrastructure. (BOC Values 1, 3 and 4)
- Maintain Town-wide visibility of the plan's progress and effectiveness. (BOC Value 2)

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Objectives and Related Performance Indicators

- **Objective** - Improve Town drainage infrastructure through planning, maintenance, or new construction, where appropriate.

Performance Indicators -

1. Continuation of identification of stormwater infrastructure and maintenance projects through Stormwater Working Group. The focal point will concentrate on potential improvements to the main drainage routes and working back upstream through the neighborhoods identifying areas of concern and the evaluation of potential alternatives.
2. Implementation of the second and third phase of a comprehensive Stormwater Management plan update via the development of a 10-yr CIP program. The scope of work will be performed by an outside engineering consultant to develop a strategic basin-wide multiobjective plan to assist in prioritizing stormwater maintenance and capital projects based upon a select set of criteria (i.e.frequency of flooding, system condition, water quality, etc.). The CIP deliverable is meant to serve as a "living document" so that the Town can update as projects are completed and new ones are added.
3. Continue to pursue assistance and support from NCDOT to address areas of nuisance flooding along S. Virginia Dare Trail (NC 12), S. Old Oregon Inlet Rd, (NCSR 1243) and S. Croatan Hwy. (US Hwy 158) (i.e. Red Drum Ocean Outfall).
4. Continued coordination from NCDOT to provide temporary relief from roadway flooding on S. Old Oregon Inlet Rd. (NCSR 1243) in the vicinity of Milepost 19 with supplemental drainage infrastructure improvements.
5. Continued coordination with NCDOT to reduce tailwater water surface elevations within the connecting upstream ditches along main drainageways.
6. Investigate, plan and replace Town-owned critical drainage facilities, (i.e. Soundside Rd., Mall Dr.).
7. Continued coordination with the National Park Service to conduct annual maintenance activities within the outfall portions of the west side NC 1243 drainage system.
8. Purchase of equipment to necessary to conduct systematic annual maintenance, on-demand maintenance, and post- storm maintenance.
9. Continuation in the upfit of the Vista Colony Groundwater Lowering system from a temporary pilot project to a permanent system operation. This shall include implementation of components that will assist in the conversion from manual to an automated operation, via a phased approach.
10. Continue to explore opportunities for public education and outreach via social media, Town's website, public forums and other available media outlets.
11. Maintain an adequate fund reserve operation of equipment and materials to perform necessary maintenance on existing drainage infrastructure.
12. Seek additional funding opportunities from local, state and federal agencies to assist with future stormwater planning and construction efforts.
13. Perform hydraulic and hydrologic analyses of identified areas of concern for appropriate infrastructure sizing, when required.
14. Continue to monitor and evaluate performance of existing drainage infrastructure.
15. Continued coordination with NCDOT for the repair/extension of the Park Service Ocean Outfall.

Stormwater – Budget Highlights

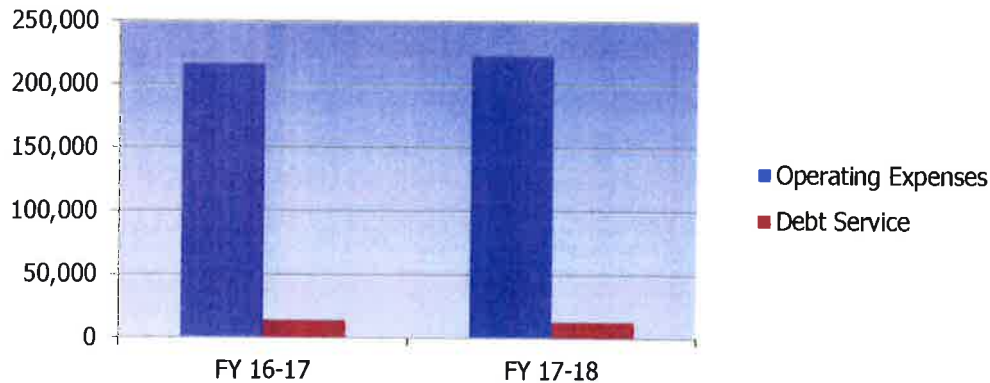
Highlights

- This budget includes funding for the Stormwater Management Ten Year Master Plan/Stormwater Reserve totaling \$200,000, with \$100,000 payments in Fiscal Year 2017-2018 and Fiscal Year 2018-2019.
- Funding includes \$35,000 for drainage improvements at Mall Drive and \$50,000 for a south Nags Head drainage improvement project .
- Funding of \$18,000 is included for Vista Colony pump automation.

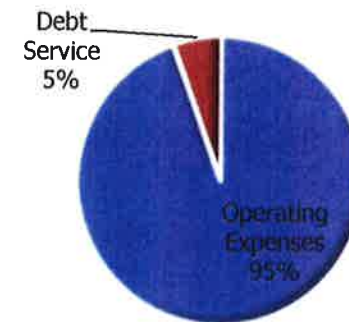
Expenditures by Function

		FY 2016-2017		FY 2017-2018	Percent
		<u>Adopted</u>		<u>Recommended</u>	<u>Change</u>
Operations	\$	216,538	\$	222,610	2.80%
Debt Service	\$	14,366	\$	12,924	-10.04%
Total	\$	230,904	\$	235,534	2.01%

Fiscal Year 2017-2018 Recommended Expenditures and Adopted Expenditure History



Fiscal Year 2017-2018 Recommended Expenditures by Function



**Town of Nags Head
Recommended Budget
For the Fiscal Year 2017-2018**

Department: *Stormwater*

Account Description	Departmental Requested 2017-2018	Manager's Recommended 2017-2018	Financial Plan 2018-2019	Adopted Budget 2016-2017	Adjusted Budget 2016-2017	Estimated Actual Expenditures 2016-2017	Actual Expenditures 2015-2016	Actual Expenditures 2014-2015
OPERATIONS								
UTILITIES	\$ 2,250	\$ 2,250	\$ 2,250	\$ 2,750	\$ 2,750	\$ 1,500	\$ 1,086	\$ 1,355
FUEL COSTS	2,000	2,000	2,000	2,000	2,000	1,658	743	2,698
DEPARTMENT SUPPLIES	5,000	5,000	5,000	20,000	20,000	5,223	431	760
MAINT/REPAIR EQUIPMENT	6,000	6,000	6,000	5,000	5,000	3,396	9,068	2,606
PROFESSIONAL FEES	4,000	4,000	4,000	4,000	4,000	1,500	2,700	-
PROF FEE/WATER QUALITY TESTING	360	360	360	360	360	510	360	960
CONTRACTED SERVICES	203,000	203,000	210,000	182,428	182,428	120,000	-	171,427
DEPRECIATION EXPENSE	-	-	-	-	-	-	88,279	61,748
Subtotal Operations	\$ 222,610	\$ 222,610	\$ 229,610	\$ 216,538	\$ 216,538	\$ 133,787	\$ 102,667	\$ 241,554
CAPITAL OUTLAY								
CAPITAL OUTLAY OTHER	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 218,159	\$ 30,650
CAPITAL OUTLAY EQUIPMENT	-	-	-	-	50,562	52,078	-	-
Subtotal Capital Outlay	\$ -	\$ -	\$ -	\$ -	\$ 50,562	\$ 52,078	\$ 218,159	\$ 30,650
DEBT SERVICE								
L/P PRINCIPAL	\$ 12,360	\$ 12,360	\$ 12,545	\$ 14,366	\$ 14,366	\$ 12,924	\$ -	\$ -
L/P INTEREST	564	564	379	-	-	-	-	-
Subtotal Debt Service	\$ 12,924	\$ 12,924	\$ 12,924	\$ 14,366	\$ 14,366	\$ 12,924	\$ -	\$ -
TOTAL	\$ 235,534	\$ 235,534	\$ 242,534	\$ 230,904	\$ 281,466	\$ 198,789	\$ 320,826	\$ 272,204