

Public Services Department Stormwater Division



The Stormwater Program

Stormwater Program History

- The Clean Water Act of 1972 created the National Pollutant Discharge Elimination System (NPDES)
- The Water Quality Act of 1987 expanded the power of the NPDES
 - Municipalities with separate storm sewer systems (MS4's) need permits in order to discharge into receiving waters
- 1990: Phase I, municipalities with populations of 100,000 or more obtain permits
- 1992: The stormwater utility is established in High Point
- 1996: The stormwater division is established in High Point
- 2003: The City of High Point obtains an NPDES Phase II permit



NPDES Stormwater Permit Requirements



- 💧 Illicit Discharge Detection and Elimination
- 💧 Construction and Runoff Controls
- 💧 Public Education and Outreach
- 💧 Post-Construction Site Runoff Controls
- 💧 Public Involvement and Participation
- 💧 Total Maximum Daily Loads Management
- 💧 Pollution Prevention and Good Housekeeping for Municipal Operations

Stormwater Maintenance Policy

The City of High Point maintains stormwater drainage systems that are located in the public right-of-way



Before

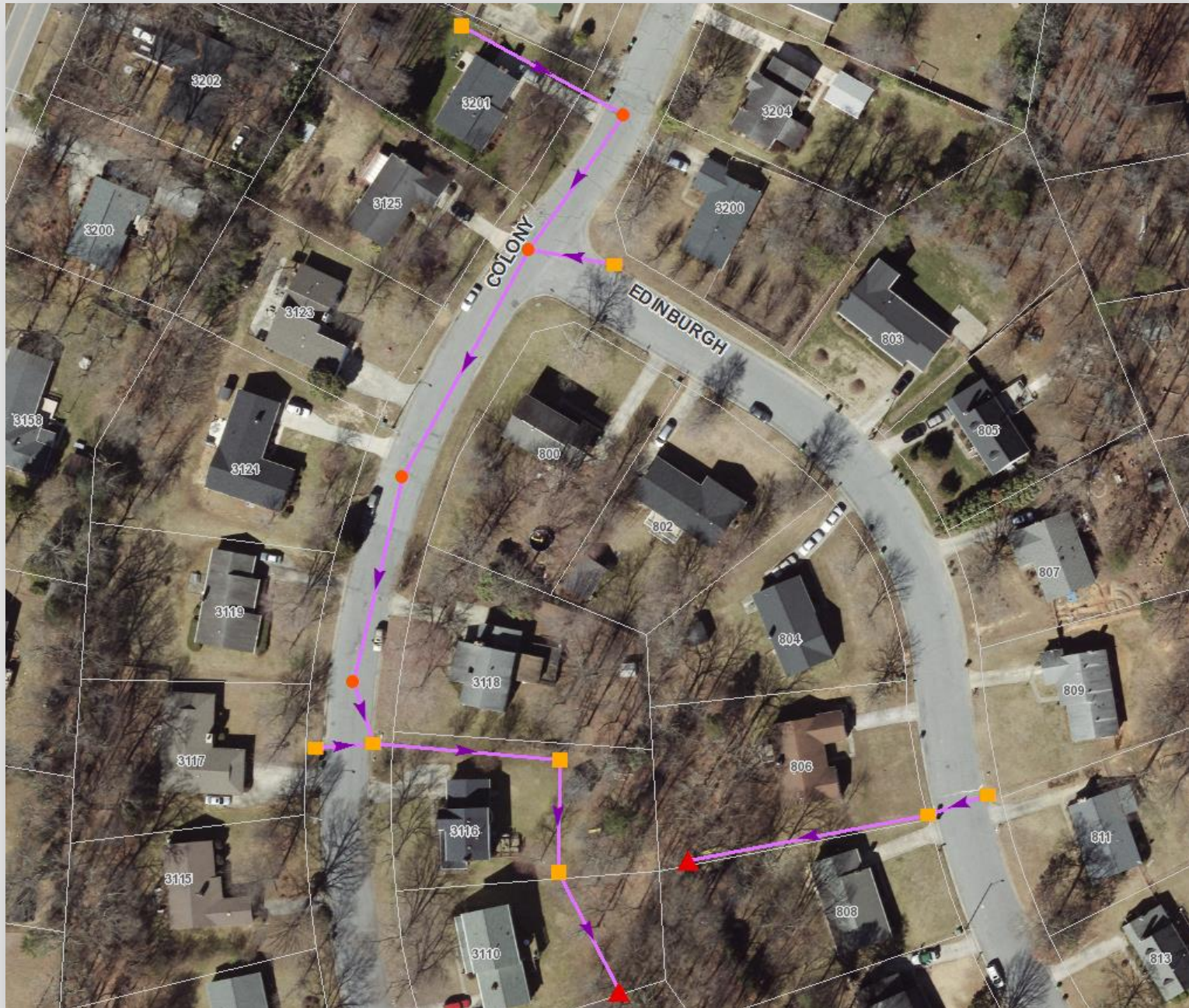


After

The City does not maintain stormwater drainage systems located on private property

However, the City does provide the *Stormwater Management Improvement Program* to assist private property owners who receive stormwater runoff from City property or City-maintained streets

Stormwater Maintenance and the Right-of-Way



Stormwater Management Improvement Program

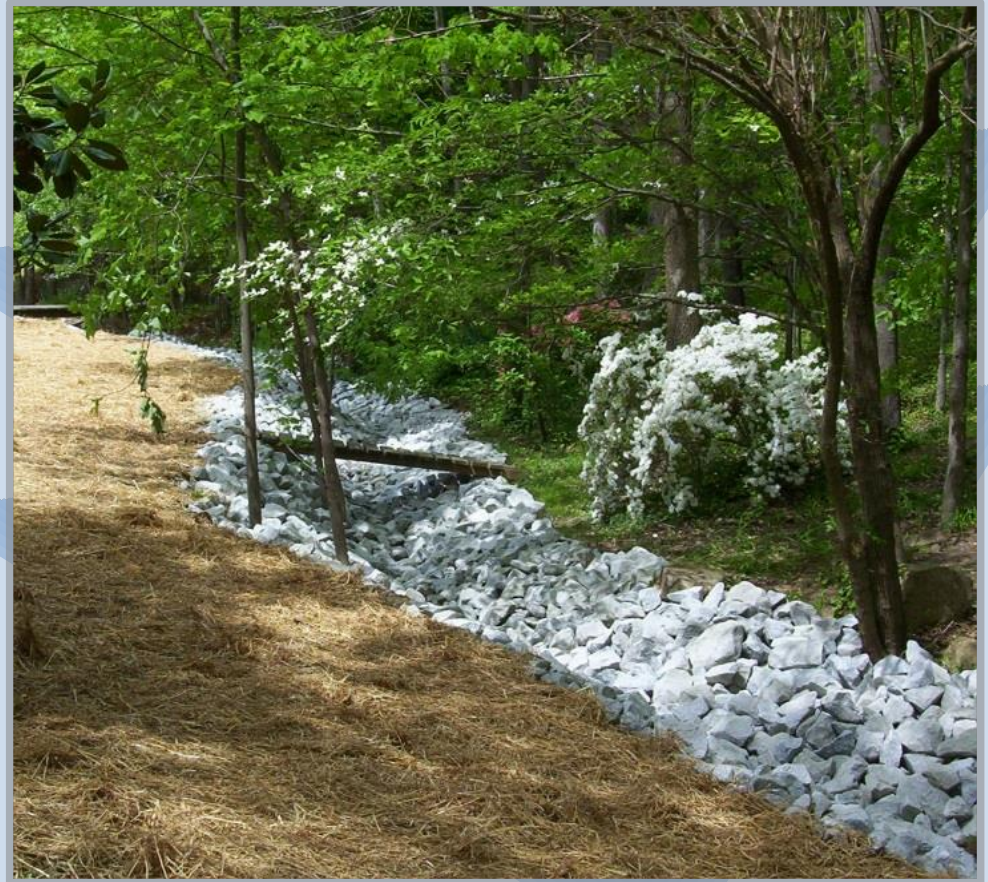
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The Stormwater Management Improvement Program is available to assist property owners with storm drainage problems

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What Work Will the City Perform?

- Clean out debris and obstructions to improve water flow
- Perform bank and slope stabilization
- Install pipe to contain flow



See Handout

Stormwater Management Improvement Program

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The Stormwater Management Improvement Program is available to assist property owners with storm drainage problems

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Who Qualifies for the Program?

- All property owners in the City of High Point where:
 - The site receives stormwater from public streets or publicly owned land contributing to the flow of the pipe/channel

This program does not apply to new construction projects or to the maintenance of privately owned water quality devices or pipes greater than 42 inches in diameter.



See Handout

Stormwater Management Improvement Program

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The Stormwater Management Improvement Program is available to assist property owners with storm drainage problems

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Who is Financially Responsible?

- The City will provide all engineering and plans for the work, including scope of the work, means of performing it, schedule, and size and type of any materials necessary
- The property owner(s) shall be responsible for paying all materials necessary for construction



See Handout

The 2004 Bond Referendum



\$15.4 million for large-scale stormwater improvements in seven identified drainage basins

Preliminary Basins Study: \$548,850

Hamilton/Montlieu: 4 of 5 projects completed at \$6,060,041

Hospital/W. Ray: 0 of 6 projects completed at \$813,084

Rockford/Country Club/Kensington/Rotary/Farriss: 2 of 9 projects completed at \$1,685,926

Jacob's Place/W. Green: 4 or 7 projects completed at \$3,164,789

Sherbrook: 2 of 2 projects completed at \$2,578,462

Total Completed Project Cost: \$14,851,152

Estimated Cost to Complete Projects Identified for 2004 Bond Referendum

Project	Design / Construction Sequence	Estimated Engineering and Construction Time	2004 Engineer's Cost Estimate (\$ Millions)	2015 Estimated Cost (\$ Millions)
Country Club/ Rockford/ Westchester/ Dovershire/ Kensington	1	2 years	N/A	\$1.54
W Ray/Hospital-2			\$1.64	\$2.13
W Ray/Hospital-3a			\$2.28	\$2.96
W Ray/Hospital-3b	2	5 years	\$4.35	\$5.66
W Ray/Hospital-3c			\$2.14	\$2.78
W Ray/Hospital-3d			\$0.62	\$0.81
Hamilton/Montlieu-2	3	2 years	\$1.21	\$1.57
Rotary/Farriss-2			\$0.14	\$0.18
Rotary/Farriss-4	4	2 years	\$0.11	\$0.14
Rotary/Farriss-7			\$0.02	\$0.03
Rotary/Farriss-12			\$0.04	\$0.05
Jacobs Place /Green-7	5	3 years	\$2.54	\$3.30
Total Cost			\$15.09	\$19.62

Pay-as-you-go Projects

Since 2003

Completed Project	Cost
Asbill Ave	\$ 85,596
Barbee Ave	\$ 171,032
Charlotte Ave	\$ 1,033,795
Coltrane Ave	\$ 146,123
Delk Dr	\$ 279,016
Mint Ave	\$ 74,958
Rock Bridge Rd	\$ 47,447
Wayside St	\$ 66,290
Hall St	\$ 86,898
Carolynndon Dr	\$ 42,114
*Sunset Ave	\$ 227,471
Total Cost	\$2,260,740



Pay-as-you-go Projects

Planned Project

Appropriated Funds

Meredith St

Under Contract

\$ 76,066

*Edgedale/Woodbrook

Design Complete

\$303,162

*Gatewood/Westwood

Design Complete

\$350,280

Hedrick/Chandler

Design Complete

\$137,420

*Jacobs Pl 1 & 5

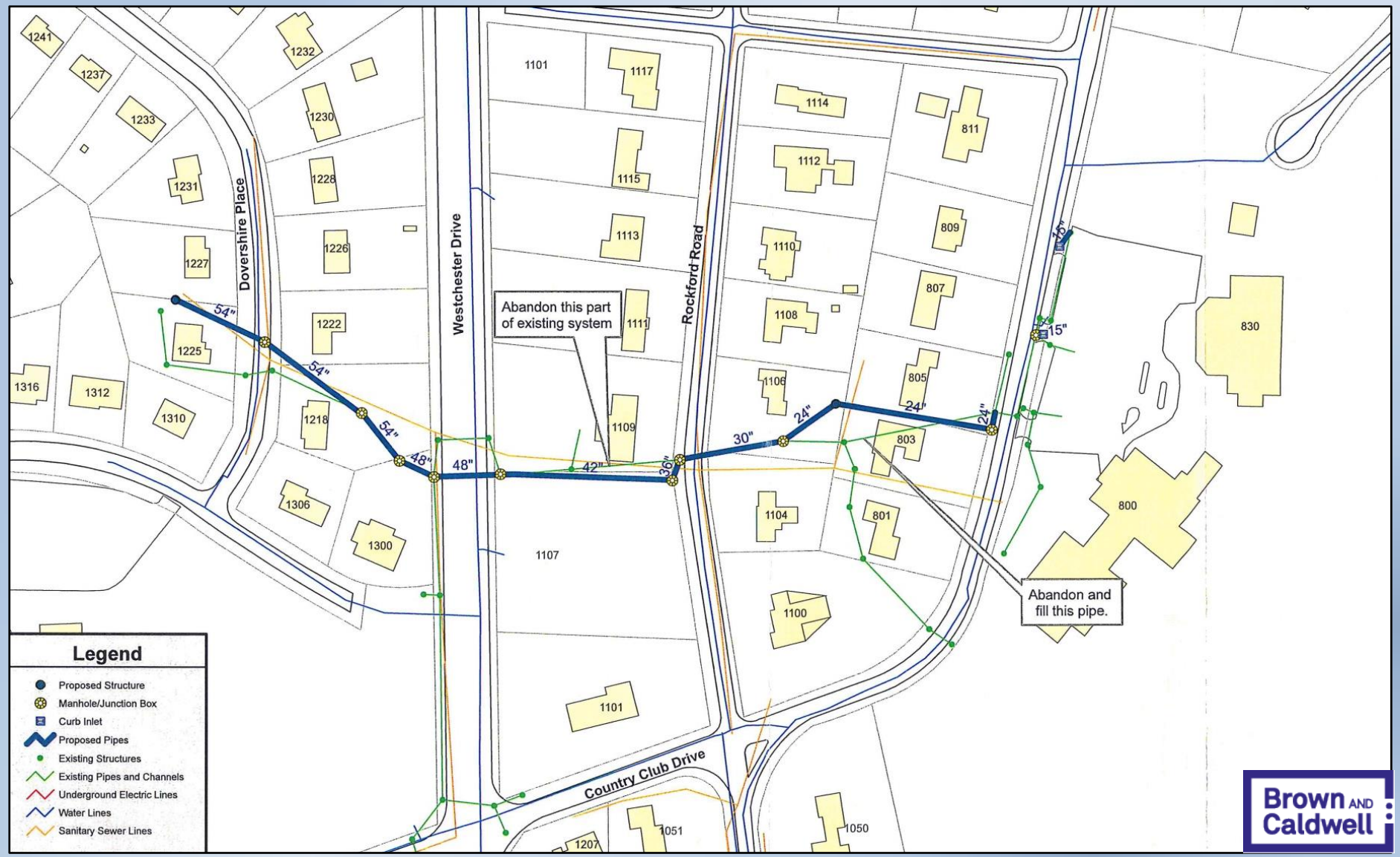
Under Design

\$ 3,817,525

Total Cost \$ 4,684,453

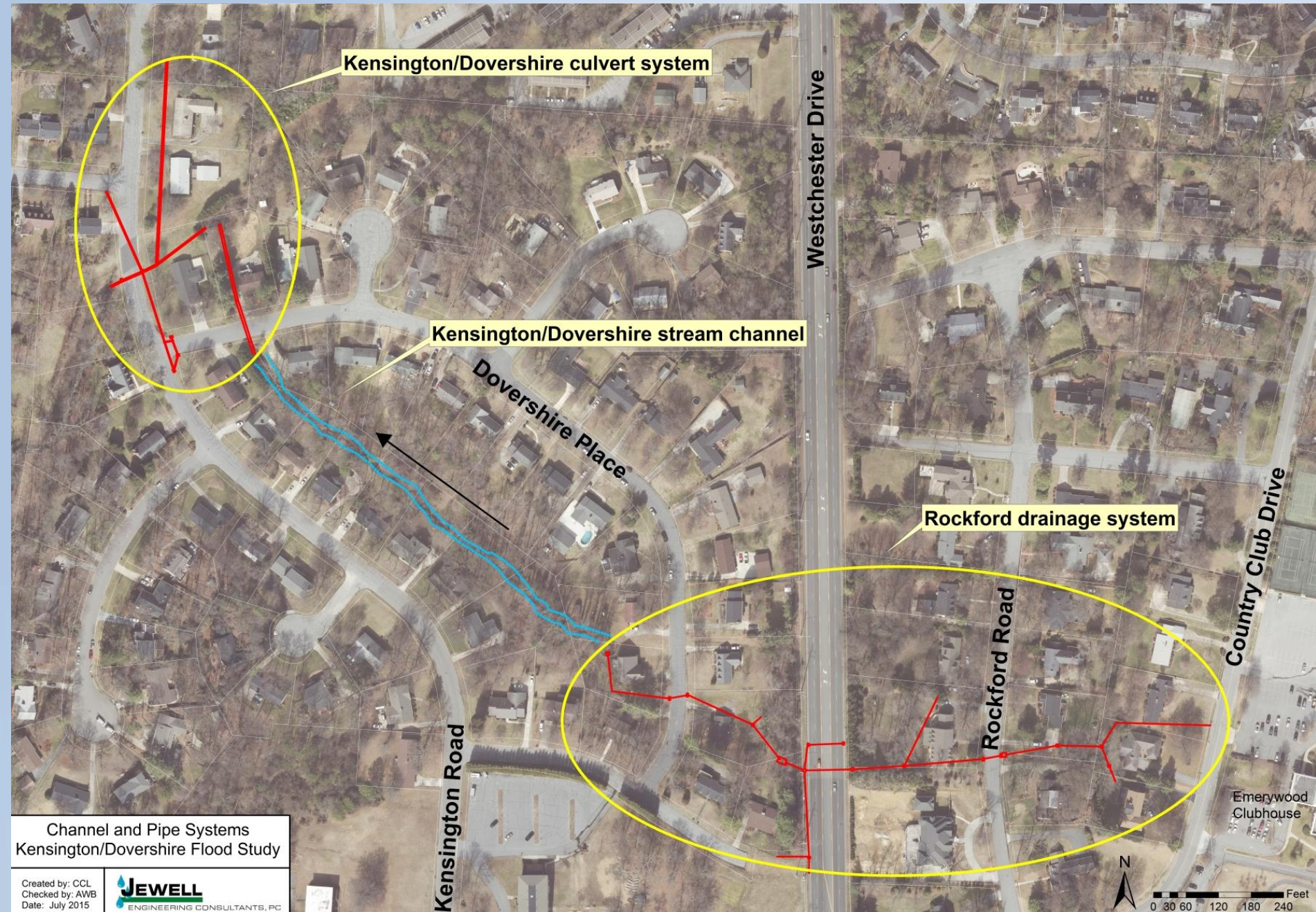


Rockford/Country Club Drainage System: Original Project Area



2004 Cost Estimate: \$510,000

Rockford/Country Club, Kensington & Dovershire Revised Project Areas





Rockford/Country Club, Kensington, & Dovershire Project Areas

Rockford Drainage System

<i>Original 2004 Cost Estimate</i>	<i>\$510,000</i>
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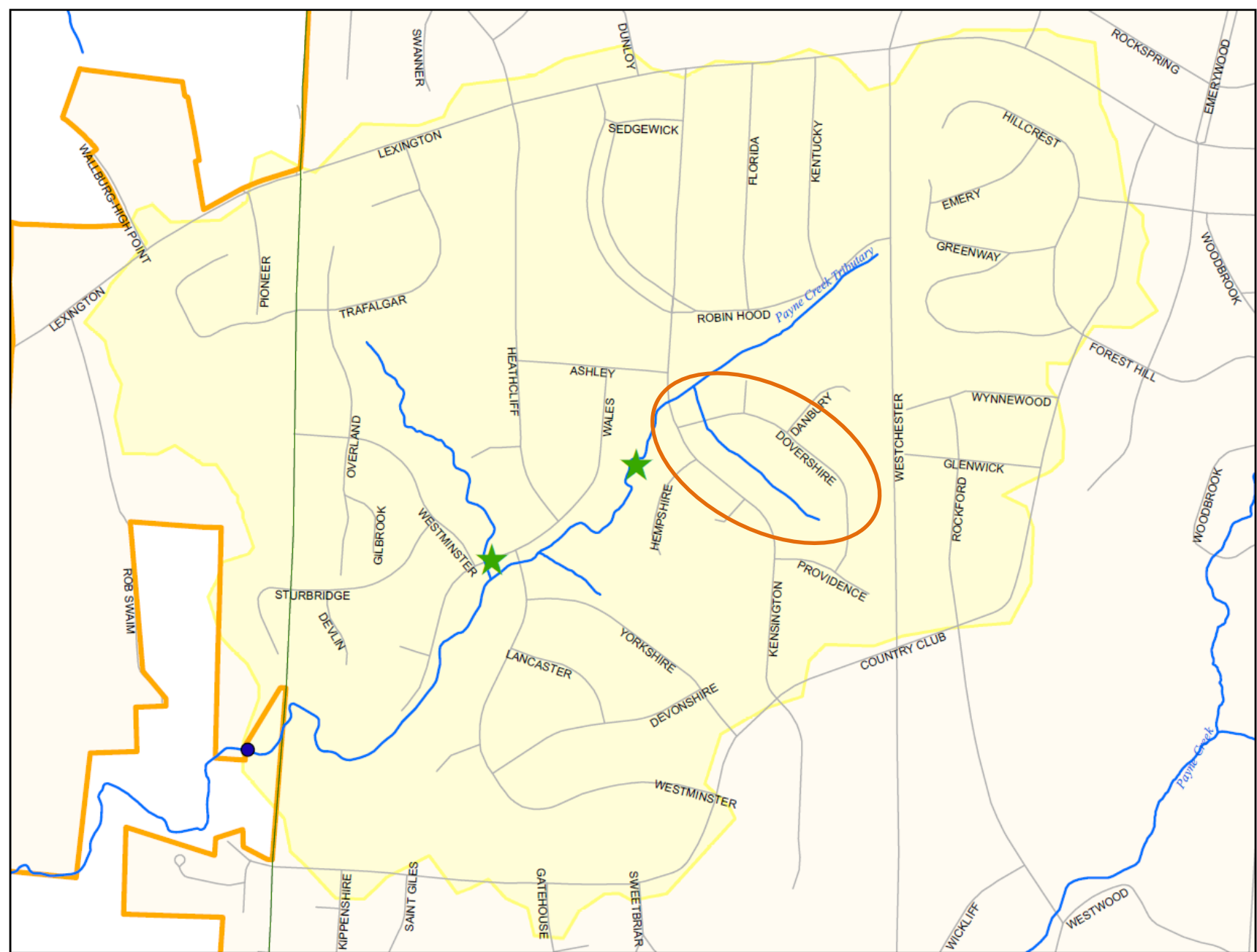
Revised 2015 Cost Estimate	\$819,338
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Kensington/Dovershire Stream Channel Stabilization	\$260,000
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Kensington/Dovershire Culvert System	\$462,000
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Total Cost	\$1,514,338
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Rockford/Country Club, Kensington & Dovershire Drainage Area

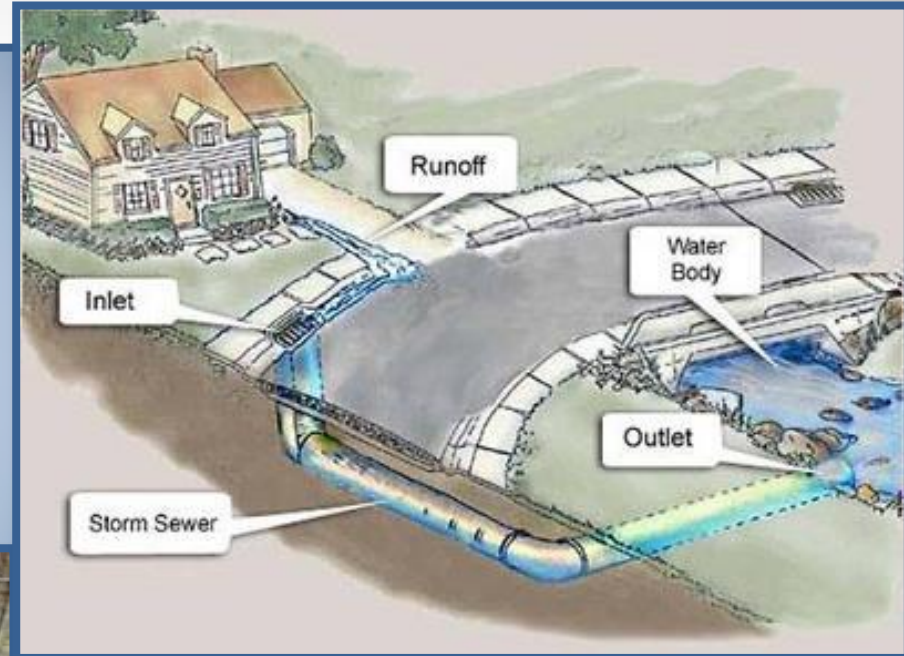


High Point's Stormwater Fee: Residential

The residential billing rate is for 1 ERU which is currently \$3.00.

Customers are billed for stormwater runoff based on the Equivalent Residential Unit (ERU)

→ An ERU is the average impervious surface area (ISA) found on a single-family residence



- Impervious surfaces are any built-upon areas that impede the natural infiltration of water into the soil (ISA)
- The ISA was calculated for High Point residential properties using aerial photography
 - The ERU for High Point was determined to be **2,588 ft²**

High Point's Stormwater Fee: Commercial



The billing rate for 1 ERU is \$3.00

- All residential units are billed monthly for 1 ERU
- All commercial and industrial properties are charged based on their total ISA:
 - ISA is divided by the ERU of 2,588ft² and multiplied by \$3.00/month

Example:

$$100,000 \text{ ft}^2 / 2588 \text{ ft}^2 = 38.64 \text{ ERU}$$

$$38.64 \text{ ERU} \times \$3.00/\text{month} = \$115.92/\text{month} \text{ for the stormwater utility fee}$$



How do we compare?

Fee per month:

	2,500 ft² ISA Residential	20,000 ft² ISA Commercial	450,000 ft² ISA Commercial
Greensboro	\$2.70	\$21.23	\$477.78
High Point	\$3.00	\$23.18	\$521.64
Raleigh	\$4.00	\$35.40	\$796.46
Asheville	\$4.20	\$34.40	\$773.96
Concord	\$4.30	\$27.56	\$620.19
Winston-Salem	\$4.50	\$31.80	\$715.39
Durham	\$6.75	\$35.40	\$796.46
Wilmington	\$7.23	\$57.84	\$1,301.40
Charlotte	\$10.18	\$75.56	\$1,700.21

The Future of the Stormwater Program

- Project and plan for future funding sources for capital improvement projects.
- Ensure compliance with NPDES Phase II permitting requirements.



The Stormwater Division Financial Plan

CITY OF HIGH POINT STORMWATER FUND

SCENARIO 1 - No rate increase. Cash affordability to fund future projects.

	Actual	Budget	Projections							
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Beginning Balance	882,360	1,069,704	1,069,704	449,570	396,230	394,510	397,979	401,467	405,784	409,964
Total Operating Revenues	2,587,402	3,825,598	3,856,931	3,891,957	3,940,906	3,978,662	4,017,263	4,059,707	4,099,178	4,139,136
Total Other Financing Sources	1,189,689	-	-	-	-	-	-	-	-	-
Total Revenues	3,777,091	3,825,598	3,856,931	3,891,957	3,940,906	3,978,662	4,017,263	4,059,707	4,099,178	4,139,136
Total Sources of Funds	4,659,451	4,895,302	4,926,635	4,341,527	4,337,136	4,373,172	4,415,241	4,461,175	4,504,962	4,549,100
Personnel	961,518	1,262,897	1,292,580	1,317,805	1,340,998	1,367,387	1,399,636	1,427,794	1,457,075	1,487,614
Operating	798,991	843,467	862,792	876,346	890,073	905,447	921,136	937,307	965,624	982,368
Paygo Capital	647,036	1,200,000	1,173,000	455,000	347,000	281,500	318,000	373,000	407,000	554,000
Debt Service	1,182,202	1,114,051	1,148,692	1,296,147	1,364,556	1,420,859	1,375,001	1,317,290	1,265,299	1,111,553
Total Expenses	3,589,747	4,420,415	4,477,064	3,945,297	3,942,626	3,975,194	4,013,774	4,055,390	4,094,998	4,135,534
Ending Balance*	1,069,704	474,887	449,570	396,230	394,510	397,979	401,467	405,784	409,964	413,566
10% Fund Balance Policy Requirement	358,975	442,042	447,706	394,530	394,263	397,519	401,377	405,539	409,500	413,553
Amount Above FB Minimum	710,729	32,846	1,864	1,700	247	459	90	245	464	13

Monthly ERU \$ 2.00 \$ 3.00 \$ 3.00 \$ 3.00 \$ 3.00 \$ 3.00 \$ 3.00 \$ 3.00 \$ 3.00 \$ 3.00 \$ 3.00

Paygo Capital Projects	\$ 3,350,000	Available Funds:	\$ 3,908,500
Jacobs Place	3,300,000		
Hamilton Street	1,570,000		
Rockford/Rotary/Farris	400,000		
Country Club/Rockford/West./Dover	1,540,000		
Ray Street/Hospital	14,340,000		
Total	\$ 24,500,000		

*Financial Plan information provided by CHP Budget Department

Stormwater Business Plan

Scenario 1 – No Rate Increase

- No rate increase – maintains \$3/ERU per month
- Anticipates personnel and operating budget increases annually for inflation and other economic factors
- Funds debt service on existing debt (debt will be retired in 2030)
- Cash funds \$3.9 million of the \$24.5 million in projects over 8 year business plan

The Stormwater Division Financial Plan

CITY OF HIGH POINT STORMWATER FUND

SCENARIO 2 - Cash fund future capital plan with one rate increase.

	Actual	Budget	Projections							
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Beginning Balance	882,360	1,069,704	1,069,704	4,038,090	6,502,376	5,650,154	3,487,230	1,101,210	2,419,925	5,778,684
Current Operating Revenues (\$3 ERU)	2,587,402	3,825,598	3,856,931	3,891,957	3,940,906	3,978,662	4,017,263	4,059,707	4,099,178	4,139,136
Future Operating Revenues (\$2.75 ERU)	-	-	3,535,520	3,567,627	3,612,498	3,647,107	3,682,491	3,721,398	3,757,579	3,794,208
Total Other Financing Sources	1,189,689	-	-	-	-	-	-	-	-	-
Total Revenues	3,777,091	3,825,598	7,392,450	7,459,583	7,553,404	7,625,769	7,699,754	7,781,106	7,856,757	7,933,344
Total Sources of Funds	4,659,451	4,895,302	8,462,154	11,497,673	14,055,780	13,275,923	11,186,983	8,882,315	10,276,682	13,712,028
Personnel	961,518	1,262,897	1,292,580	1,317,805	1,340,998	1,367,387	1,399,636	1,427,794	1,457,075	1,487,614
Operating	798,991	843,467	862,792	876,346	890,073	905,447	921,136	937,307	965,624	982,368
Paygo Capital	647,036	818,500	1,120,000	1,505,000	4,810,000	6,095,000	6,390,000	2,780,000	810,000	-
Debt Service	1,182,202	1,114,051	1,148,692	1,296,147	1,364,556	1,420,859	1,375,001	1,317,290	1,265,299	1,111,553
Total Expenses	3,589,747	4,038,915	4,424,064	4,995,297	8,405,626	9,788,694	10,085,774	6,462,390	4,497,998	3,581,534
Ending Balance*	1,069,704	856,387	4,038,090	6,502,376	5,650,154	3,487,230	1,101,210	2,419,925	5,778,684	10,130,494
10% Fund Balance Policy Requirement	358,975	403,892	442,406	499,530	840,563	978,869	1,008,577	646,239	449,800	358,153
Amount Above FB Minimum	710,729	452,496	3,595,684	6,002,847	4,809,591	2,508,360	92,632	1,773,686	5,328,884	9,772,341

Monthly ERU	\$	2.00	\$	3.00	\$	5.75	\$	5.75	\$	5.75	\$	5.75	\$	5.75	\$	5.75	\$	5.75	\$	5.75
Paygo Capital Projects	\$	3,350,000																		
Jacobs Place		3,300,000																		
Hamilton Street		1,570,000																		
Rockford/Rotary/Farris		400,000																		
Country Club/Rockford/West./Dover		1,540,000																		
Ray Street/Hospital		14,340,000																		
Total	\$	24,500,000																		

*Financial Plan information provided by CHP Budget Department

Stormwater Business Plan

Scenario 2 - Cash Fund Projects

- Increases rate by \$2.75, from \$3/ERU to \$5.75 ERU per month effective July 1, 2016
- Anticipates personnel and operating budget increases annually for inflation and other economic factors
- Funds debt service on existing debt (debt will be retired in 2030)
- Cash funds \$24.5 million in projects over 8 year business plan

The Stormwater Division Financial Plan

CITY OF HIGH POINT STORMWATER FUND

SCENARIO 3 - Debt fund future capital plan with rate increase.

	Actual	Budget	Projections							
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Beginning Balance	882,360	1,069,704	1,069,704	502,570	10,999,549	7,109,464	12,323,304	5,149,930	1,979,583	852,255
Current Operating Revenues (\$3 ERU)	2,587,402	3,825,598	3,856,931	3,891,957	3,940,906	3,978,662	4,017,263	4,059,707	4,099,178	4,139,136
Current Operating Revenues (\$1 ERU)			-	1,297,319	1,313,635	1,326,221	1,339,088	1,353,236	1,366,393	1,379,712
Bond Funding	-	-	-	11,050,000	-	11,050,000		-	-	-
Total Other Financing Sources	1,189,689	-	-	-	-	-		-	-	-
Total Revenues	3,777,091	3,825,598	3,856,931	16,239,275	5,254,542	16,354,883	5,356,350	5,412,943	5,465,570	5,518,848
Total Sources of Funds	4,659,451	4,895,302	4,926,635	16,741,846	16,254,091	23,464,347	17,679,654	10,562,873	7,445,153	6,371,103
Personnel	961,518	1,262,897	1,292,580	1,317,805	1,340,998	1,367,387	1,399,636	1,427,794	1,457,075	1,487,614
Operating	798,991	843,467	862,792	876,346	890,073	905,447	921,136	937,307	965,624	982,368
Paygo Capital	647,036	818,500	350,000	375,000	400,000	425,000	450,000	450,000	450,000	450,000
Capital	-	-	770,000	1,130,000	4,410,000	5,410,000	6,790,000	2,780,000	810,000	-
Existing Debt Service	1,182,202	1,114,051	1,148,692	1,296,147	1,364,556	1,420,859	1,375,001	1,317,290	1,265,299	1,111,553
Future Debt Service (\$10.6 mil)	-	-	-	747,000	739,000	828,000	818,000	801,500	786,000	765,000
Future Debt Service (\$10.6 mil)						784,350	775,950	869,400	858,900	841,575
Total Expenses	3,589,747	4,038,915	4,424,064	5,742,297	9,144,626	11,141,044	12,529,724	8,583,290	6,592,898	5,638,109
Ending Balance*	1,069,704	856,387	502,570	10,999,549	7,109,464	12,323,304	5,149,930	1,979,583	852,255	732,994
10% Fund Balance Policy Requirement	358,975	403,892	442,406	574,230	914,463	1,114,104	1,252,972	858,329	659,290	563,811
Amount Above FB Minimum	710,729	452,496	60,164	10,425,319	6,195,002	11,209,199	3,896,958	1,121,254	192,965	169,183

Monthly ERU	\$2.00	\$3.00	\$3.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Paygo Capital Projects	\$ 3,350,000									
Jacobs Place	3,300,000									
Hamilton Street	1,570,000									
Rockford/Rotary/Farris	400,000									
Country Club/Rockford/West./Dover	1,540,000									
Ray Street/Hospital	14,340,000									
Total	\$ 24,500,000									

*Financial Plan information provided by CHP Budget Department

Stormwater Business Plan

Scenario 3 – Debt Fund Projects

- Increases rate by \$1.00, from \$3/ERU to \$4.00 ERU per month effective July 1, 2017
- Anticipates personnel and operating budget increases annually for inflation and other economic factors
- Funds debt service on existing debt (debt will be retired in 2030)
- Debt funds \$21.2 million in projects over 8 year business plan
- Cash funds \$3.35 million in projects over 8 year business plan

Next Steps

- Pay Go – No Increase
- Pay Go – \$2.75 Rate Increase
- Bond Issuance - \$1.00 Rate Inc.