

IOWA

Department of Civil and
Environmental Engineering

Clinton Stormwater Utility Fee

December 2022



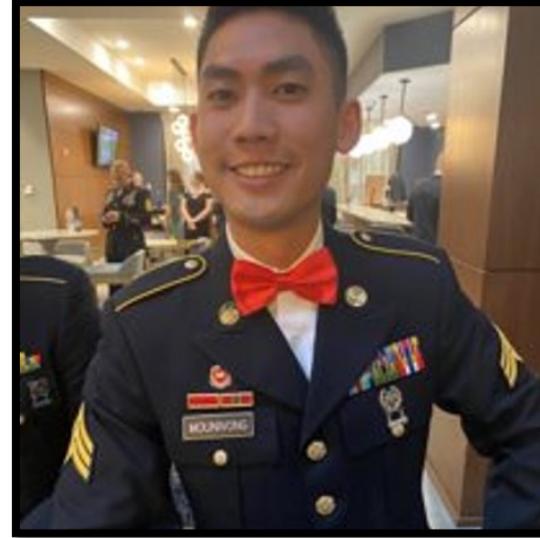
Our Team



Laura Zepeski
Project Manager
Environmental Engineering



Maritza Jones
Environmental Engineering

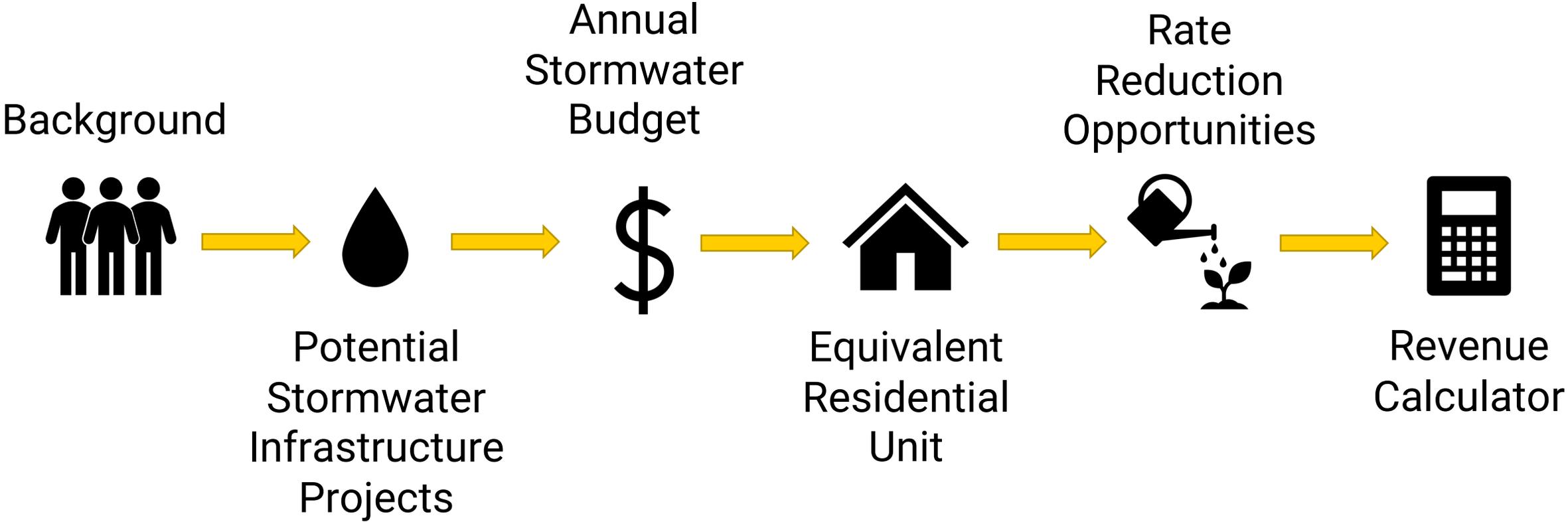


Alex Mounivong
Environmental Engineering

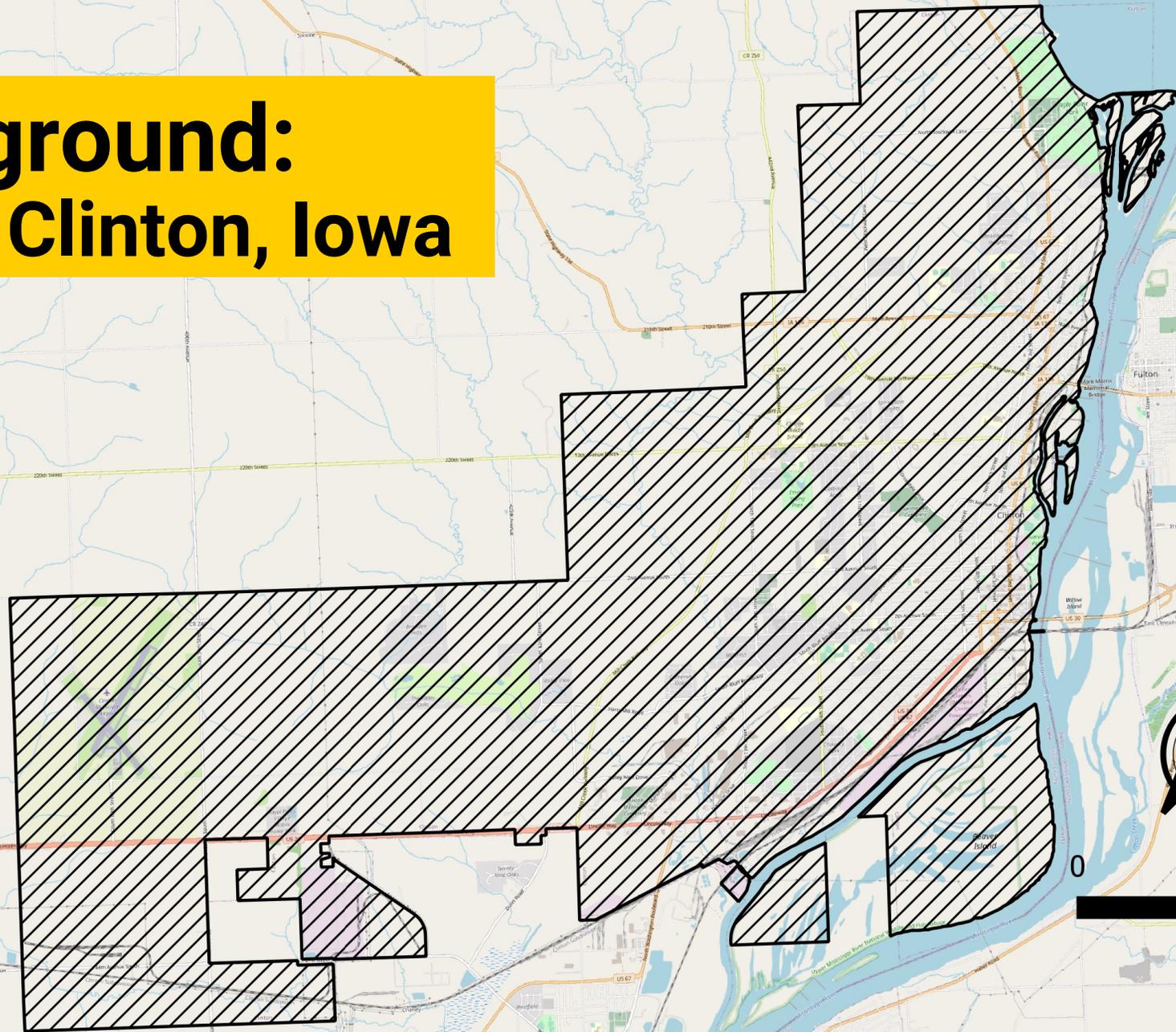


Margaret Trowbridge
Civil Engineering

Overview



Background: City of Clinton, Iowa



Clinton's Stormwater Utility Fee

Many factors are financially stressing Clinton's municipal utility budgets.

- Additional environmental regulation requirements
- Separation of stormwater and sanitary sewers
- Decreasing population
- Aging infrastructure
- Increase in extreme rainfall events

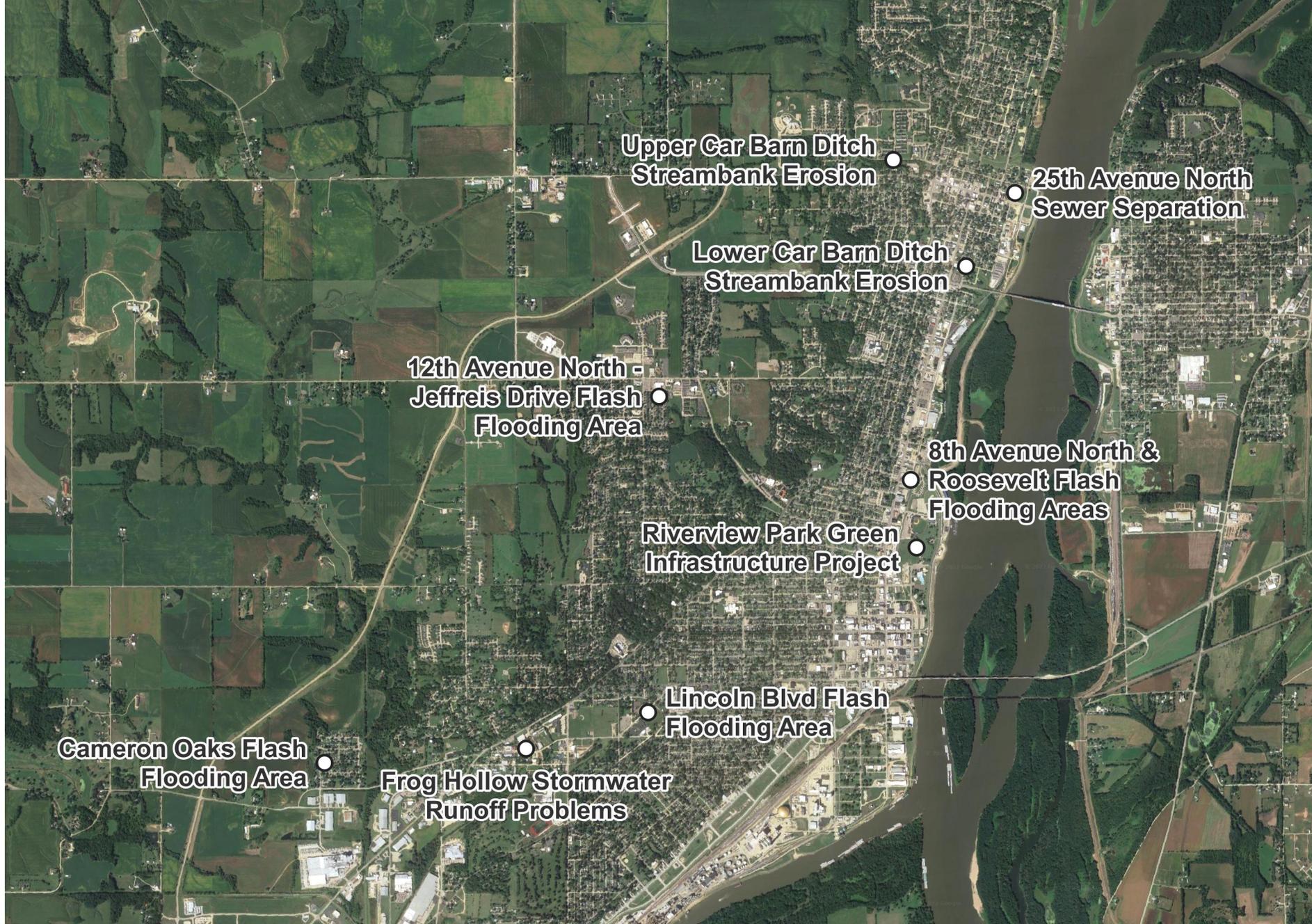


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Utility Rates

City	Population	Stormwater rate	Sanitary sewer Rate	Water Rate	Credit (reduce overall fee)	Cost share, rebate, grant program	Total utility cost
Waukee	23,940	\$6.25	\$49.94	\$40.85	No	Yes	\$97.04
North Liberty	20,875	\$2.00	\$48.08	\$38.42	No	Yes	\$88.50
Pleasant Hill	10,157	\$4.00	\$33.37	\$39.32	No	Yes	\$76.70
Norwalk	12,799	\$7.50	\$38.71	\$28.77	No	Yes	\$74.98
Clinton	24,434	\$4.63	\$38.52	\$35.47	Yes	Yes	\$73.98
Cedar Rapids	132,000	\$7.26	\$36.47	\$29.58	Yes	Yes	\$73.30
Johnston	24,500	\$7.05	\$26.39	\$34.05	No	Yes	\$67.59
Dubuque	51,941	\$9.00	\$23.64	\$33.08	Yes	Yes	\$65.72
Marion	41,500	\$3.50	\$26.00	\$34.50	Yes	Yes	\$64.00
Coralville	24,222	\$3.00	\$31.35	\$18.72	No	Yes	\$53.07
Marshalltown	27,591	\$4.00	\$36.43	n/a	Yes	No	\$40.43

Potential Stormwater Project Locations





Scope

Stormwater Expense Estimates & Utility Fee Structure

- Rate Structure
- Impervious Area Calculations

Rate Reduction Opportunities

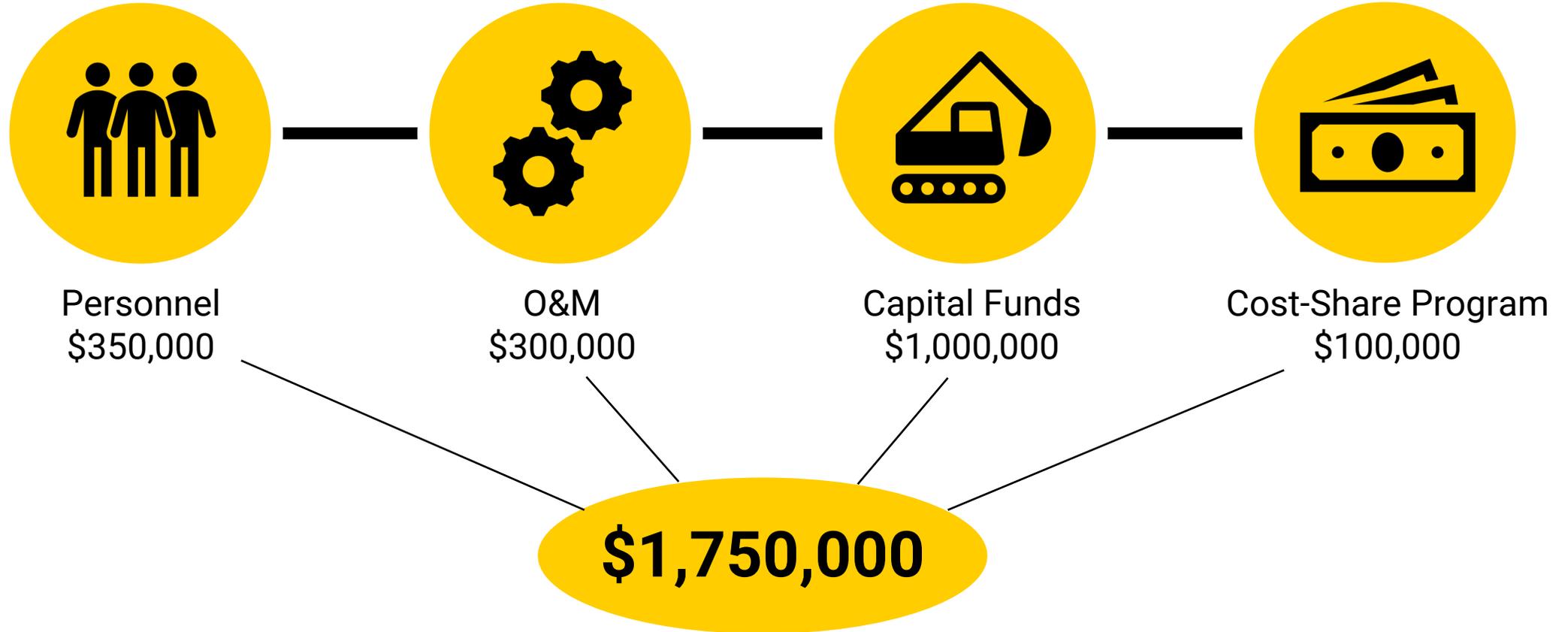
- Credits for BMPs
- Cost-Share Program

Revenue Estimations

An aerial photograph of a city, likely New Haven, Connecticut, showing a mix of residential, commercial, and industrial areas. A prominent yellow text box is overlaid on the left side of the image. The city is situated near a large body of water, with a bridge visible in the distance. The text in the box reads:

Stormwater Expense Estimates and Utility Fee Structure

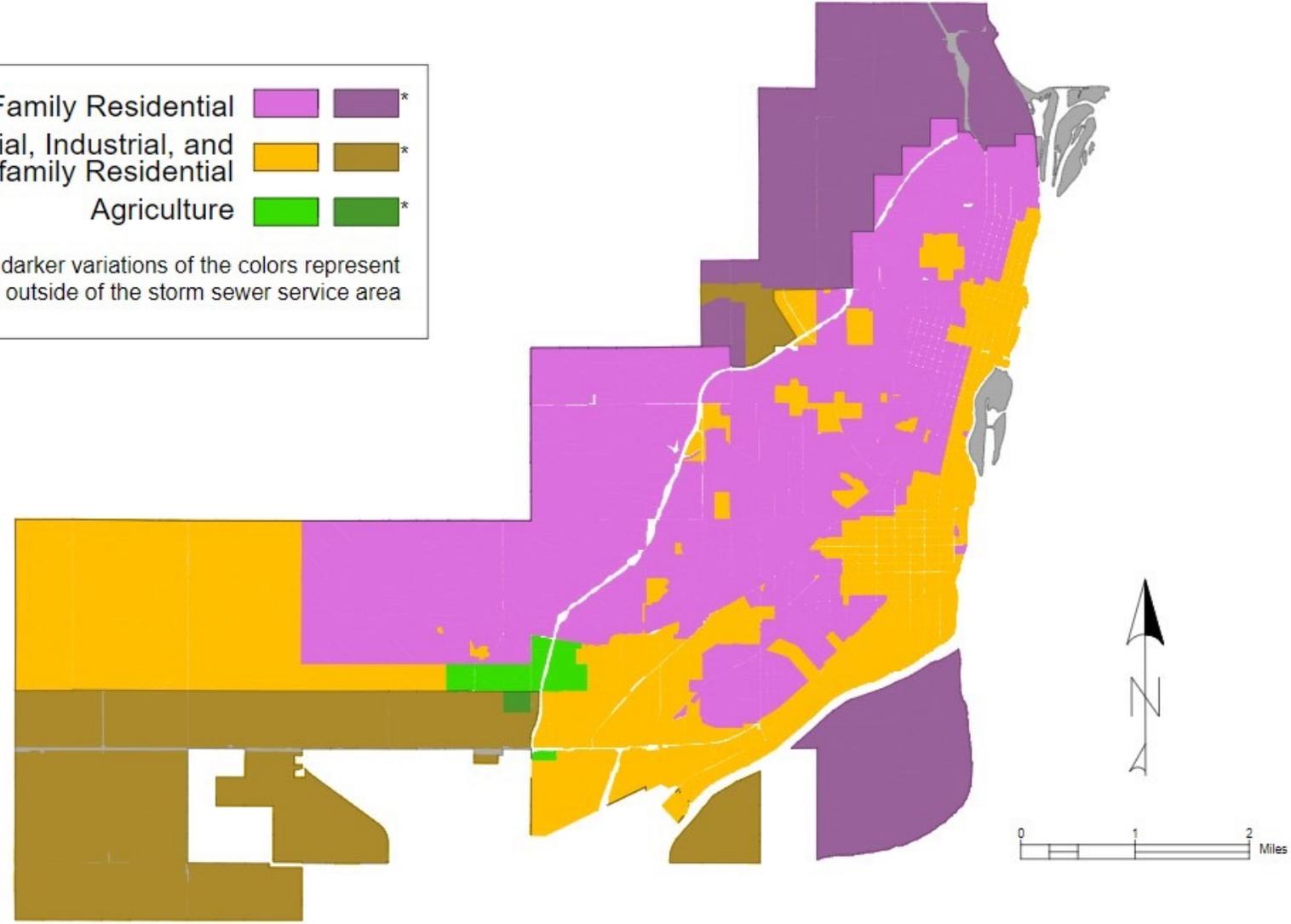
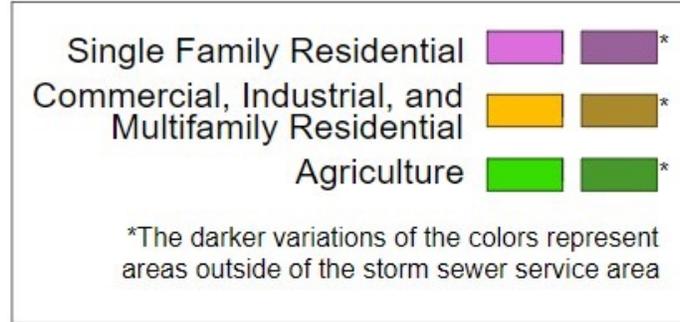
Annual Stormwater Budget



Equivalent Residential Unit



- Simplicity
- Minimal long-term maintenance
- Ease of understanding
- The most historically popular method

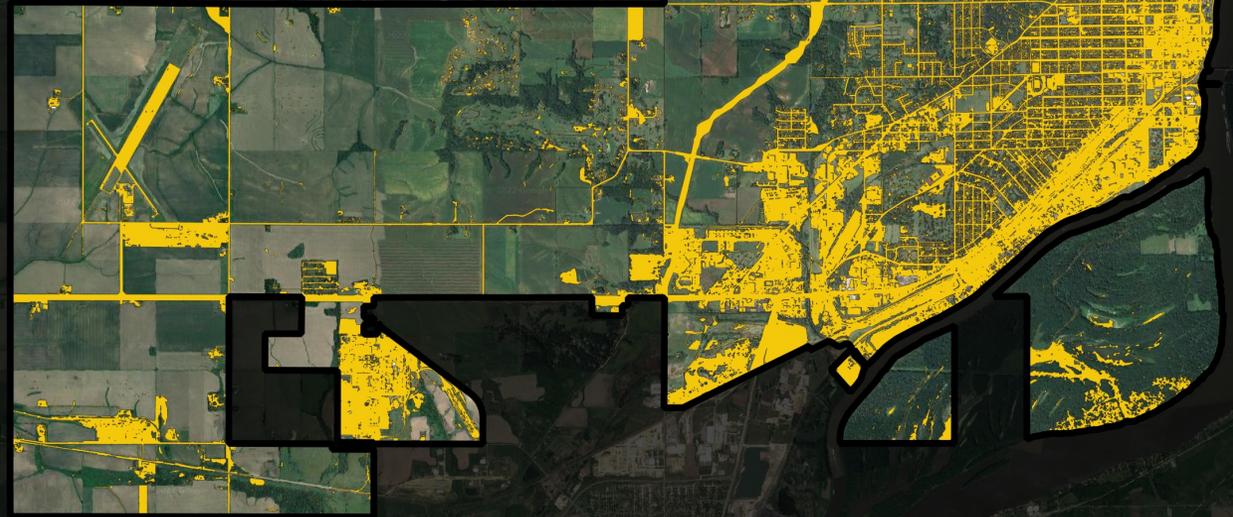


Impervious Area Calculations

- Number of properties examined: 6,847 single-family homes
- 1 ERU = 2,707 ft²
- 1 ERU rate = \$4.63

Impervious Areas

0 1 2 mi



Average Properties

Single-family

Impervious Area	2,707 sf
# Total ERU	1
Monthly fee	\$4.63

Commercial

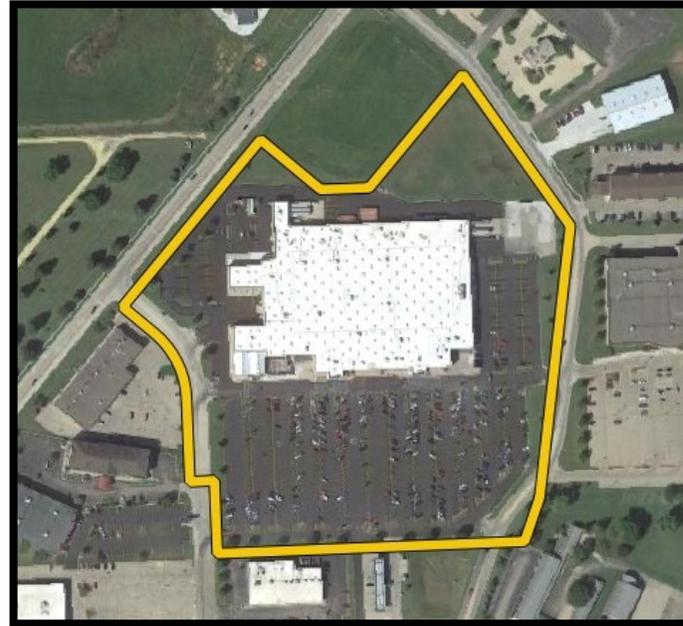
Wal-Mart 2715 S 25 St

Impervious Area	857,174 sf	
# Total ERU	317	
Monthly fee	317 x \$4.63	\$1,467.71

Industrial

Archer Daniels Midland
410 18 AVE S

Impervious Area	1,452,273 sf	
# Total ERU	536	
Monthly fee	536 x \$4.63	\$2,481.68



Above: Wal-Mart, an average commercial property

0 250 500 ft



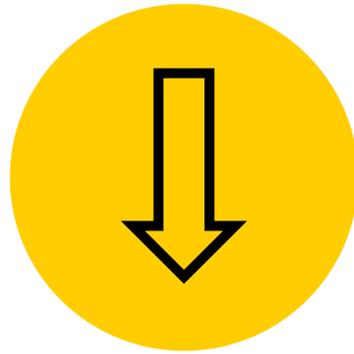
Right: Archer Daniels Midland, an average industrial property





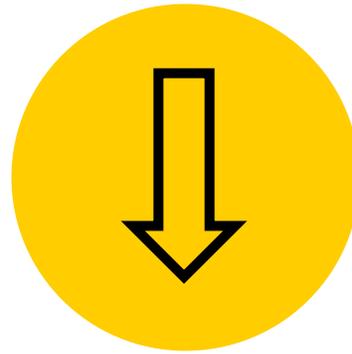
**Rate Reduction
Opportunities:
Credits for BMP Implementation
and Cost-Share Program**

Criteria for Best Management Practices (BMPs)



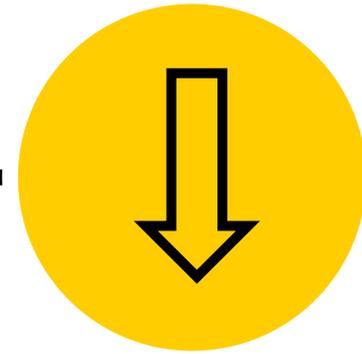
Peak Flow Control

25%



Runoff Volume Reduction

25%



Water Quality Improvement

25%

Eligible BMPs for Single-Family Residential Properties

Rooftop and Pavement Disconnection

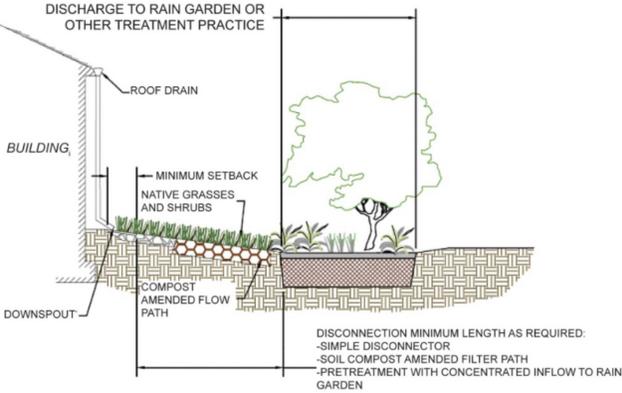


Image Source: Virginia Stormwater BMP Clearinghouse

Rain Garden

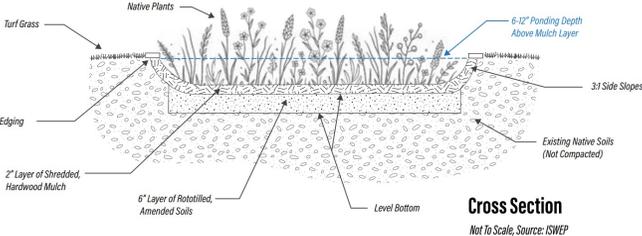


Image Source: Iowa Stormwater Education Partnership

Rain Barrel

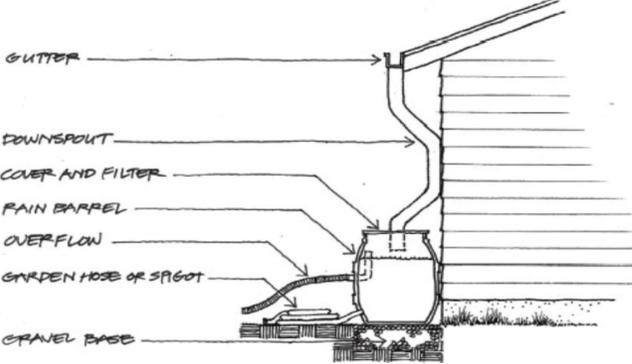
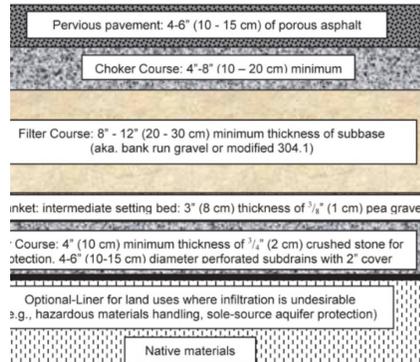


Image Source: University of Florida

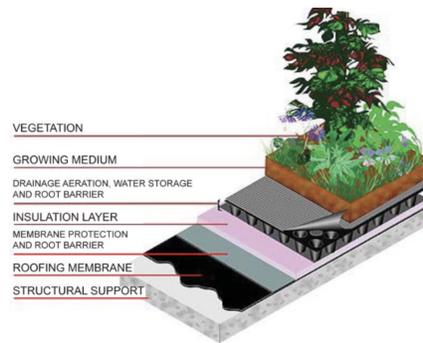


Eligible BMPs for Commercial, Industrial, Multi-Family Residential Properties



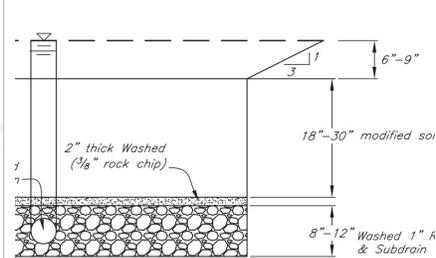
Porous or Pervious Pavement

Image Source: Minnesota DOT



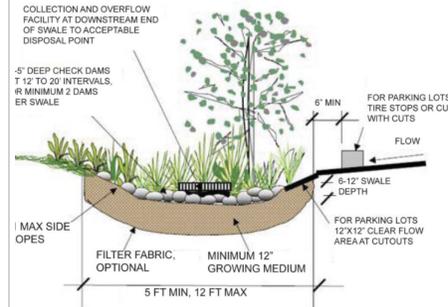
Green Roof

Image Source: lid-stormwater.net



Bioretention

Image Source: Iowa Stormwater Education Partnership



Bioswales

Image Source: Oregon State University



Native Landscaping

Image Source: Iowa Stormwater Education Partnership

Eligible BMP for All Properties

Soil Quality Management and Restoration



Poor quality residential lawn prior to SQR



Residential lawn one year after SQR

BMP Implementation Cost-Share Program

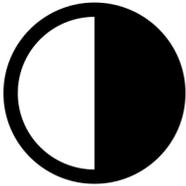
**After 1st
year**



**To be implemented
after the 1st year of the
utility fee**

50%

**Reimbursed per
project by city**



\$2,000

**Maximum
reimbursement per
project by city**



Revenue Estimations



6	7	8	9	10	11	12
15.72	25.41	23.31	9,220	31,42	31,42	14,77

Revenue Calculator

ERU Information (monthly)							
SFH		MFH		Commercial		Industrial	
Average Imp. Area (ft ²):	3010	Average Imp. Area (ft ²):	4368	Average Imp. Area (ft ²):	16956	Average Imp. Area (ft ²):	88929
Median Imp. Area (ft ²):	2707	Median Imp. Area (ft ²):	2524	Median Imp. Area (ft ²):	5560	Median Imp. Area (ft ²):	18448
Base Rate:	\$4.63	Total Imp. Area (ft ²):	9464660	Total Imp. Area (ft ²):	25332185	Total Imp. Area (ft ²):	38772905
# of parcels:	6847	# of ERUs	3496	# of ERUs	9358	# of ERUs	14323
Revenue	\$31,726.52	Revenue	\$16,200.89	Revenue	\$43,361.72	Revenue	\$66,368.53

Total Annual Revenue = **\$1,891,892**
(w/o credits)

% of Parcels Utilizing Credits:	10.00%
Max. Credit	75%

\$1,750,000
(w/ credits)

Work Summary

Fee Structure

- Equivalent residential unit method
- Calculation of impervious areas
- 1 ERU = 2,707 ft²

Rate Reduction Opportunities

- Credits for BMPs
- BMP Implementation Cost-Share Program

Expense Estimate & Revenue Calculator

- 1 ERU rate = \$4.63
- Total Revenue (without credits): \$1,891,892
- Total Revenue (with credits): \$1,750,000