

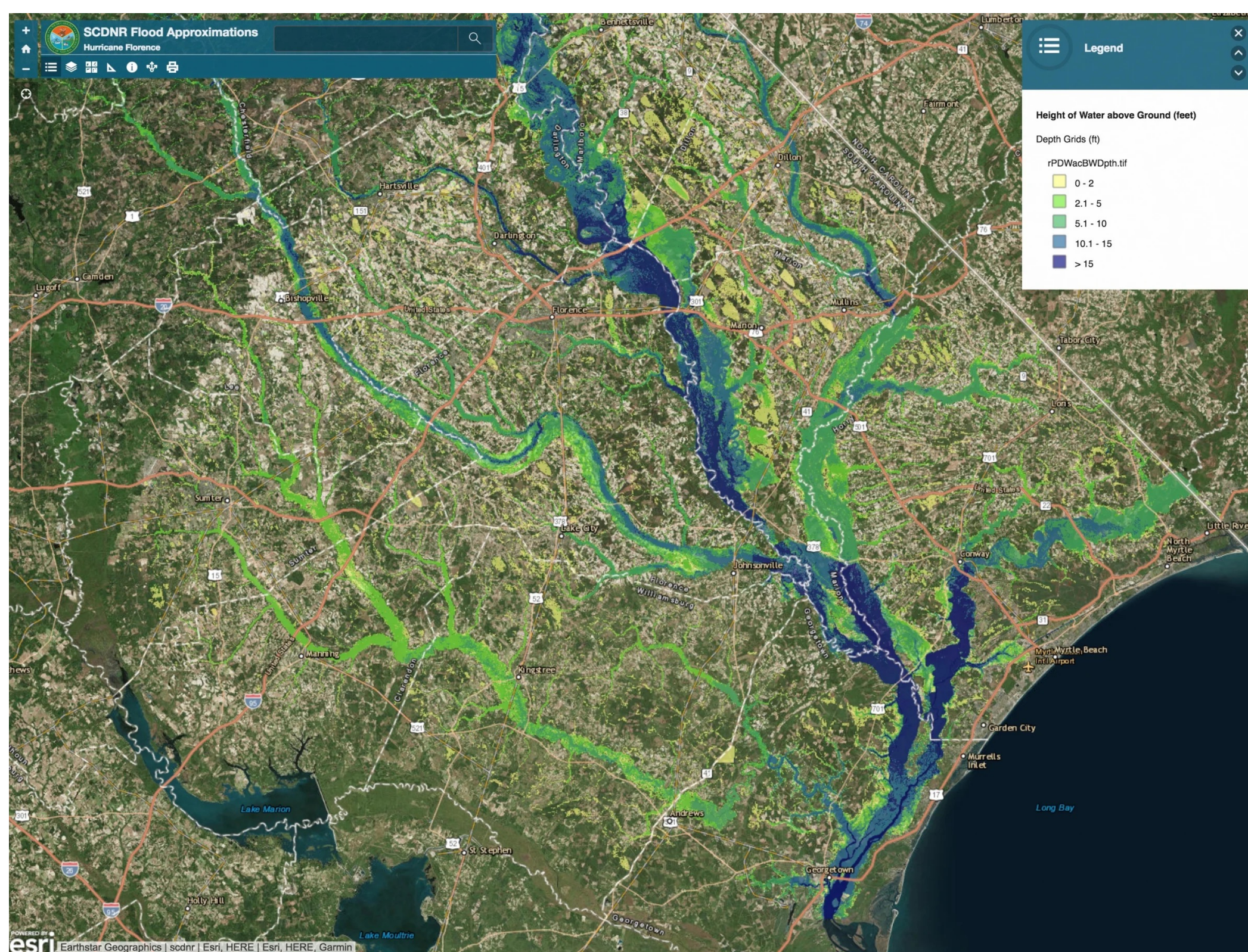
# Empirical Analysis of the Impact of Land Use and Development and Solutions for Remediation in Georgetown County

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## Introduction

Georgetown County has exhibited slow growth over the past few decades. Since COVID19, however, the county has seen a significant increase in population growth and development. This recent influx has sparked new concerns for addressing existing land development and infrastructure issues. The current infrastructure systems are not equipped for handling severe climatic challenges, specifically related to stormwater and flooding. Increased land development will put further strain on existing infrastructure, negatively impacting local residents, economy, and environment.



## Objective

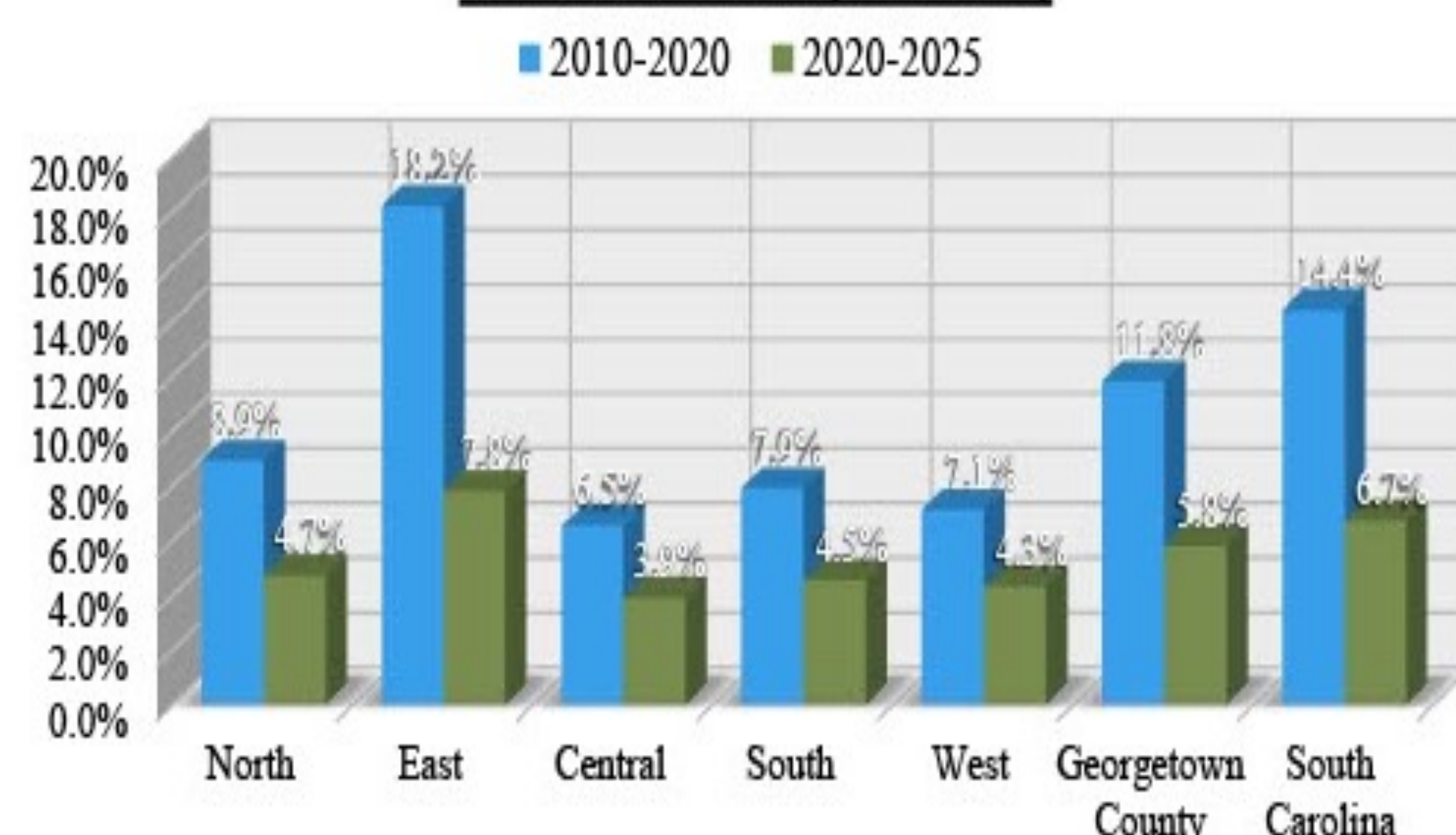
This research aims to analyze land development practices related to drainage infrastructures in Georgetown County, South Carolina and assess the current situation involving existing infrastructures. Using the United Nations Sustainable Development Goals global framework for sustainable practice, I identified local-level indicators related to the targets of goals related to land management in the County. Recommendations for remediation of stormwater and flooding issues were provided based on the evidence gathered.

## Methods

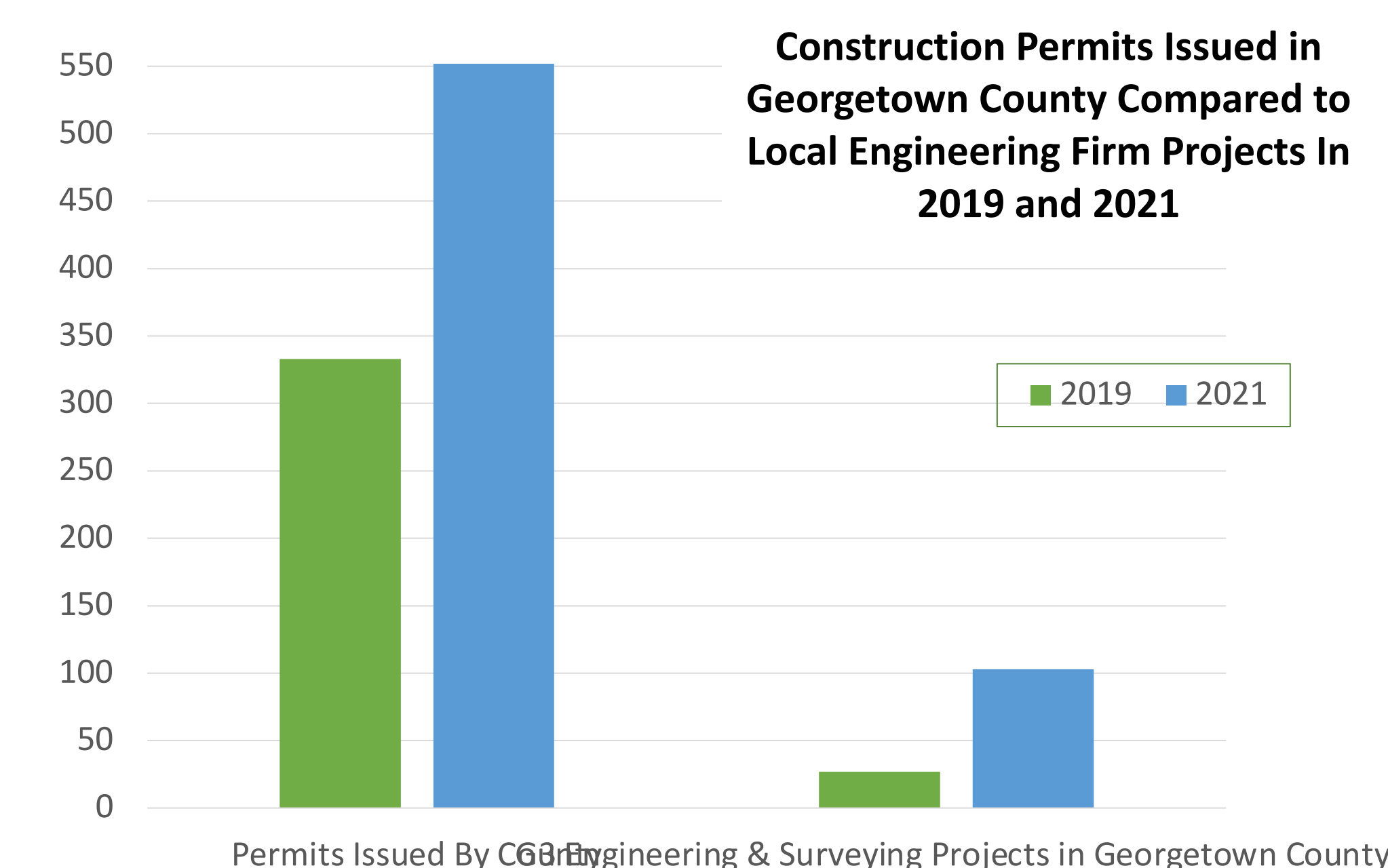
Data was collected from multiple sources within the County.

- Housing Needs Assessment demonstrates the need for residential development to accommodate population flux, especially in favorable coastal areas.

Household Trends (2010-2025)



- The newly revised Comprehensive Plan outlines key issues in planning and development practices.
- My experience as an engineering intern provided a broader knowledge of land use and infrastructure systems and the specific requirements of the county as well as data surrounding the increase in projects within Georgetown County before and after COVID19.



- Case studies of other cities in the nation were useful in identifying strategies for handling stormwater and flooding issues and reducing harmful environmental impacts.
- The United Nations Sustainable Development Goals were used as a guideline for correlating current data with favorable sustainable practices that create harmonic linkages between people, planet, and prosperity.

## Results

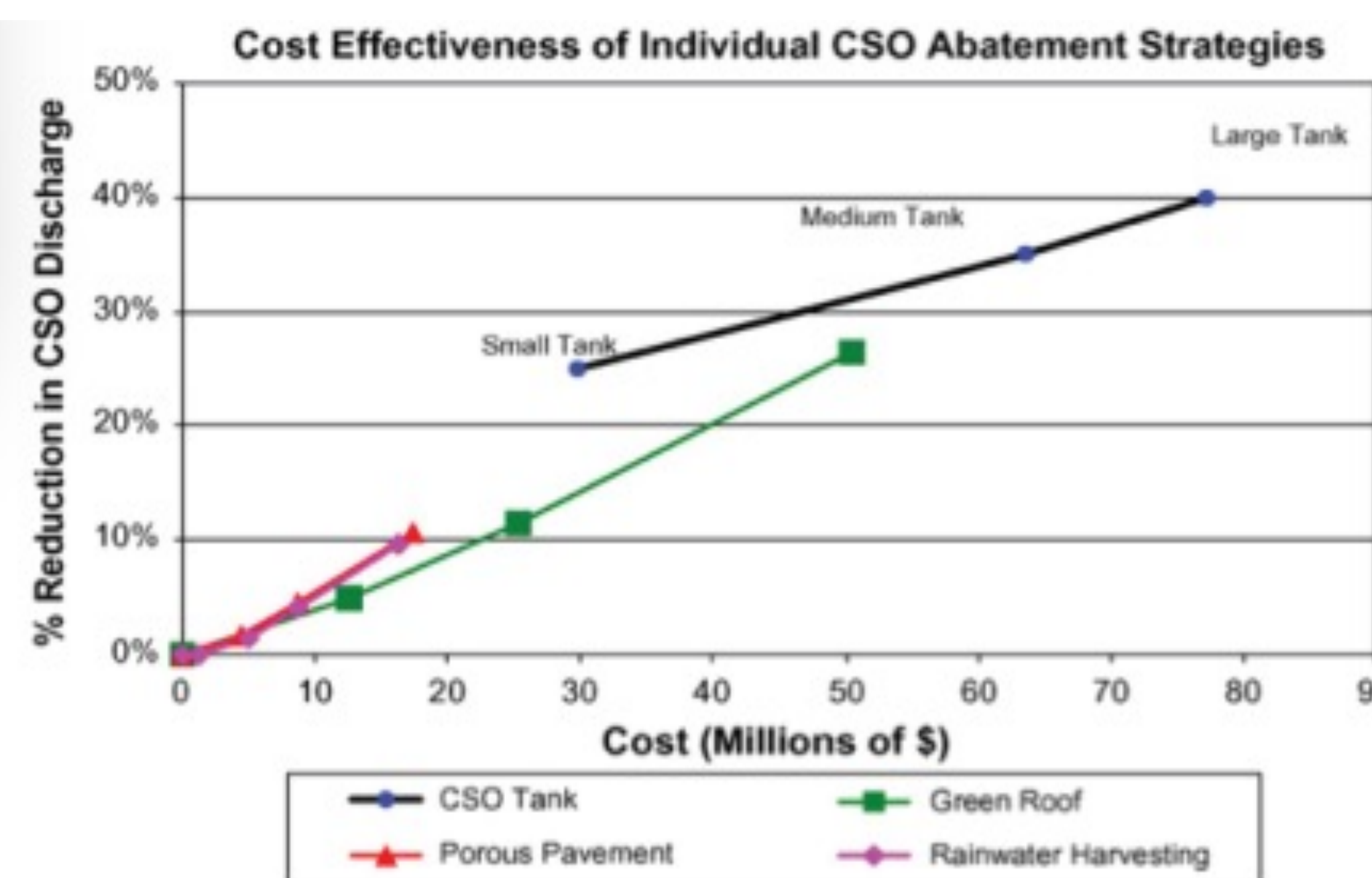
### Indicators of Targets (Local Level)

- Watershed Master Plan
- Interactive Flood Mapping

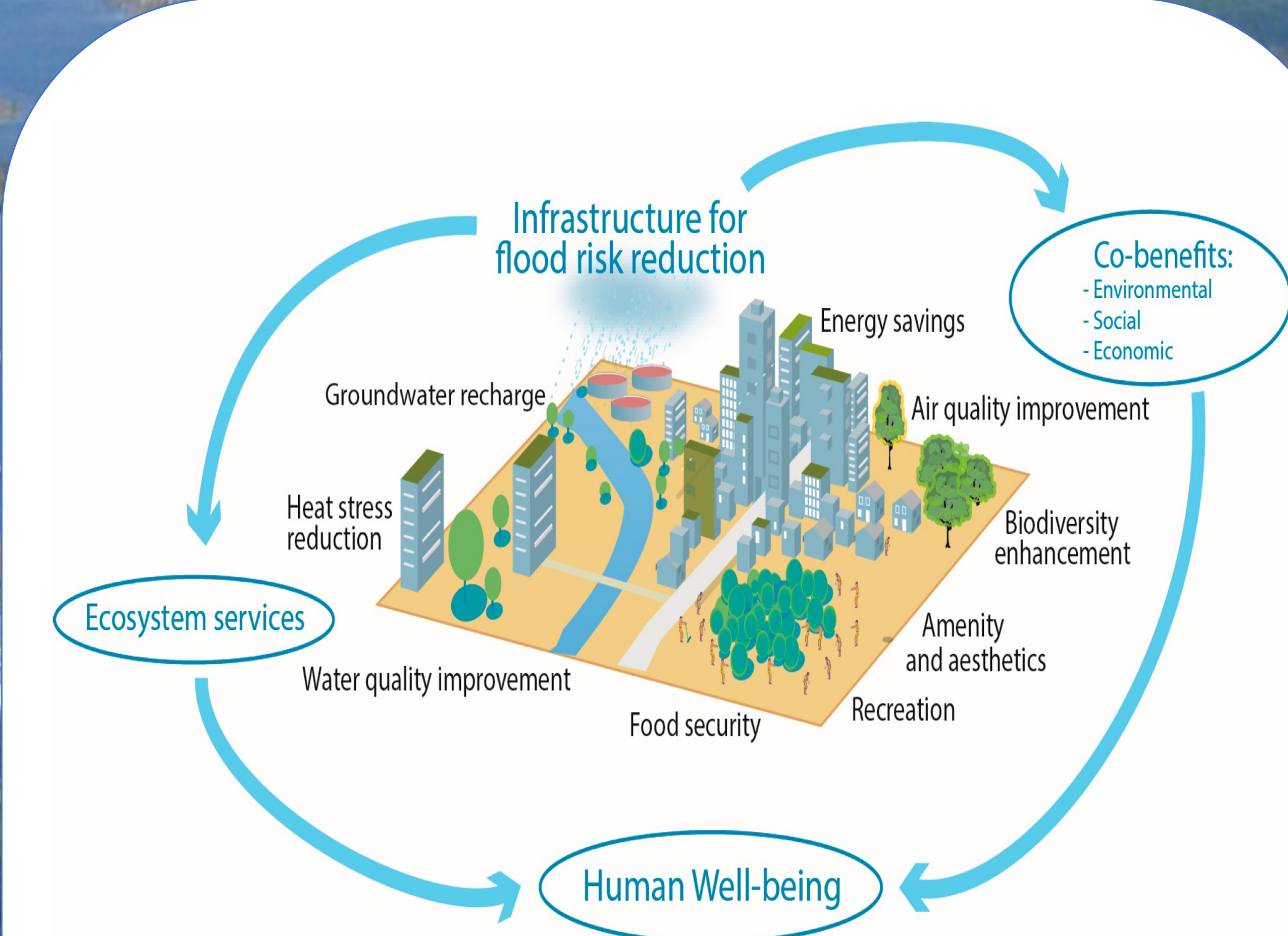
- 2019 Stormwater Study
- Engineering Firm Hired to Map Stormwater Systems in Problem Areas

- County Ordinances implement Best Management Practices
- Preservation of Various Tree Species and Wetlands in Development Practices

EPA finds green infrastructure to be a cost-effective solution over traditional gray infrastructure.



### Types of Green Infrastructure



## Recommendations

- Preventative action is necessary to creating a more resilient future for the community of Georgetown County. The following suggestions were compiled to be considered by the county, including local and state officials, department chairs, community members, and other stakeholders.
- Higher utilization of green infrastructure systems would significantly reduce the impacts of flooding and pollution. Amending current development codes to increase green infrastructure use would ensure a more beneficial water management plan.
- Community involvement and education could generate interest around stormwater and flooding issues. Educating residents about these problems creates awareness and allows members to take initiative in reducing their individual impacts. A collaborative effort from everyone increases accountability and inspires change.
- Implementing a stormwater tax for property owners would provide funding for creating new or updating existing infrastructure capable of handling large stormwater concentrations.

## References

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