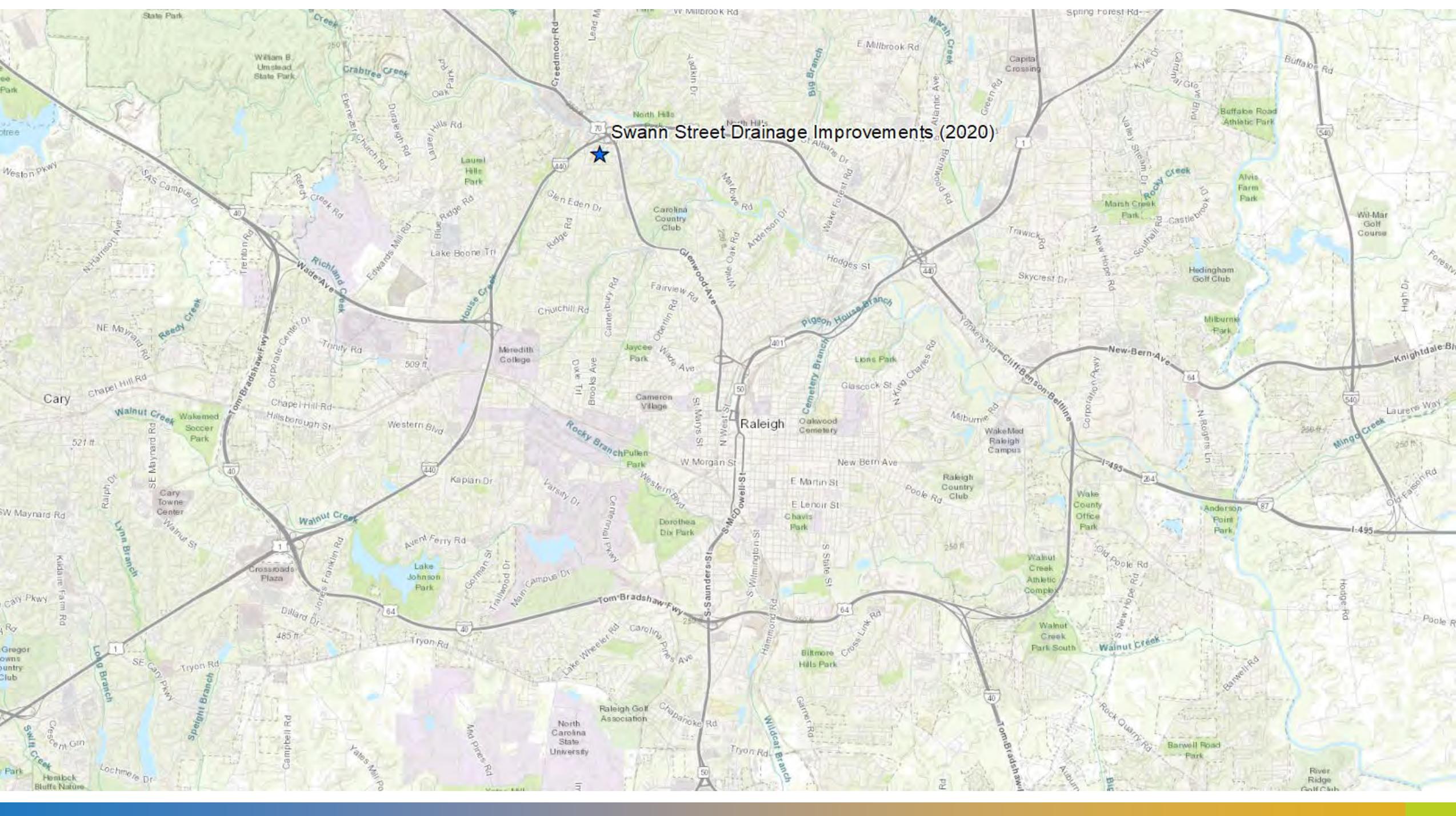




Swann Street
Drainage
Improvement:
Three Keys to
Successful
Infrastructure
Project in
Residential
Neighborhoods

Swann Street Drainage Improvements (2020)





Tropical Storm Andrea (6/7/2013) totaling 5.14 inches in 24 hours ~ 10-year storm event





3700

3

7

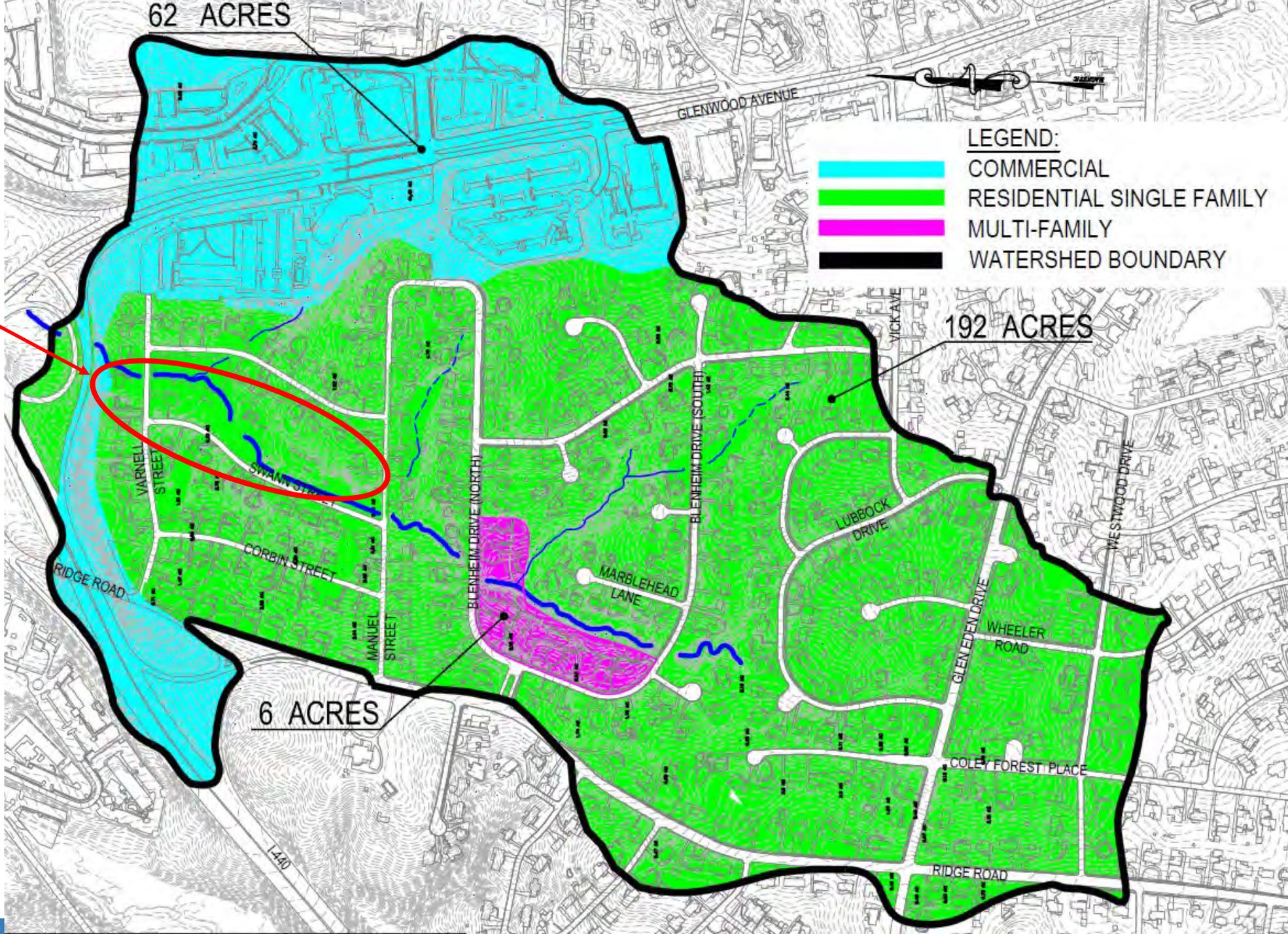
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Fair Newsletters

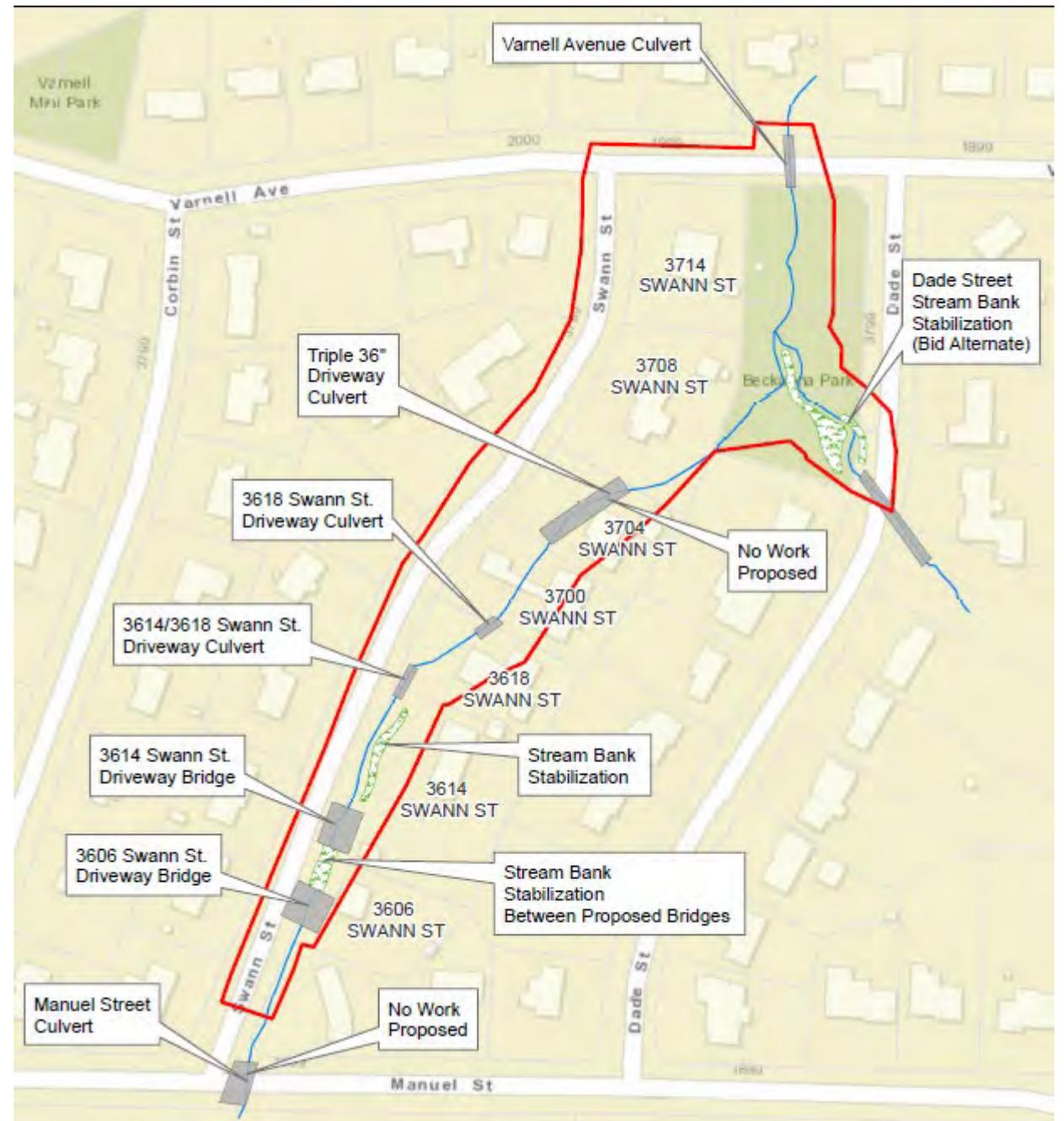


Project Location
draining
~ 260
acres



Proposed Improvements

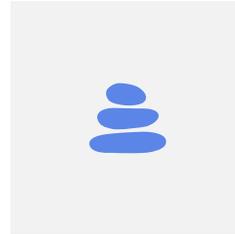
Upsizing of main hydraulic pinch-points under private driveway culverts and bridges



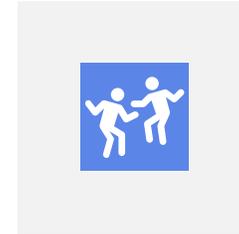


Swann Street

Success Factors for City of Raleigh
Neighborhood Improvements



Design
Innovations



Targeted
Residential
Communications
Plan



Detailed
Contractor
Communication

A photograph of a construction site showing two large, grey concrete pipes laid out on a concrete slab. The pipes are positioned parallel to each other, with their circular openings facing the viewer. The surrounding area is filled with dirt, gravel, and some rebar structures, indicating an active construction project. The image is overlaid with a dark blue semi-transparent filter.

Design Innovations

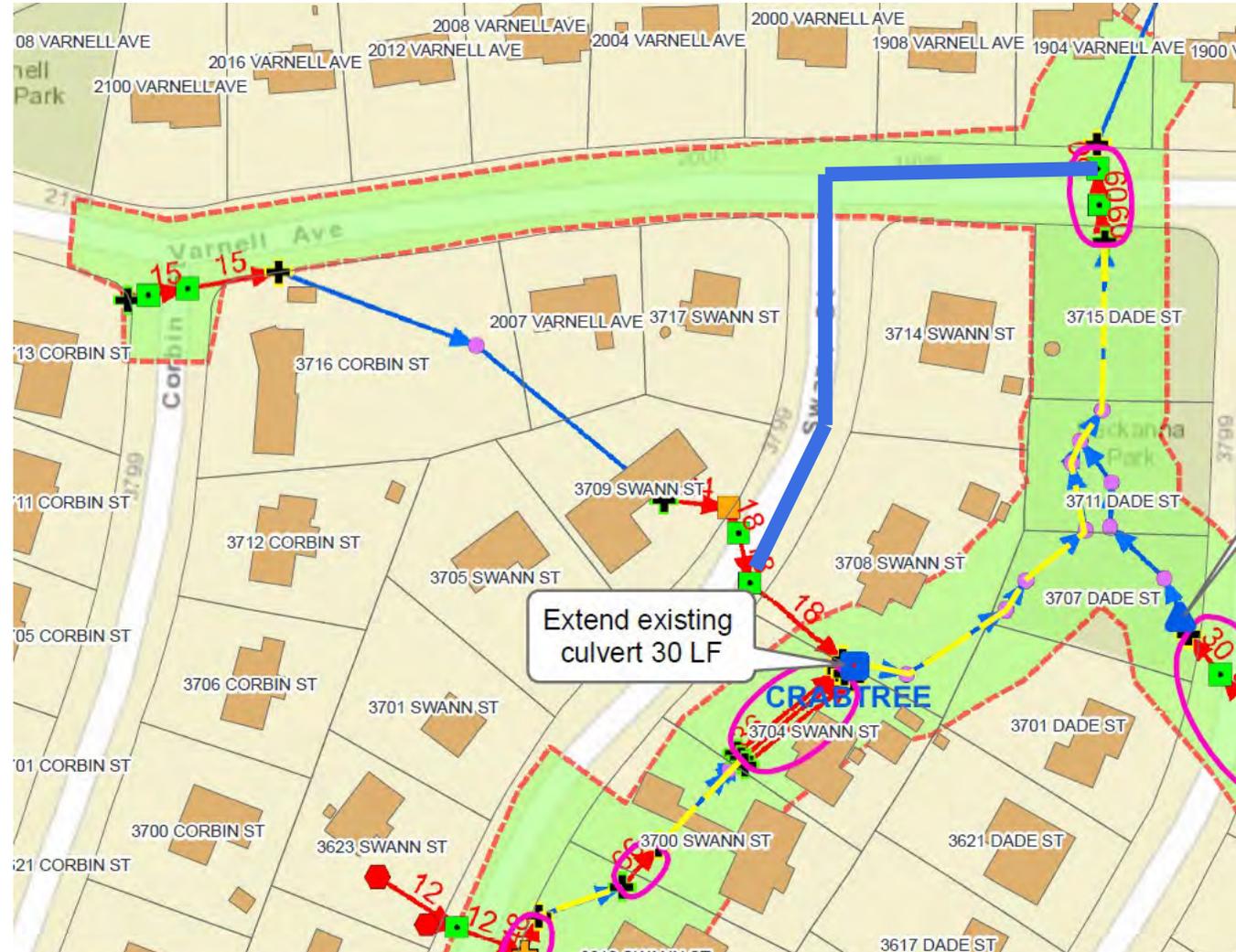
Proposed By-pass System

Reduced the need to upsize Varnell Ave. culvert (~\$400K in savings)



Table A-3 – Proposed Flow Diversion at Varnell Avenue:

2-year (cfs)	Storm Event			
	10-year (cfs)	25-year (cfs)	50-year (cfs)	100-year (cfs)
12.6	18	21	23	25



Open Bottom Culverts



Whitaker Worx
LANDSCAPE ARCHITECTURE & CONSTRUCTION, INC.
919-628-3578

Cast-in-Place Drop Structures

- Eliminated unnecessary channel grading
- Provided support for steep embankments



Cast-in-Place Drop Structures



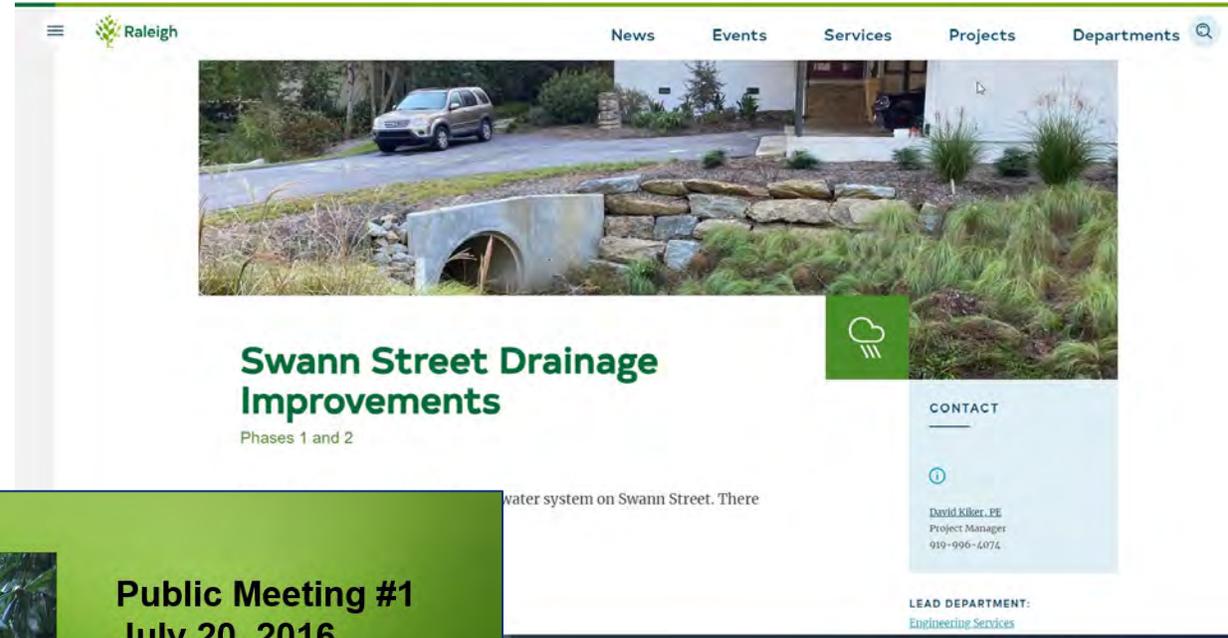


A group of people, including a man in a suit and an older woman, are gathered around a large map displayed on an easel in a meeting room. The man is pointing at the map while the woman looks on. Other people are visible in the background, some seated at tables. The scene is dimly lit, with a blue overlay on the left side.

Targeted Residential Communication Plan

Communication Plan

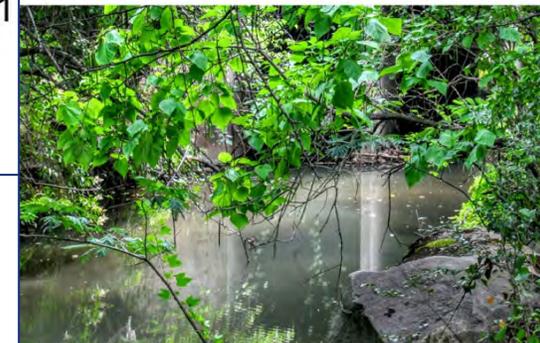
- One-on-One Meetings with Residents
- Letters to General Public and Directly Impacted Residents
- Public Meeting #1
- Public Meeting #2
- Project Webpage
- Email
- Phone Calls & Texts
- E-Builder
- Twitter
- Facebook
- Bi-Weekly Construction Meetings



A banner for a public meeting. It features a green header with the text 'Public Meeting #1 July 20, 2016'. Below the header are two photographs: one showing a stone-lined stream flowing through a wooded area, and another showing a paved path through a park-like setting. At the bottom left is the City of Raleigh seal, and at the bottom right is the text 'Swann Street Storm Drainage Improvement Project – Phase 1'.

A teal graphic with the text 'City of Raleigh Engineering Services Department' and a silhouette of the city skyline.

A teal graphic with the text 'Stormwater Management' and a large, faint circular seal of the City of Raleigh.



A dark blue graphic with the text 'Swann Street Public Meeting April 27, 2017' in white.

One-on-One Meetings with Residents

- Gain Trust & Respect
- Meet Onsite with Property Owners
- Secure Historical Flood Information
- Share Project Design and Goals
- Secure Email & Phone Numbers
- Share Project Timeline
- Show Photos and Details
- 45 Minutes/Meeting



Letters to Public

- Introduce PM, Contact Info, & Website
- Communicate Survey Needs
- Public Meeting Invitations
- Construction Contract Award and Schedule
- Construction Work Hours – Safety Concerns
- Construction Update (Midway)
- Paving & Road Closures
- Punchlist Creation
- End of 1-Year Warranty Period



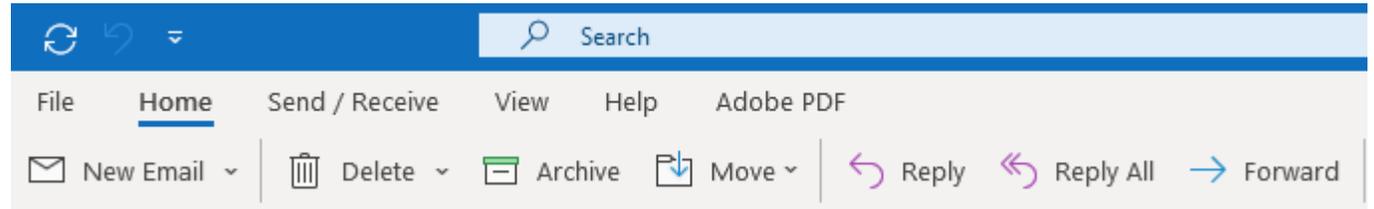
Public Meetings



- Held at Local Community Center
- Introduce Project Team
- Project Goals
- Hydrologic and Hydraulic Modeling (Credibility/Respect)
- Present Some Tables with Results/Benefits
- Discuss Design Alternatives
- Project Budget
- How Valuable Are These Meetings?

Email

- Secure Email at Front End
- Send PDFs of Concepts
- Send Plans or Example Photos
- Faster Than Mail
- Set Up Virtual Meetings
- Document Agreements
- HOA Outreach
- Find Information



Social Media

- Use Twitter for road closures.
- Facebook and Instagram was not used for this project.





Swann Street Drainage Improvements

Phases 1 and 2

We made improvements to the stormwater system on Swann Street. There are two phases to this project.

PROJECT DETAILS

TYPE:

Stormwater



CONTACT



David Kiker, PE
Project Manager
919-996-4074

LEAD DEPARTMENT:
[Engineering Services](#)

SERVICE UNIT:



Bi-Weekly Standing
Coordination Meetings

A photograph of a construction site showing two large, grey concrete pipes laid out on a concrete slab. The pipes are positioned parallel to each other, with their circular openings facing the viewer. The surrounding area is filled with dirt, gravel, and some construction equipment. The image is overlaid with a dark blue semi-transparent rectangle.

Detailed Contractor Communication

Project Challenges





Safety First





- Property Owner had legal representation.
- Changing of minds/direction at the last minute.
- Property Owners directing contractor to perform work outside of their scope.



Utilize Construction Administration Software for Better Communication (City has adopted e-Builder)



Switch to Classic style

mhorstman@wkdickson.com

- Home
- Dashboard
- Projects
- Planning
- Forms
- Processes
- Documents
- Calendar
- Contacts
- Cost
- Schedule
- Reports
- Setup
- ...



Project Details For Western North Ridge Stormwater Project (Formerly; Western Nor

Hidden Projects

Details

Export Address Book Printable Participants Directory Cancel

Project Name	Western North Ridge Stormwater Project (Formerly; Western North Ridge Drainage Improvement Phase 1 and 2)
e-Builder Project Administrator	High , Veronica
Project Status	Active
(view map) Address	North Ridge Subdivision Raleigh, NC 27615
Country	USA
Start Date	06.01.2020
Target Date	03.31.2023
Description	Culvert and Stream Restoration Improvement Project
Project Webcam	
Last Modified By	Rall, Todd
Date Last Modified	08.30.2021

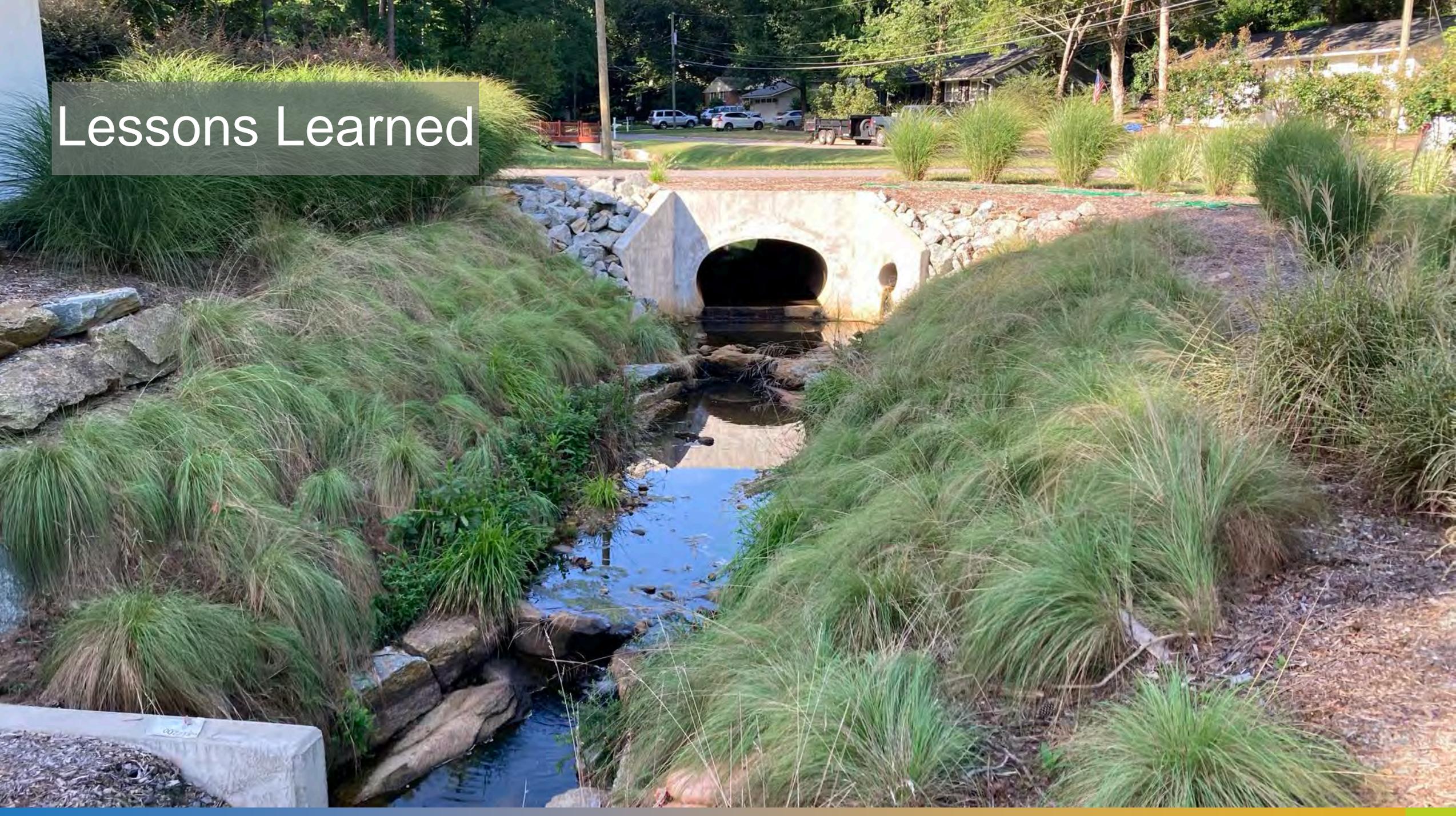
No project photo uploaded.

Custom Fields (36) Notes (0) Documents (0) Forms (0) Processes (0) Settings

e-Builder Project Number:	10000067
Department:	Engineering Services
Division:	Stormwater Management
Project Class:	Capital Project
Division Project ID:	SM2020-0004
PeopleSoft Project Code:	80230001
Project Manager:	Rall, Todd
Project Justification:	Complaints of yard, street and structural flooding.
Project Phase:	Design

- Project Menu
- Details
 - Project Participants
 - Sent Items
 - Forms
 - Processes
 - Documents
 - Schedule
 - Cost
 - Contacts
 - Calendar
 - Submittals

Lessons Learned



Overall Lessons Learned with Neighborhood Projects



Be flexible and responsive in construction.
Phased approach with bid alternatives.
Require and enforce surveying from contractor during construction.



Communicate with entire project corridor and not just directly impacted property owners.



Find main communication conduit and stick with the regular communications, especially related to road closing and openings.

Don't use the standard
NCDOT 838.80 endwalls on
steep slopes!





Design Innovations



Detailed Contractor
Communication



Targeted
Residential
Communication
Plan

Success

Thank You

 David Kiker, PE, CFM

 919.996.4074

 David.Kiker@raleighnc.gov

 <https://raleighnc.gov/projects/content/PWksStormwater/Articles/SwannStreet.html>



 Marc Horstman, PE, PH, CFM

 919.256.5642

 mhorstman@wkdickson.com

 www.wkdickson.com

