

ENGINEERING SERVICES

VISION OF STORMWATER MANAGEMENT IN RALEIGH

July 15, 2021



Raleigh





Stormwater's Mission

**Manage stormwater
to preserve and
protect life, support
healthy natural
resources, and
complement
sustainable growth
for the community**



City management, City council, Stormwater Management Advisory Commission, staff, stakeholders, and people in Raleigh work together to make this happen.



Stormwater Program Vision

Be the “smartest” stormwater program possible to economically and equitably achieve our mission.

Be Stormwater Smart!



We will apply the
“Be Stormwater
Smart!”
philosophy to all
programs
supporting our
mission





Being “Stormwater Smart”

Goal #1

Understanding the level of service needs and expectations of the community and setting our priorities, resources, and budgets accordingly.



Work Smarter Through Diversity

SMAC
diversity
improves
understanding
of needs and
equity of
solutions

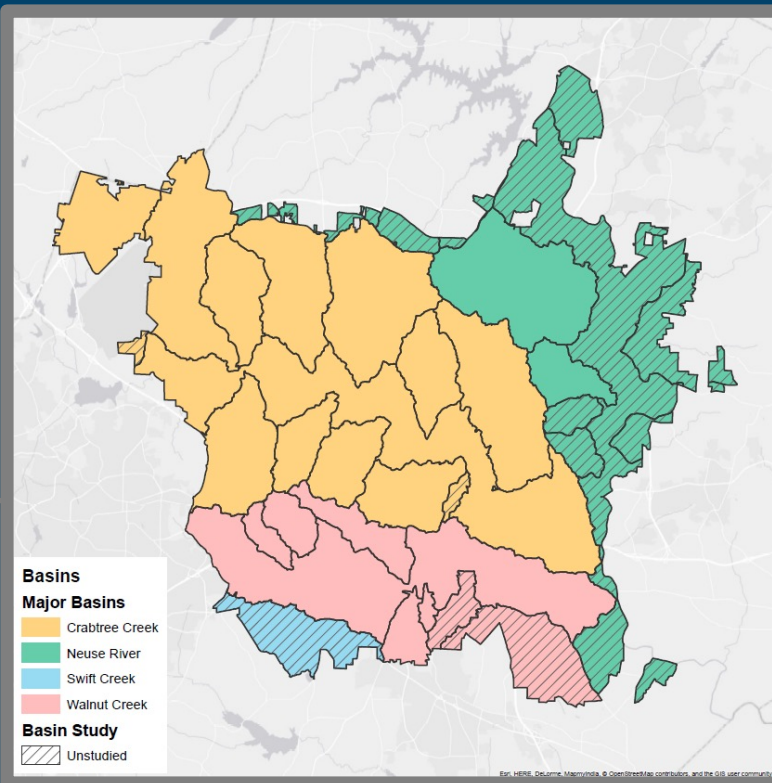


*Goal: Represent diverse perspectives
of the community*



Work Smarter With Updated Planning

Updated watershed planning improves data, engages the community, and provides holistic solutions



Goal: Provide effective, holistic solutions to stormwater issues



Work Smarter With Right Level of Service

Provide service options to SMAC/Council to better match program to community needs and expectations

Program Category	No Rate Change	Option 1	Option 2	Option 3
Major Infrastructure	\$	\$\$	\$\$\$	\$\$\$\$
Backlog Duration	100 years	75 years	50 years	35 years
Drainage Assistance	✓	✓	✓	✓
Asset & Watershed Planning	-	✓	✓	✓
Stream Stabilization	-	-	✓	✓
Flood Hazard Mitigation	-	-	-	✓
GSI Retrofits	-	-	-	✓

Goal: Decrease backlog & be responsive to stormwater issues



Being “Stormwater Smart”

Goal #2

Implementing a high quality, data driven, innovative program through continuous improvement.



Work Smarter by Expanding Flood Safety Efforts

Expand our flood early warning system to notify our community of flooding and risks faster & more accurately

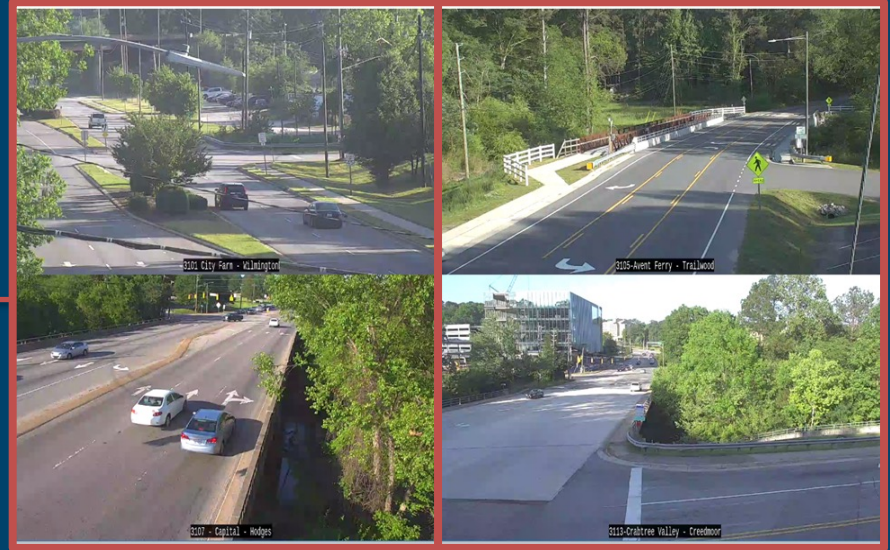


Goal: Install more signs, gauges and cameras providing advanced flood warning



Work Smarter Through Innovation

Use innovation
to keep our
community
safer and
improve safety
warnings

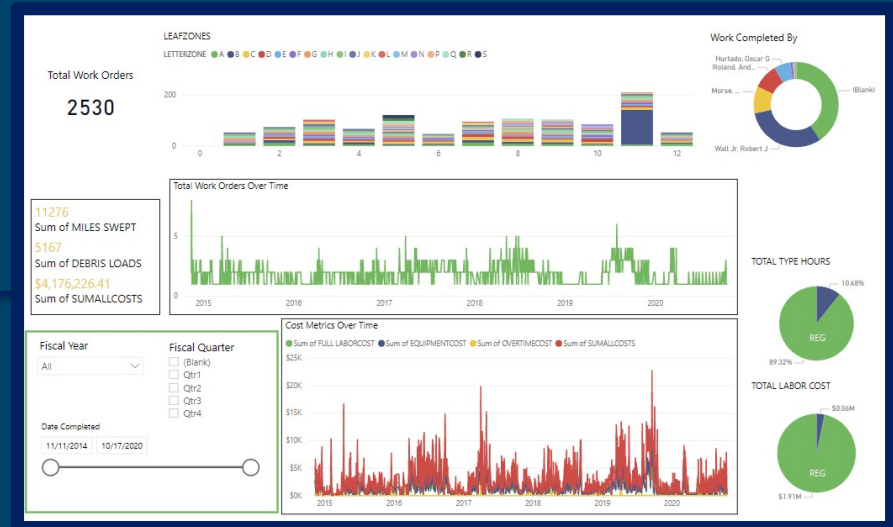


Goal: Take part in pilot using machine-learning to expand flood sensing



Work Smarter by Being More Efficient

Tracking key performance indicators improves work processes and efficiencies



Goal: Become more strategic in how we use our resources



Work Smarter with Better Data

Increased
condition
assessment and
asset
management
improves rehab
& replacement
budgeting



Goal: Fix infrastructure before it fails - at a fraction of the cost



Being “Stormwater Smart”

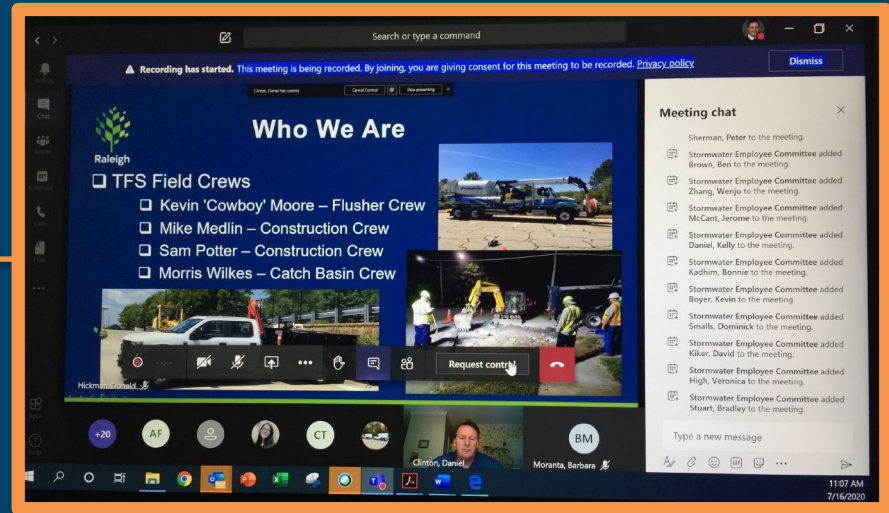
Goal #3

Being good stewards of staff, budgetary & environmental resources.



Work Smarter With Employees

Leverage new work environments to be more productive and improve work-life balance

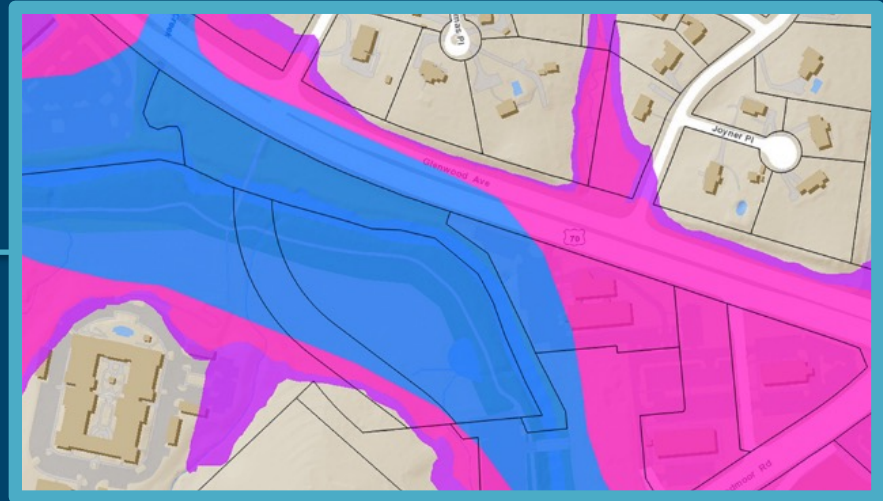


Take care of your employees and they will take care of your customers.” – paraphrased from Sir Richard Branson



Work Smarter By Protecting People and the Natural Environment

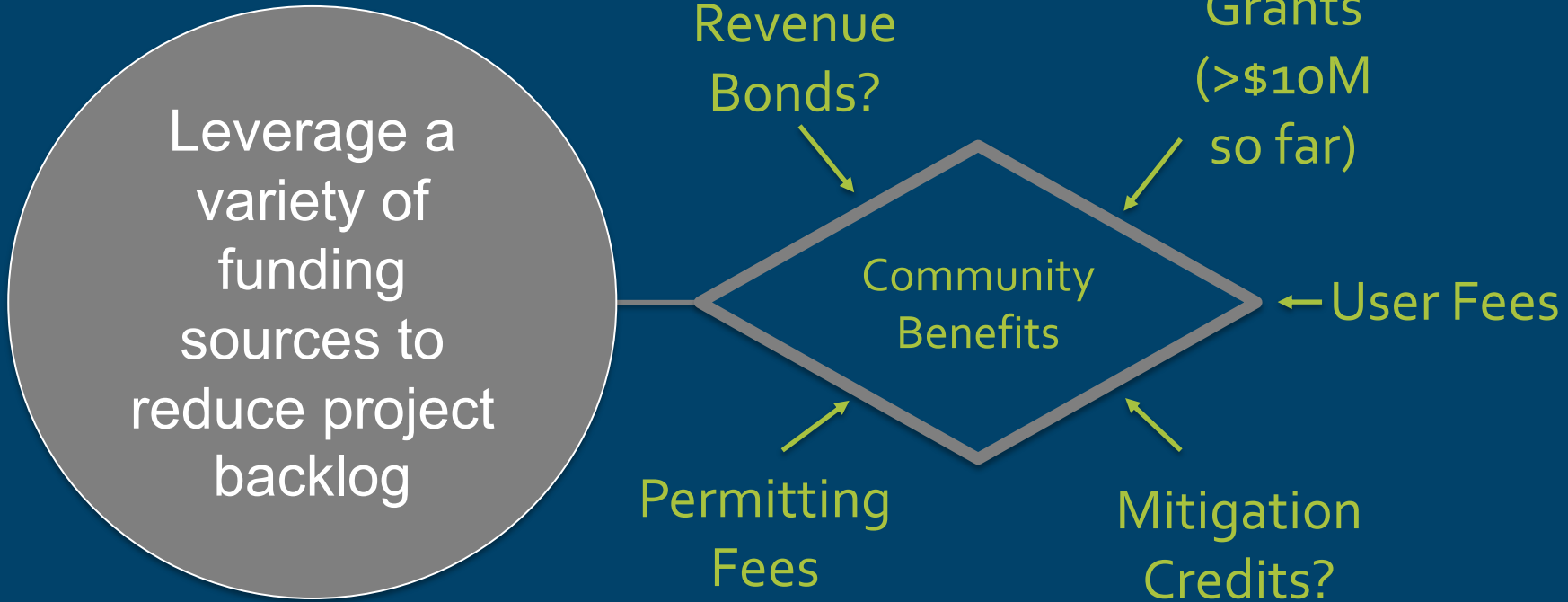
Adopted regulation changes will keep new development out of flood prone areas



Goal: Add equitable, voluntary flood hazard buy-outs and in-house floodplain mapping



Work Smarter With Funding





Being “Stormwater Smart”

Goal #4

Delivering integrated services and projects through collaboration across the division and across city-wide programs using partnerships and teamwork.



Work Smarter By Collaborating With Others

Improved coordination across departments leads to multi-disciplined solutions and benefits



Goal: Coordinate stream restoration w/ sewer and greenway protection



Work Smarter Using Sustainable Infrastructure

Lead by example using GSI on City projects and encouraging GSI on private development



Goal: Bring more GSI to the city



Being “Stormwater Smart”

Goal #5

Meeting or exceeding all local, state, and federal regulatory requirements.



Work Smarter With Development

Better design
standards
mitigate
stormwater
impacts of
development



Goal: Strengthen stormwater control requirements and design criteria based on climate change



Work Smarter By Being Proactive

Be less reactive
and more
proactive with
maintenance to
save cost and
improve
reliability



Goal: Ensure in-house resource capabilities match KPI metric goals



Work Smarter With Technology

Expanded
remote lake
level
management
adds flood
control &
protection



Goal: Leverage success on Lake Johnson Lake Level Control Pilot Program to other lakes



Being “Stormwater Smart”

Goal #6

Building and maintaining trust with the community through engagement, awareness, and education of our program mission, goals, and objectives.



Work Smarter With Outreach and Education

Better
community
education
increases
preparedness
and safety



Goal: Help the community be more informed & prepared for storms



Work Smarter By Engaging With Community Groups

Reach the community through trusted, established leaders and groups



Goal: Improve relationships with community groups



When We Work Smarter, We...

Ensure we get **diverse community input** through SMAC and public outreach to improve understanding of needs and equitable solutions.

Update **watershed planning** to get better data, engage the community, and drive more effective and holistic capital improvement solutions.

Improve our **flood hazard mitigation** program through regulation changes; equitable, voluntary buy-outs; and in-house floodplain modeling.



When We Work Smarter, We...

Use **GSI on City projects** to lead by example and encourage GSI use by private development.

Improve design standards to mitigate the near- and long-term stormwater impacts of development and climate change.

Reach the community through trusted, established leaders and groups to improve engagement, awareness, and knowledge of our program mission, goals, and objectives.



Stormwater Program Vision

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Discussion & Questions