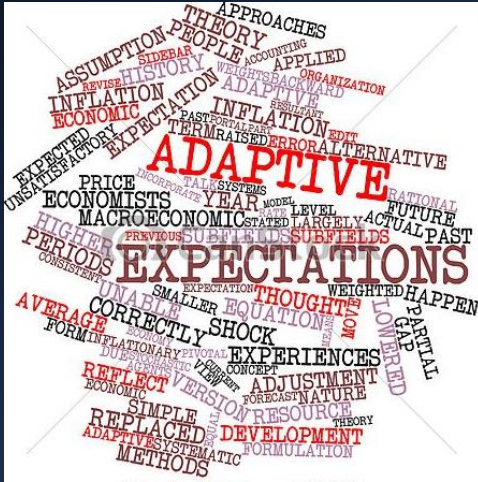


Adaptive Stormwater

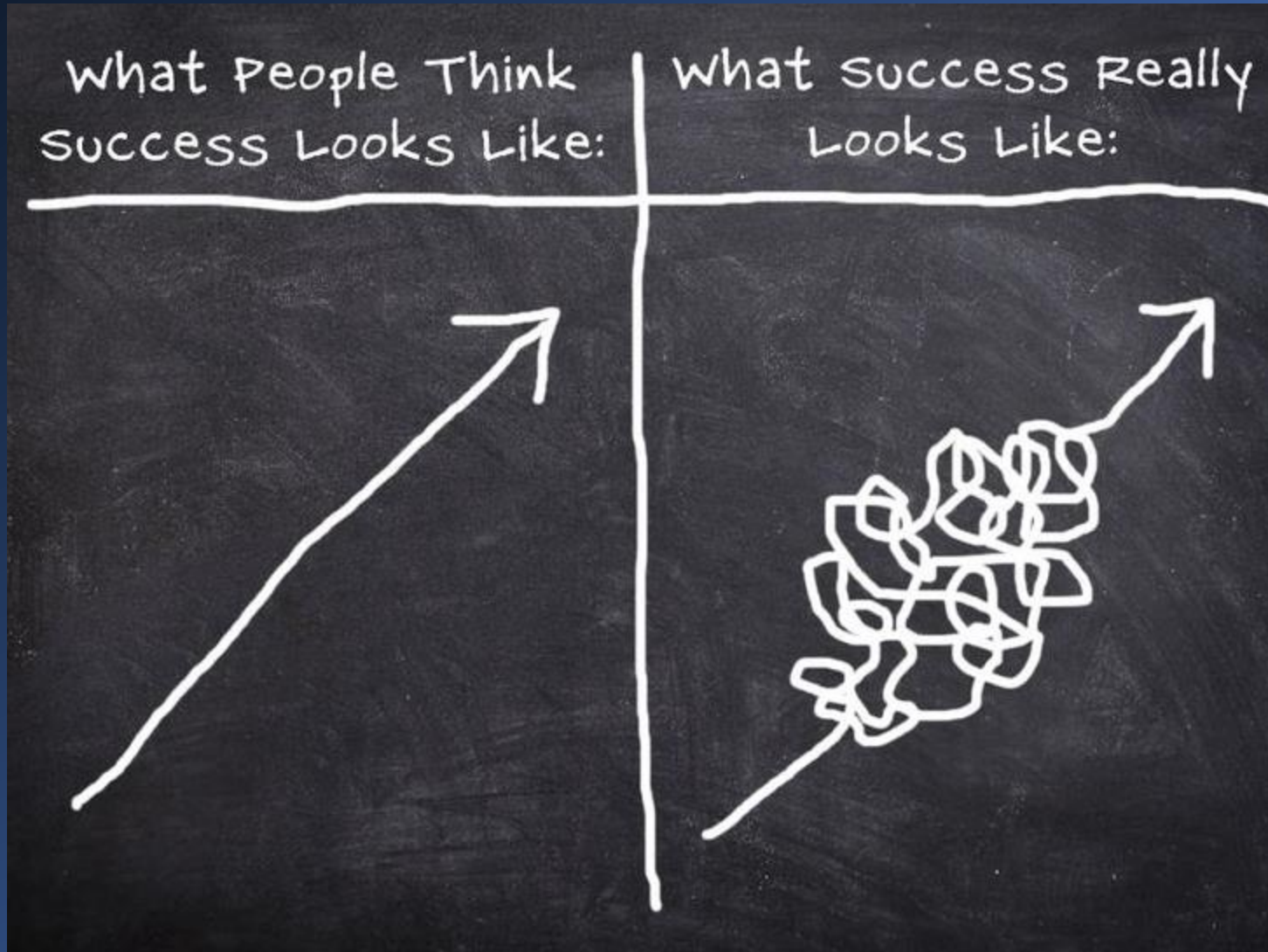


May 1, 2018

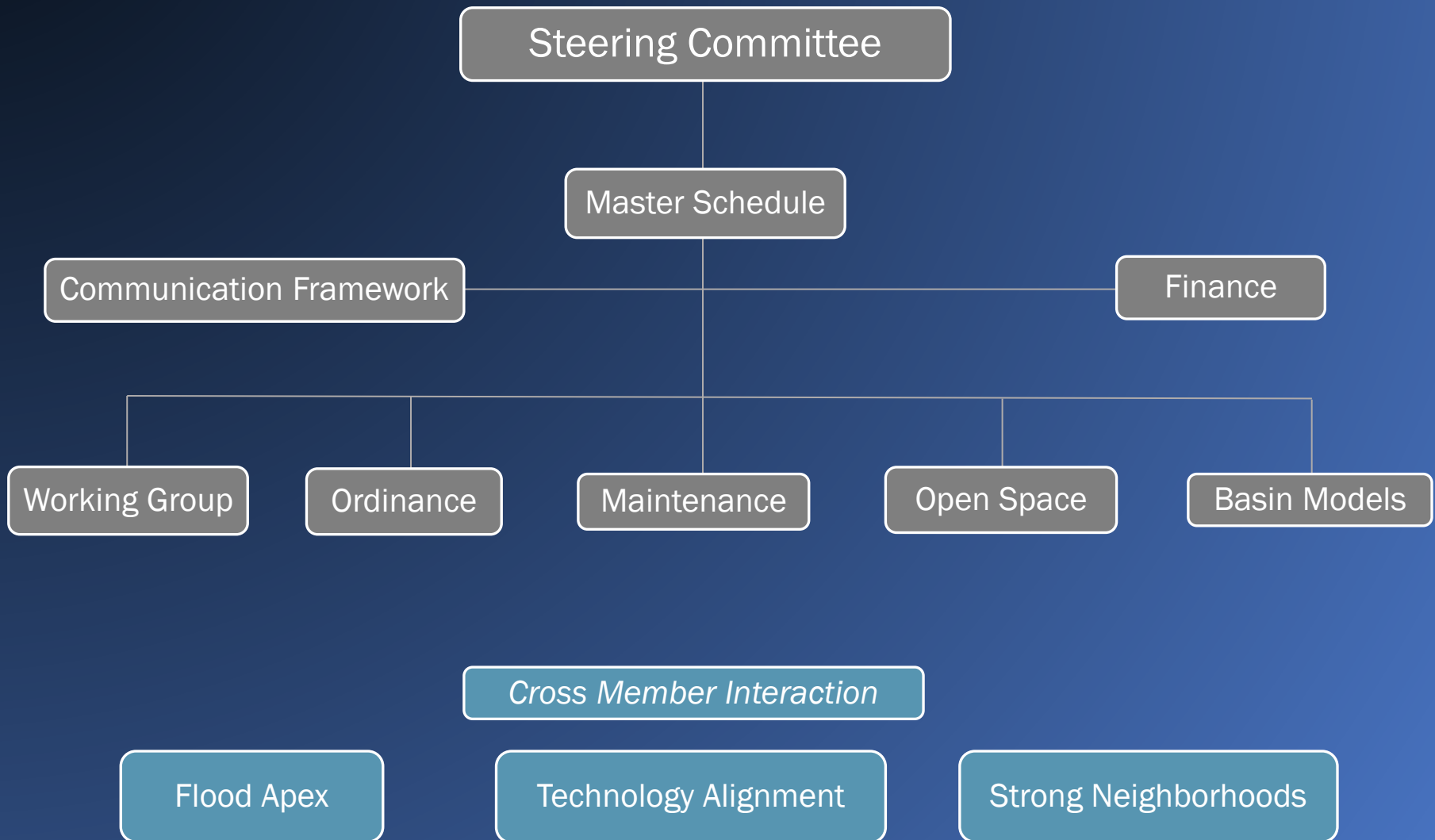


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What does success look like?



Adaptive Stormwater



Adaptive Stormwater Management

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Ordinance	Apr 10, 2018 by Bill...	5 Files
Communications	Apr 4, 2018 by Billy...	1 File
Master Schedule	Apr 3, 2018 by Kare...	1 File
Maintenance	Mar 27, 2018 by Ji...	1 File
Model	Mar 23, 2018 by Bil...	1 File
Open Space	Mar 6, 2018 by Stev...	0 Files
Working Group	Mar 6, 2018 by Stev...	0 Files
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AdaptiveStormwaterOrganization.pptx	Yesterday by Billy Lee	490 KB
ADAPTIVE STORMWATER Staff Rostser.docx	Yesterday by Billy Lee	13.7 KB

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Steve Brown

Owner

BL

Billy Lee

Co-owner

Jonathan Fisk

Viewer Uploader

CR

Carolyn Roman

Editor

DM

Doug McRainey

Editor

+19 People

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ADAPTIVE STORMWATER ROSTER

Steering Committee

Dan Ault
 Ted Boyd
 Steve Brown
 Dan Clinton
 Marie Cefalo
 Scott Hecht
 Matt Flynn
 Meredith Gruber
 Billy Lee
 Doug McRaney
 Karen Mills
 Susan Moran
 Jan Patterson
 Carolyn Roman
 Chris Simpson
 Danna Widmar*

Working Group

Citizens
 Scott DeDeugd
 Tim Devinney
 Jordan Gussenhoven
 Bill Hunt
 Tim Luckadoo
 Sam Ravenel
 David Schouse
 Ken Taylor
 Peggy Taylor

Staff
 Dan Ault
 Ted Boyd
 Steve Brown
 Dan Clinton*
 Meredith Gruber
 Billy Lee
 Doug McRaney
 Carolyn Roman
 Danna Widmar

Ordinance

Dan Ault
 Mary Beerman
 Ted Boyd
 Steve Brown
 Matt Flynn*
 Lisa Glover
 Meredith Gruber
 Billy Lee
 Doug McRaney
 Chris Simpson

Maintenance

Dan Ault
 Lynn Brilz
 Ted Boyd
 Steve Brown
 Paul Campbell
 Dan Clinton
 Dave Hallgren
 Jim Hallows*
 Scott Hecht
 Billy Lee
 Chad Lemke
 Tom Lubcker
 Mike Mazanek
 Doug McRaney
 Karen Mills
 Jan Patterson
 Jamie Revels
 Carolyn Roman
 Bill Roy

Open Space

Juliet Andes
 Dan Ault
 Emily Barrett
 Dan Clinton
 Meredith Gruber*
 Jerry Jensen
 Paul Kuhn
 Billy Lee
 Doug McRaney
 Todd Milan

Basin Model

Dan Ault
 Ted Boyd
 Steve Brown
 Dan Clinton
 Matt Flynn
 Billy Lee*
 Doug McRaney
 Jan Patterson
 Danna Widmar

Finance

Dan Ault
 Kimberly Branch*
 Steve Brown
 Dan Clinton
 Jim Hallows
 Scott Hecht
 Jim Holloway
 Billy Lee
 Karen Mills
 Jan Patterson
 Stacey Teachey

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Adaptive Stormwater Working Group

April 27, 2018



TOWN of CARY

E21



	A	B	C	D	E	F	G	H	I
1	<u>Working Group</u>		<u>Meeting Schedule</u>			<u>Topics</u>			
2									
3	<u>Citizens</u>		27-Apr	10:30		Engagement			
4	Scott DeDeugd		5-Jun			Downtown Walking Tour			
5	Tim Devinney		19-Jul			Educate -Inform			
6	Jordan Gussenhoven					Engagement - Encounter			
7	Bill Hunt					Explore			
8	Tim Luckadoo					Problems of the Past			
9	Sam Ravenel					Address the present			
10	David Schouse					public/private			
11	Ken & Peggy Taylor					Partnerships			
12						Holistic -vs- R/W			
13	<u>Staff</u>					No Adverse Impact			
14	Dan Ault					Communications Framework			
15	Ted Boyd					Incentives			
16	Steve Brown								
17	Dan Clinton					Basin Model			
18	Meredith Gruber								
19	Billy Lee								
20	Doug McRainey								
21	Carolyn Roman								
22	Danna Widmar								
23									
24									
25									
26									
27									



Downtown Walking Tour





Adaptive Stormwater Ordinance Revisions

April 19, 2018



TOWN of CARY

	A	B	C	D	E	F	G	H
1	<u>Ordinances</u>		<u>Meeting Schedule</u>			<u>Topics</u>		
2								
3	Dan Ault		19-Apr	9:00		Existing Ordinance Review		
4	Mary Beerman		17-May	3:00		Process Diagrams		
5	Ted Boyd		17-Jul	3:00		Peak Flow		
6	Steve Brown		17-Aug	3:00		SW vs FP		
7	Matt Flynn					SWIA		
8	Lisa Glover					Extent of Regulation		
9	Meredith Gruber					Notification		
10	Billy Lee					Green		
11	Doug McRainey					Policy Amendments		
12	Chris Simpson					35 & 146		
13						Public Purpose		
14						Whats the Story		
15						Communications Framework		
16						Rezoning		
17						Exempt Lot subdivisions		
18								
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26								
27								



Stormwater Master Plan Summary

Table 2-4- Summary of the Town's Land Development Ordinances Relating to Stormwater

#	Ordinance Name	Category	Department Responsible	Basins	Potential Benefits	Purpose	Ordinance Drivers
3.12	Development in flood hazard areas	- Flooding - Runoff Quantity	Engineering	All	Reduces risk of structural and yard flooding	Prevent lots and development in flood-prone areas	Flood prevention, buffer protection, & water quality
3.13	Grading Permits	E&SC	Engineering	All	Reduces erosion, sedimentation, & property loss	Permits for grading and development activities	Compliance with State Erosion Control Law and NPDES Phase II Permit
3.15	Certificates of Occupancy	Enforcement	Inspections and Permits	All	Can be used as a mechanism to proactively require compliance with ordinances	Issued by the department stating that the building complies with the Ordinance	Public Safety, protection with secondary compliance benefit
3.17	Vested Right	UTBs	Planning	All	Prevent hardships for property owners	Prevent hardships for property owners	Equity and fairness
3.22	Tree clearing certificate	UTBs	- Planning - Inspections and Permits	All	Water quality & aesthetics	Prevent loss of trees	Ensure that trees are not mistakenly removed
3.22.4	Required Buffers and Vegetation Protection Areas	UTBs	Planning	All	Water quality & aesthetics	Areas where vegetation is to be protected and buffers are required	Addresses all buffers, not just UTBs
4.4.6	Watershed Protection Overlays	Water Quality	Planning	Swift and Jordan	Protects water quality of potable water supply	Ensures the availability of water supplies at a safe and acceptable quality	DWQ requirement for WSW (15A NCAC 2B.0200
7.2.5	Tree Protection During Construction	UTBs	Planning	All	Reduces accidental removal & damage of trees & buffers	To protect trees from damage prior to and during construction	Protection of trees, sometimes required by DWQ
7.2.8	Screening (A) Stormwater Devices	Water Quality	Planning	All	Better public acceptance of BMPs	Improve BMP aesthetics	Public acceptance of BMPs
7.2.14	Urban Transition Buffer Regulations	UTBs	- Engineering - Planning	All	Water quality, flood prevention, & aesthetics	Protect riparian buffer and protect water quality	15A NCAC 2B.0200, but Town exceeds minimum requirements
7.3	Stormwater Management	- Water Quality - Flooding - Runoff Quantity	Engineering	All*	Water quality, flood prevention, & stream erosion	Protecting water quality by controlling nutrients, attenuating peak stormwater discharges, and requiring use of BMPs	15A NCAC 2B.0200, FEMA requirements Protection of Public
7.3.2	Nutrient Reduction Requirements	Water Quality	Engineering	All	Water quality	Limits the amount of pollutants in the stormwater runoff	15A NCAC 2B.0235, 15A NCAC 2B.02665, SL 2009-216, SL 2009-484
7.3.3	Peak Runoff Control	- Flooding - Runoff Quantity	Engineering	All	Flood prevention and stream erosion	To minimize damage to subject streams caused by storm flows	NPDES Phase II Permit
7.3.4	Allowable Best Management Practices	Water Quality	Engineering	All	Assures use of effective treatment strategies	A list of practices that can be utilized for nitrogen reduction	15A NCAC 2B.0235/.0265, SL 2009-216, SL 2009-484
7.3.5	Maintenance of Best Management Practices	Water Quality	Engineering	All	Assures proper maintenance of BMPs	BMPs require complete legal documentation and a maintenance plan	NPDES Phase II Permit
7.3.6	Illegal Discharges to the Storm Sewer System	Water Quality	- Engineering - Public Works & Utilities	All	Reduces sources of pollutants entering streams and ponds	Regulates non-stormwater discharges to the storm drainage system	NPDES Phase II Permit
7.3.7	Post Construction Runoff Controls for Walnut, Middle, & Crabtree Creek Watersheds	Water Quality	Engineering	All	Reduces pollution, reduces erosion and sedimentation, increases public awareness	Ordinance to comply with NPDES Phase II Permit	NPDES Phase II Permit
7.4	Soil Erosion and Sedimentation Control	E&SC	Engineering	All	Reduces sedimentation of streams and ponds, reduces property and soil loss	Regulates land disturbing activities to control erosion and sedimentation.	State Erosion Control Act and NPDES Phase II Permit
7.5	Flood Damage Prevention	- Flooding - Runoff Quantity	Engineering	All**	Reduces flooding potential and property loss	Minimizing the amount of obstructions in a floodplain	Public protection and FEMA
8.1.4	Subdivision and Site Plan General Provisions (C) Storm Drainage	E&SC	- Engineering - Planning	All	Reduces flooding potential and property loss	Provide adequate storm runoff conveyance systems	Public protection and FEMA
11.3 11.4 11.5	Violations, Remedies and Penalties, Enforcement Procedures	Enforcement	- Engineering - Planning - Inspections and Permits	All	Assures compliance with ordinances	To provide means to require compliance with ordinances	All of the above

* Different aspects of rule apply based on watershed

** For sites greater than 50 acre

Ordinances by Target

Water Quality		Flooding/Runoff	
4.4.6	Watershed Protection Overlays	3.12	Development in Flood hazard area
7.2.8	Screening Stormwater Device	7.3	Stormwater Management
7.3	Stormwater Management	7.3.3	Peak Runoff Control
7.3.2	Nutrient Reduction	7.5	Flood Damage Prevention
7.3.4	Allowable SCMs		
7.3.5	SCM Maintenance		
7.3.6	IDDE		
7.3.7	Post Construction		
E&SC		UTB	
3.13	Grading Permit	3.17	Vested Rights
7.4	Soil Erosion & Sediment Control	3.22	Tree Clearing Cert
8.1.4	Site & Sub General Provisions	3.22.4	Buffers & Vegetation Protection Area
		7.2.5	Tree Protection Construction
		7.2.14	Urban Transition Buffer
Enforcement			
3.15	Certificate of Occupancy		
11.3	Violations		
11.4			
11.5			

Table 2-4- Summary of the Town's Land Development Ordinances Relating to Stormwater

3.12 DEVELOPMENT IN FLOOD HAZARD AREA[3.12.1](#) Stormwater Engineering Manager[3.12.2](#) Permit and Approval Requirements

(A) Compliance Required

(B) Development Requiring Other Forms of Town Approval

(C) Development Requiring No Other Forms of Town Approval; Floodplain Deve

(D) Additional Requirement for New Development Located in Flood Hazard Area

[3.12.3](#) Approval Procedure[3.12.4](#) Appeals**3.13 GRADING PERMITS**[3.13.1](#) Purpose and Scope

(A) Applicability

(B) Exer

(C) Exer

[3.13.2](#)[3.13.3](#)[3.13.4](#)[3.13.5](#)[3.13.6](#)[3.13.7](#)

(A) Changes Initiated by Department

(B) Changes Initiated by Applicant

3.22 TREE CLEARING CERTIFICATE[3.22.1](#) Purpose[3.22.2](#) Applicability[3.22.3](#) Exemptions[3.22.4](#) Required Buffers and Vegetation Protection Areas[3.22.5](#) Application Requirements[3.22.6](#) Procedure[3.22.7](#) Non-Compliance**3.17 VESTED RIGHTS CERTIFICATE**[3.17.1](#) Purpose[3.17.2](#) Establishment and Effect of Vested Right[3.17.3](#) Vested Rights Period[3.17.4](#) Procedure

(A) Applicability

(B) Notice and Conduct of Public Hearings

(C) Effect of Denial or Withdrawal of Application

3.15 CERTIFICATES OF OCCUPANCY[3.15.1](#) Certificate of Occupancy Required[3.15.2](#) Approval Procedure

4.4.6	Watershed Protection		
3.22	Tree clearing certificate		
	Protects water quality of potential water bodies		
#	Potential Benefits		
3.12	Reduces risk of structural damage		
3.13	Reduces erosion, sediment loss		
3.15	Can be used as a mechanism to proactively require compliance with ordinances	Issued by the department staff if building complies with the Ordinance	compliance benefit
3.17	Prevent hardships for property owners	Prevent hardships for property owners	Equity and fairness
3.22	Water quality & aesthetics	Prevent loss of trees	Ensure that trees are not mistakenly removed
3.22.4	Water quality & aesthetics	Areas where vegetation is to be protected and buffers are required	Addresses all buffers, not just UTBs

Ordinance Drivers

Access to Approved Plan

Temporary Nature

Approval of the Town Council

a Variance

which Vesting Does Not Apply

Annexation

on, buffer protection, & water

Law

ry

LDO Considerations for Next time

- Level of Service
 - Design Standards
- Extent of Service
 - Public –vs- Private and Public Purpose
- Peak Flow
 - Add 100-yr
 - Move from 7.3 to 7.5
- Stormwater Impact Analysis
 - Town –vs- Development
 - Rezoning
 - Extent of Regulation
- Policy Amendments
- Green Infrastructure
- Exempt Lot Subdivision



Adaptive Stormwater Maintenance Program Take 2

Walnut Creek Basin Pilot

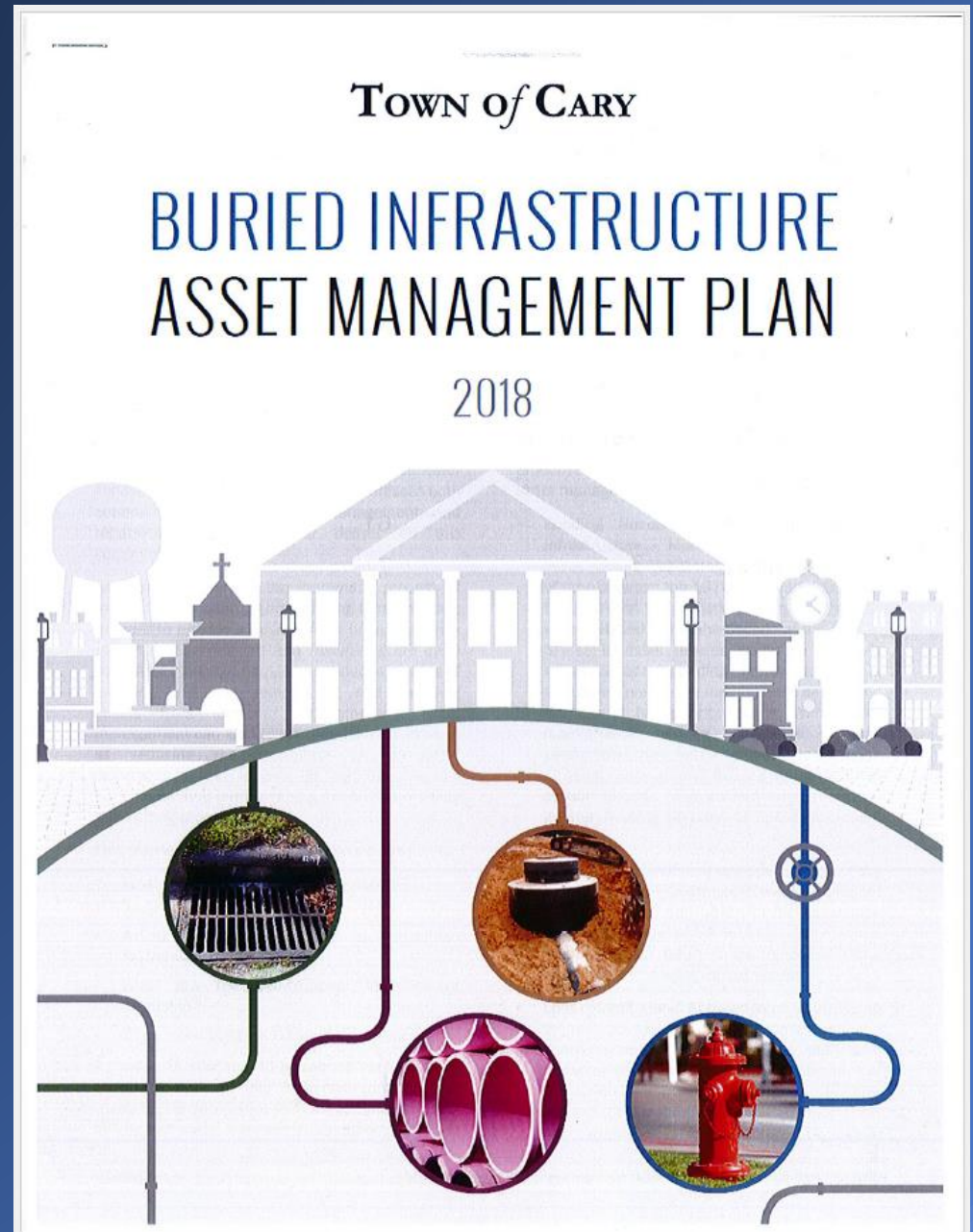
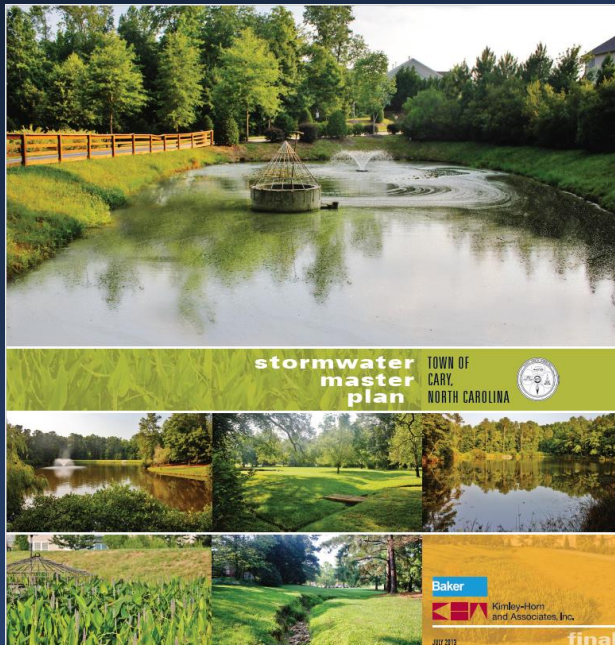
May 1, 2018



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Buried Infrastructure Asset Management Program



Stormwater Condition Assessment

Phase 1 - Condition Assessment FY16

World 1



TOWN of CARY

Stormwater Condition Assessment

Phase 1 - Condition Assessment

World 2



GIS

Basin Models

Maintenance



TOWN of CARY

Stormwater Preventative Maintenance Adaptive Approach

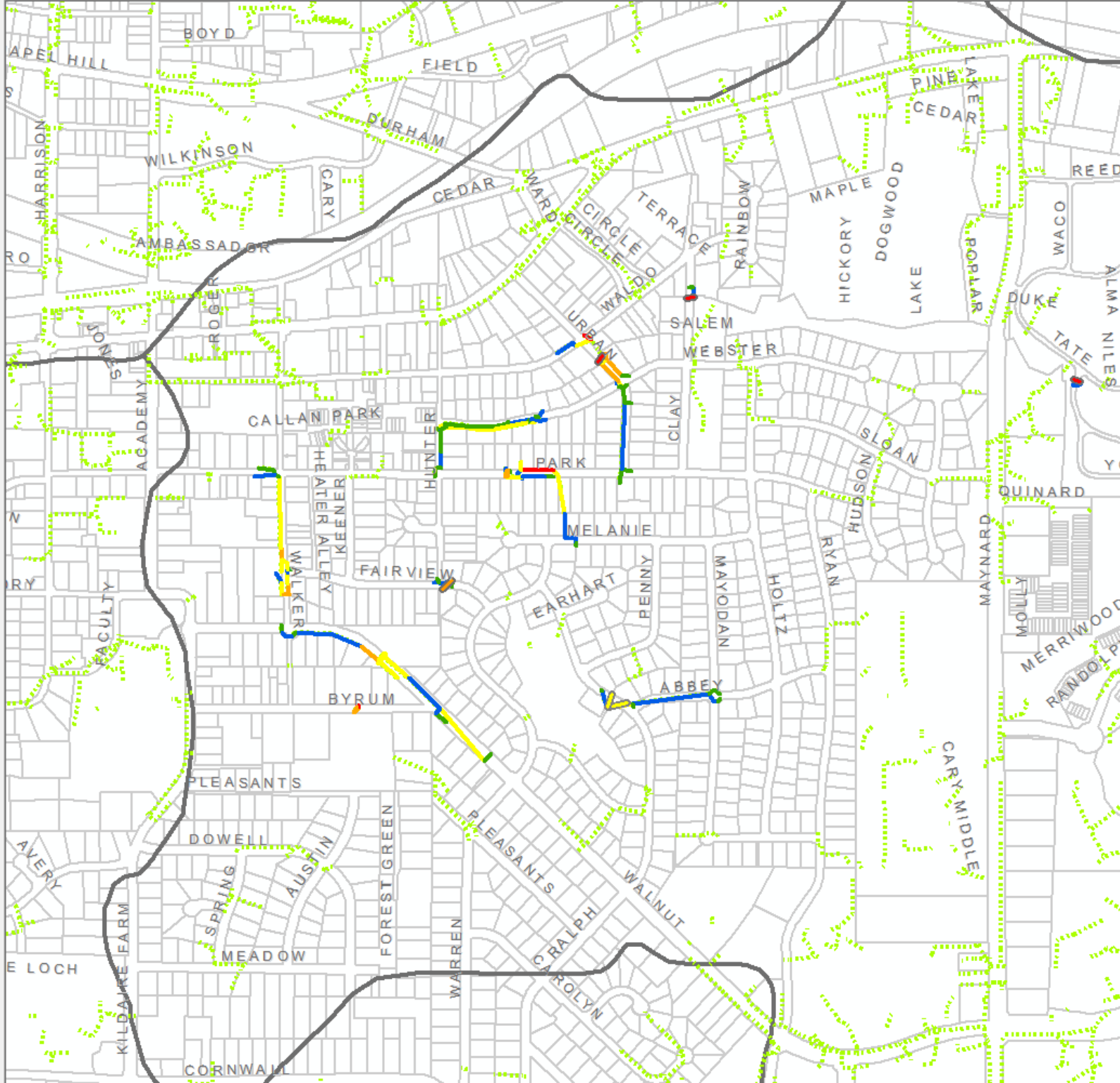
- How do we gain capacity????
- Sewer Line Acoustic Testing
 - Contracted in FY15 to Wastewater Collection Program
 - Purchased Equipment in FY18
 - Acoustic test sewer lines first, jet/clean when needed
 - Allowed us to reposition our resources
- Realigned 4 SS jet crews to 3 SS jet crews and 1 SW/CCTV jet crew
- Purchasing new CCTV camera
- Jet truck purchase on hold as we evaluate programing needs
- Stormwater jet crew working based on Walnut Creek Basin Pilot



Table Of Contents

Layers

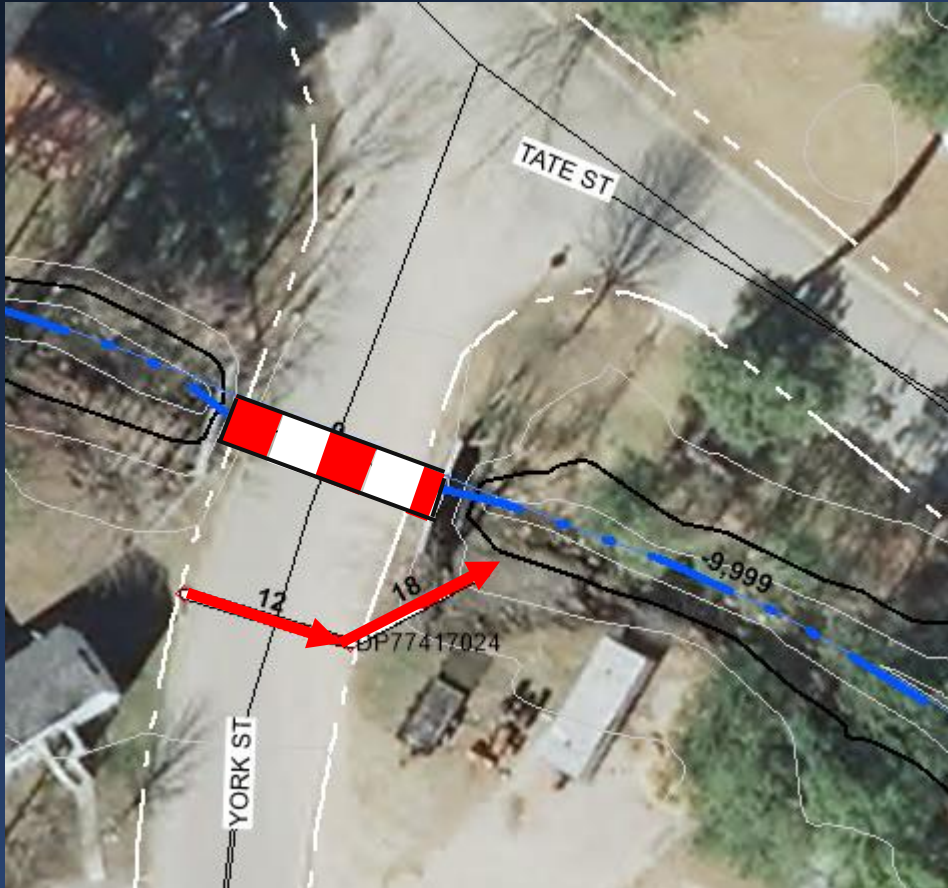
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 - ☐ Inlets
 - ☒ Storm Inlets
 - ☐ Storm Inlets_ModerateToHighest
 - ☐ Storm Inlets_Highest
 - ☒ Culverts
 - ☐ Culverts_Join_Output
 - ☒ Culverts_Maintenance
 - RISK_CATEG
 - Lowest Priority
 - Lower Priority
 - Moderate Priority
 - Higher Priority
 - Highest Priority
 - ☐ Culverts
 - ☐ Culverts_Highest
 - ☐ Culverts_RelativelyHigh
 - ☐ Culverts_CMP
- ☒ Gravity Mains
 - ☒ Gravity_Mains_Maintenance
 - RISK_CATEG
 - Lowest Priority
 - Lower Priority
 - Moderate Priority
 - Higher Priority
 - Highest Priority
 - ☐ Gravity_Mains_Basins_Join - Top
 - ☐ Gravity Mains
 - ☐ Gravity Mains_Highest
 - ☐ Gravity Mains_RelativelyHigh
 - ☐ Gravity Mains_CMP
- ☐ Manholes
- ☒ Enterprise
 - ☐ COF
 - ☐ LOF
 - ☐ LOF Results
 - ☐ Quality Control
 - ☐ Cary2017Aerials_cache



Stormwater Preventative Maintenance

- Pilot Program Walnut Creek Basin
- SCARP Tool Identified Top 10 Priorities

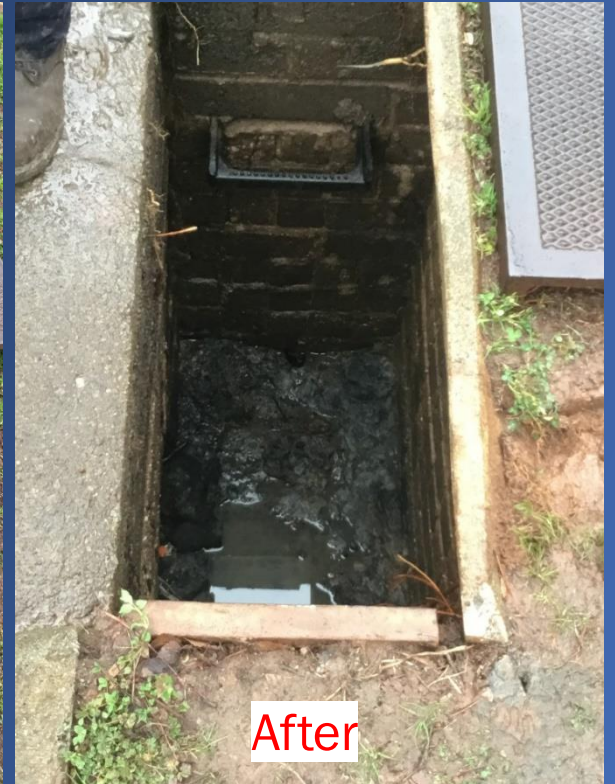
York St. -High Priority Culvert



Storm Drain



Before



After



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York St.

Before



After

Challenges

- Extent of Service
- Level of Service
- Public vs Private
- Maintenance Policies
- GIS



Stormwater Pilot Walnut Creek Headwaters

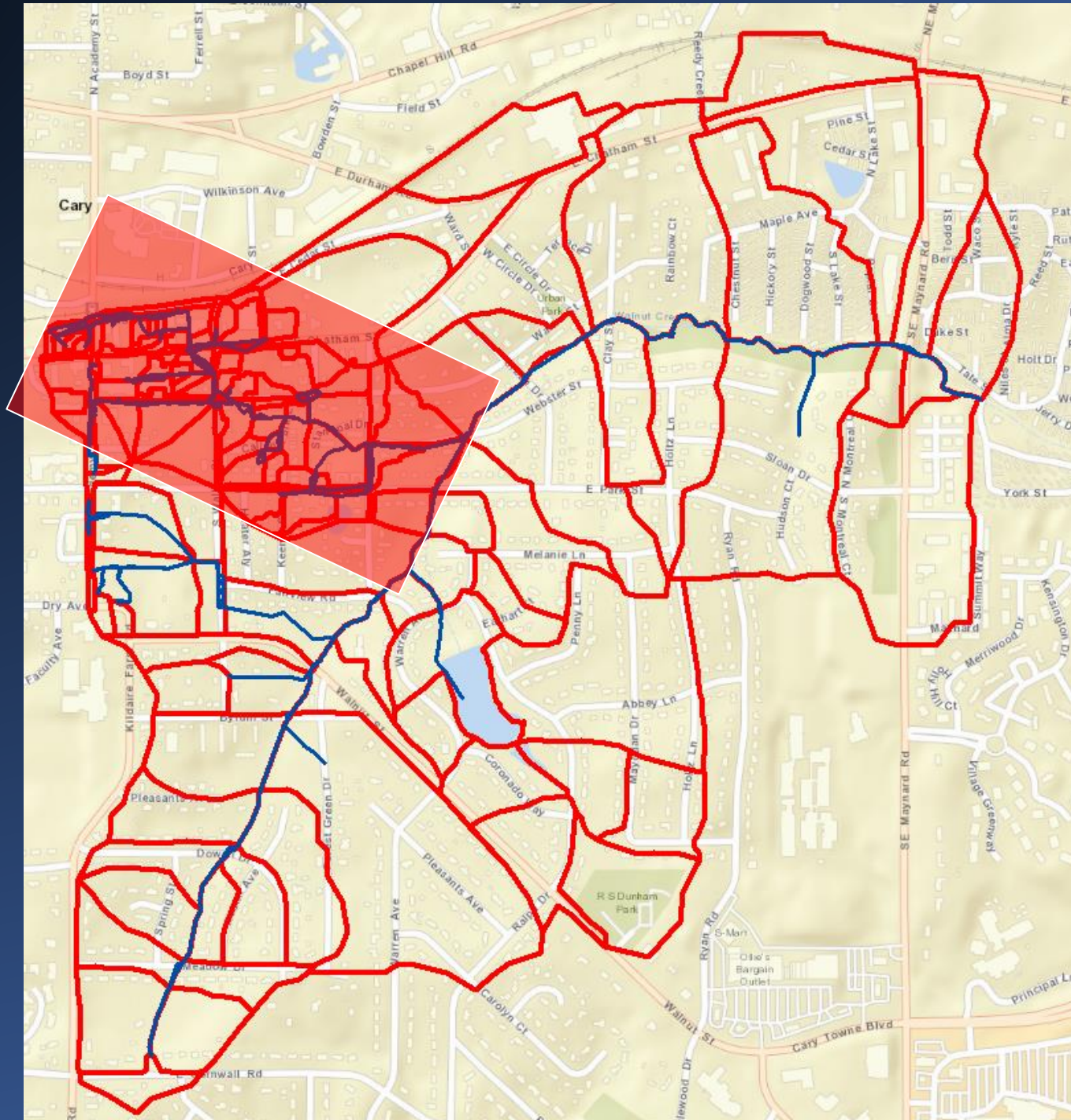
Downtown Cary



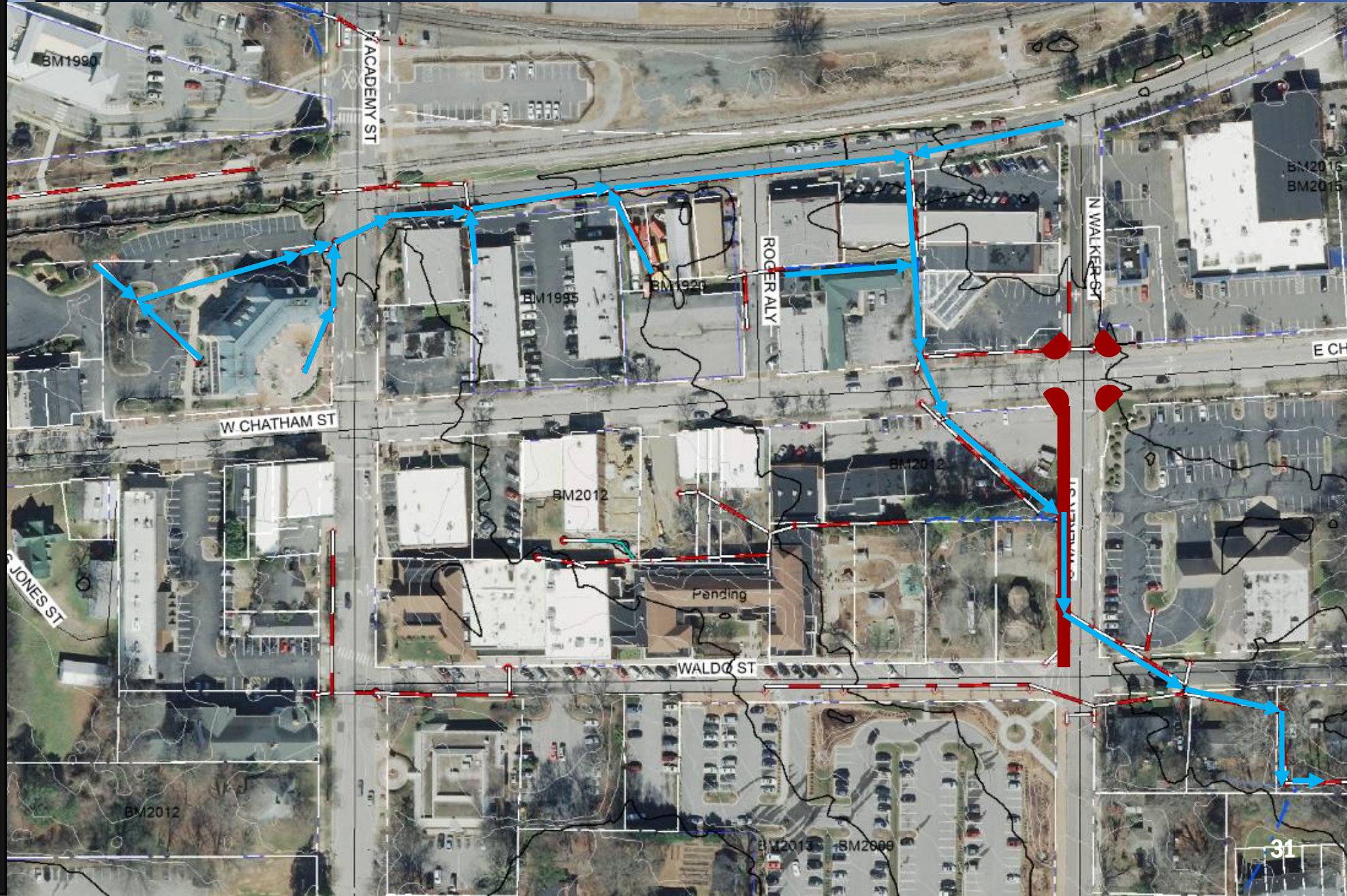
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2									
3	Dan Ault		12-Apr	9:00		Pilot Project			
4	Ted Boyd		26-Apr	9:00		Cedar St			
5	Steve Brown		10-May	9:00		DT Park			
6	Dan Clinton		24-May	9:00		Green Infrastructure			
7	Matt Flynn		7-Jun	9:00		E Park St PP			
8	Billy Lee		21-Jun	9:00		Survey			
9	Doug McRaney		17-Jul	9:00					
10	Jan Patterson		21-Aug	9:00		point source nonpointsource			
11	Danna Widmar								
12						Swift Creek			
13						Extent			
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15						Rezoning			
16						Target Maintenance with Technology			
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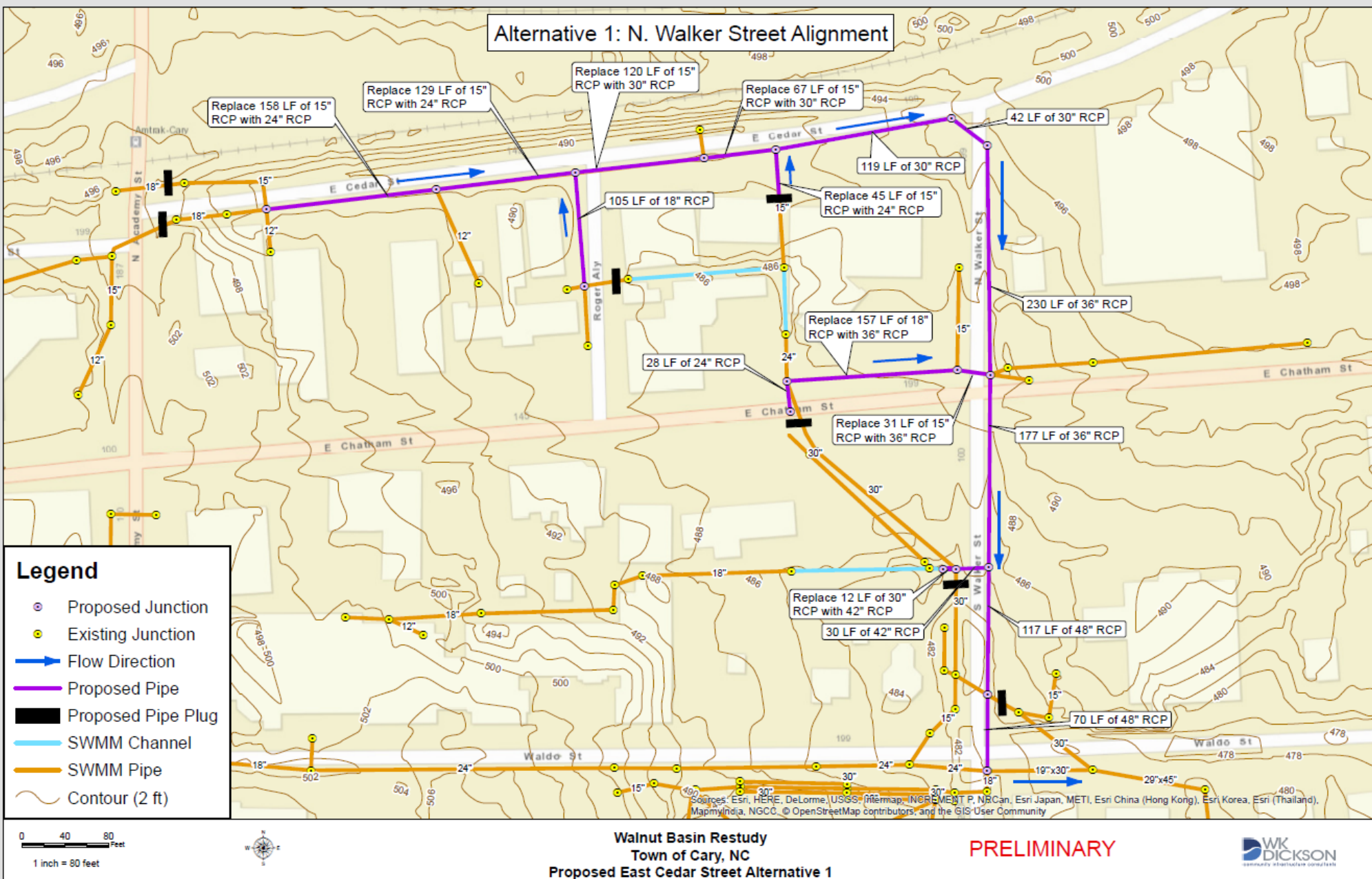
Drainage Basin Delineation



Cedar St Story



Alternative 1

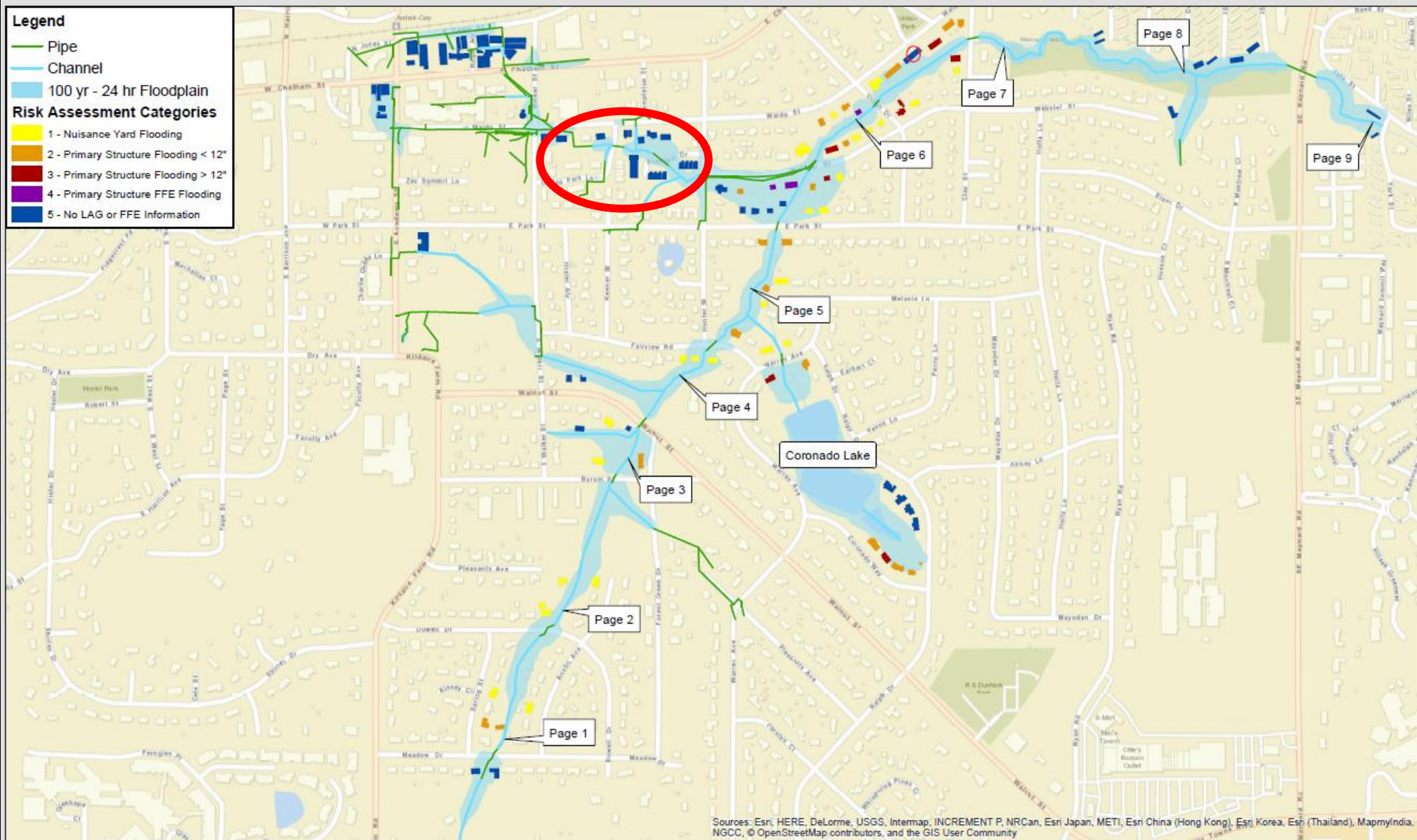


Legend

- Pipe
- Channel
- 100 yr - 24 hr Floodplain

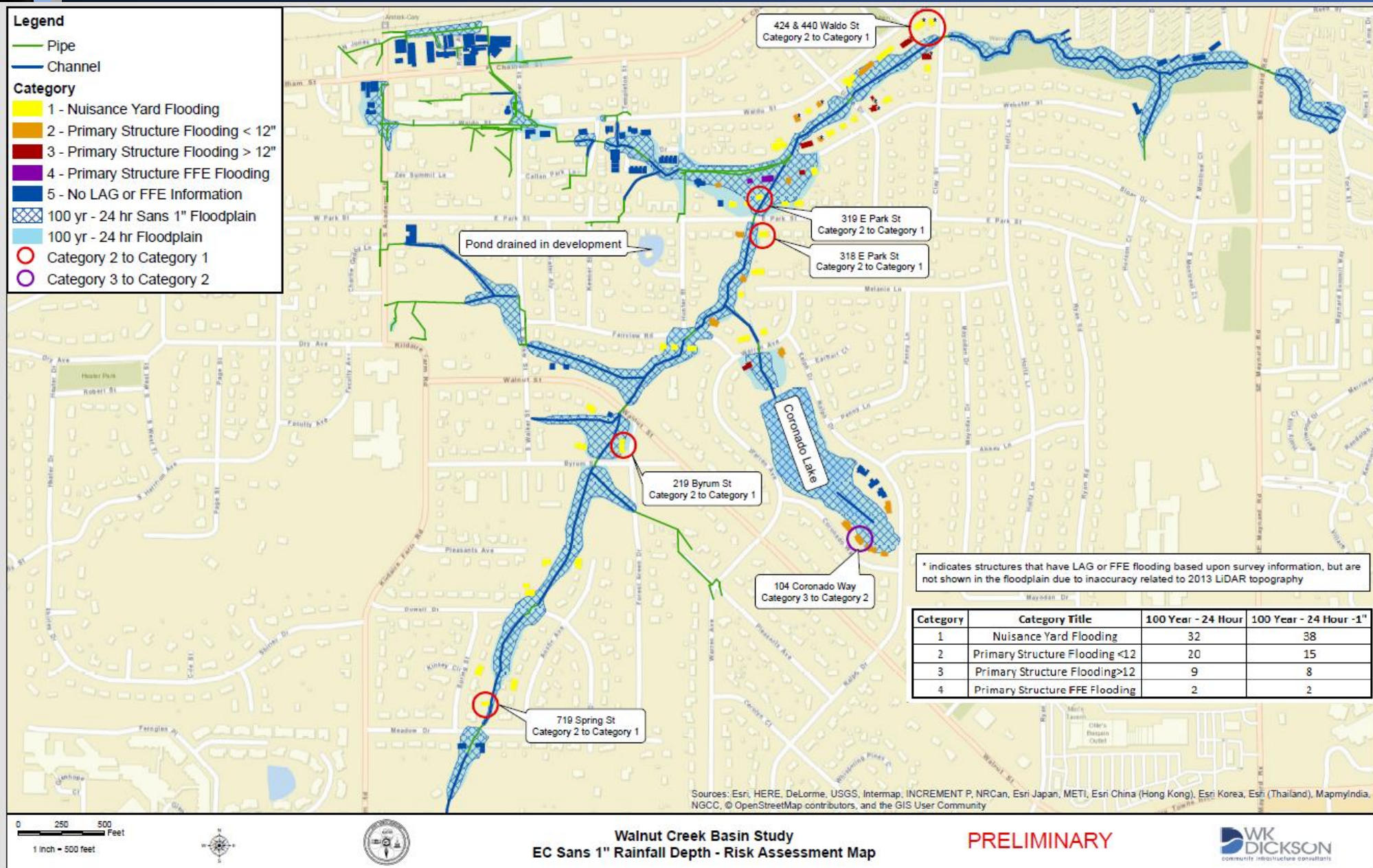
Risk Assessment Categories

- 1 - Nuisance Yard Flooding
- 2 - Primary Structure Flooding < 12"
- 3 - Primary Structure Flooding > 12"
- 4 - Primary Structure FFE Flooding
- 5 - No LAG or FFE Information



Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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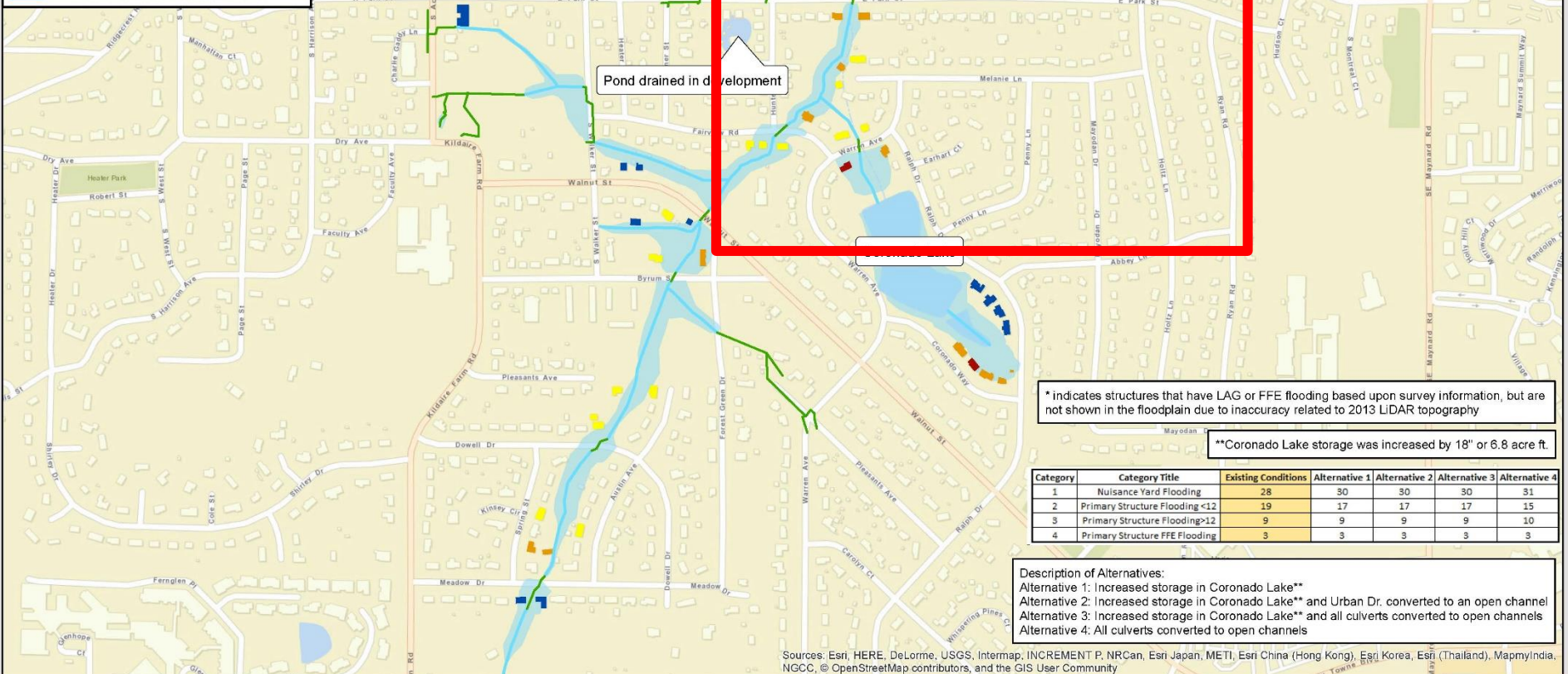


Legend

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- 3 - Primary Structure Flooding > 12"
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Walnut Creek Basin Study Existing Conditions - Risk Assessment Map

PRELIMINARY

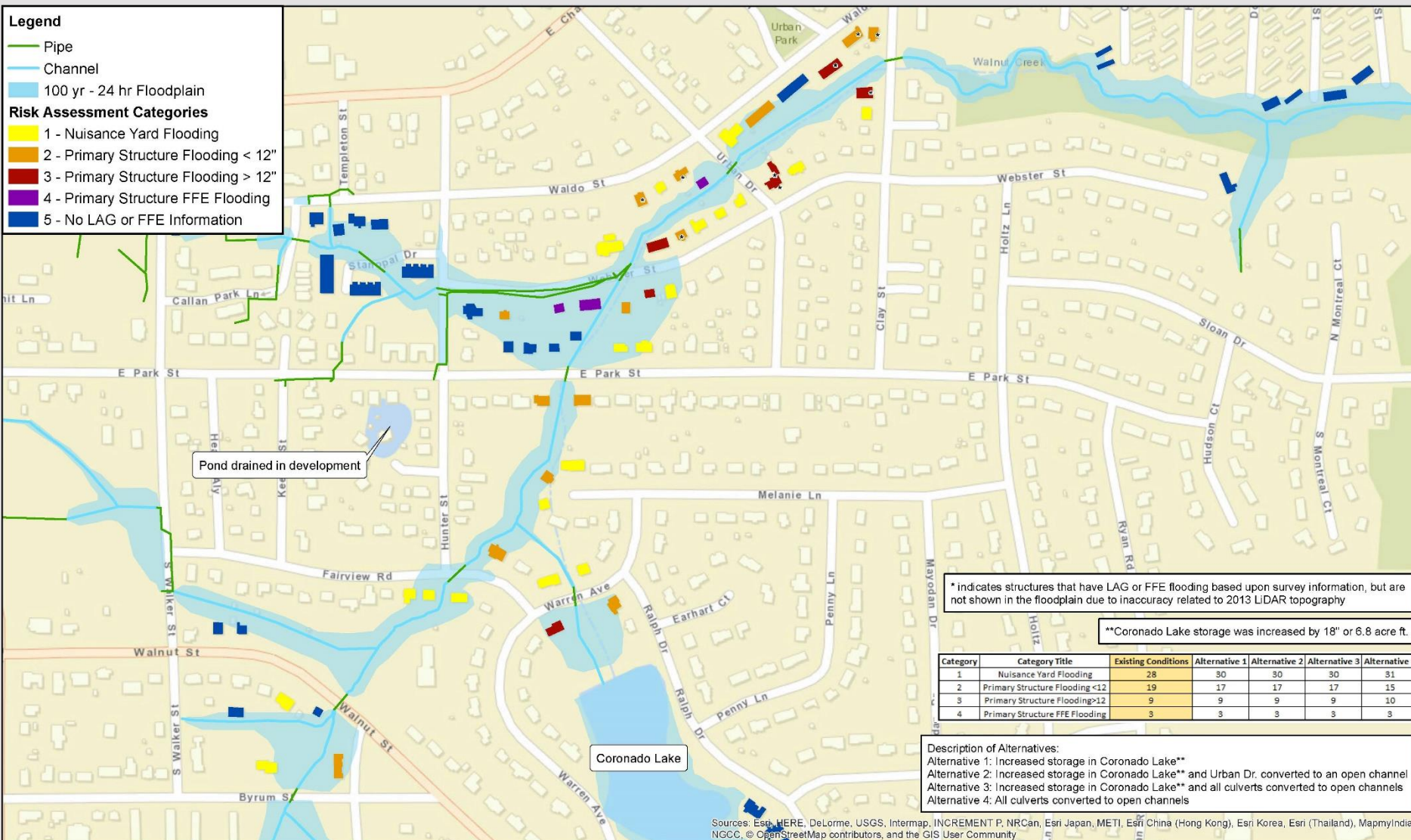


Legend

- Pipe
- Channel
- 100 yr - 24 hr Floodplain

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* Indicates structures that have LAG or FFE flooding based upon survey information, but are not shown in the floodplain due to inaccuracy related to 2013 LIDAR topography

**Coronado Lake storage was increased by 18" or 6.8 acre ft.

Category	Category Title	Existing Conditions	Alternative 1	Alternative 2	Alternative 3	Alternative 4
1	Nuisance Yard Flooding	28	30	30	30	31
2	Primary Structure Flooding <12"	19	17	17	17	15
3	Primary Structure Flooding >12"	9	9	9	9	10
4	Primary Structure FFE Flooding	3	3	3	3	3

Description of Alternatives:
 Alternative 1: Increased storage in Coronado Lake**
 Alternative 2: Increased storage in Coronado Lake** and Urban Dr. converted to an open channel
 Alternative 3: Increased storage in Coronado Lake** and all culverts converted to open channels
 Alternative 4: All culverts converted to open channels

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

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 1 inch = 300 feet



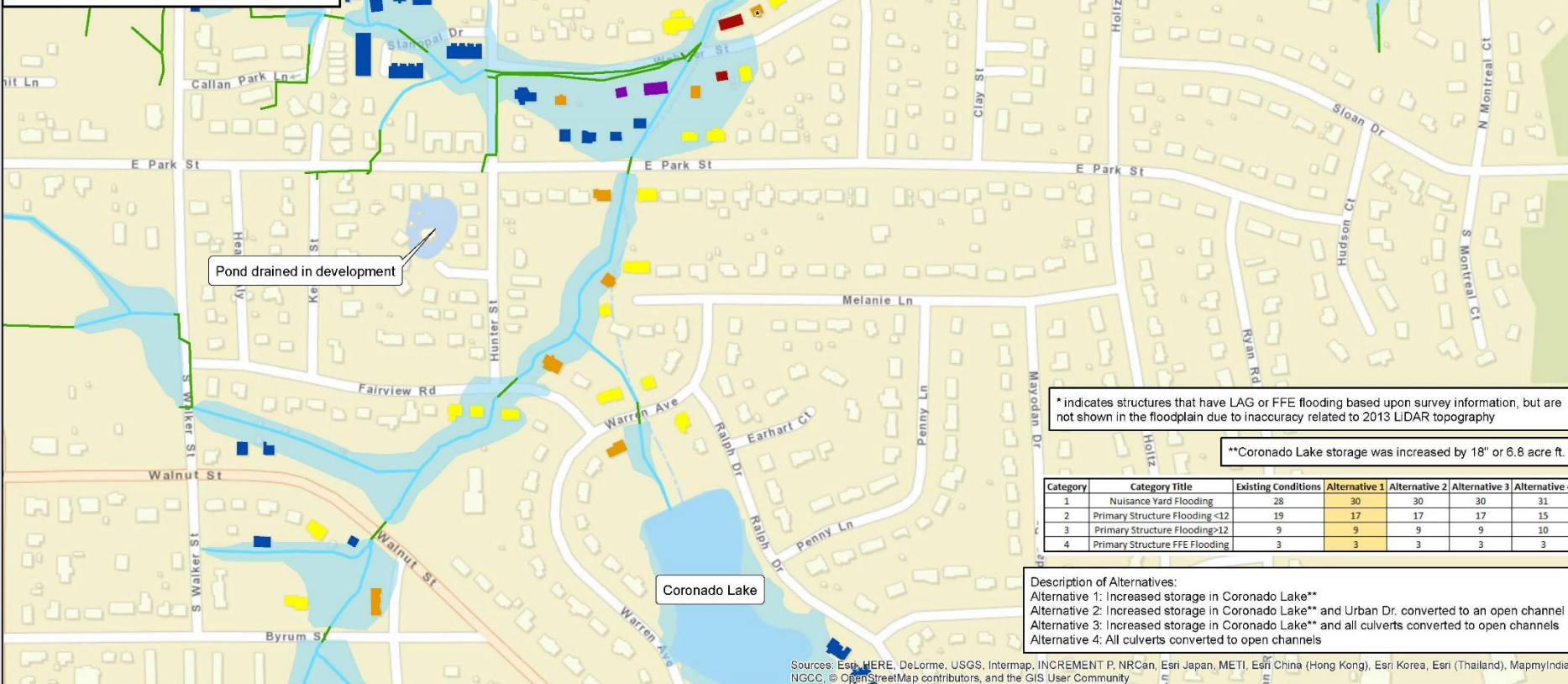
Walnut Creek Basin Study
Existing Conditions - Risk Assessment Map

PRELIMINARY



TOWN of CARY

- Legend**
- Pipe
 - Channel
 - 100 yr - 24 hr Floodplain
- Risk Assessment Categories Alternative 1**
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 - 3 - Primary Structure Flooding > 12"
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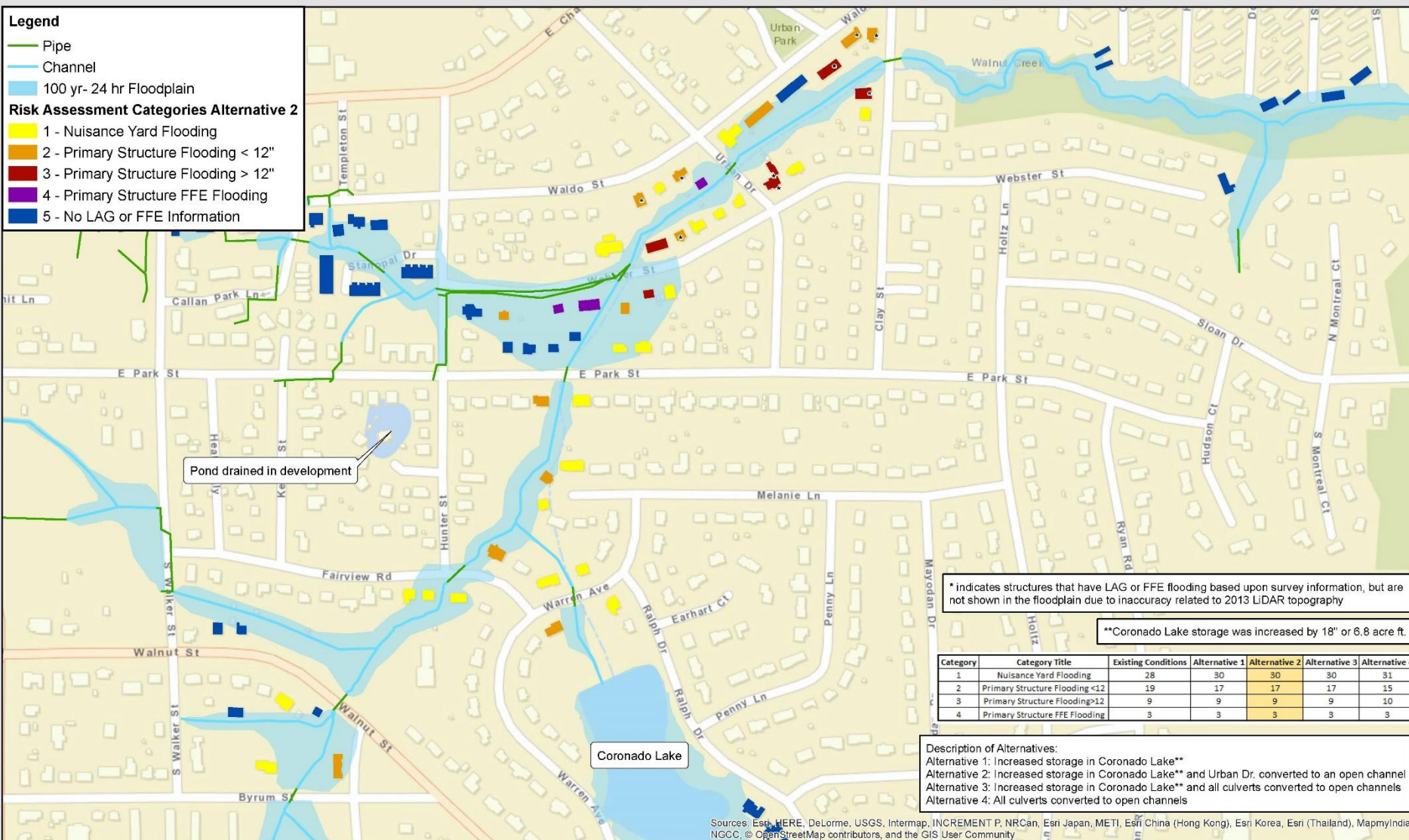
Walnut Creek Basin Study Alternative 1 - Risk Assessment Map

PRELIMINARY



TOWN of CARY

- Legend**
- Pipe
 - Channel
 - 100 yr- 24 hr Floodplain
- Risk Assessment Categories Alternative 2**
- 1 - Nuisance Yard Flooding
 - 2 - Primary Structure Flooding < 12"
 - 3 - Primary Structure Flooding > 12"
 - 4 - Primary Structure FFE Flooding
 - 5 - No LAG or FFE Information



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Alternative 1: Increased storage in Coronado Lake**
 Alternative 2: Increased storage in Coronado Lake** and Urban Dr. converted to an open channel
 Alternative 3: Increased storage in Coronado Lake** and all culverts converted to open channels
 Alternative 4: All culverts converted to open channels

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, OpenStreetMap contributors, and the GIS User Community

0 150 300 Feet
1 inch = 300 feet



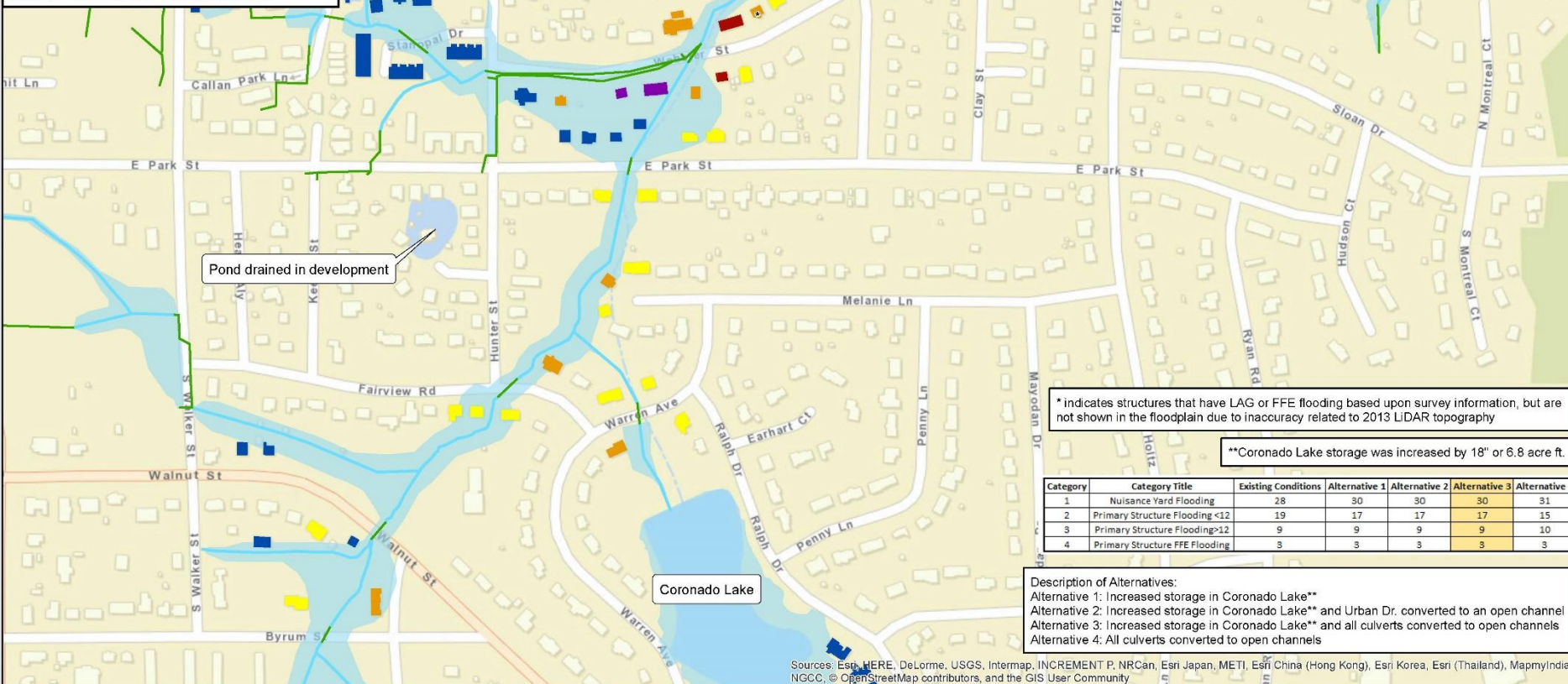
**Walnut Creek Basin Study
Alternative 2 - Risk Assessment Map**

PRELIMINARY



TOWN of CARY

- Legend**
- Pipe
 - Channel
 - 100 yr - 24 hr Floodplain
- Risk Assessment Categories Alternative 3**
- 1 - Nuisance Yard Flooding
 - 2 - Primary Structure Flooding < 12"
 - 3 - Primary Structure Flooding > 12"
 - 4 - Primary Structure FFE Flooding
 - 5 - No LAG or FFE Information



0 150 300 Feet
1 inch = 300 feet



**Walnut Creek Basin Study
Alternative 3 - Risk Assessment Map**

PRELIMINARY



TOWN of CARY

- Legend**
- Pipe
 - Channel
 - 100 yr - 24 hr Floodplain
- Risk Assessment Categories Alternative 4**
- 1 - Nuisance Yard Flooding
 - 2 - Primary Structure Flooding < 12"
 - 3 - Primary Structure Flooding > 12"
 - 4 - Primary Structure FFE Flooding
 - 5 - No LAG or FFE Information



Category	Category Title	Existing Conditions	Alternative 1	Alternative 2	Alternative 3	Alternative 4
1	Nuisance Yard Flooding	28	30	30	30	31
2	Primary Structure Flooding <12"	19	17	17	17	15
3	Primary Structure Flooding >12"	9	9	9	9	10
4	Primary Structure FFE Flooding	3	3	3	3	3

Description of Alternatives:
 Alternative 1: Increased storage in Coronado Lake**
 Alternative 2: Increased storage in Coronado Lake** and Urban Dr. converted to an open channel
 Alternative 3: Increased storage in Coronado Lake** and all culverts converted to open channels
 Alternative 4: All culverts converted to open channels

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

**Walnut Creek Basin Study
Alternative 4 - Risk Assessment Map**

PRELIMINARY

WK DICKSON
community infrastructure consultants

Open Space



F16



	A	B	C	D	E	F	G	H	I
1	<u>Open Space</u>		<u>Meeting Schedule</u>			<u>Topics</u>			
2									
3	Juliet Andes		20-Apr	1:30		Tree Canopy			
4	Dan Ault		8-May	9:00					
5	Emily Barrett		8-Jun	9:00		Green Infrastructure			
6	Dan Clinton								
7	Meredith Gruber					Riparian Buffer			
8	Jerry Jensen								
9	Paul Kuhn					Communication Framework			
10	Billy Lee								
11	Doug McRainey								
12	Todd Milan								
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27									



Open Space

Town of Cary



TOWN of CARY

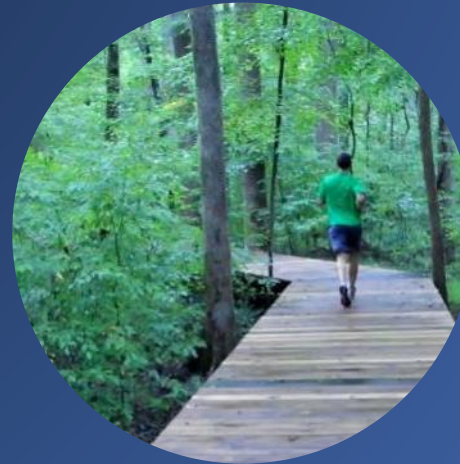
Benefits

- Ecological
- Stormwater
- Quality of life
- Recreation
- Community health
- Habitat
- Clean air
- Economics



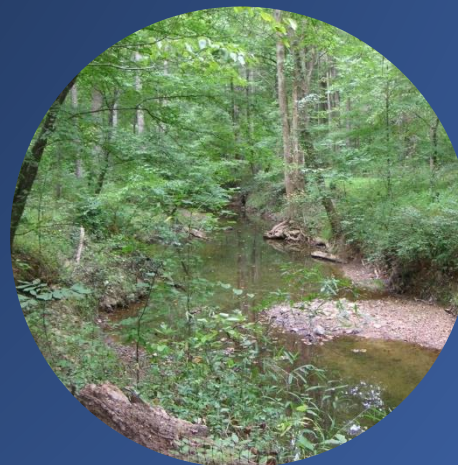
Town Open Space

- Parks
- Greenways
- Conservation Areas



Private Open Space

- Land Development Ordinance
- Policies
- Comprehensive Planning
- Design Guidelines and Standards



Success

- Recognize achievements
- Acknowledge goals
- Examine current trends and challenges



Moving forward

- Data
- Performance measures
- Peer comparison
- Analysis
- Optimize benefits
- Stewardship
- Partnerships
- Education and programming
- Collaboration and communication

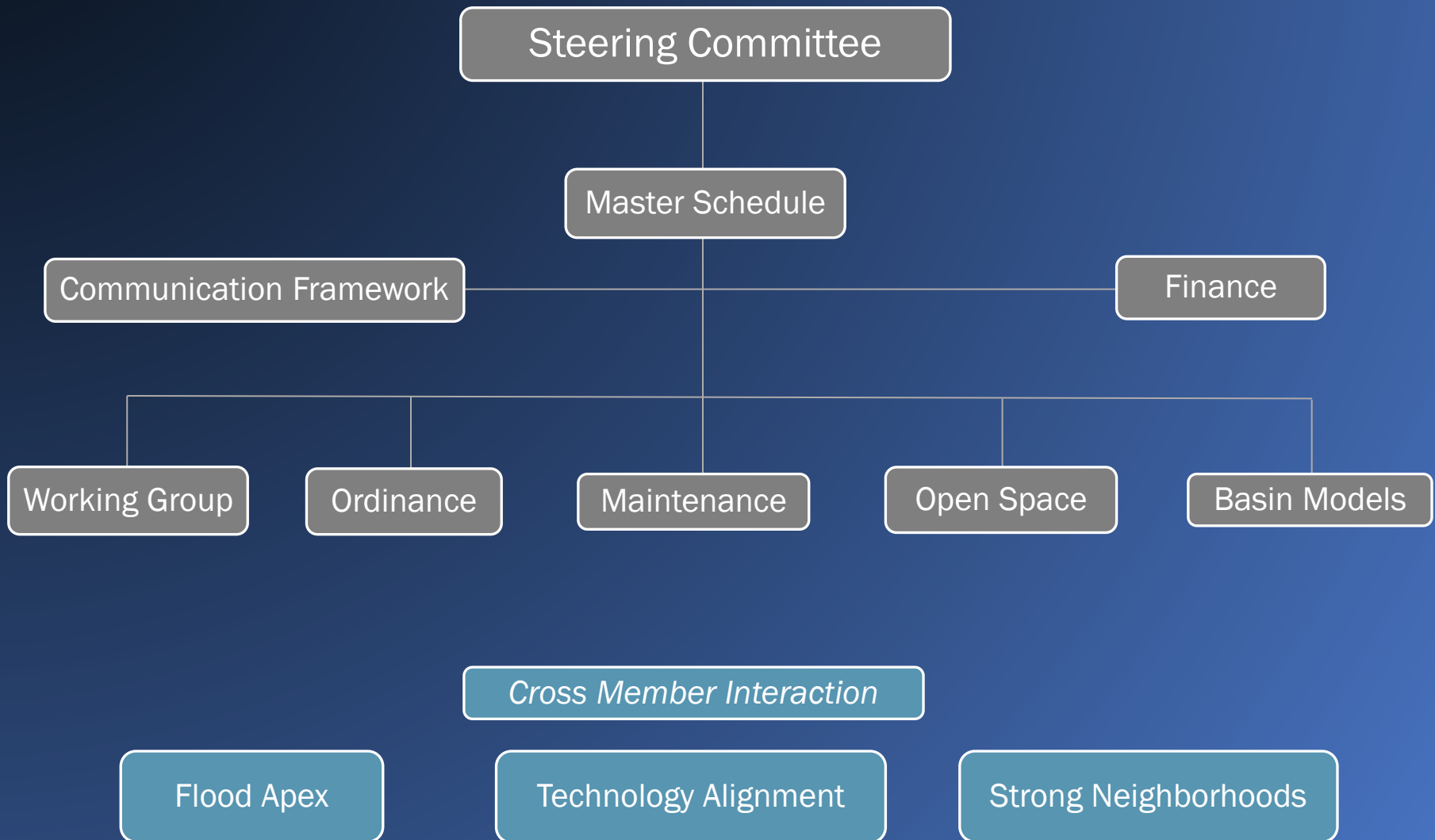


Moving forward

- Build upon success
- Innovative
- Resources
- Direction



Adaptive Stormwater



Execution Steps

- Working Group
 - COMMUNICATION STEPS
 - OUTREACH/COMMUNIC.
 - INTERNAL COMMUNICATION
 - NEW APPROACH
 - COMMON UNDERSTANDING OF MESSAGE
 - SITE VISITS
 - PROJECT MGT
 - ROLLY
- HOW WE GOT HERE

All
Ted
Steve
(Dan Fri)
Doug

THEMES

0. ADAPTIVE CHALLENGE

1. MODEL

Danna, Dan, Billy, Doug

2. MAINT.

Scott H., Carolyn, Karen

3. ORDINANCE

Meredith, Chris, Lisa, Billy, Matt, Todd

4. OPEN SPACE

Dan, Danna, Meredith, Todd Milam

*WORKING GROUPS
Dan

Q Report
Points

JOURNEY

• AUDIENCE

• HEARD THE STORY
ABOUT THE JOURNEY?

• NEED TO EXPLAIN IT INTERNALLY

• Document ALL in Box

Q3 (May '18)

Q4 (Aug '18)

Q1 (Nov)

Q2 Retreat

Full Report

AutoSave Off    

AdaptiveSWO

FileHomeInsertDrawPage LayoutFormulasDataReviewViewDeveloperHelp

A26   

	A	B	C	D	E	F	G	H
1	Steering Committee Members		Meeting Schedule			Topics		
2								
3	Dan Ault		1-May	3:30		Master Schedule		
4	Ted Boyd		5-Jun	3:30		Topics		
5	Steve Brown		3-Jul	3:30		G&H Leverage		
6	Dan Clinton		7-Aug	3:30		Flood Apex		
7	Marie Cefalo		5-Sep	3:30		Quarterly Reports		
8	Scott Hecht					Communications Framework		
9	Matt Flynn					Education & Outreach		
10	Meredith Gruber					95/5		
11	Billy Lee					Extend opportunity to staff		
12	Doug McRaney					White paper		
13	Karen Mills							
14	Susan Moran							
15	Jan Patterson							
16	Carolyn Roman							
17	Chris Simpson							
18	Danna Widmar							
19								
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22								
23								
24								
25								
26								
27								

  ... Roster **Steering** WorkGroupOrdinanceMaintenanceOpen SpaceModel

Ready 

What does success look like?



Thoughts - Message (HTML)

File Message Help Tell me what you want to do

Ignore Delete Archive Reply Reply All Forward More Meeting

Junk Delete Respond

Patterson To Manager Done Create New

Team Email

Reply & Delete

Quick Steps

Rules OneNote Actions

Move

Mark Unread Categorize Follow Up

Tags

Translate Find Related Select

Editing

Zoom

Zoom

Daniel (Dan) Clinton Billy E. Lee

Thoughts

Mon 3:03 PM

Billy,

What you had in mind for Tuesday's Adaptive Stormwater Steering meeting?

My thought is for each sub group to have give a report. I also think it would be helpful to have a structure for each report. Something like:

- Activity since last Steering Committee Meeting
- Overall focus of the group until the next meeting
 - Critical members
 - Do we need different people in the room
- Questions for the Steering Committee
 - What is needed
 - Overall goals for this group
- Action items

I think it would be helpful to have a discussion about the overal steering committee and what is its continued role. Where is adaptive stromwater going? Are we going in the right direction. What are the hurdles we face as a group?

What do you think?

Thanks

