

Public Meeting #2



Brookshire Lane/Beasley Road Stormwater Improvements

March 11, 2014



Purpose of Public Meeting #2

- Provide an update on the Brookshire/Beasley Stormwater Improvements project
- Discuss coordination with Cross-City Trail project
- Solicit comments and feedback on preliminary design
- Continue stakeholder involvement in the project
- Provide contact information

www.wilmingtonnc.gov/public_services/stormwater/capital_projects/brookshire-beasley



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Brookshire Lane/Beasley Road Stormwater Improvements



Overview

- Project Goals and Scope
- Public Meeting #1 Comments/Concerns
 - What you said, What we heard
 - How we respond, Informed design decisions
- Preliminary Design Development
 - Coordination with the Cross-City Trail, Phase III E
 - Channel maintenance activities
 - Culvert replacement
 - Stream maintenance activities
 - Beasley Road bridge replacement
- Project Timeline
- Breakout Session



Project Goals

Goals of the Brookshire Lane/Beasley Road Stormwater Improvement Project

1. Mitigate Flooding and Flood Related Problems (Protect Property)
2. Provide for Long-Term Maintenance of Storm Drainage Structures and Channels
3. Improve Water Quality



Project Scope

Replace Existing Culverts

- Brookshire Lane
- Waltmoor Road
- Amber Drive
- Greenwich Lane
- Brookview Road
- Aster Court
- Whisper Creek Lane

Channel Improvements

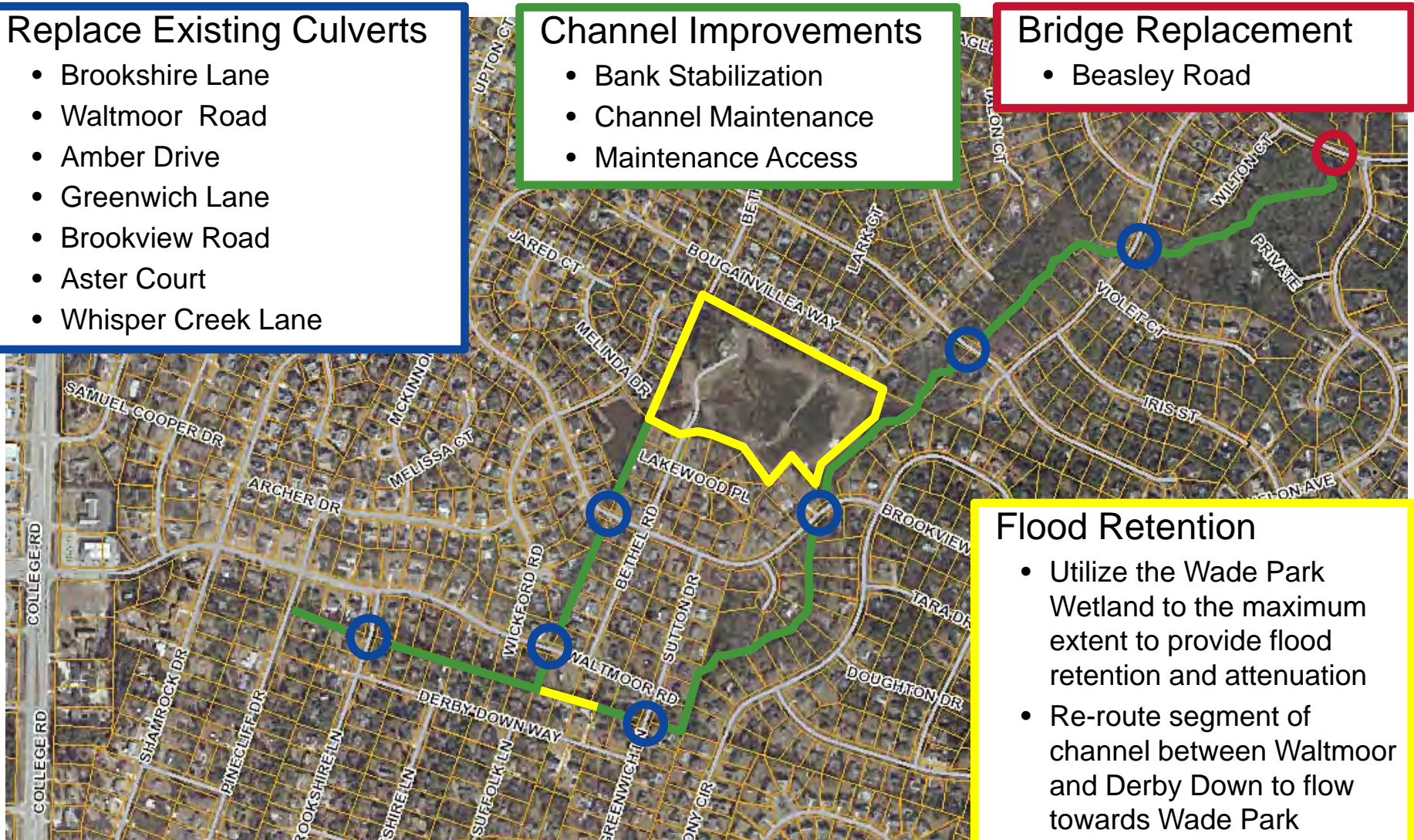
- Bank Stabilization
- Channel Maintenance
- Maintenance Access

Bridge Replacement

- Beasley Road

Flood Retention

- Utilize the Wade Park Wetland to the maximum extent to provide flood retention and attenuation
- Re-route segment of channel between Waltmoor and Derby Down to flow towards Wade Park





Public Meeting #1 - Review



What You Said at Public Meeting #1

Drainage Issues

- “Pipes along easements (property lines) needs to be flushed to allow proper drainage, **water backs up** onto property”
- “**Channel banks** are being **undermined**. Trees on banks are subject to falling over when roots are exposed, **soil is washed away**”
- “**Channel is full of debris** that restricts flow”
- “Road **frequently floods**, water flows over road”
- “**Water backs up** at road crossings”

Flooding of Property

- “**Front and side yard floods**, backyard periodically floods, less since Wade Park installed”
- “**Home** has been **within 6” of flooding** along N. Colony Circle”
- “**Street floods** on all corners at intersection of Greenwich Lane/Derby Down Way, drop inlets and **pipes** appear to be **too small**, **inlets** are **clogged** frequently”
- “**Ponding water** at intersection of Brookshire Lane/Derby Down Way”
- “Our observations indicate that flood estimate during 2-yr event across Whisper Creek Lane is greatly in error”

What You Said at Public Meeting #1 (Continued)

Impacts to Property

- “**Minimal impacts** to plants/vegetation (N. Colony Circle)”
- “Ditch behind house is washing away, **erosion of channel**”
- “We have **large trees** behind our property, will they be **damaged or removed**? (Bethel Road)”
- “Would like to know **how many trees** may or may not be removed? (Derby Down Way)”
- “**What type of easements**? Would any homes be lost/taken for project? **Compensation for easements**?”
- “Who **owns** the easements?”

Construction Activities

- “Again, our concern would be the potential **destruction of mature landscaping**”
- “**How long** from start to finish? Where would most of the heavy equipment be stored? Location of field office?”
- “**Ample notification** when working in area of property”
- “What caused this project?”
- “Can you **provide examples** of similar projects?”

Public Meeting #1 – What We Heard (and Have Seen)

Issue: Trash and Debris in Channel/Channel, Banks are Undermined by Trees



Public Meeting #1 – What We Heard (and Have Seen)

Issue: Periodic Flooding of Yards and Roadways/Intersections



Intersection of Greenwich Lane and Derby Down Way



Behind Colony Circle N.



Beasley Road Bridge

Public Meeting #1 – What We Heard (and Have Seen)

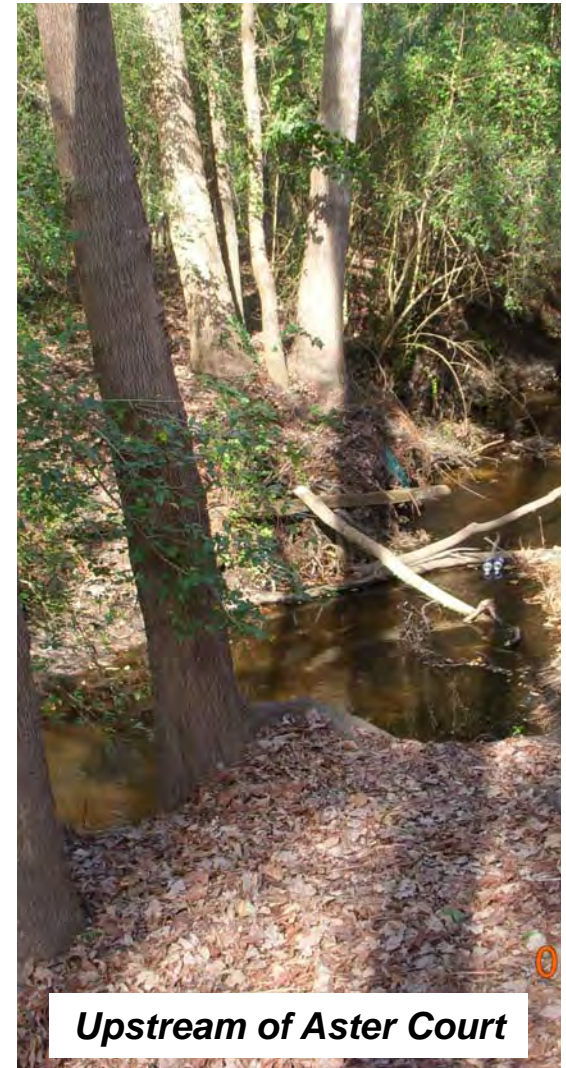
Issue: Trees are Important



Between Waltmoor Road and Derby Down Way



Upstream of Waltmoor Road



Upstream of Aster Court

Public Meeting #1 – What We Heard (and Have Seen)

Issue: Construction Activities

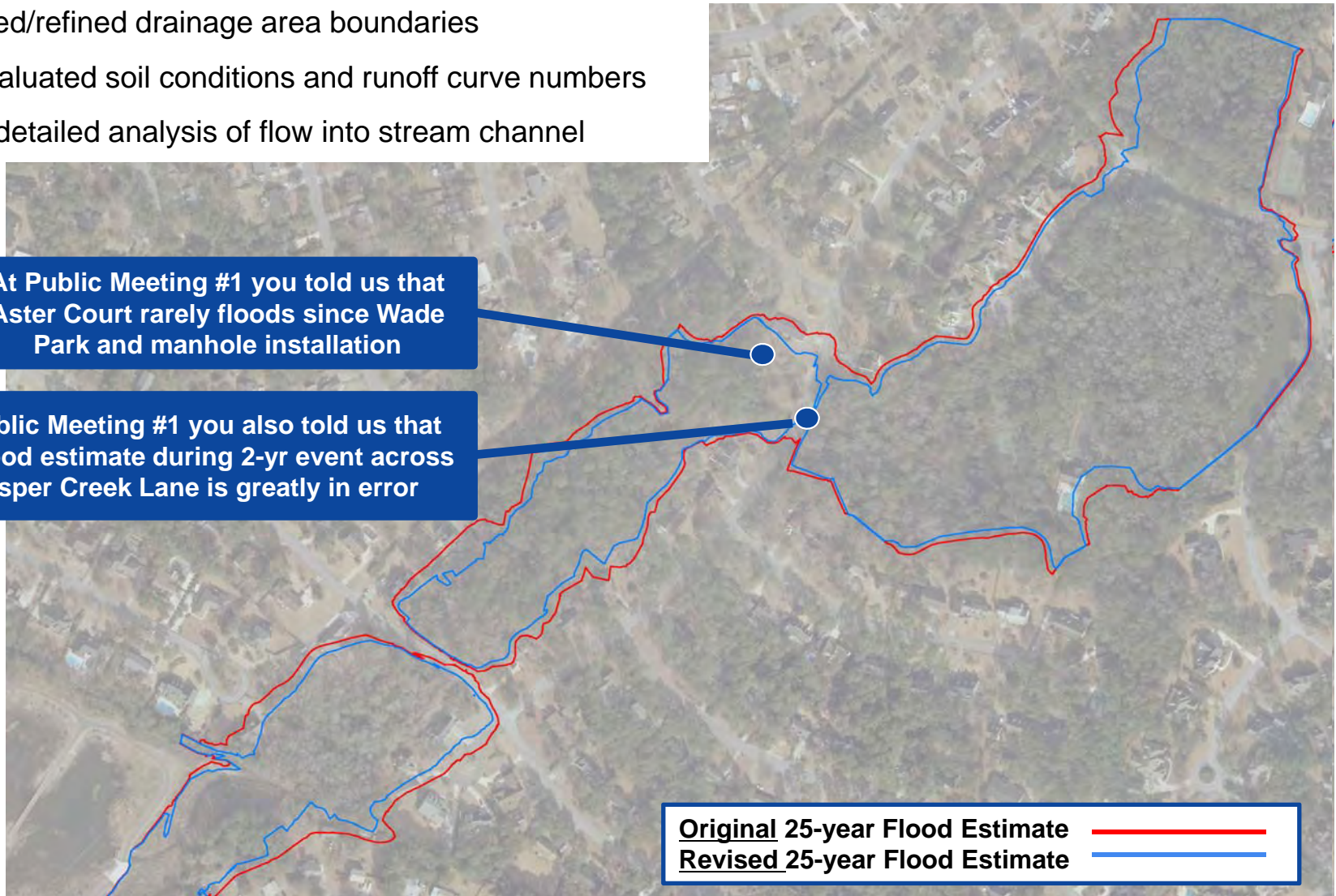


Revisions to Existing Conditions Assumptions

- Revised/refined drainage area boundaries
- Re-evaluated soil conditions and runoff curve numbers
- More detailed analysis of flow into stream channel

At Public Meeting #1 you told us that Aster Court rarely floods since Wade Park and manhole installation

At Public Meeting #1 you also told us that that flood estimate during 2-yr event across Whisper Creek Lane is greatly in error



Informed Design Decisions

“Pipes along easements (property lines) needs to be flushed to allow proper drainage, water backs up onto property”

“Channel is full of debris that restricts flow”

- **Priority: Connecting the drainage network and clearing out channels**
 - Connect tributaries, remove trash and debris, provide maintenance access



Well maintained drainage along property lines, but this channel is not connected to main stream and backs-up along backyards.

Hand clearing and grading required to connect the neighborhood drainage system.



Informed Design Decisions

“Ponding water at intersection of Brookshire Lane/Derby Down Way”

“Road frequently floods, water flows over road”

“Water backs up at road crossings”

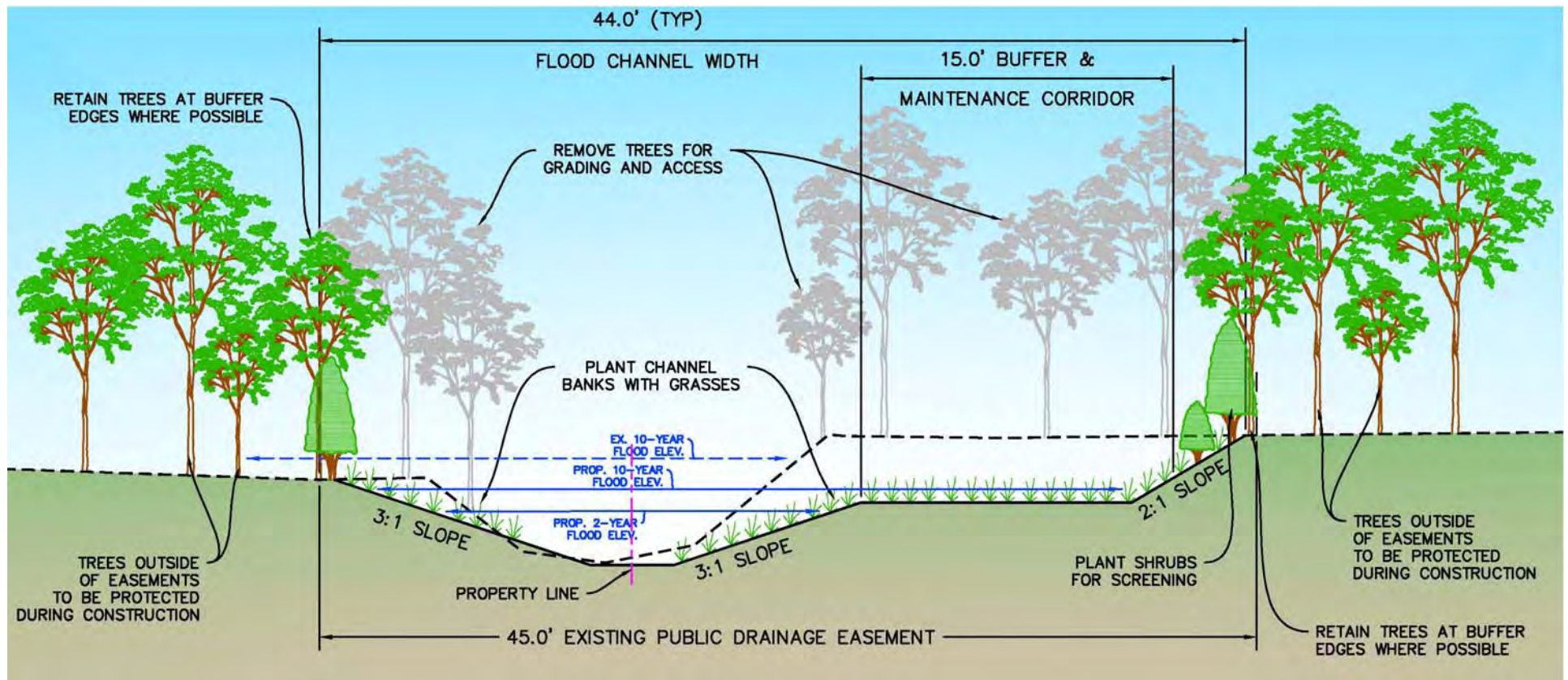
- **Priority: Remediate root causes of roadway drainage issues**
 - Larger pipes, increase freeboard at road crossings, lower water surface elevation in channel



Informed Design Decisions

“We have large trees behind our property, will they be damaged or removed? (Bethel Road)”

“Would like to know how many trees may or may not be removed? (Derby Down Way)”

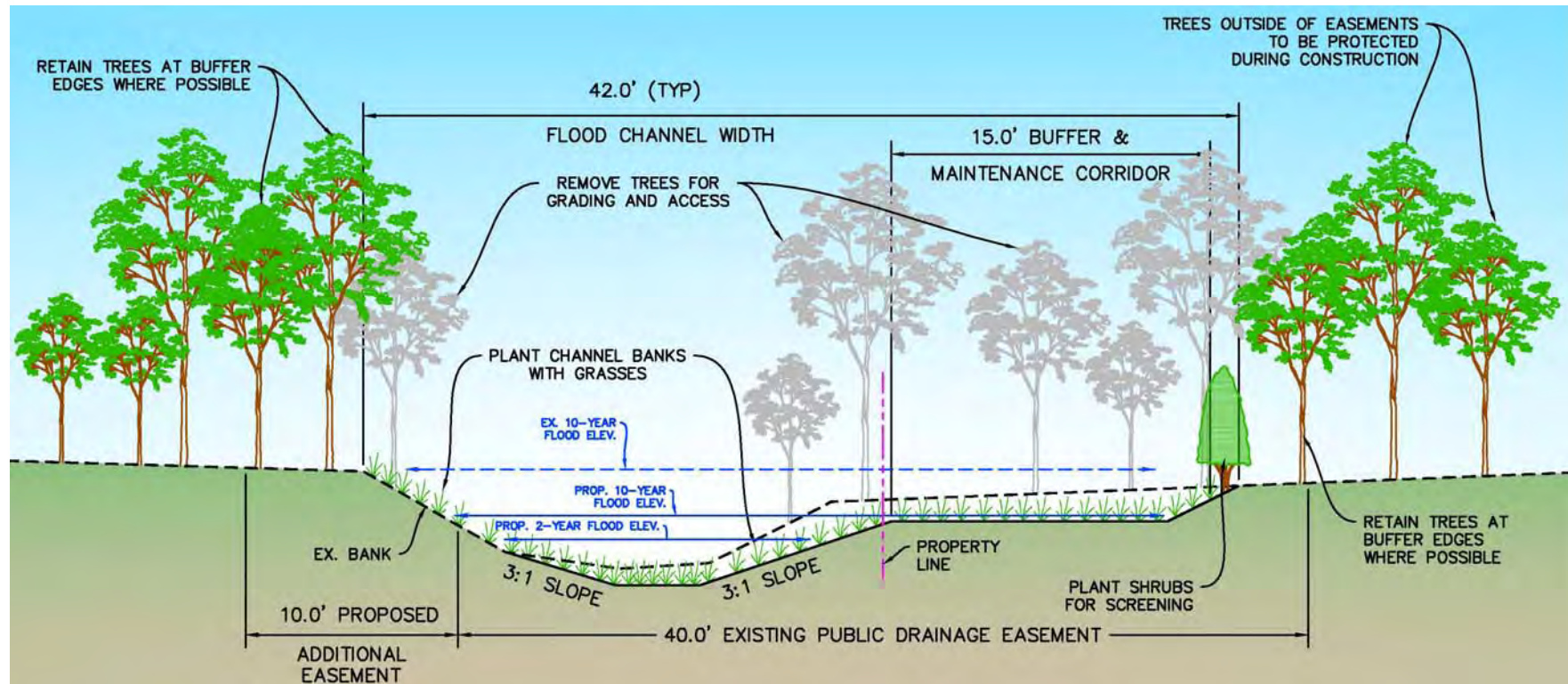


Informed Design Decisions

“What type of easements? Compensation for easements?”

“Who owns the easements?”

- Additional public drainage easements will be required to provide access to existing channels
- The existing public drainage easement of record is your property, but the City has the right to access the easement for drainage improvements/maintenance



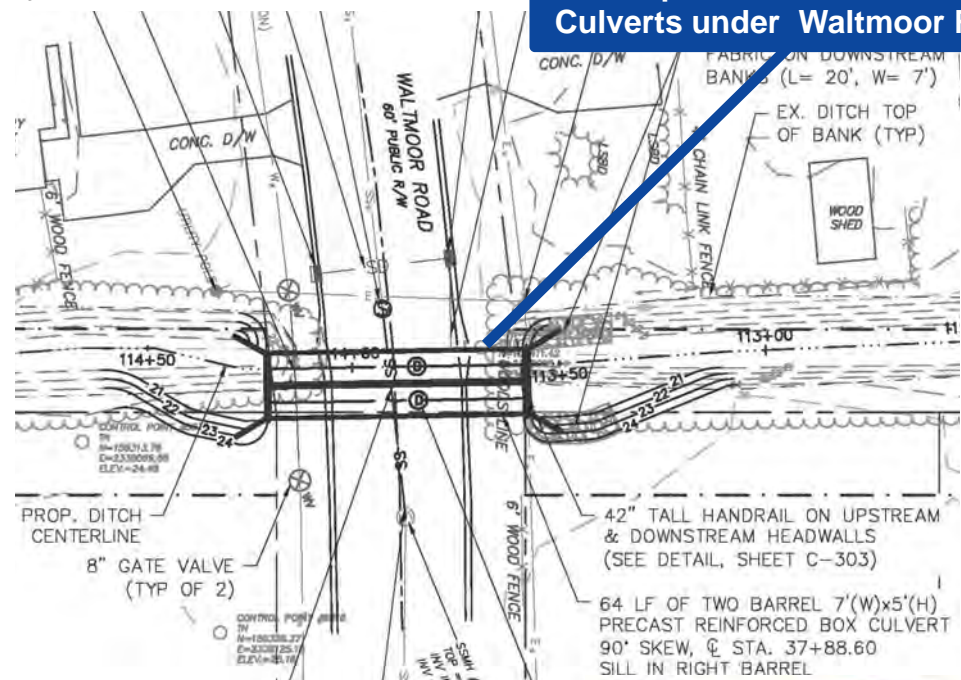
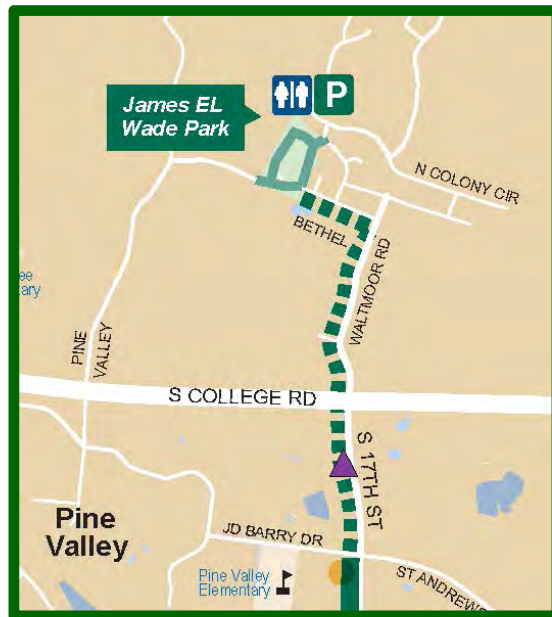


Preliminary Plans



Coordination with Cross-City Trail, Phase III E

- Cross-City Trail, Phase III E from South 17th Street at John D. Barry Drive to Wade Park (runs along Waltnoor Road)
- Negotiating with Cross-City Trail contractor to potentially install Waltnoor Road culvert as part of the Trail construction project
 - Minimize disturbance to residents and traffic along Waltnoor Road
 - Eliminate repaving the roadway twice



Channel Grading and Easement Clearing Activities

- Pinecliff Drive to Greenwich Drive and Waltmoor Road to Wade Park
- Channel geometry modified for additional flood conveyance
- Channel profile (bottom elevation) lowered to provide consistent slope
- Channel cleared of trees, debris and trash to allow free flow of floodwaters
- Easement area (top-of-bank) cleared for buffer and maintenance
- Banks stabilized with erosion control blanket and replanted



Preliminary Plans – Culvert Replacement

- Replace pipes at Brookshire Lane, Waltmoor Road, Amber Drive and Brookview Drive with Reinforced Concrete Box Culverts (RBC)
- Dual 6' Wide by 3' Tall at Brookshire Lane
- Dual 7' Wide by 5' Tall at Waltmoor Road
- Dual 8' Wide by 5' Tall at Amber Drive
- Dual 6' Wide by 6' Tall at Brookview Drive
- Replace pipe at Greenwich Drive with dual 24" Reinforced Concrete Pipe (RCP)



Preliminary Plans – Culvert Replacement (Continued)

- Replace dual 72” Corrugated Metal Pipes at Aster Court and Whisper Creek Lane with Aluminum Box Culverts (ALBC)
- 19’-0” Wide by 6’-1” tall ALBC at Aster Court
- 25’-2” Wide by 6’-2” tall ALBC at Whisper Creek Lane



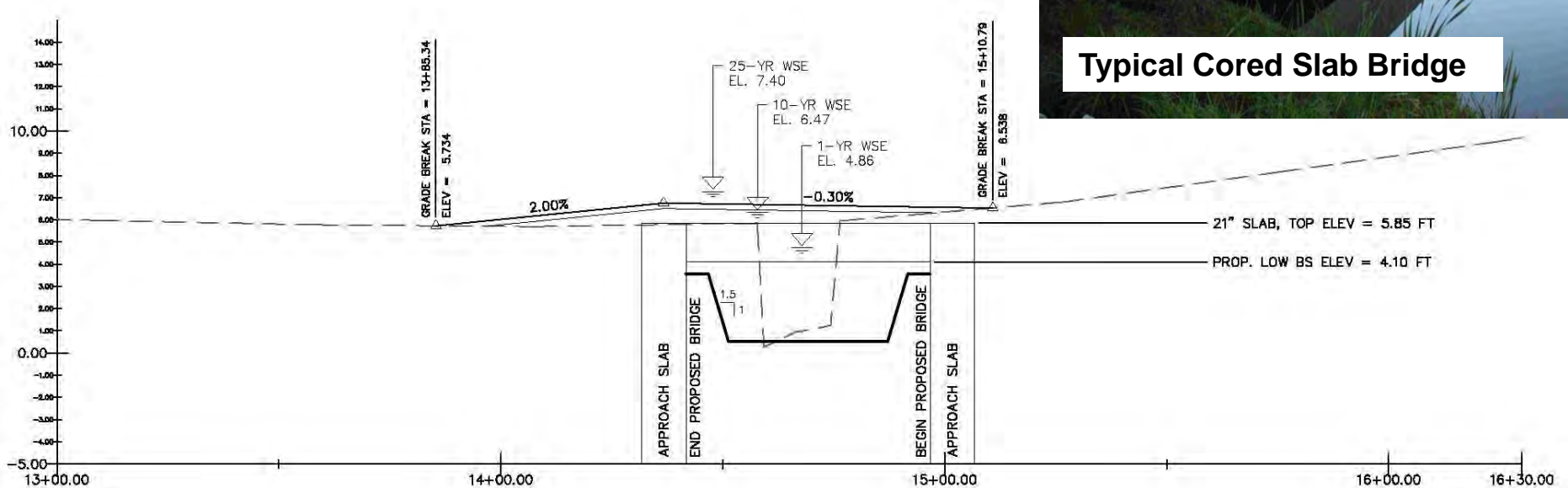
Stream Maintenance Activities

- Limited to sediment removal, vegetation management and bank stabilization
- Equipment and vehicles will access through temporary access roads adjacent to the channel
- Vegetation removal will be limited to tree pruning and exotics removal
- Hazard trees (e.g. snags, dying or dead trees, broken branches) will be removed from the top-of-bank and channel areas
- All debris (e.g. trash, furniture, tires...) will be removed from the channel area

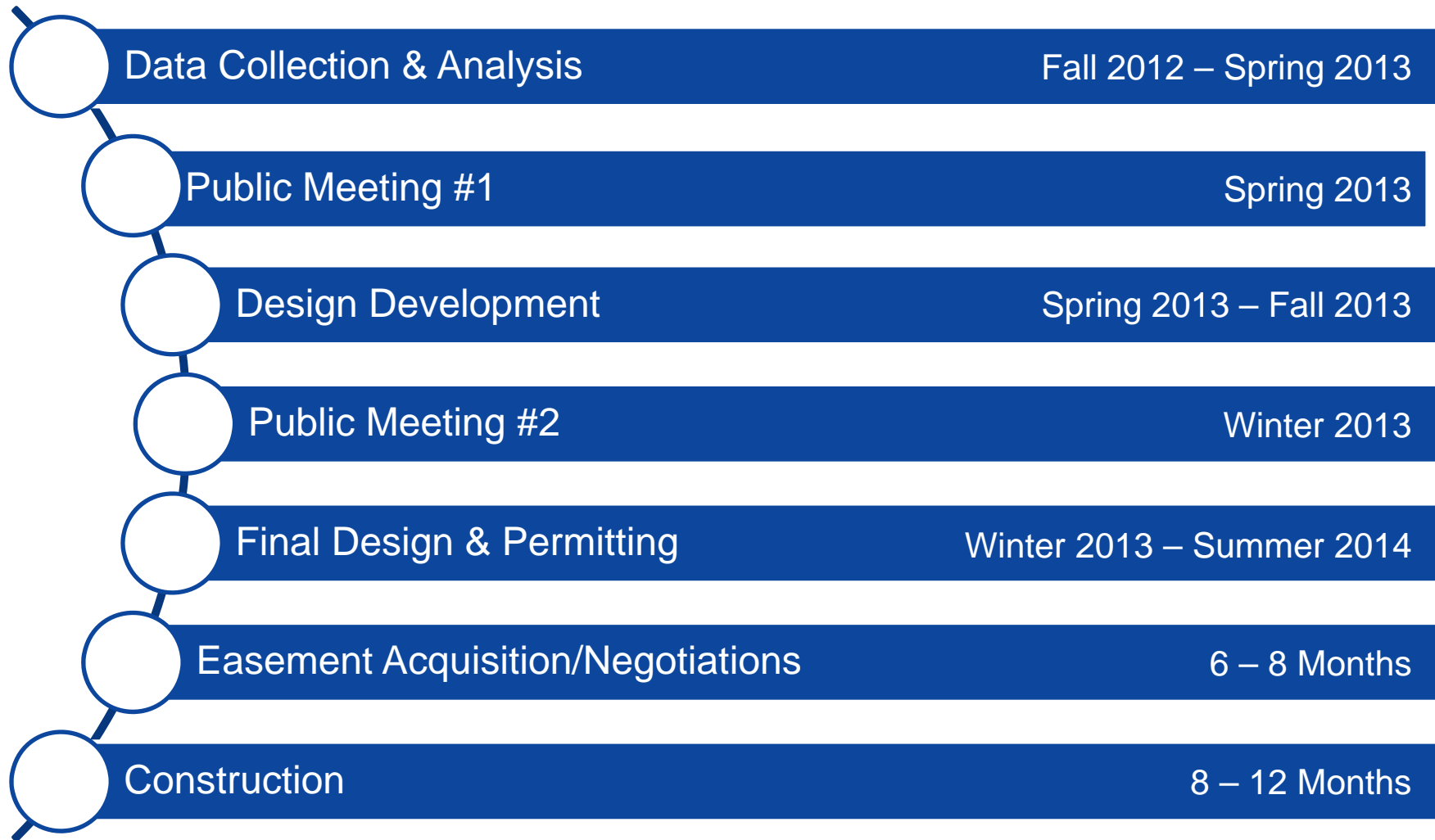


Preliminary Plans – Bridge Replacement at Beasley Road

- Replace bridge with precast cored span concrete bridge
 - Increase span from 18'-9" to 55'-0"
 - Bottom at same elevation as existing bridge
 - Provide 34' width for future bike lanes/sidewalks



Project Timeline



Breakout Session

Preliminary Design Plans split into 4 project areas

List of properties for each project area and comment sheet is located at the Welcome Table

URS or City of Wilmington staff located at each table to assist with locating your property and facilitating comments

