

Proposed Design Presentation & Easement Acquisition Kick-Off Meeting



Cedars East Storm Drainage Improvement Project

Cokesbury United Methodist Church

January 12, 2016



Introduction of Staff



Matthew Anderson – Project Manager

Phone - 704-336-7923

E-mail - manderson@charlottenc.gov

Doug Lozner – Watershed Area Manager

John Keene – Project Peer Engineer



Davin Morrison – Project Manager

Michael Tassitino – Design Engineer



Kimberly Calhoun – Real Estate Acquisition Manager

Krystal Bright – Real Estate Acquisition Manager



Randy Hosch – Right of Way

Acquisition Agent

Housekeeping

- Thanks for coming please make sure to sign the sign-in sheet. Please take hand outs and business cards and fill out a customer service card
- For this part of the meeting we want to briefly go over the project and field some questions that are general in nature (project history, process, timeline, etc.) and talk overall about the planned improvements
- General Question and Answer period after presentation
- Please hold questions about your specific property until the breakout sessions.
- If we are unable to answer your question tonight, please make sure we have your contact information so we can get back to you.
- You can email any questions to Matthew Anderson (manderson@charlottenc.gov)



Agenda

- Charlotte Mecklenburg Storm Water Services Summary
- Cedars East Storm Drainage Improvement Project
- Project Phases and Timeframe
- Planning Phase Effort summary
- Design Phase Effort summary
- Present the project areas and proposed design improvements
- Next Design Steps
- Discuss the easement acquisition process
- Path Forward
- Respond to general questions and concerns
- Provide owners property-specific information on property impacts

Charlotte Mecklenburg Storm Water Services Summary

Storm Water Program Roots:

1993 – Charlotte obtained and begin to comply with a NPDES Phase I permit. Charlotte established a storm water utility with a fee structure to fund National Pollutant Discharge Eliminating System (NPDES) required measures and to address drainage issues.

What the program includes:

Water Quality

Maintenance

Capital Improvements

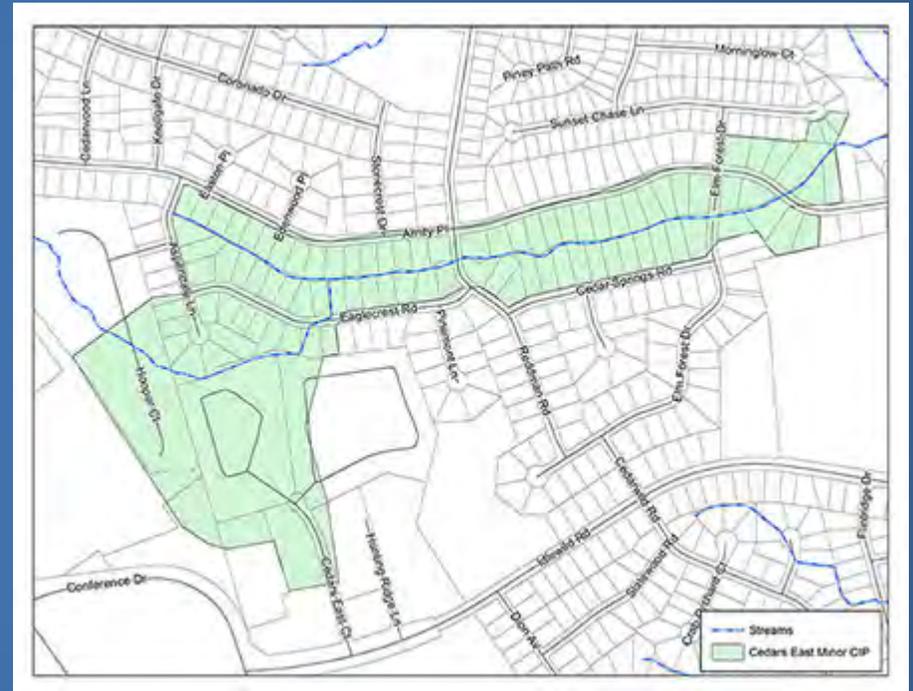
Education



Cedars East Storm Drainage Improvement Project

Background

- Charlotte-Mecklenburg Storm Water Services identified this neighborhood for improvements due to historical requests for Service from Property Owners
- Historical flooding events
- Inadequate Infrastructure
 - Apartment and House flooding
 - Road flooding
- Aging systems
- Deteriorating Infrastructure
 - Old culverts, pipes, inlets
 - Erosion, blockages in streams



Project Phases

PLANNING (July 2010 to September 2013)

- Existing Conditions Analysis – *Finding the Problems*
- Alternative Analysis – *Finding the Solutions*

DESIGN (Started December 2013)

- *Designing the Solutions*
- *Typically lasts 21 to 36 months*

PERMITTING (Typically lasts 3 to 9 months, but may overlap other phases)

EASEMENT ACQUISITION (Typically lasts 8 to 12 months)

BID (Typically lasts 4 to 6 months)

CONSTRUCTION (Typically lasts approximately 2 years)

Planning Phase

- Survey, Public Input & Questionnaires
 - Original questionnaires were sent out in **February of 2010**
- Existing Conditions Analysis
- City Design Standards Alternative
- Additional Alternatives
- Preliminary Alternatives Cost Estimates
- Recommended Alternative
 - Public Meeting – Held in **June of 2013**

Design Phase

- The Design Phase Generally Consists of the Following:
 - Preliminary Design
 - Permitting
 - Easement Acquisition
 - Final Design



PROJECT CONSTRAINTS

Technically Feasible

Constructible

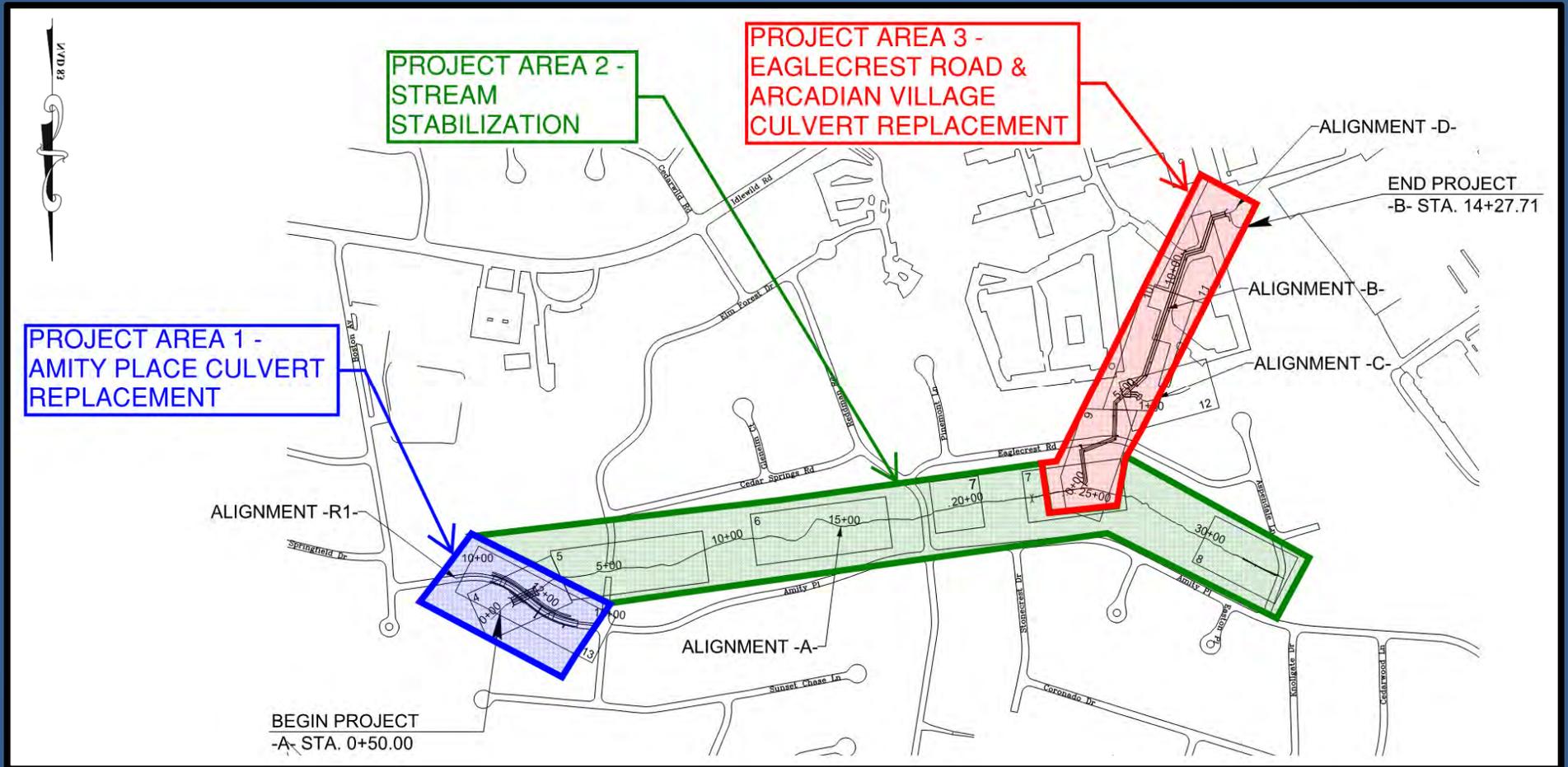
Accepted by Federal and State Agencies

Design Phase

(Completed tasks)

- **Preliminary Design**
 - Drainage system layout & location
 - Additional field survey
 - Utility coordination & design
 - Geotechnical investigations
 - Traffic control plans
 - Erosion control plans

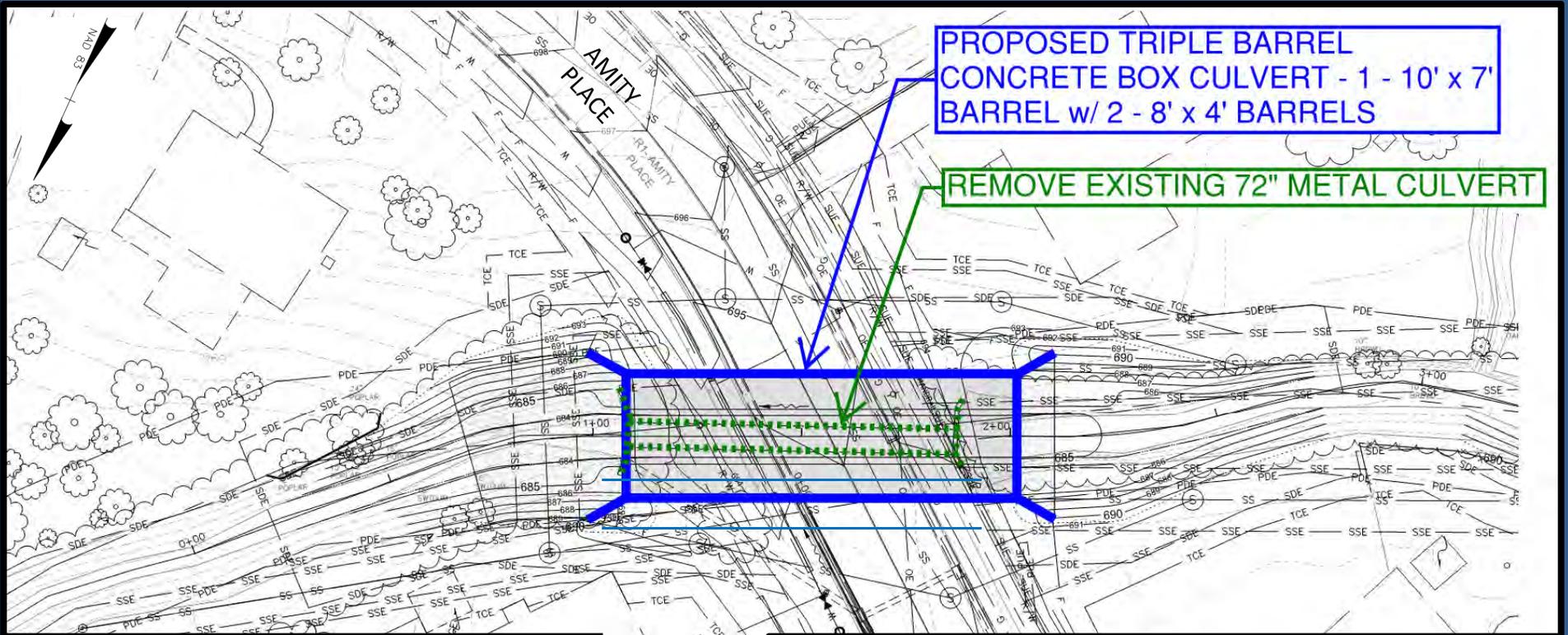
Project Areas



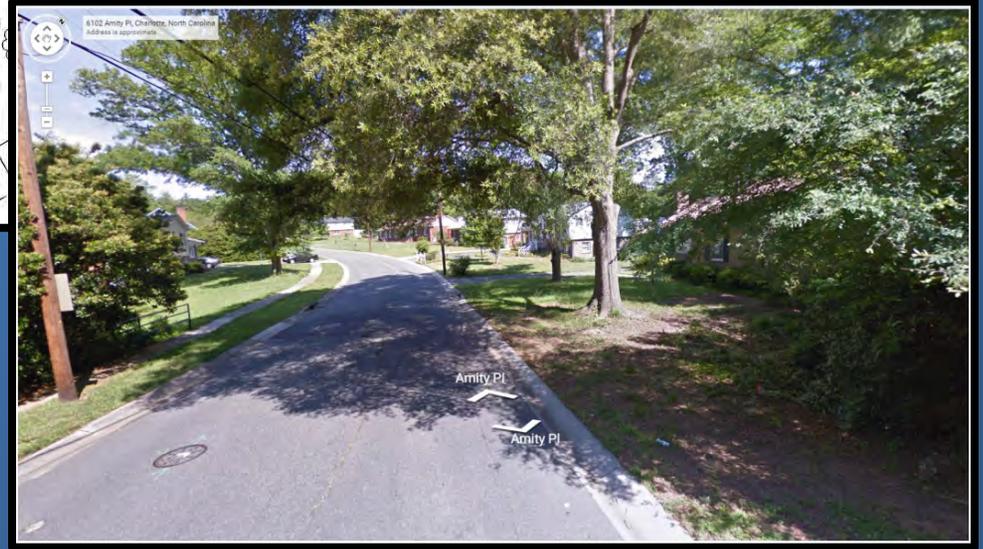
Project Areas



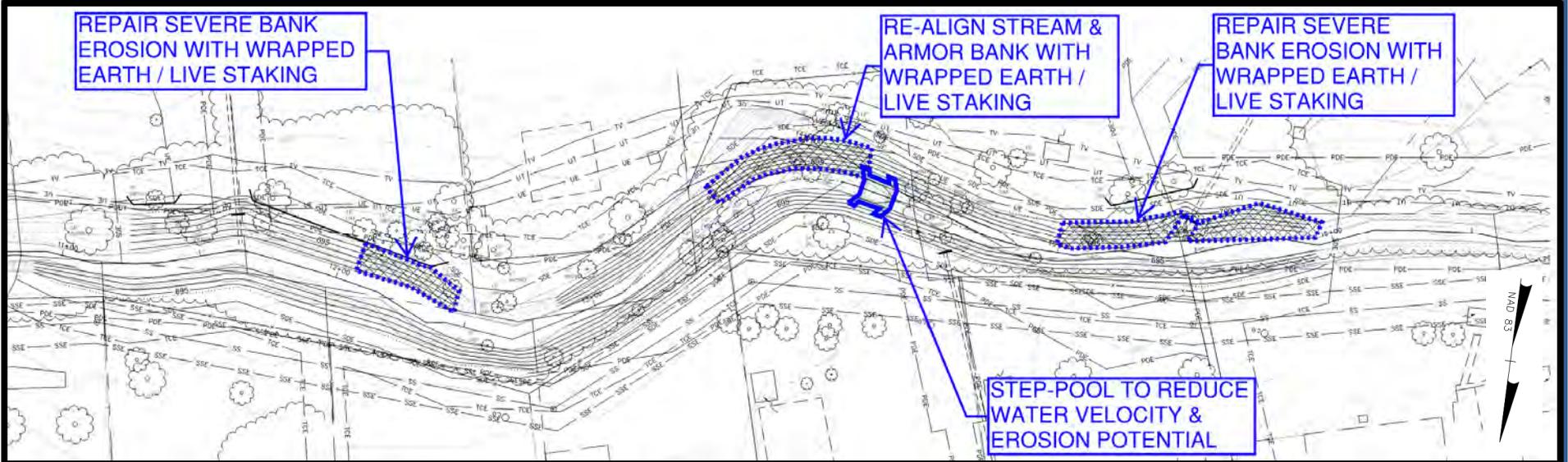
Project Area – 1 – Amity Place Culvert Replacement



Amity Place



Project Area – 2 – Stream Stabilization (Example Section)



Area Between Elm Forest Drive & Redman Road



Severe Bank Erosion Causing Stream to "Move"

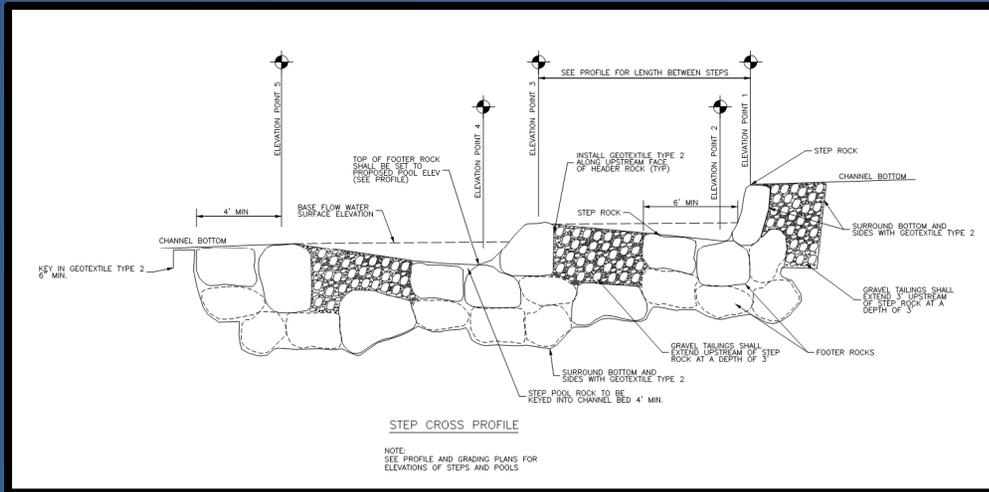


Severe Erosion Caused by Pipe Washout near Aspendale Lane

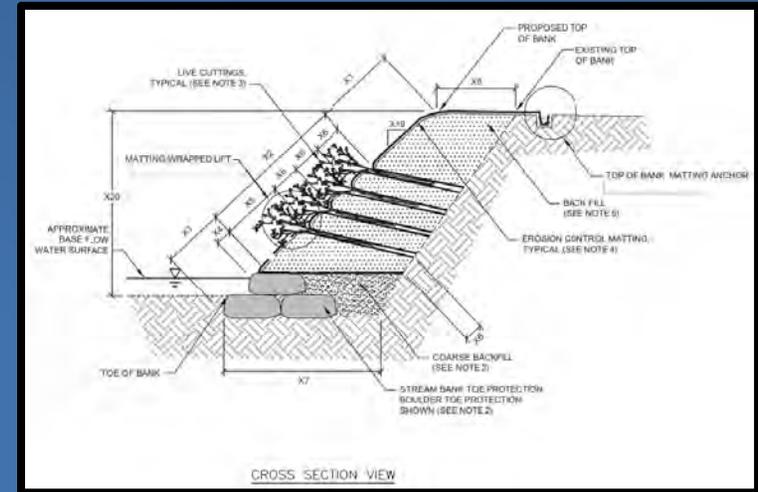


Severe Erosion Exposing Wires near Redman Road

Project Area – 2 – Stream Stabilization



Step Pool Profile



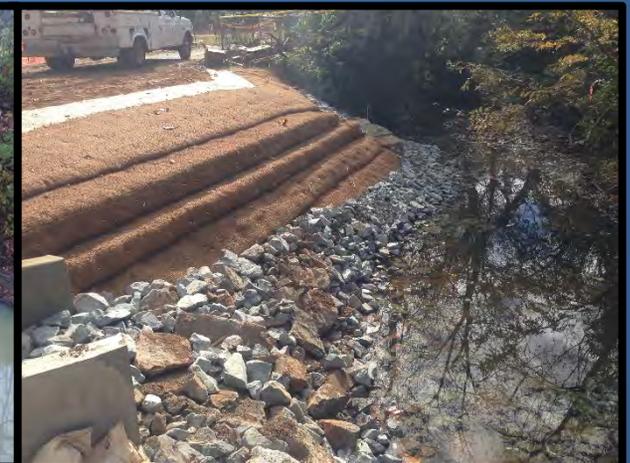
Wrapped Earth Cross Section



Step Pool

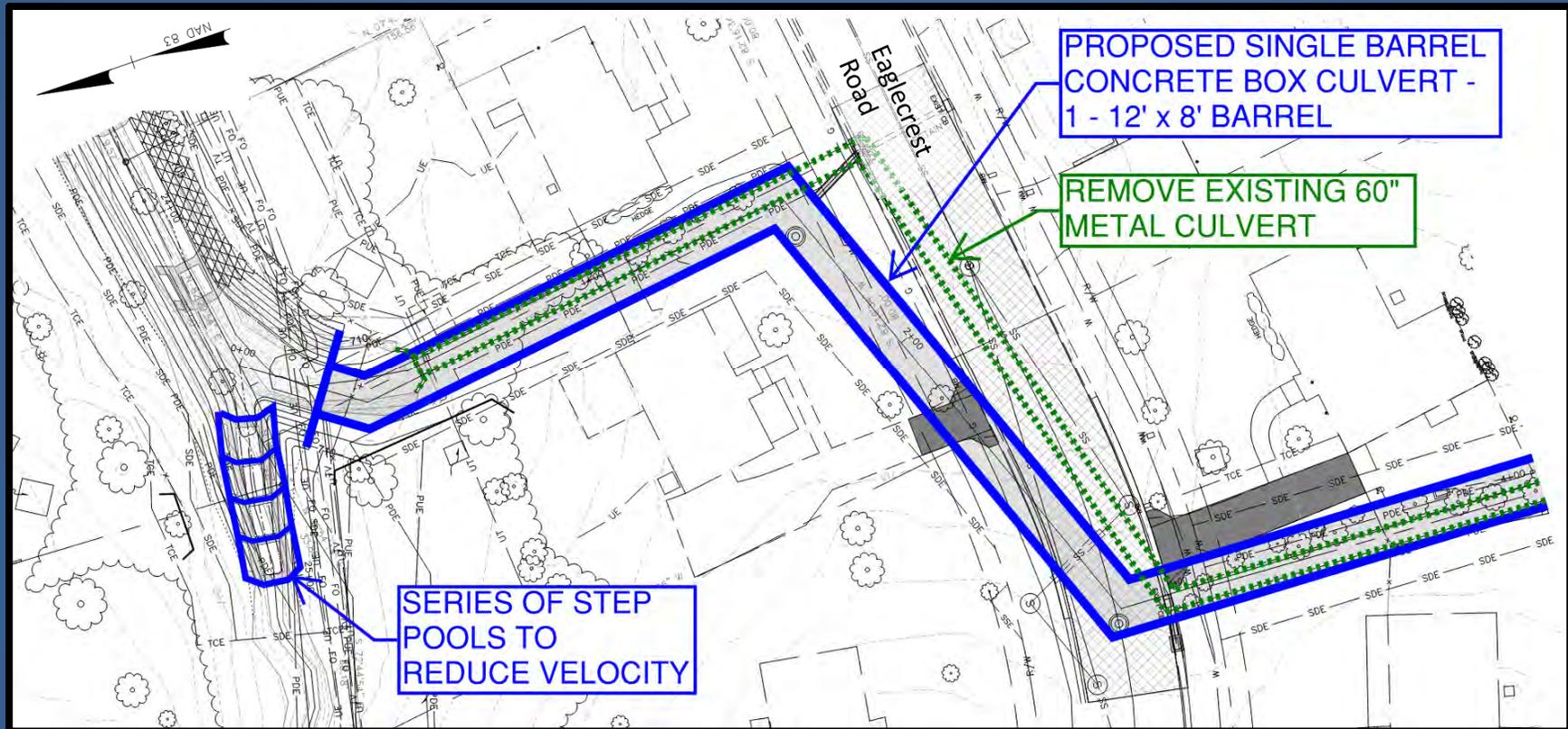


Bank Stabilized with
Biodegradable Matting

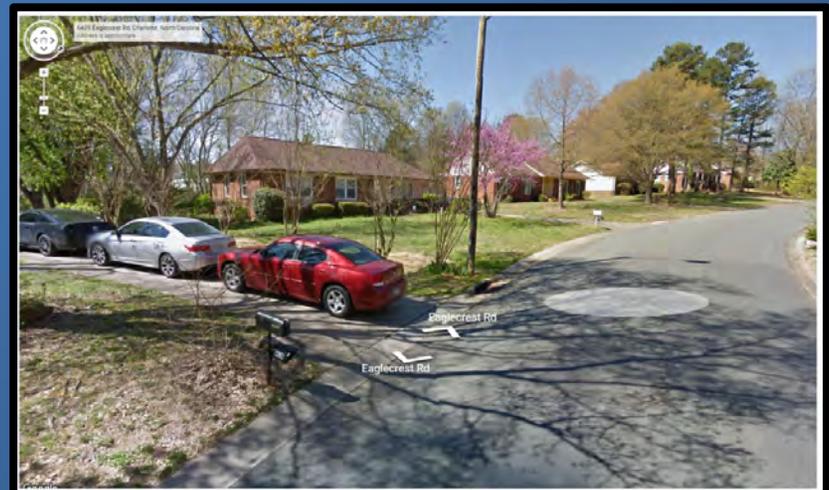


Bank Stabilized with
Wrapped Earth

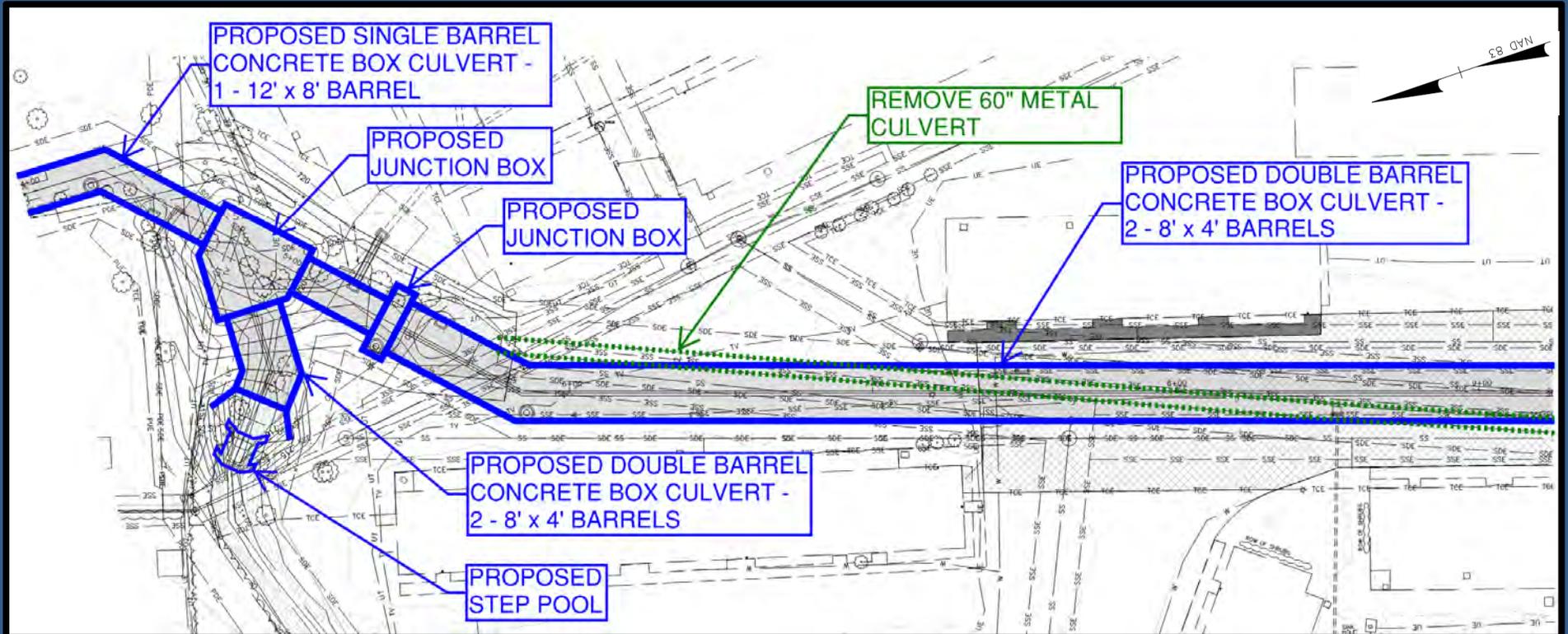
Project Area – 3 – Eaglecrest Road Culvert Replacement



Eaglecrest Road



Project Area – 3 – Arcadian Village Culvert Replacement

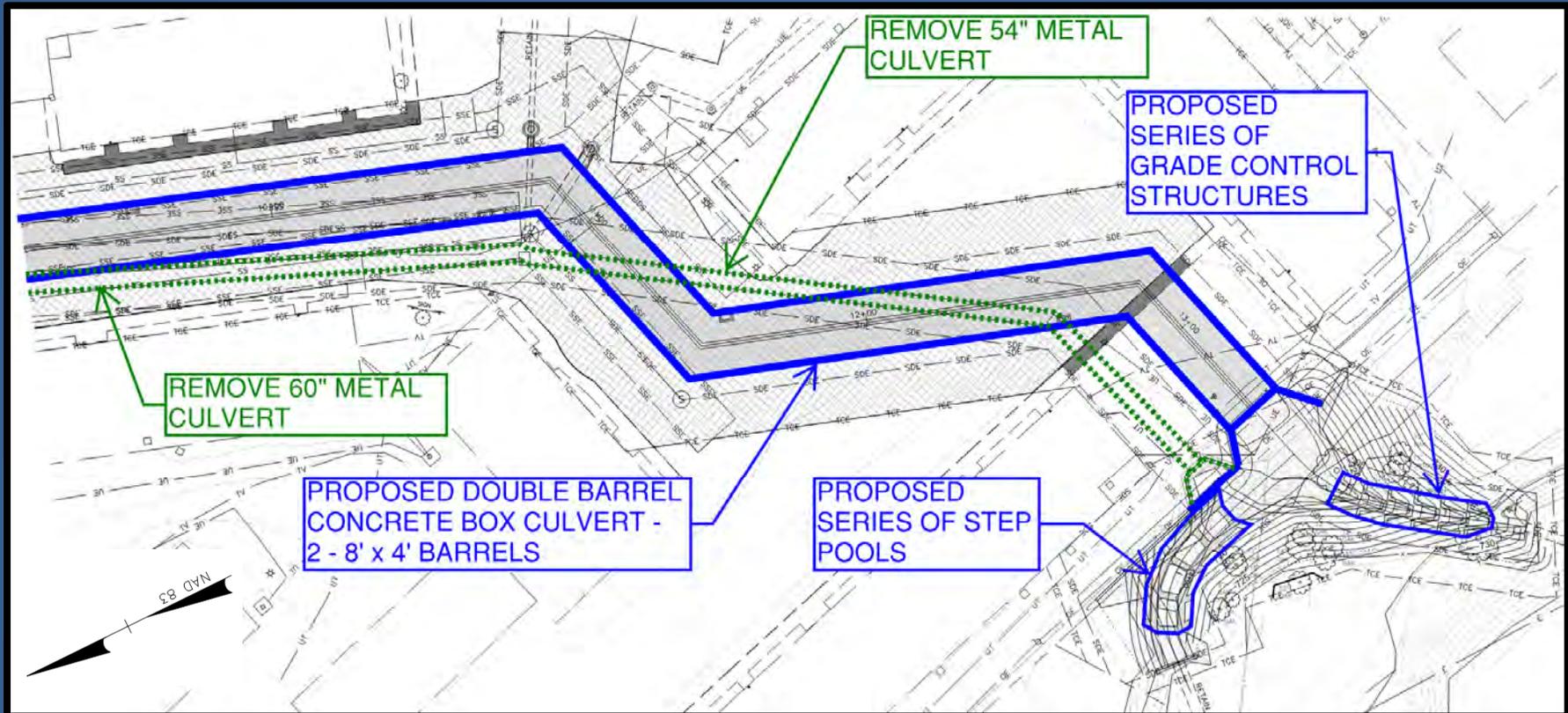


Flooding at Arcadian Village



Looking along proposed culvert alignment

Project Area – 3 – Arcadian Village Culvert Replacement

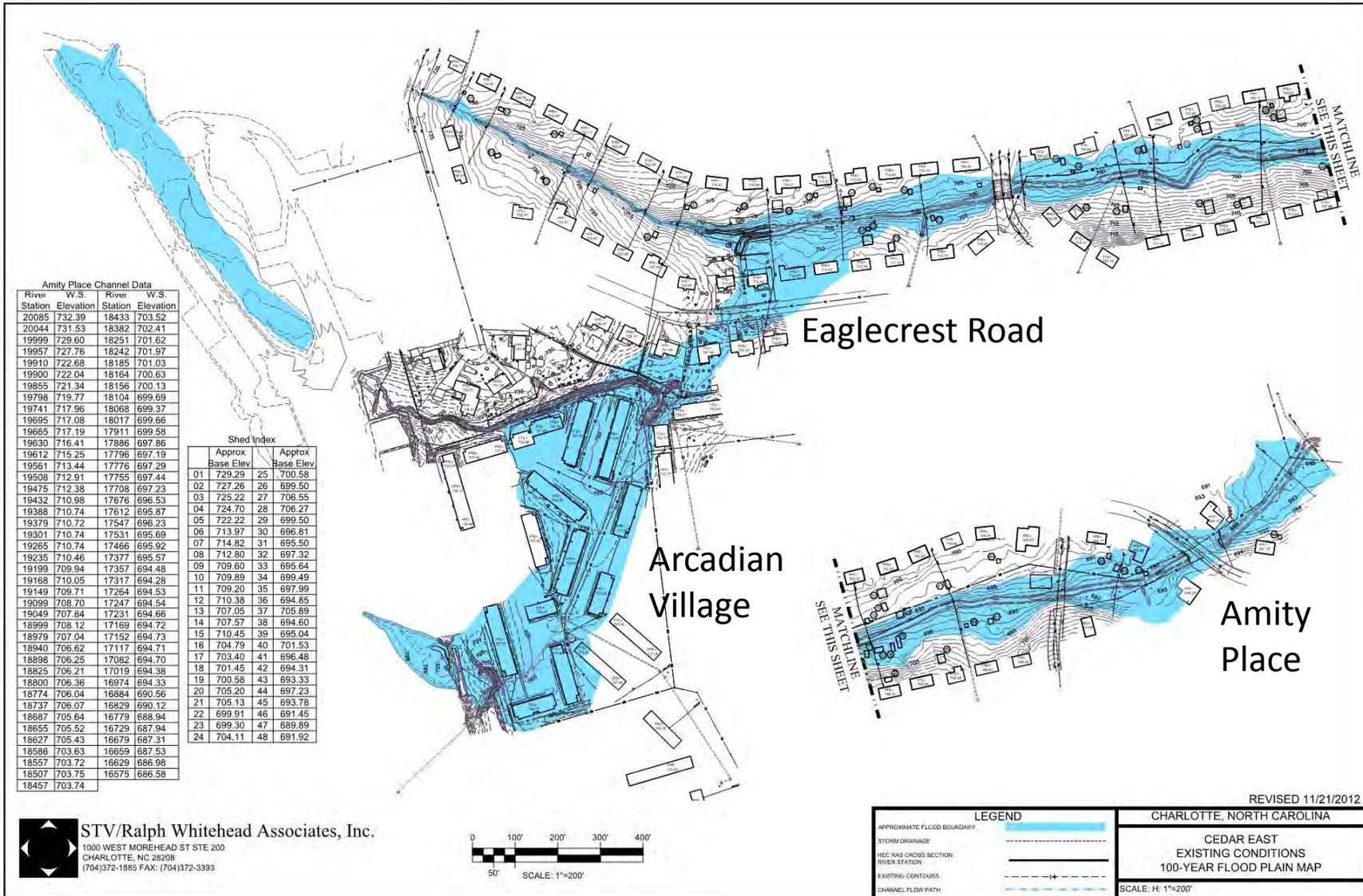


Broken Headwall at upstream end of 54" Metal Pipe removed during maintenance project



New Headwall installed during maintenance project

Existing Conditions Floodplain Map – 100 Year Event



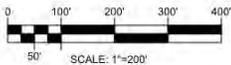
Amity Place Channel Data

River Station	W.S. Elevation	River Station	W.S. Elevation
20085	732.39	18433	703.52
20044	731.53	18382	702.41
19999	729.60	18251	701.62
19957	727.76	18242	701.97
19910	722.68	18185	701.03
19900	722.04	18164	700.63
19855	721.34	18156	700.13
19798	719.77	18104	699.69
19741	717.96	18068	699.37
19695	717.08	18017	699.66
19665	717.19	17911	699.58
19630	716.41	17886	697.86

Shed Index

Approx Base Elev	Approx Base Elev
01	729.29 25 700.58
02	727.26 26 699.50
03	725.22 27 706.55
04	724.70 28 706.27
05	722.22 29 699.50
06	713.97 30 696.81
07	714.82 31 695.50
08	712.80 32 697.32
09	709.60 33 695.64
10	709.89 34 699.49
11	709.20 35 697.99
12	710.38 36 694.85
13	707.05 37 705.89
14	707.57 38 694.60
15	710.45 39 695.04
16	704.79 40 701.53
17	703.40 41 696.48
18	701.45 42 694.31
19	700.58 43 693.33
20	705.20 44 697.23
21	705.13 45 693.78
22	699.91 46 691.45
23	699.30 47 689.89
24	704.11 48 691.92

STV/Ralph Whitehead Associates, Inc.
 1000 WEST MOREHEAD ST STE 200
 CHARLOTTE, NC 28208
 (704)372-1885 FAX: (704)372-3393



LEGEND	
APPROXIMATE FLOOD BOUNDARY	(Blue shaded area)
STORM DRAINAGE	(Dashed line)
HEC RAS CROSS SECTION	(Thick solid line)
RIVER STATION	(Thin solid line)
EXISTING CONTOURS	(Dashed line with tick marks)
CHANNEL FLOW PATH	(Dashed line with arrow)

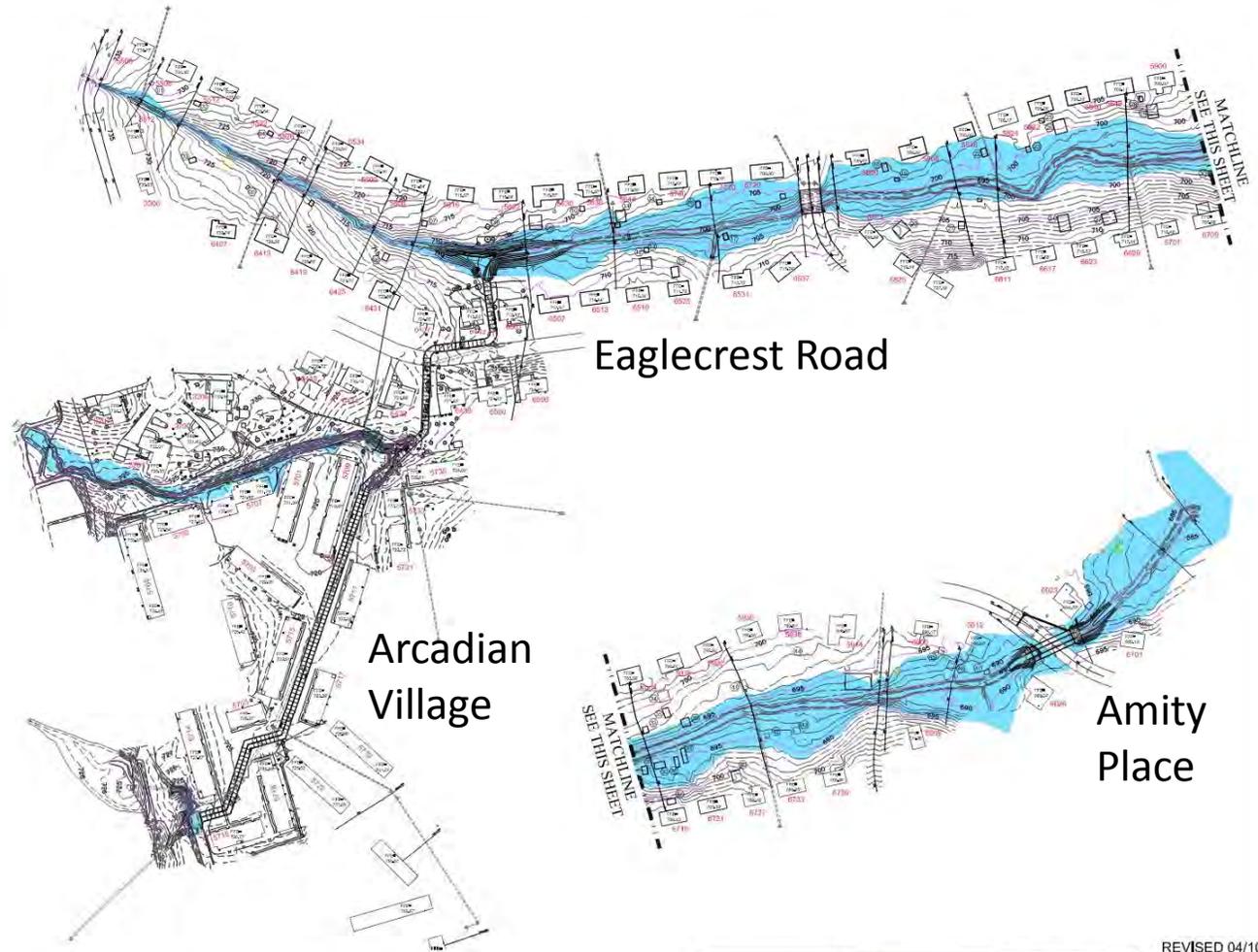
REVISED 11/21/2012
 CHARLOTTE, NORTH CAROLINA
**CEDAR EAST
 EXISTING CONDITIONS
 100-YEAR FLOOD PLAIN MAP**
 SCALE: H: 1"=200'

Proposed Alternate Floodplain Map – 100 Year Event

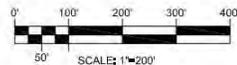


Amity Place Channel Data			
River Station	W.S.	River Station	W.S.
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19900	721.94	18156	700.26
19855	721.19	18104	699.79
19798	719.89	18068	699.43
19741	717.73	18017	699.75
19695	717.12	17911	699.68
19665	717.07	17886	698.06
19630	716.29	17796	697.27
19612	715.14	17776	697.40
19561	713.30	17755	697.55
19508	712.82	17708	697.38
19475	712.26	17676	696.55
19432	710.81	17612	696.00
19398	710.14	17547	695.36
19379	710.13	17531	695.83
19301	710.19	17466	696.05
19285	709.69	17377	695.71
19235	709.71	17357	694.87
19199	709.56	17317	693.85
19168	709.54	17264	694.22
19149	709.47	17247	694.22
19099	708.89	17231	694.44
19049	708.10	17169	694.51
18999	708.29	17152	694.52
18979	707.15	17117	694.51
18940	706.73	17082	694.48
18898	706.39	17019	694.02
18825	706.51	16996	694.15
18800	706.65	16884	690.63
18774	706.31	16829	689.74
18737	706.34	16779	689.00
18687	705.99	16729	688.01
18655	705.89	16679	687.30
18627	705.75	16659	687.54
18596	703.75	16629	687.04
18557	703.87	16575	686.21
18507	703.89		
18457	703.88		
18433	703.66		

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LEGEND	
APPROXIMATE FLOOD BOUNDARY	---
CHANNEL CENTERLINE	---
STRUCTURE CROSS SECTION	---
CHANNEL CROSS SECTION	---
CHANNEL FLOW DIRECTION	---
STRUCTURE ADDRESS	---

REVISED 04/10/2013
 CHARLOTTE, NORTH CAROLINA
**CEDAR EAST
 ALTERNATIVE ANALYSIS
 100-YEAR FLOOD PLAIN MAP**
 SCALE: H: 1"=200'

Next Design Steps

- **Complete Design**
 - Permitting
 - Easement Acquisition
 - Final Design
- **Bid**
- **Construction**

Design Phase

(Ongoing Tasks)

- **Permitting**
 - 401/404 permit
(NC Dept. of Water Quality / Army Corps of Engineers)
 - Channel/stream & wetland delineation
 - Channel impacts & limits
 - Wetland impacts & limits
 - NCDENR/Erosion Control

Design Phase

(Ongoing Tasks)

- **Easement Acquisition**

- An easement is a right to use land owned by another party for a specific purpose.
- Easements provide Storm Water Services with permission from property owners to come onto their property and repair drainage problems and perform on-going maintenance.
- Granting an easement does not reduce the size of your property, but it does create some limitations on the use of the area.

Types of Easements for Drainage Purposes

- **Storm Drainage Easement (SDE)**
Grants access to a specific portion of the property for the purpose of repairing and maintaining a storm drainage system including creeks.
- **Temporary Construction Easement (TCE)**
Are **not permanent** easements. They give us the right to access your property to construct this project only.

Design Phase

- **Final Design**

- Completed once all permits have been obtained
- Completed once all easements have been acquired
- Completed once all Construction plans and specifications are completed

Bid Phase

- **Bid process includes:**
 - Bid advertisement
 - Bid opening
 - Recommendation for approval and City Council award
 - Pre-construction meeting

Construction Phase

- Notification to residents
- Contractor begins work
- Mailers with progress updates
- Final walk through with contractor
- Accept project
- Start warranty

Path Forward

- A representative from the City Real Estate Department will contact you if we need an easement for construction purposes
- Obtain Applicable Permits
- Finalize the Design

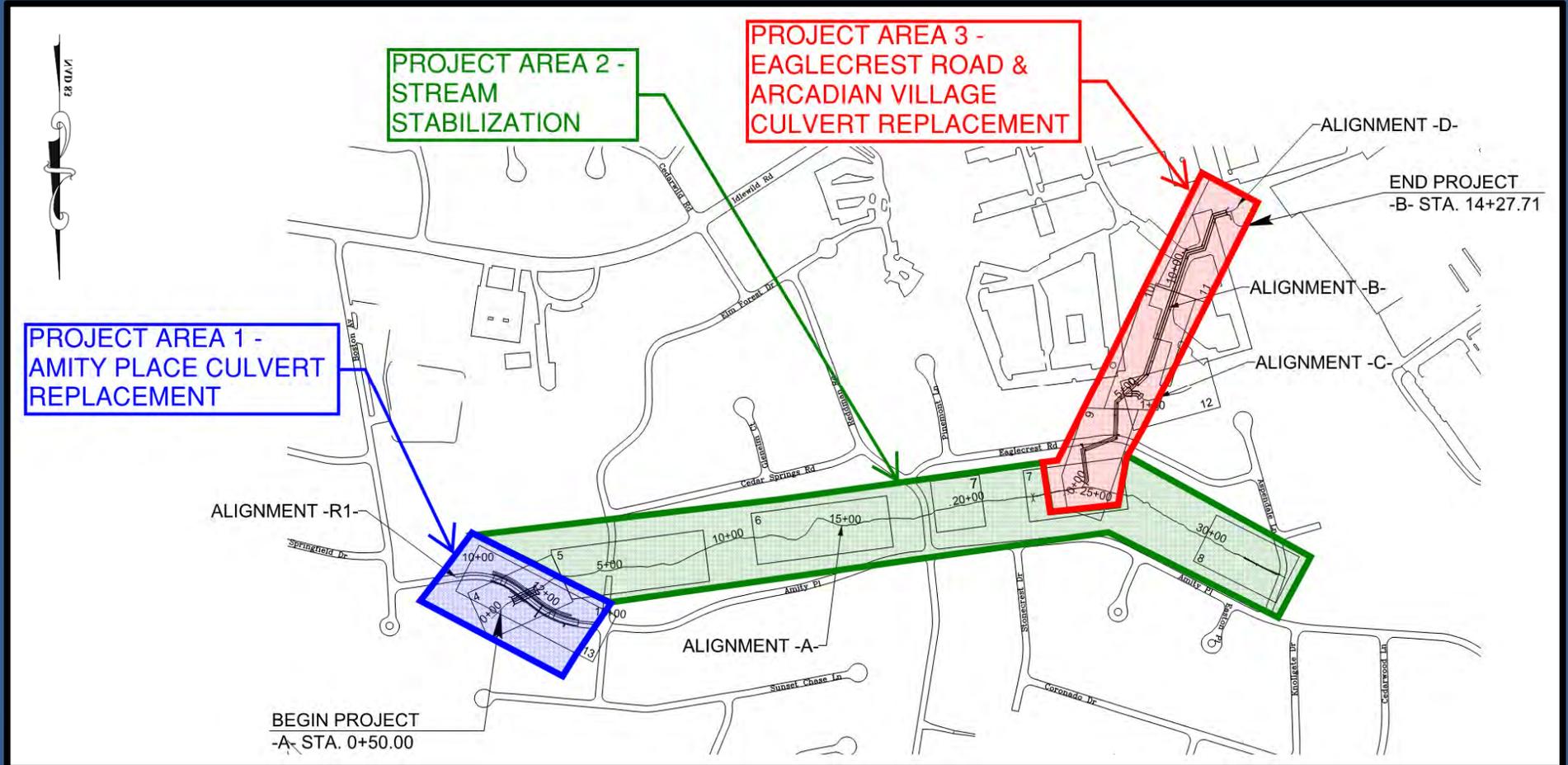
We will NOT have another public meeting prior to bid and construction

General Questions?

- Please remember to sign-in and fill out a customer service card
- The City and our consultant will stay here to answer any specific questions you may have. Please hold questions about your specific property until the breakout sessions.
- If we are unable to answer your question tonight, please make sure we have your contact information so we can get back to you.
- General Discussion
- Small Group Discussions
- You can email any questions to Matthew Anderson (manderson@charlottenc.gov)



3 Breakout Sessions



**Thank you for coming to the meeting
and being involved!**

