

Proposed Midtown Bridge over I-440

PREPARED FOR

City of Raleigh
Transportation Department
222 West Hargett Street, Suite 400
Raleigh, NC 27601

PREPARED BY



940 Main Campus Drive, Suite 500
Raleigh, NC 27606

JUNE 2022

Introduction

The City of Raleigh Transportation Department (RTD) requested VHB's assistance in evaluating feasible alignments for the proposed Midtown bridge over I-440 connecting Barrett Drive or Wake Towne Drive with the southern segment of Quail Hollow Drive. It is anticipated that this crossing will provide a connection between development on both sides of I-440, serving local traffic at slow speeds.

The project team collected publicly available data, conducted a field visit, and met with City staff to discuss design ideas and document area constraints. Summaries of the meetings are included in Attachment C.

Functional Designs

The functional designs of the proposed bridge presented herein are based on existing conditions and known, proposed developments in the study area. Functional designs adhere to NCDOT guidelines and assume a typical section of two lanes with bike and pedestrian accommodations. The functional design alternatives consider the following guidelines from the City's 2030 Comprehensive Plan:

- *Avoid condemnation of existing buildings and improvements;*
- *Avoid condemnation of existing businesses;*
- *Avoid multiple crossings of Big Branch Creek;*
- *Consider a direct connection from Wake Towne Drive to Quail Hollow Drive in lieu of a direct connection from Barrett Drive to Quail Hollow Drive; and*
- *Consider an option, shown on maps AP MT 1 and AP MT 2, that meets the above criteria [a bridge crossing I-440 between Six Forks Road and Wake Forest Road].*

Generally, the efforts of this study focused on the connection at the south side of I-440, as the northern connection to Quail Hollow Drive is under rezoning and redevelopment. Based on previous work and brainstorming with City staff, the following three designs were the focus of this study:

- **Alternate 1:** Northern crossing connecting to Barrett Drive
- **Alternate 2:** Roundabout on undeveloped property (minimize impacts to the creek)
- **Alternate 3:** Intersection on undeveloped property (minimize impacts to property)

Other design assumptions include:

- Maintain vertical grades that are ADA compliant for pedestrian access;
- Assume a bridge pier will be located in the median of I-440; and
- Provide 16'-6" minimum vertical clearance over I-440.

The functional designs are included in Attachment A. Flood mapping is based on existing conditions only. (Note: Flood mapping updates are expected in Summer 2022 and maps reflect existing modeling guidelines as well as the future update.)

Potential Impacts

A matrix that demonstrates potential impacts associated with each functional design is included in Attachment B. The project team evaluated potential preliminary impacts associated with each functional design, detailed in the table below.

Property Owner	PIN	Alternate 1 Impacts	Alternate 2 Impacts	Alternate 3 Impacts	Business or Residence (B/R)	Relocatee (Y/N)
Atlas Stark Barrett Drive, LLC	1705963575	0	2,435 SF (0.056 AC)	6,943 SF (0.16 AC)	B	N
The Stevens Center, INC.	1705968769	55,875 SF (1.283 AC)	158,196 SF (3.632 AC)	144,295 SF (3.313 AC)	B	N
Barrett Square Condominiums	1705978143	32,907 SF (0.756 AC)	0	0	B	Y
Steven R. Baran Trustee Jenny J. Baran Trustee	1705966357	0	1,138 SF (0.026 AC)	0	R	N
Isaac R. & Jeana Blackman Parker	1705968344	311 SF (0.007 AC)	1,063 SF (0.025 AC)	456 SF (0.010 AC)	R	N
Jeffrey H. Breiner Teresa L. Jones	1705969247	513 SF (0.012 AC)	143 SF (0.003 AC)	250 SF (0.006 AC)	R	N
Townes at Cheswick Owners Association, INC.	1705969429	22,767 SF (0.523 AC)	39,273 SF (0.902 AC)	27,798 SF (0.638 AC)	B	N
	1715064401	1,352 SF (0.031 AC)	3,339 SF (0.077 AC)	2,108 SF (0.048 AC)	B	N
Avondale Raleigh, LLC	1715170038	40,554 SF (0.931 AC)	44,536 SF (1.02 AC)	44,536 SF (1.022 AC)	B	N

PIN: Parcel Identification Number

Future Considerations

As the City advances this project, considerations for next steps:

- Complete field survey (including utilities), environmental study, preliminary geotechnical explorations, and further analyze traffic operations prior to advancing design of the preferred alternative.
- Develop visualizations of the proposed concept, representing the change in viewshed, for review by City staff.
- Determine property values of parcels affected by the proposed alternatives and coordinate with property owners as the project progresses.
- Coordinate with Raleigh Parks & Recreation for input using the greenway across the proposed bridge.
- Complete hydraulic analysis of the site.

- Hydraulic modeling is shown in the alternatives based on existing conditions. Modelling will need to be updated based on the proposed alternative carried forward as part of the hydraulic analysis and design.
- FEMA regulatory and City of Raleigh floodplain development – there are existing structures in the floodplain and a “no-rise” would be required for the bridge crossing as well as the lateral encroachments of the floodplain.
- Coordinate with NCDOT to discuss impacts to I-440, including traffic control on I-440 during construction.
- Value engineering to tighten up design/possibly narrow typical section.
- Cost/benefit analysis (bridge spans v. retaining walls).
- Start utility coordination early.

Attachments

Attachment A – Functional Designs

Attachment B – Potential Impacts Comparison Matrix

Attachment C – Meeting Summaries

A

Attachment

Functional Designs



**PROPOSED MIDTOWN BRIDGE
OVER I-440**

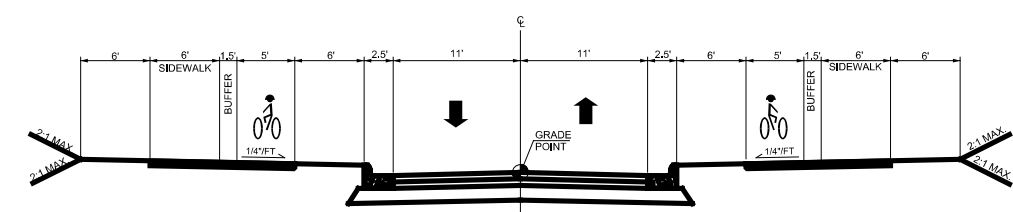
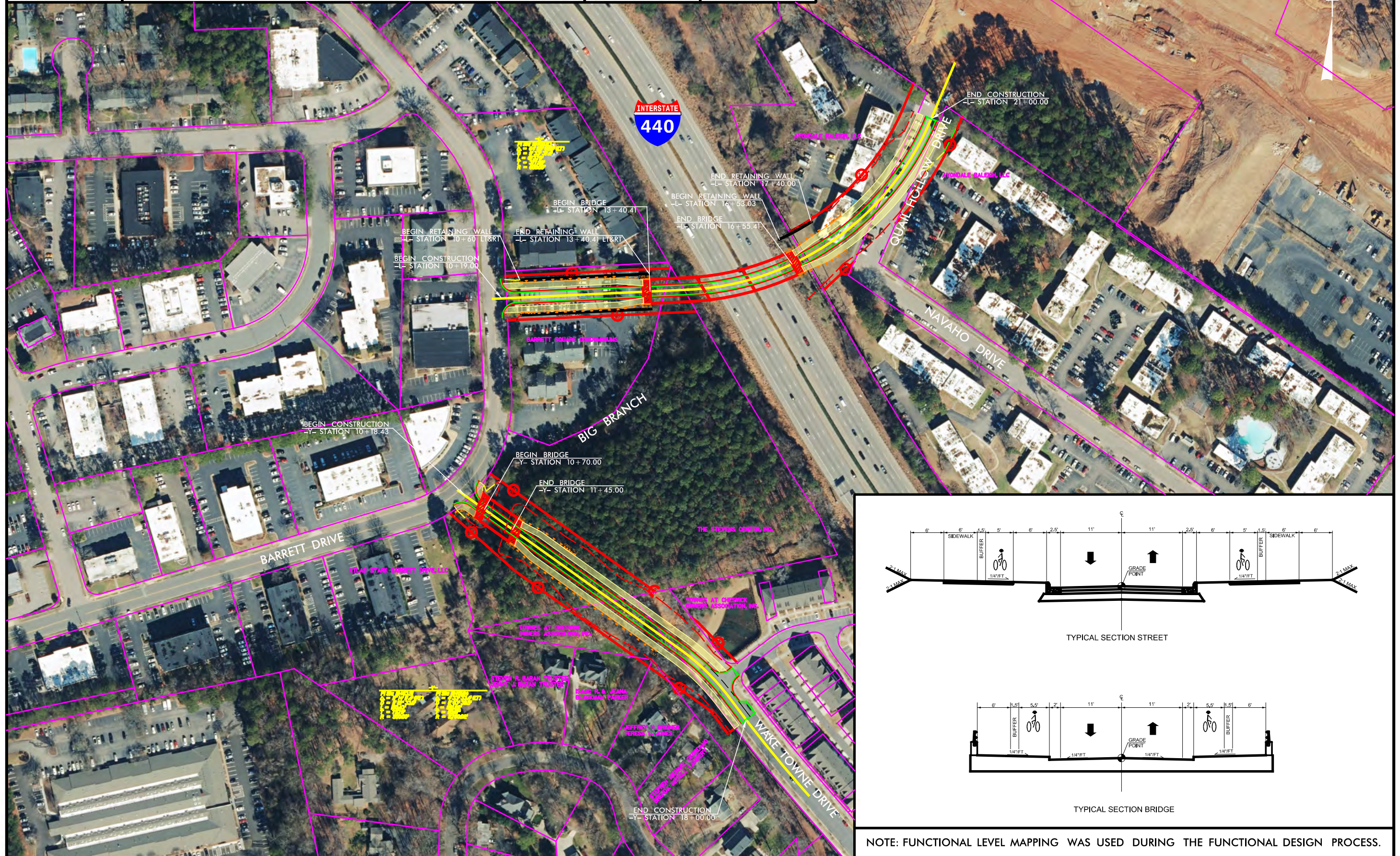
ALTERNATIVE 1 - CONVENTIONAL INTERSECTION DESIGN NORTH

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022

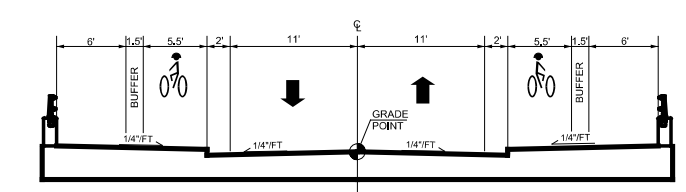


PLANS NOT
TO SCALE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



TYPICAL SECTION STREET



TYPICAL SECTION BRIDGE

NOTE: FUNCTIONAL LEVEL MAPPING WAS USED DURING THE FUNCTIONAL DESIGN PROCESS.



**PROPOSED MIDTOWN BRIDGE
OVER I-440**

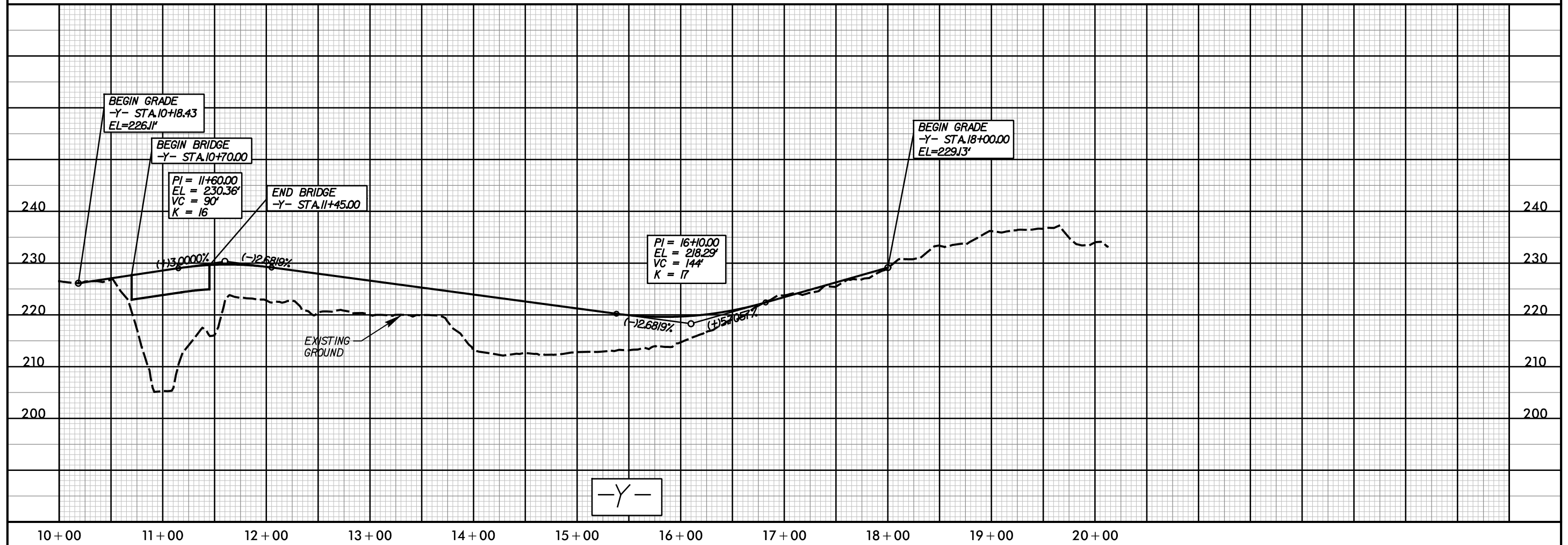
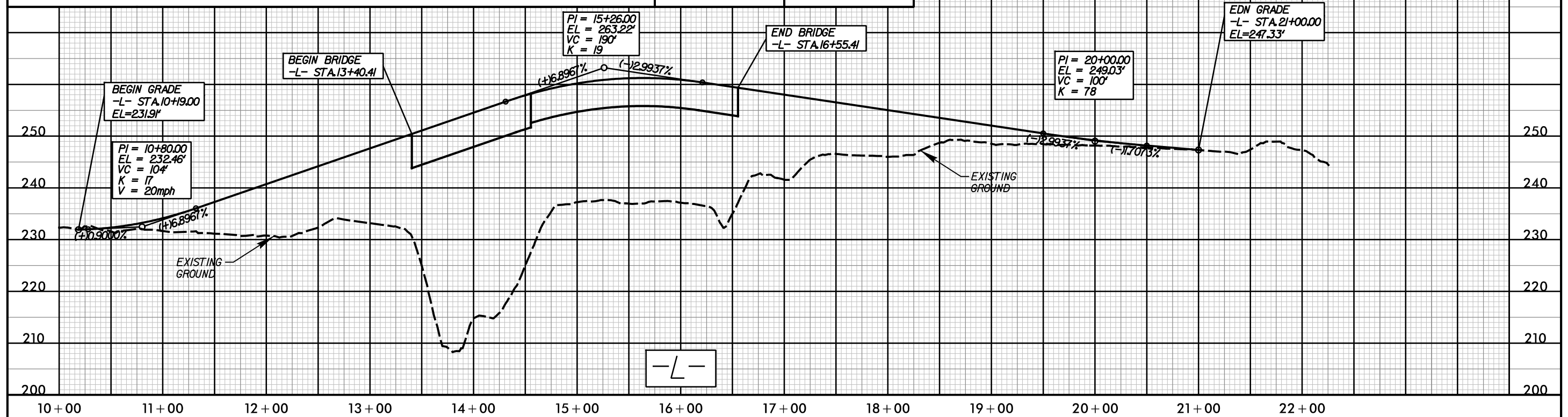
**ALTERNATIVE 1 - CONVENTIONAL INTERSECTION DESIGN NORTH
PROPOSED GRADE**

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



PLANS NOT
TO SCALE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



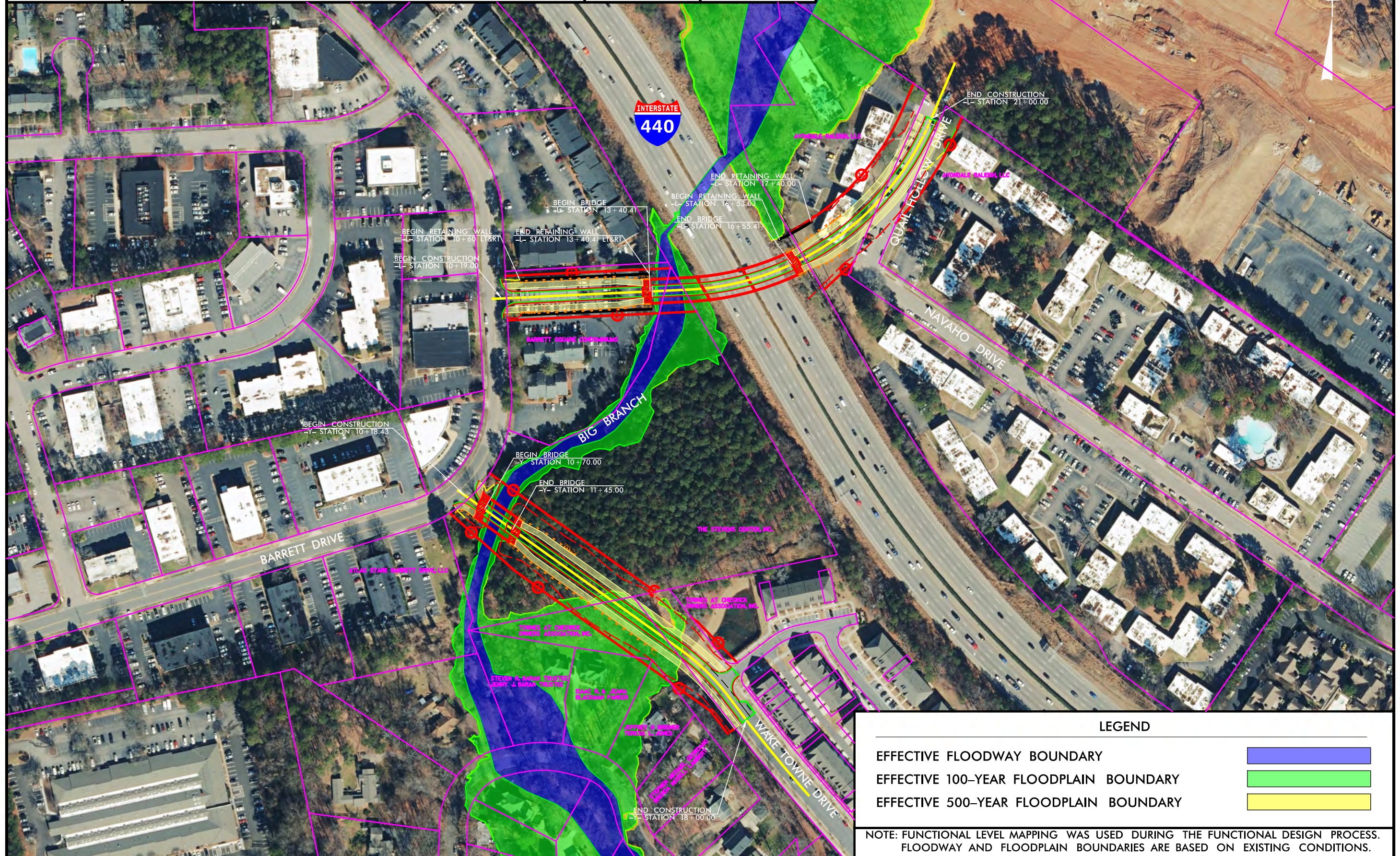


**PROPOSED MIDTOWN BRIDGE
OVER I-440**
ALTERNATIVE 1 - CONVENTIONAL INTERSECTION DESIGN NORTH
CURRENT FLOODPLAIN MAP
PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



PLANS NOT
TO SCALE

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



LEGEND

EFFECTIVE FLOODWAY BOUNDARY	
EFFECTIVE 100-YEAR FLOODPLAIN BOUNDARY	
EFFECTIVE 500-YEAR FLOODPLAIN BOUNDARY	

NOTE: FUNCTIONAL LEVEL MAPPING WAS USED DURING THE FUNCTIONAL DESIGN PROCESS.
FLOODWAY AND FLOODPLAIN BOUNDARIES ARE BASED ON EXISTING CONDITIONS.

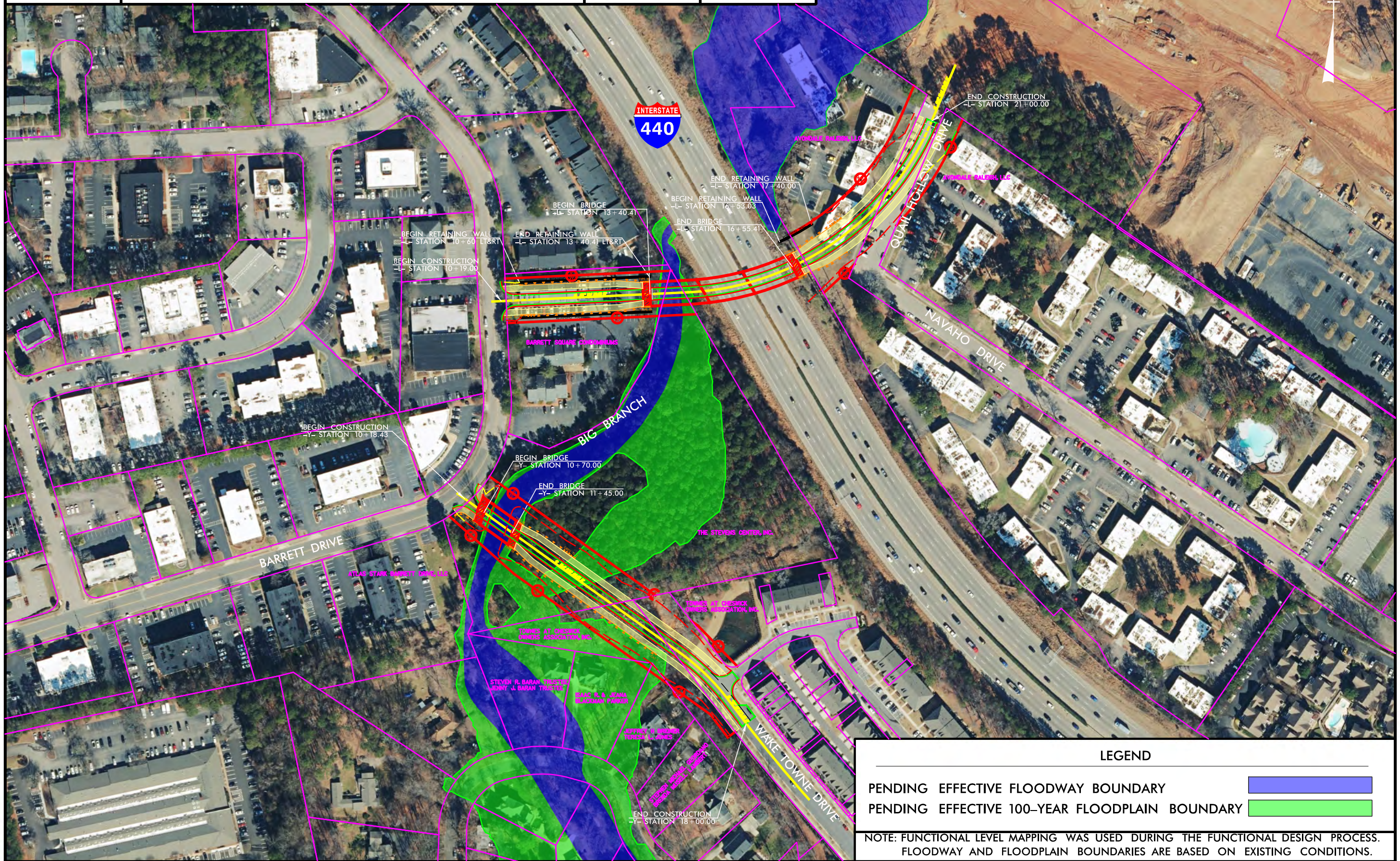


**PROPOSED MIDTOWN BRIDGE
OVER I-440**
ALTERNATIVE 1 - CONVENTIONAL INTERSECTION DESIGN NORTH
PENDING FLOODPLAIN MAP (EFFECTIVE JULY 2022)
PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



PLANS NOT
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LEGEND

- PENDING EFFECTIVE FLOODWAY BOUNDARY
- PENDING EFFECTIVE 100-YEAR FLOODPLAIN BOUNDARY

NOTE: FUNCTIONAL LEVEL MAPPING WAS USED DURING THE FUNCTIONAL DESIGN PROCESS.
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PROPOSED MIDTOWN BRIDGE OVER I-440

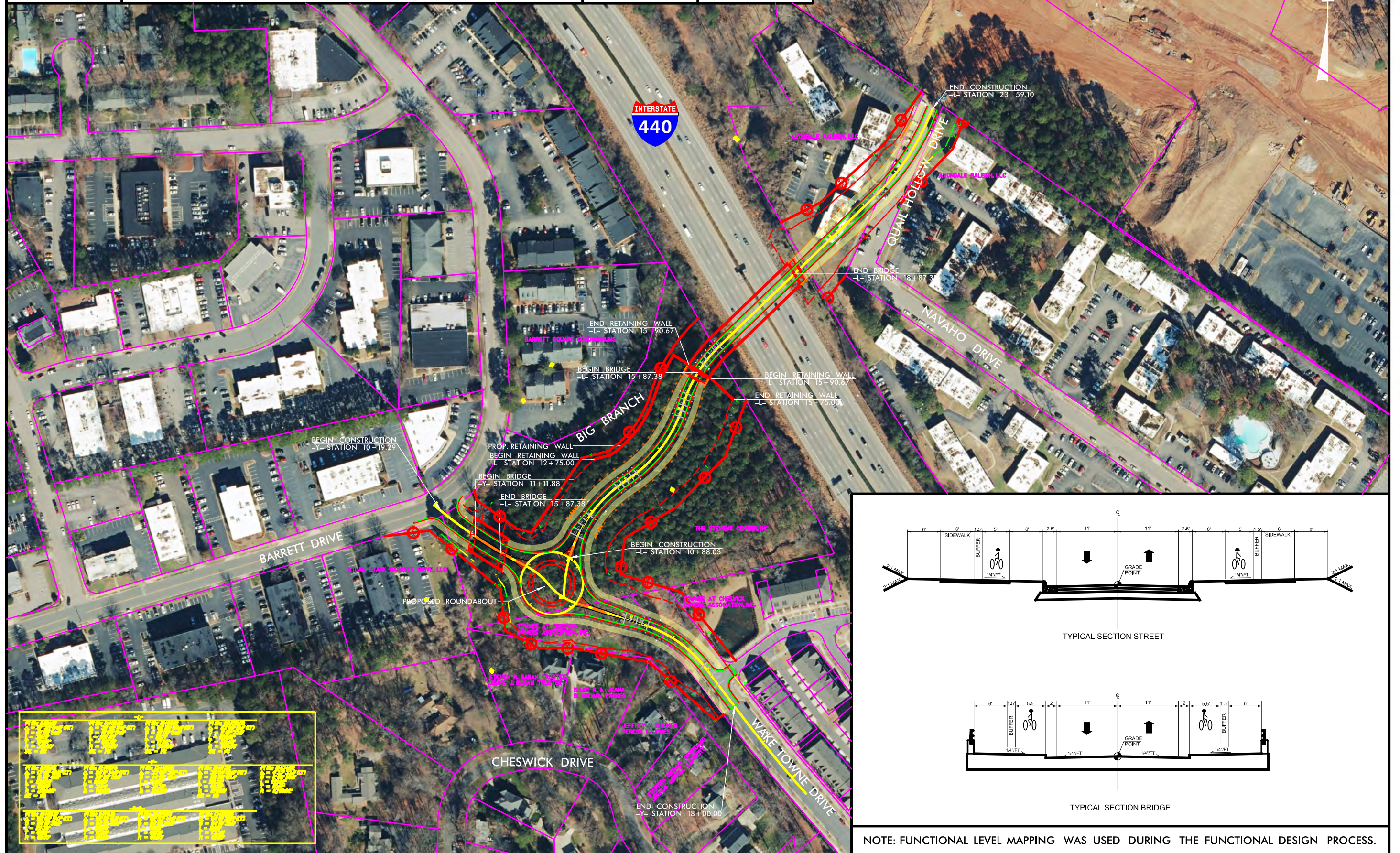
ALTERNATIVE 2 – ROUNDABOUT DESIGN

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



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PROPOSED MIDTOWN BRIDGE OVER I-440

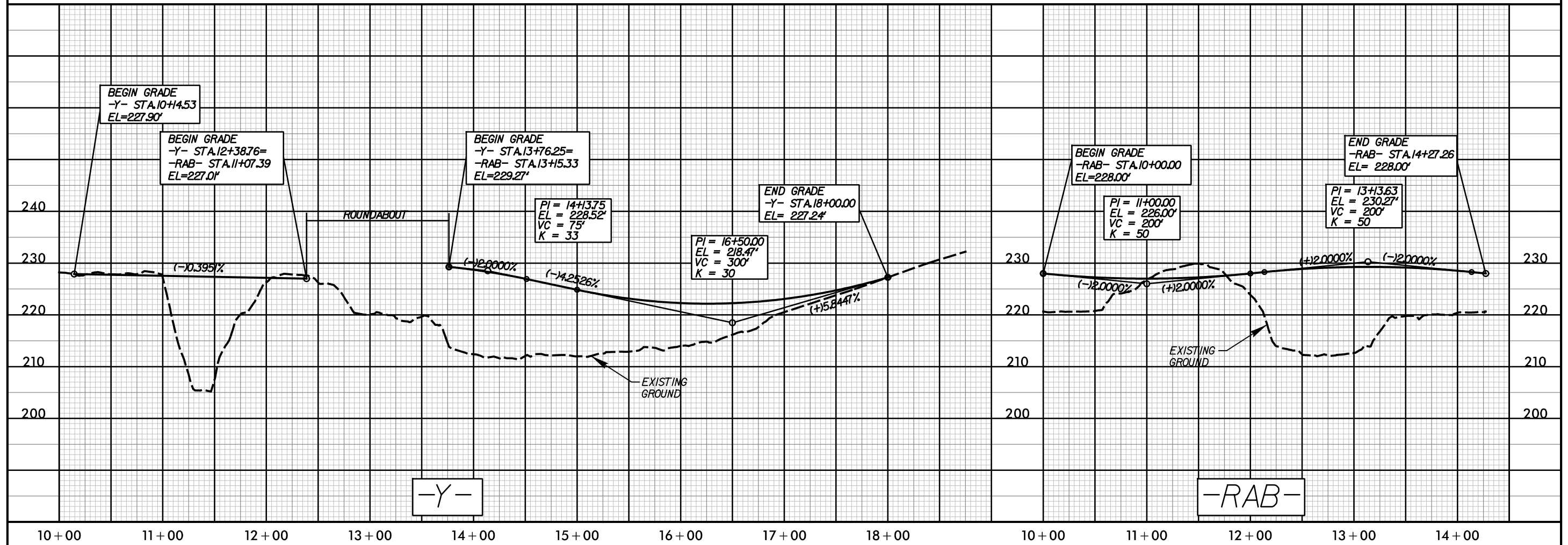
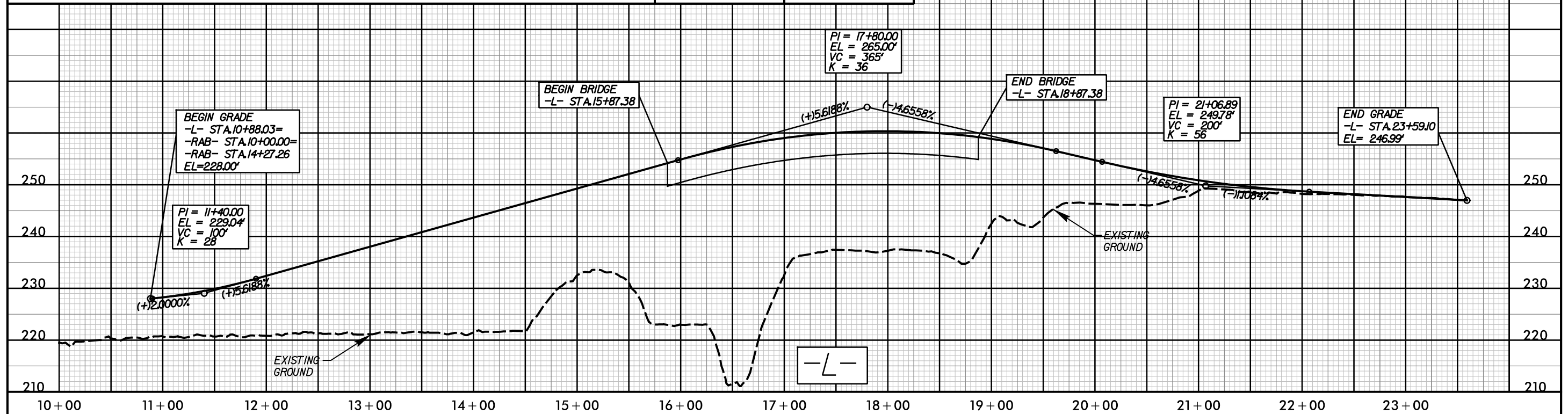
ALTERNATIVE 2 - ROUNDABOUT DESIGN PROPOSED GRADE

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



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PROPOSED MIDTOWN BRIDGE OVER I-440

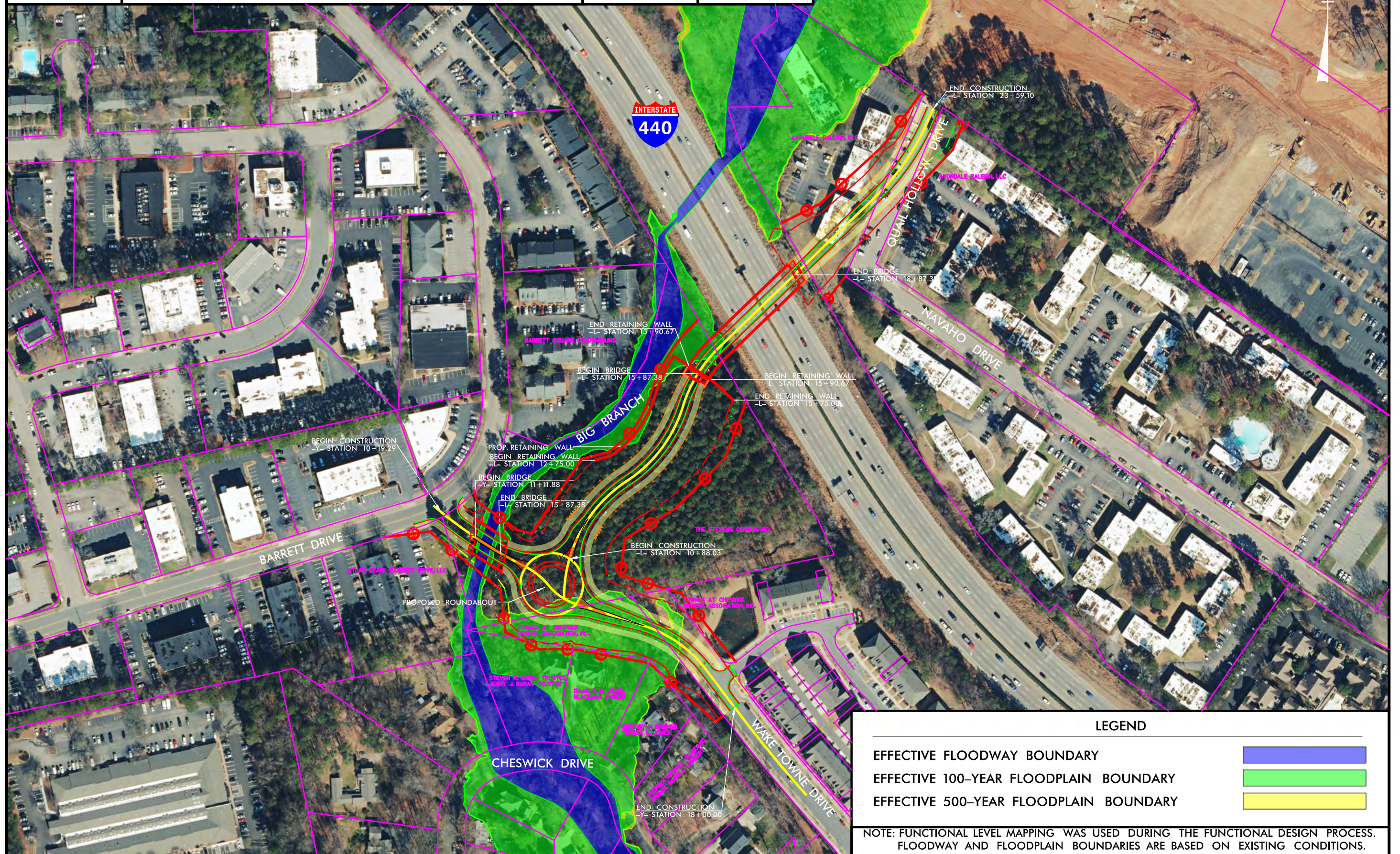
ALTERNATIVE 2 – ROUNDABOUT DESIGN CURRENT FLOODPLAIN MAP

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



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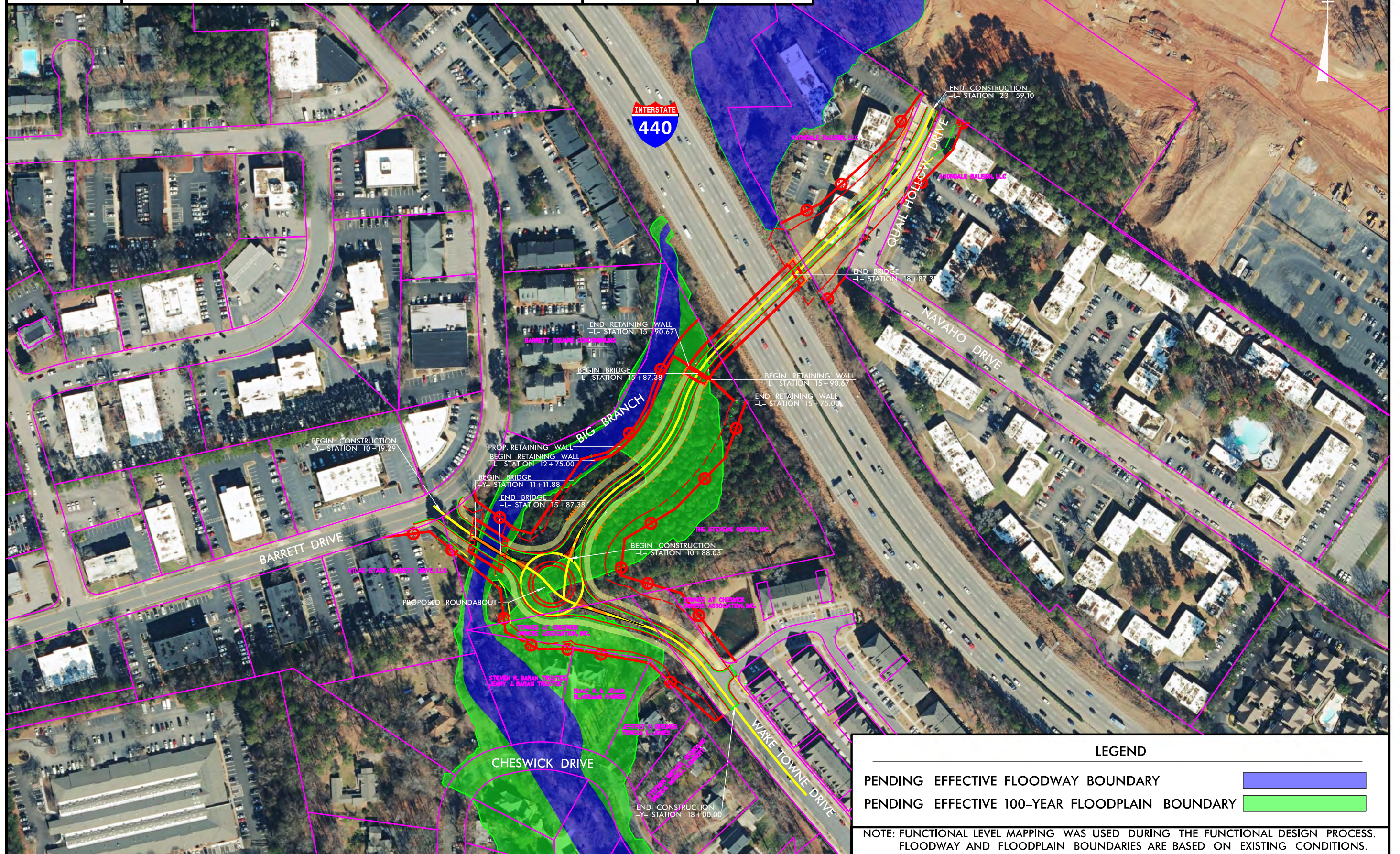
PROPOSED MIDTOWN BRIDGE OVER I-440

ALTERNATIVE 2 – ROUNDABOUT DESIGN
PENDING FLOODPLAIN MAP (EFFECTIVE JULY 2022)
PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



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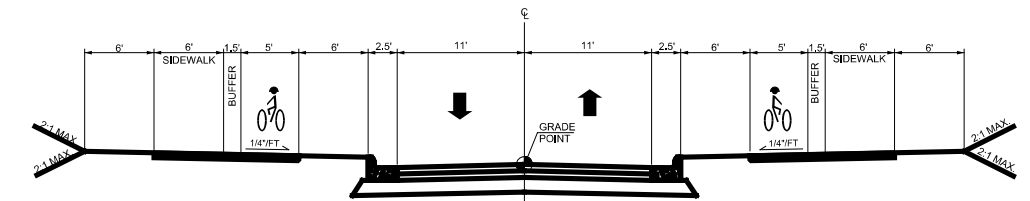
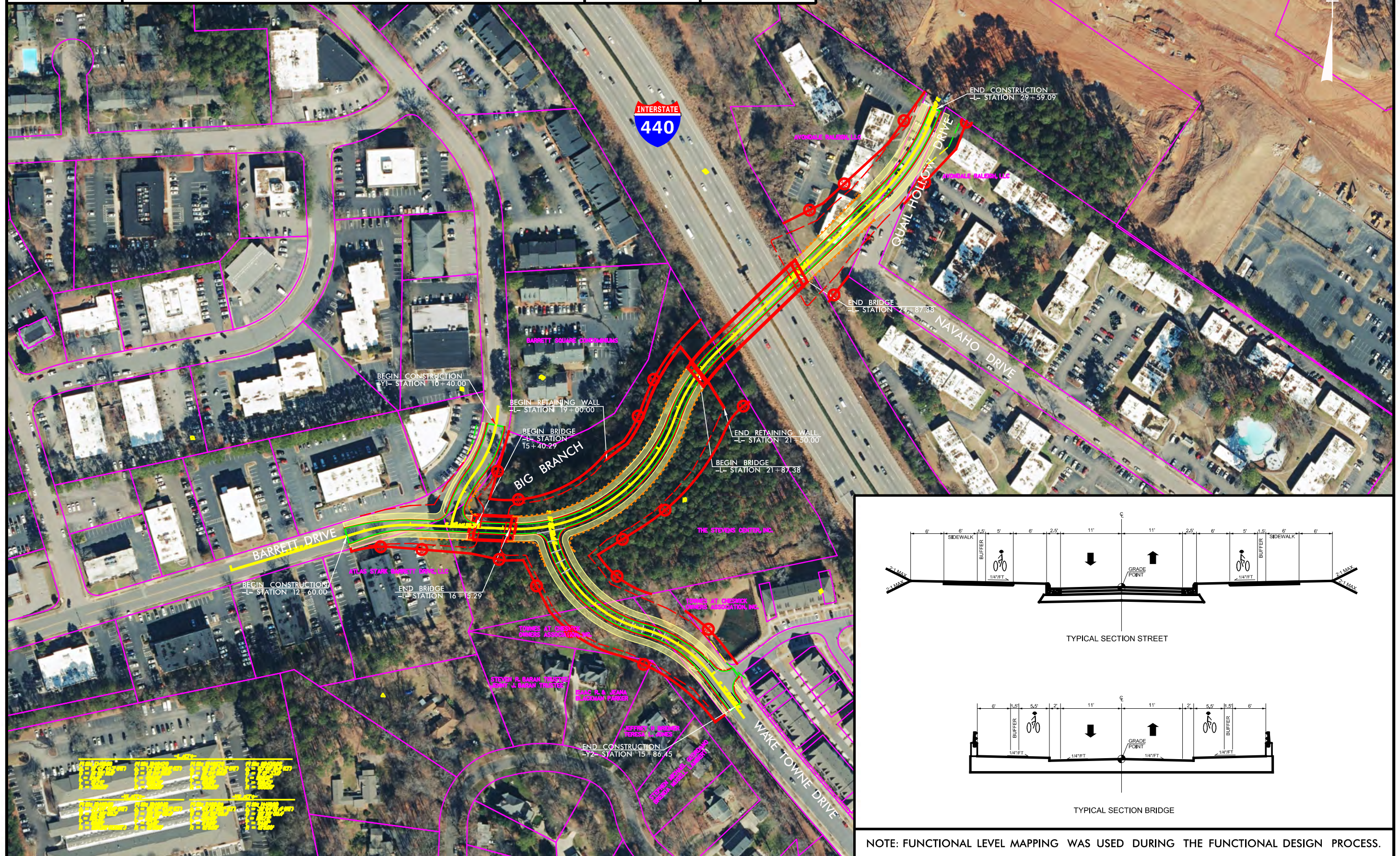
ALTERNATIVE 3 - CONVENTIONAL INTERSECTION DESIGN

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022

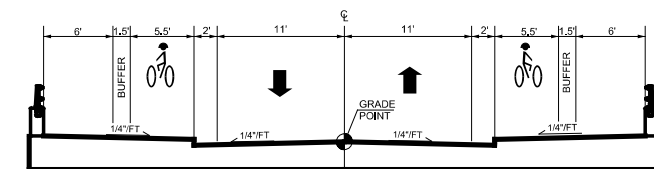


PLANS NOT
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TYPICAL SECTION STREET



TYPICAL SECTION BRIDGE

NOTE: FUNCTIONAL LEVEL MAPPING WAS USED DURING THE FUNCTIONAL DESIGN PROCESS.



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OVER I-440**

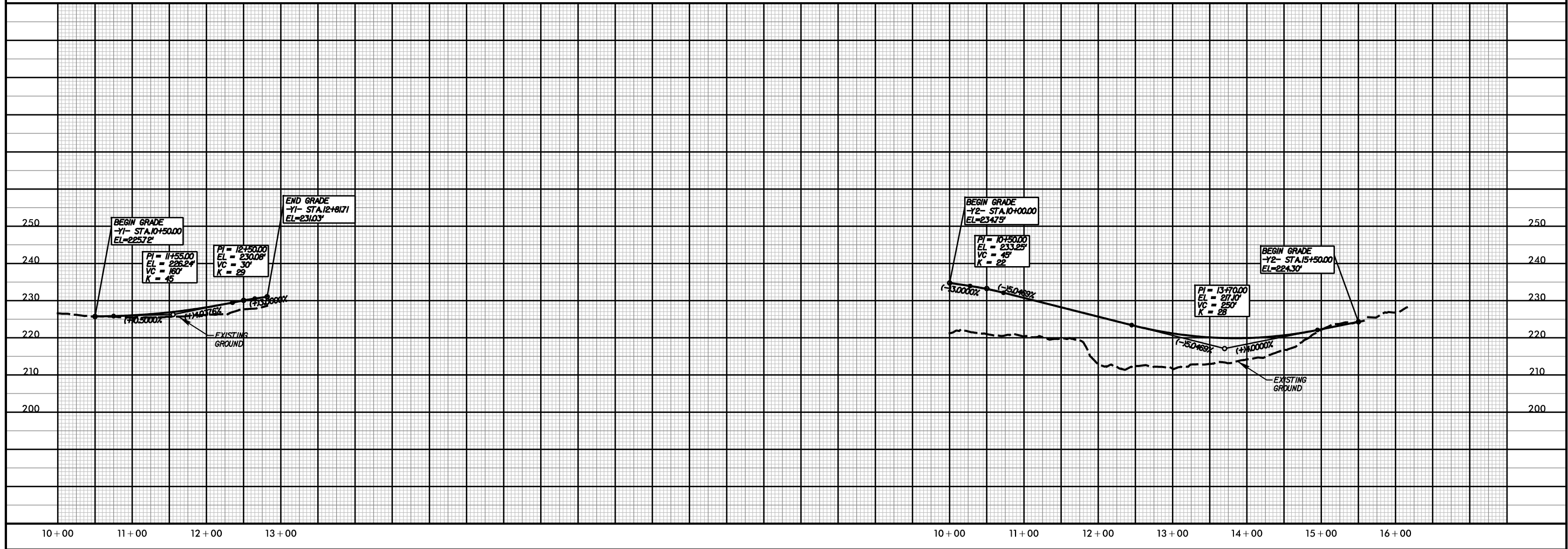
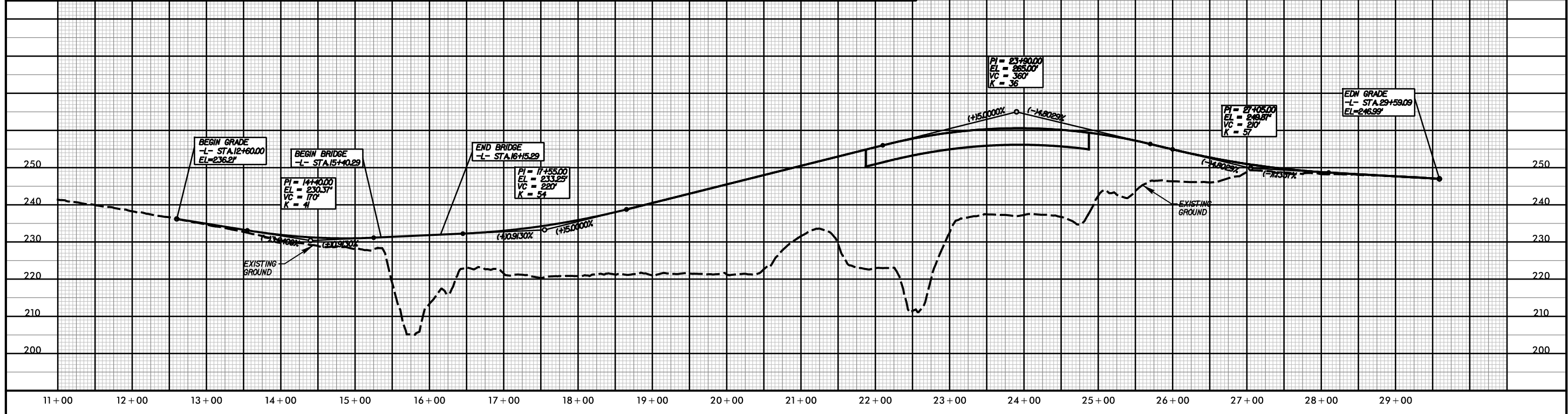
**ALTERNATIVE 3 – CONVENTIONAL INTERSECTION DESIGN
PROPOSED GRADE**

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



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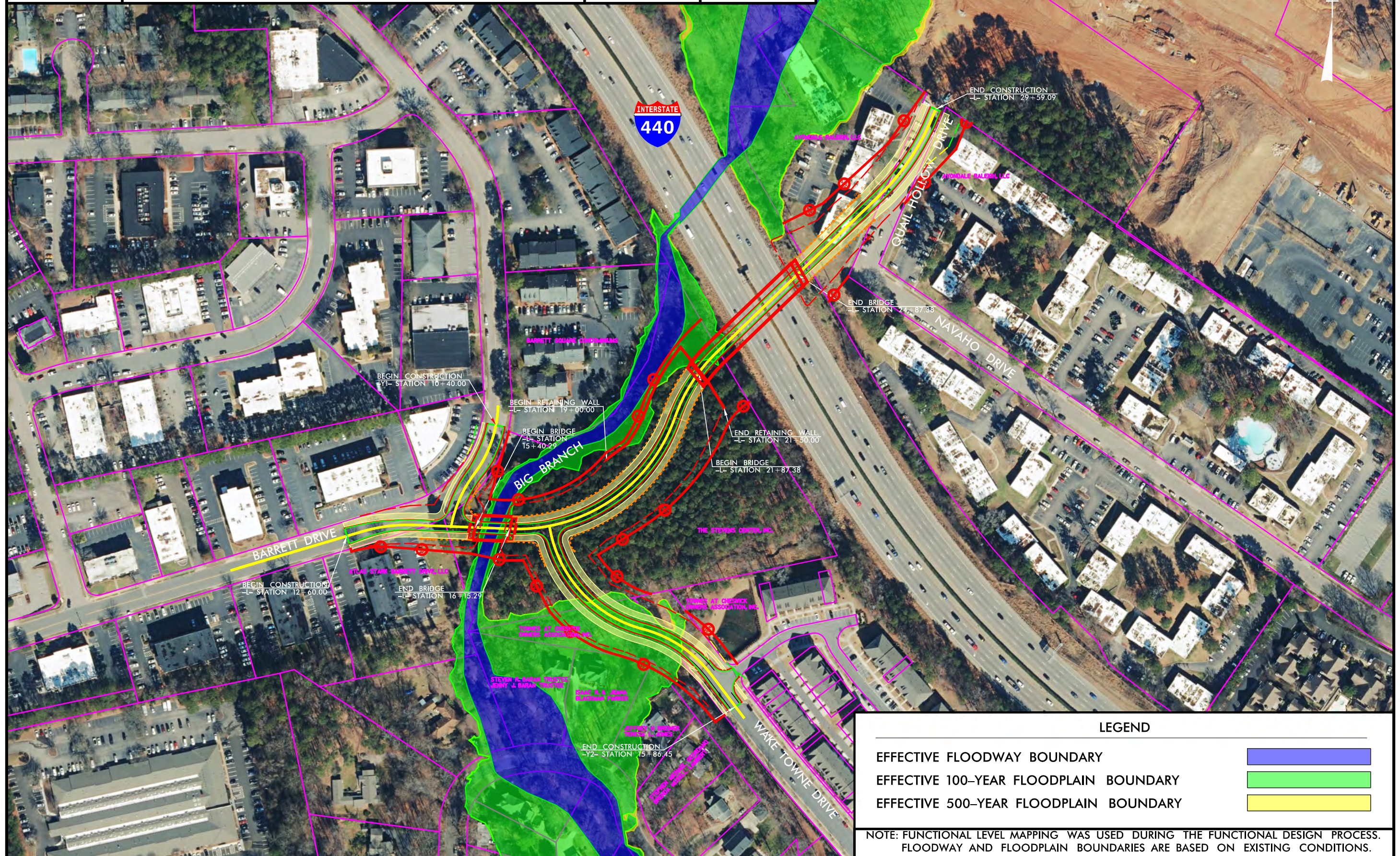
**PROPOSED MIDTOWN BRIDGE
OVER I-440**
ALTERNATIVE 3 - CONVENTIONAL INTERSECTION
CURRENT FLOOD PLAIN MAP

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



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PROPOSED MIDTOWN BRIDGE OVER I-440

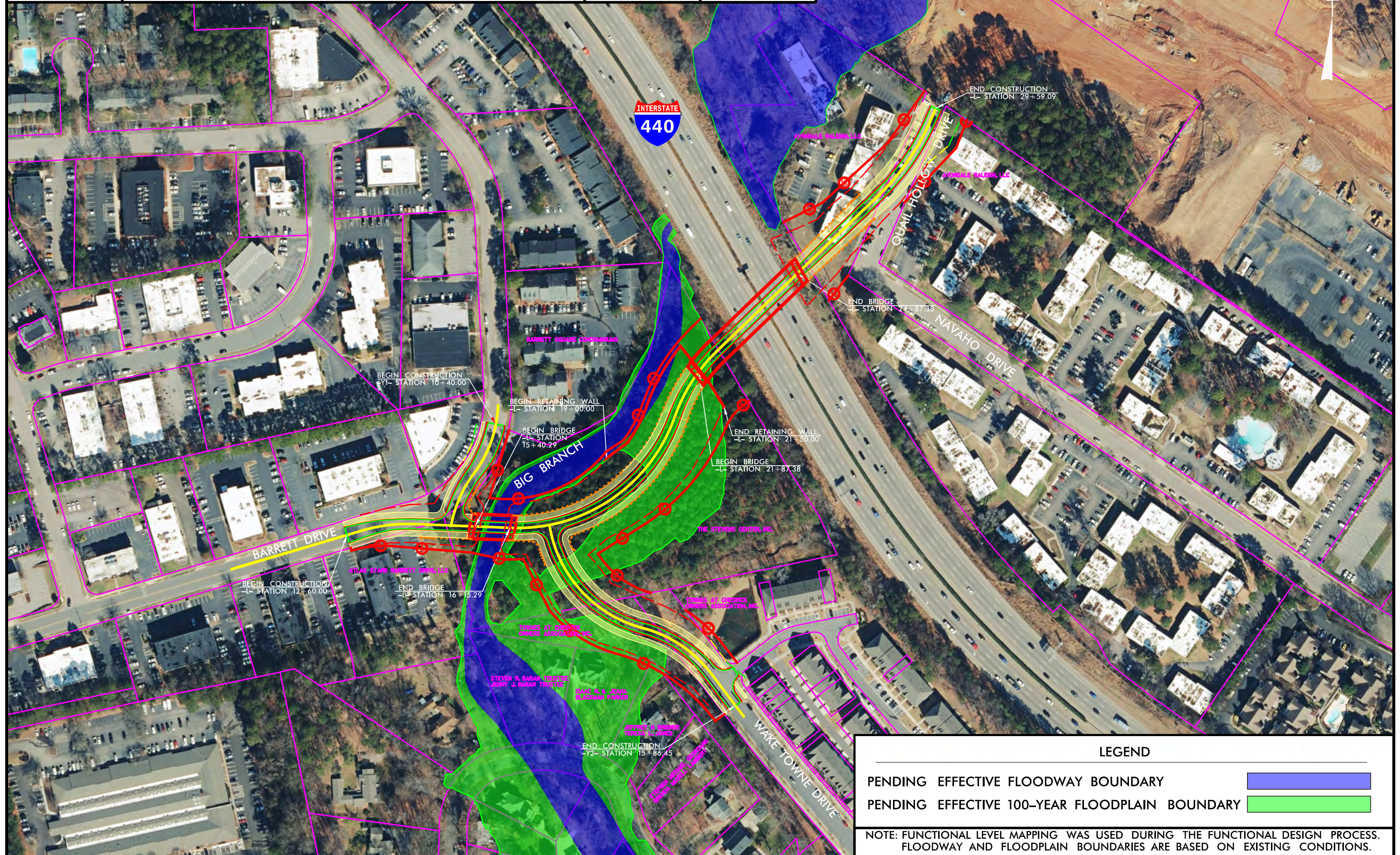
ALTERNATIVE 3 - CONVENTIONAL INTERSECTION
PENDING FLOOD PLAIN MAP (EFFECTIVE JULY 2022)

PREPARED BY VHB FOR THE CITY OF RALEIGH TRANSPORTATION DEPARTMENT
MAY 2022



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B

Attachment

Potential Impacts Comparison Matrix

Proposed Midtown Bridge over I-440: Potential Resource Impacts – May 2022			
	Functional Design #1	Functional Design #2	Functional Design #3
Crossing Location & Description	Bridge over I-440 at business parcel located on Barrett Drive	Bridge over I-440 at vacant parcel between Barrett Drive and Wake Towne Drive (Roundabout)	Bridge over I-440 at vacant parcel between Barrett Drive and Wake Towne Drive (Intersection)
Bridge & Walls	315-ft long bridge over I-440 7232 SF of Retaining Walls at bridge approach 75-ft long bridge over Big Branch	300-ft long bridge over I-440 5970 SF of Retaining Walls at bridge approach 65-ft long bridge over Big Branch	300-ft long bridge over I-440 6420 SF of Retaining Walls at bridge approach 75-ft long bridge over Big Branch
NWI Wetland Impacts <i>measured from EOT+50'</i>	5,300 square feet (0.122 acres)	4,500 square feet (0.103 acres)	3,700 square feet (0.085 acres)
FEMA Stream Impacts <i>measured from EOT+50'</i>	270 linear feet	300 linear feet	340 linear feet
Property Impacts <i>Plan view attached for reference</i>	- Minimizes impacts to the undeveloped parcel #1 - Requires purchasing the business parcel	- Minimizes impacts to the existing businesses on Barrett Drive	- Minimizes impacts to the existing businesses on Barrett Drive
Area of acquisition	154,279 SF (3.54 AC)	246,784 SF (5.67 AC)	225,430 SF (5.18 AC)
Traffic Flow Notes	-Worst overall -Poor Wake Towne connection -Awkward connection via Barrett; heavy turn conflicts - Worst for phasing; everything would need to be built initially to provide critical Wake Towne link -Not ideal for heaviest bike/ped demands	-Most balanced, both long & short range -Can be built initially with more critical Wake Towne connection only; link to Barrett later, as part of redevelopment? -STOP control on Barrett -Roundabout could be a bit trickier for bikes/peds -Probably best for bus routing	-Can be built initially with more critical Wake Towne connection only; link to Barrett later, as part of redevelopment? -Worst in terms of Barrett—Wake Towne connectivity, which could be significant demand upon redevelopment -Awkward offset connection between Wake Towne & Barrett; potentially heavy turn conflicts -May have best bike/ped service
Pros	- Provides a direct connection to Barrett Drive	- Doesn't impact existing businesses - Potential for the City to provide park-like space along Big Branch	- Doesn't impact existing businesses - Potential for the City to provide park-like space along Big Branch

		- Provides a direct connection to Wake Towne Drive and Barrett Drive	- Provides a direct connection to Wake Towne Drive and Barrett Drive
Cons	<ul style="list-style-type: none"> - Proposed roadway in close proximity to Big Branch (impedes on buffer) - Requires a separate intersection to connect to Wake Towne Drive - Grades/elevation change – Short ramp for bikes and pedestrians - Steeper grades than Alternatives 2 and 3 	<ul style="list-style-type: none"> - Grades/elevation change - Long ramp for bikes and pedestrians - Steeper grade than Alternatives 1 and 3 	<ul style="list-style-type: none"> - Grades/elevation change - Long ramp for bikes and pedestrians - Flatter grade than Alternatives 1 and 2.
Opinion of Probable Cost for Roadway and Structural Elements (in millions)	\$18.5M	\$23.8M	\$22.2M

Notes:

- Based on the desktop environmental screening, there is no significant infrastructure (i.e., water/wastewater treatment plants, transmission pipelines, other major utilities); known National Register or eligible sites; active agriculture; critical water supply watersheds; parks, greenways, game lands, or Land and Water Conservation Fund properties); or FEMA Buyout properties within the study area.
- Fieldwork has not been conducted to determine existing critical habitat/species under the ESA.
- Wetland and stream impacts are based on USFWS NWI wetlands and FEMA streams mapping for each functional alignment with slope stakes + 25 feet on each side.
- Property impacts are for each functional alignment with slope stakes +10 feet on each side. The breakdown of impacts per property are included in the summary document.
- The opinion of probable cost is based on the minimal information available to the project team and include construction costs and assumed NCDOT standard 45% for utilities, MOT, and misc. Costs for design, construction administration, and inspections are not included in the costs.

C

Attachment

Meeting Summaries



Place: Microsoft Teams

Meeting Notes

Date: April 8, 2022
VHB Project #: 39194.05

Notes Taken by: VHB Team
Re: Midtown Bridge over I-440: Kick Off Meeting

ATTENDEES

Anne Conlon, City of Raleigh (CoR)
Monique Gyant, CoR
Jason Hardin, CoR
Kevin Kidd, CoR
Jason Myers, CoR
Paul Kallam, CoR
Brad Kimbrell, CoR
Kenneth Ritchie, CoR

Tim Goins, VHB
Mark Hussey, VHB
Don Bryson, VHB
Liz Lawes, VHB
Candice Andre, VHB

The purpose of this meeting, held on April 8, 2022, was to kick-off this project, understand progress to date, and discuss potential alignments. A presentation was shared (attached) and ConceptBoard was used for brainstorming ideas. The project objective is to evaluate feasible alignments for the proposed Midtown bridge over I-440 connecting Six Forks Road to Wake Forest Road. It is anticipated that this crossing will provide a connection between development on both sides, serving local traffic at low speeds.

- Proposed crossing is included in the City's current Comprehensive Plan.
 - Want to avoid property impacts as much as possible, both developed and undeveloped.
 - Property owners in the area are engaged with the City and expect active engagement will continue during future planning efforts.
 - Challenging site, team needs to demonstrate trade-offs:
 - Cost
 - Environmental (including buffer impacts)
 - Community
- There has been interest in the undeveloped site from developers. Mike Stewart is the engineer for Algee family (developer in the area).
 - Possible site plan for multi-family building.
 - Focus concepts in the southwest portion of site to the maximum extent practicable to minimize impacts to property.



Meeting Notes

- Concept Ideas
 - Roundabout
 - Appropriate for projected traffic volumes.
 - Design for a bus (80-foot internal), not tractor trailer trucks.
 - 25 mph design speed.
 - Concerns if roundabout is placed over the creek – daylighting, traffic channelizing.
 - 3-way intersection where there is no dominate approach.
- General design criteria:
 - Do not need to hold to 5% slopes, but will require design exception for pedestrians.
 - Need to understand what is flexible from a design perspective. No dead ends.
 - Traffic flow is similar for each approach. Wake Town Drive – anticipate heavy use in the long term. Wegmans area is expected to have strong growth.
 - Forecasted volumes: 12,000 – 14,000 AADT
 - Necessary retaining walls.
 - Assume the City will provide all necessary maintenance.
- Possibility of City acquisition of property – could be an opportunity for affordable housing.
- VHB will provide areas of potential property impacts, the City will work with internal real estate experts for potential ROW costs.
- Alternatives to move forward:
 - Alternate 1: Roundabout on undeveloped property (minimize impacts to the creek).
 - Alternate 2: Intersection on undeveloped property (minimize impacts to property).
 - Alternate 3: Northern crossing connecting to Barrett Drive.
- Next Steps
 - VHB to prepare concept plans and present to City on 4/26/22.

END OF SUMMARY



City of Raleigh Midtown Bridge over I-440 Feasibility Kick-off Meeting

Presented by
Candice Andre
Don Bryson
Tim Goins
Mark Hussey
Liz Lawes

April 8, 2022



Agenda

- Introductions
- Study Goals, Scope of Work & Schedule
- Existing Area Plans, Projects & Initiatives
- Challenges & Opportunities
- Discussion



Study Goals, Scope of Work & Schedule



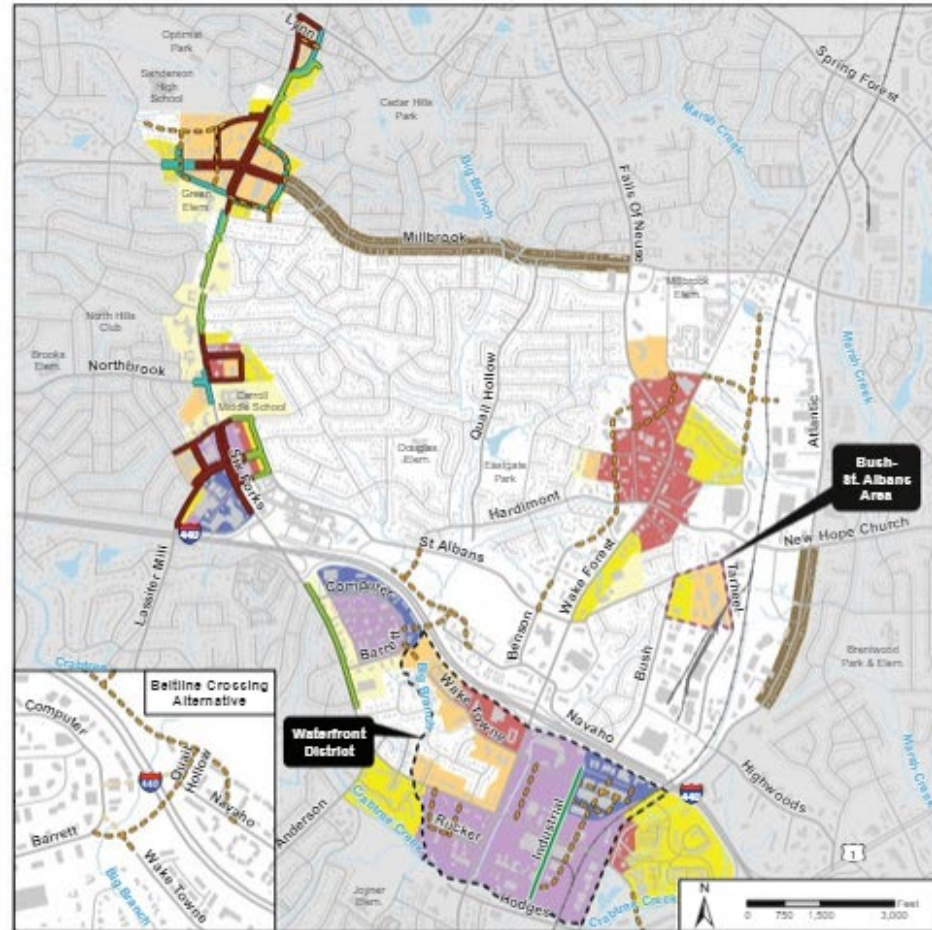
Study Goals, Scope of Work & Schedule

- Generate feasible functional designs for the proposed Midtown Bridge
- Previous concepts
- Typical section:
 - 2 lanes
 - Bike and pedestrian accommodations
 - Pier on I-440
- Design criteria:
 - 16'-6" Vertical Clearance over I-440
- External kick-off meeting – Today
- Site visit – 4/01/22
- Functional designs
 - Feasibility
 - Constructability
 - Staging
 - High level/order of magnitude cost
- Concept meeting – 4/26/22
- Final deliverable – 5/06/22
 - Functional designs for 3 alignments
 - Alignment comparison matrix

2030 Comp Plan Update

Map AP-MT1: Midtown Land Use / Urban Form

Adopted: 12/15/2020



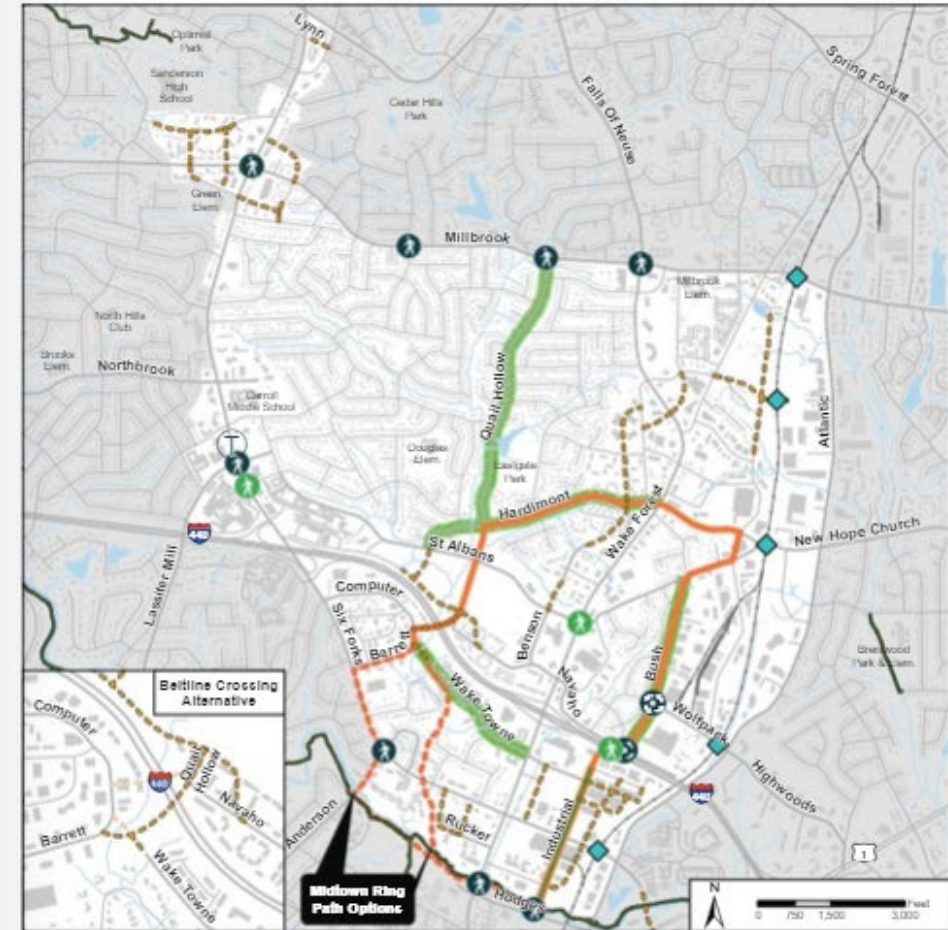
- Waterfront District
- Bush-St. Albans Area
- Proposed Street
- Proposed "Waterfront District" Main Street
- Additional Housing Type Opportunities
- Recommended Zoning Frontage
- Green
- Urban Limited
- Parking Limited

- Recommended Height
- 3 stories
- 4 stories
- 5 stories
- 5 - 7 stories
- 7 - 12 stories
- 20 stories

Map created 1/6/2021 by the Raleigh Department of City Planning

Map AP-MT2: Midtown Transportation

Adopted: 12/15/2020



- T Proposed Transit Hub
- ◇ Proposed Grade Separation
- Proposed Pedestrian & Bike Facility
- Proposed Pedestrian & Bike Bridge
- Proposed Roundabout Location
- Proposed Street
- Proposed Green Streets
- Proposed "Waterfront District" Main Street*
- Proposed Midtown Ring*
- Existing Greenway Trail

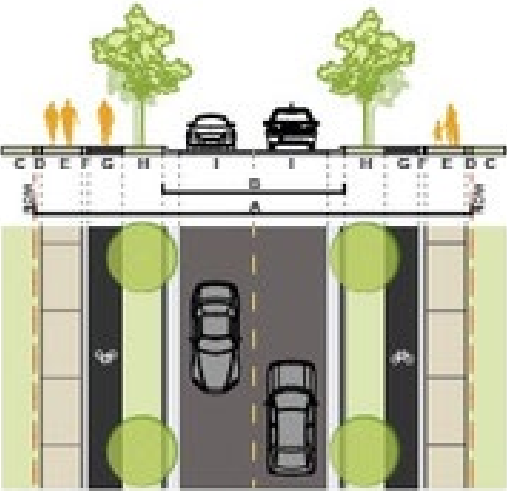
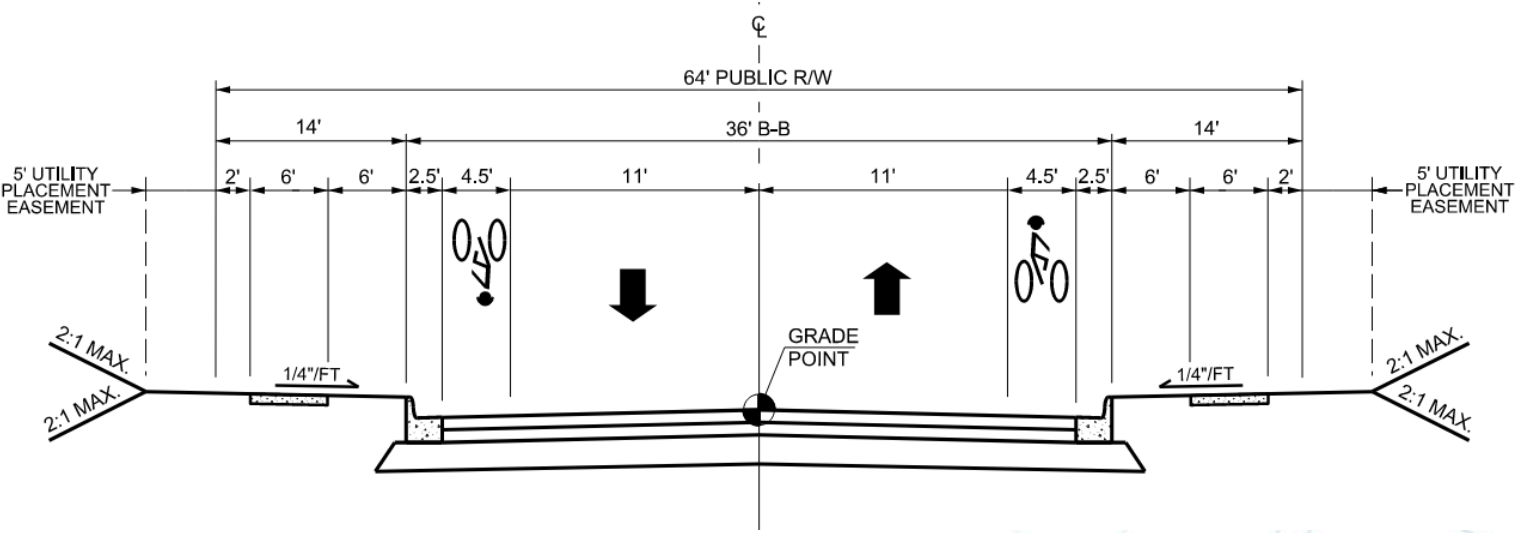
*see policy guidance for specifics

Map created 1/4/2021 by the Raleigh Department of City Planning

Concepts for Review



Proposed Typical Section



Width

A Right-of-way width	66'
B Back-of-curb to back-of-curb	27'

Streetscape

C Utility placement, easement (min)	5'
D Maintenance strip (min)	1'
E Sidewalk (min)	6'
F Buffer (min; paved or paver)	1.5'
G Bike Lane (min)	5'
H Planting area (min)	6'

Travelway

I Travel lane	11'
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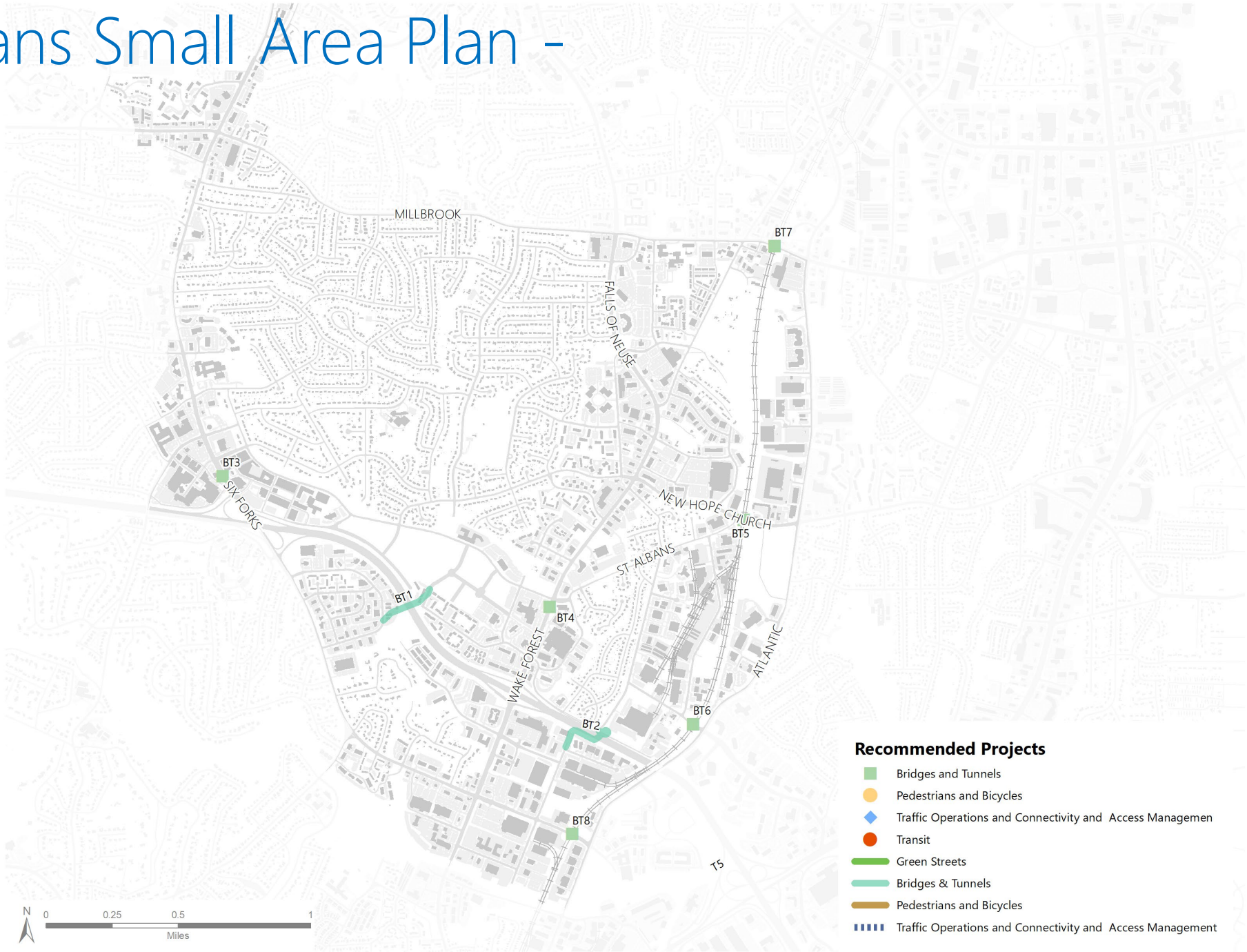
General

Walkway type	Sidewalk
Planting type	Tree lawn
Tree spacing	40' o.c. avg
Minimum Driveway Spacing	200'

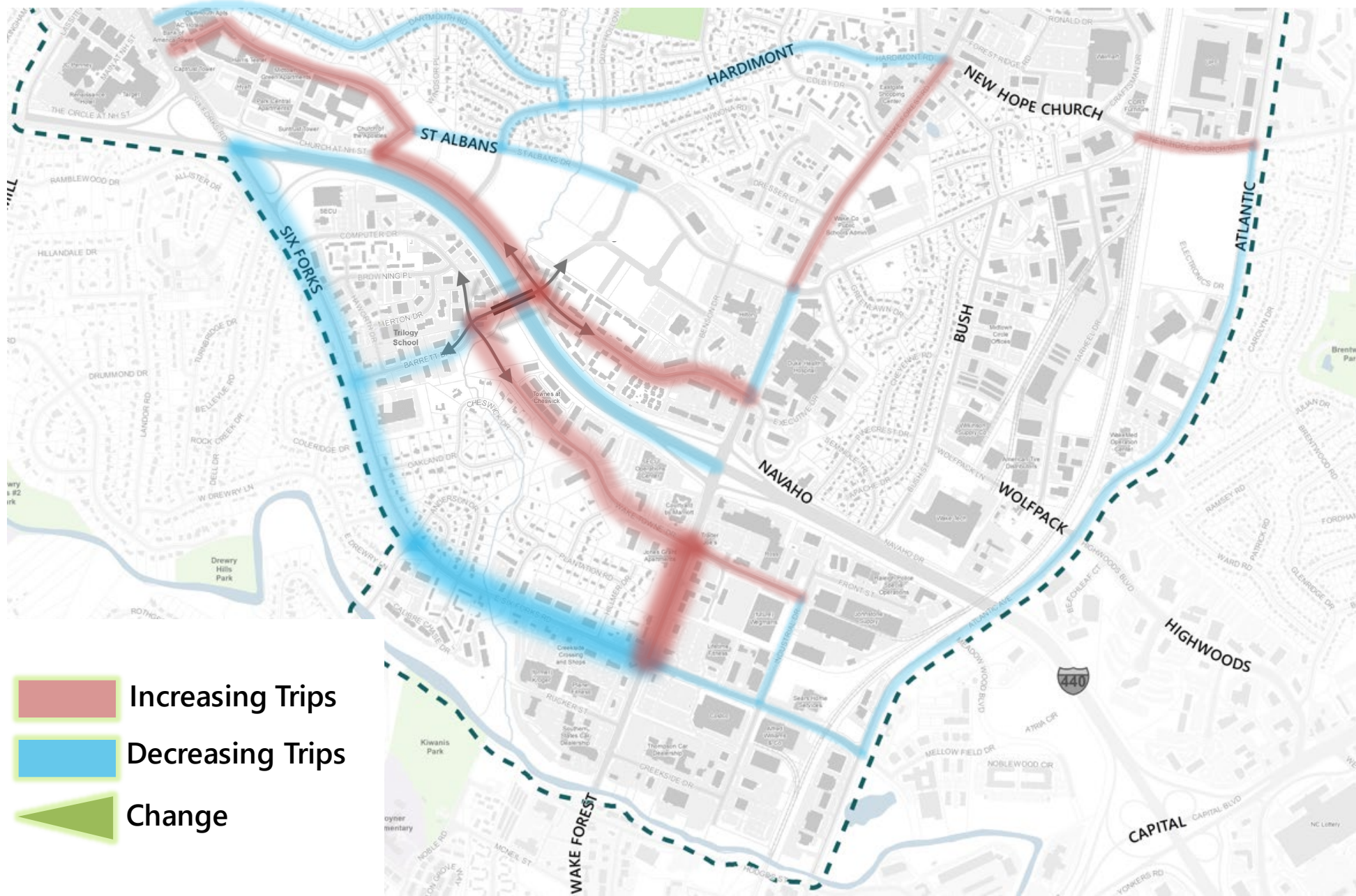
Existing Plans, Projects & Initiatives



Midtown/St. Albans Small Area Plan - Tunnel & Bridge



Midtown/St. Albans Small Area Plan - Bridge Impacts

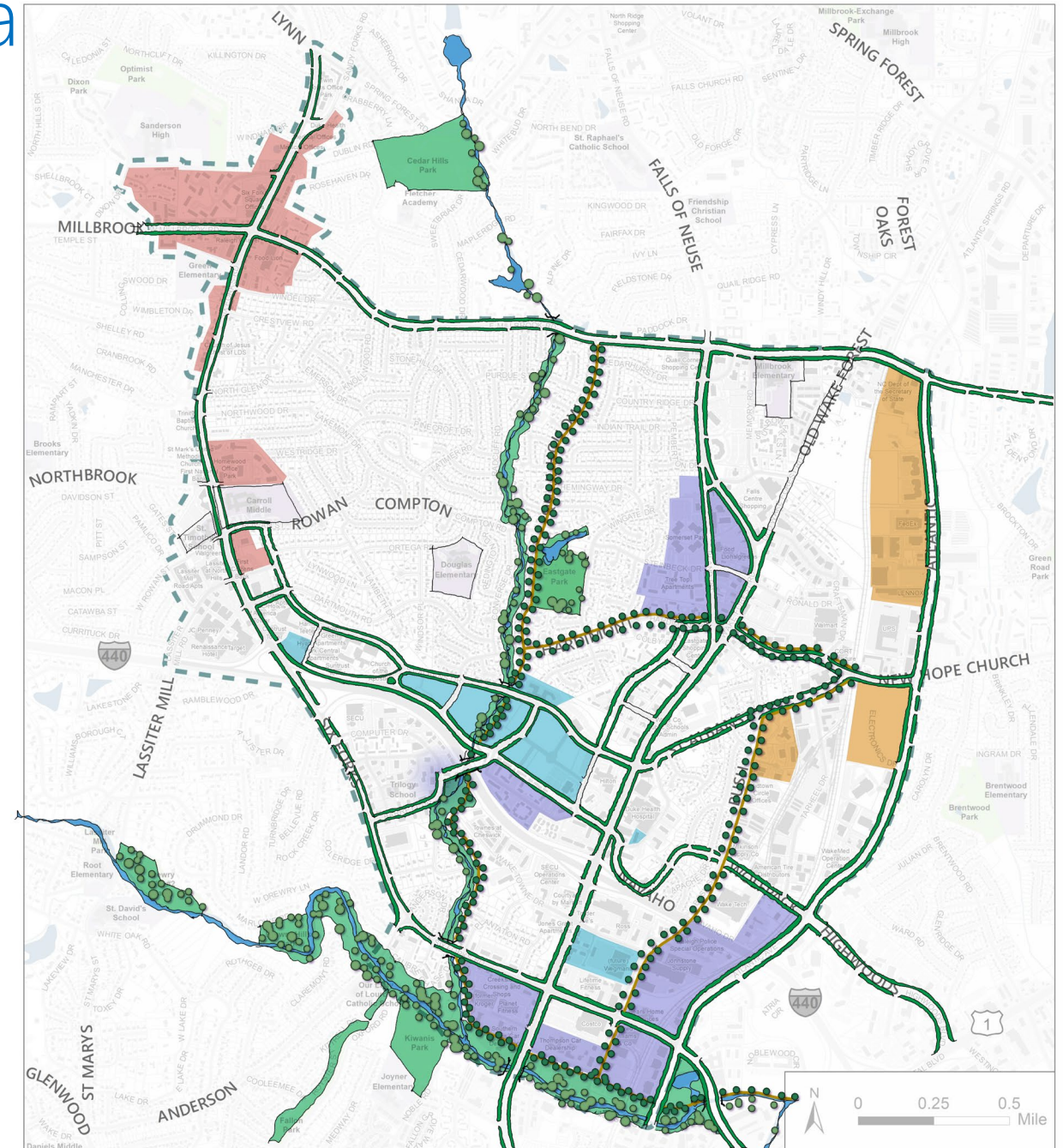


Midtown/St. Albans Small Area Plan

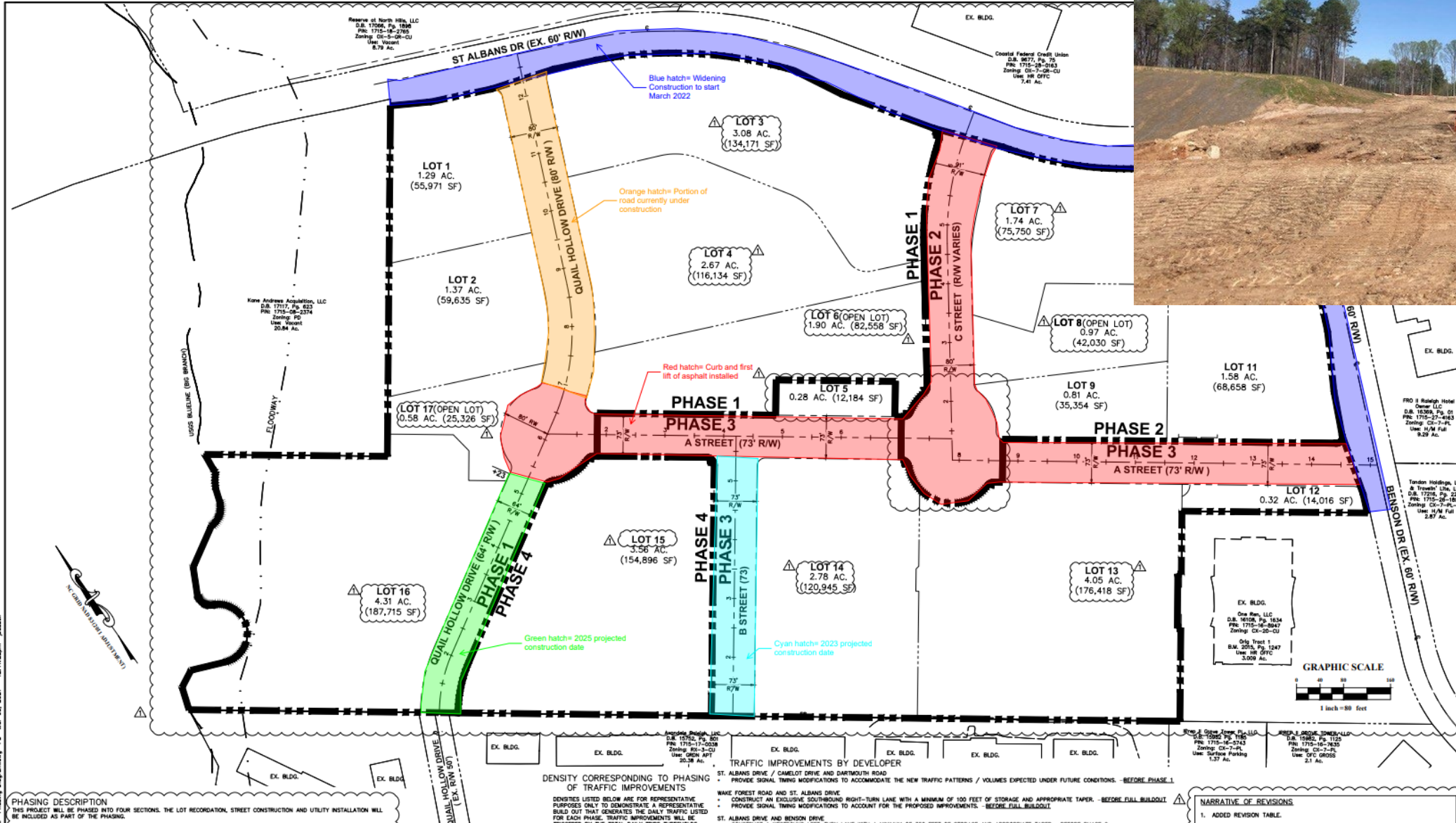


Midtown/St. Albans Small Area Plan - Transportation Improvements

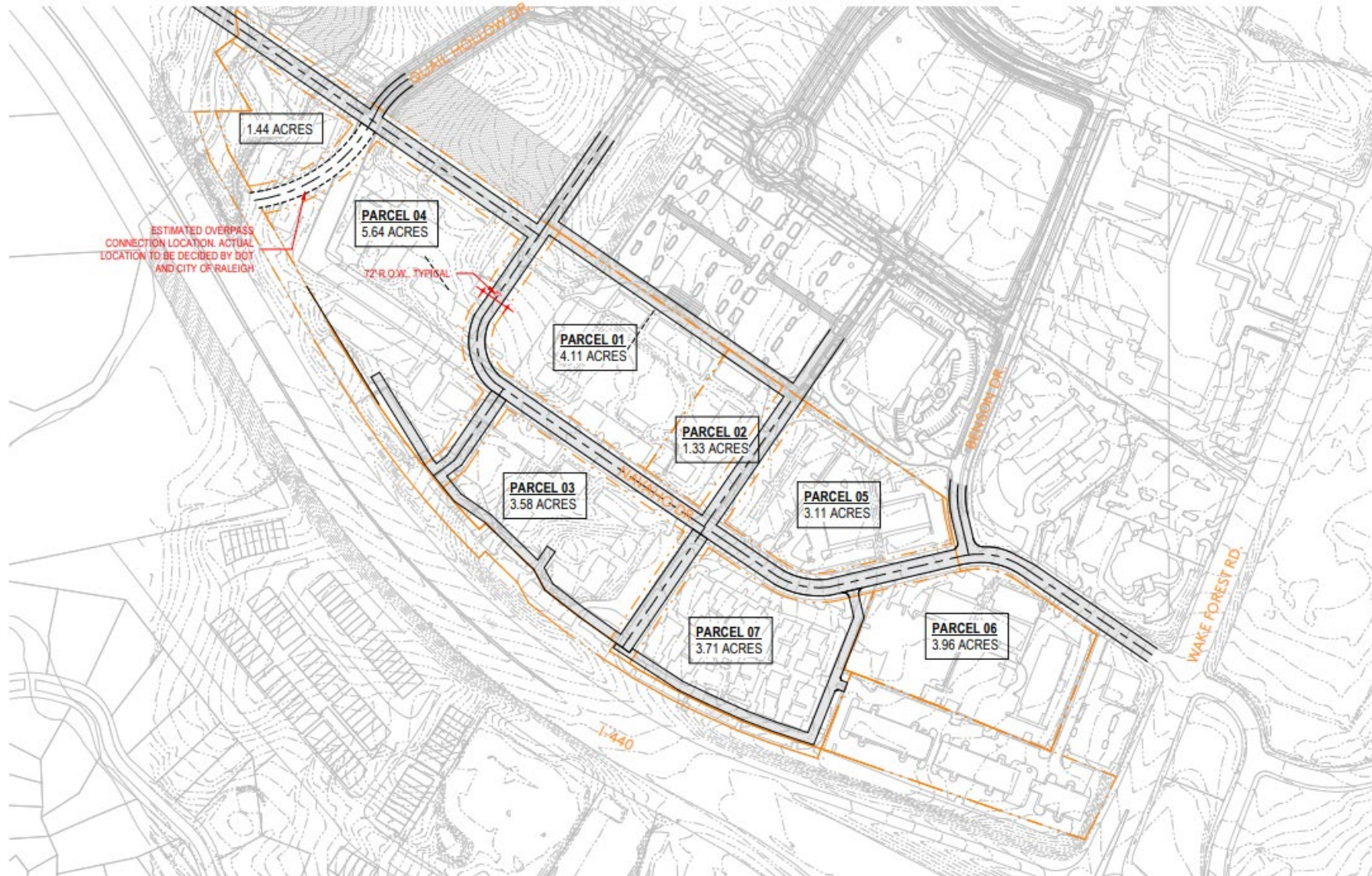
- Improve network and connectivity for cars, bicycles, and pedestrians
- Improve the efficiency of movement throughout Midtown with intersection improvements, key new connections, and transit routing options.
- Tie future development to infrastructure improvements in order to lessen the impact of development intensity



MTX Development



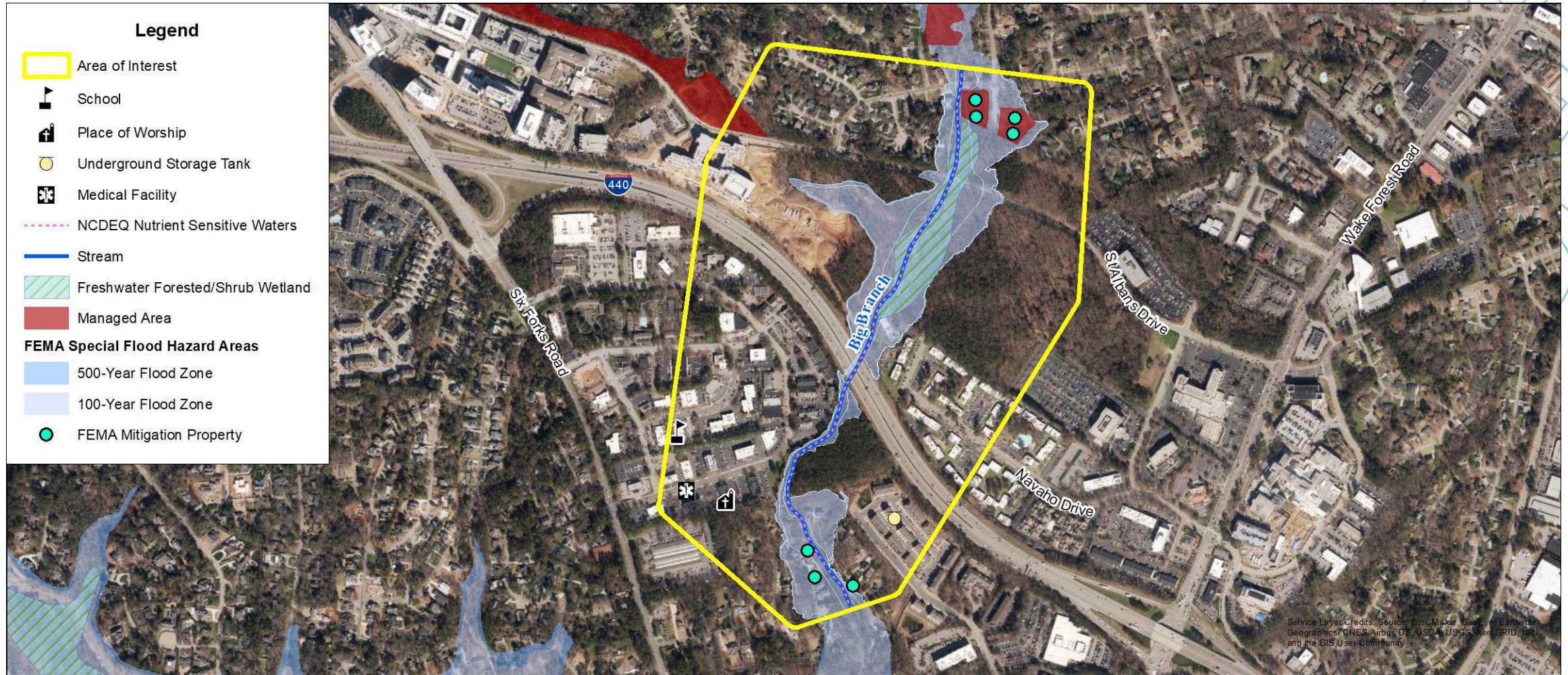
Pointe at Midtown Concept



Challenges & Opportunities



Environmental Screening



Challenges & Opportunities

- Culvert under I-440
- Creek
- Topography
- Future connectivity



Discussion



Discussion Questions

- Ultimate connection goals in the area
- NCDOT involvement
 - Maintaining traffic on I-440
 - Future widening
- Flags in undeveloped area



Project Contacts

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Place: Microsoft Teams

Meeting Notes

Date: April 26, 2022
VHB Project #: 39194.05

Notes Taken by: VHB Team
Re: Midtown Bridge over I-440: Kick Off Meeting

ATTENDEES

Anne Conlon, City of Raleigh (CoR)	Tim Goins, VHB
Monique Gyant, CoR	Mark Hussey, VHB
Jason Hardin, CoR	Don Bryson, VHB
Grady McCollum, CoR	Liz Lawes, VHB
Jason Myers, CoR	Candice Andre, VHB
Paul Kallam, CoR	
Brad Kimbrell, CoR	
Kenneth Ritchie, CoR	

The purpose of this meeting, held on April 26, 2022, was to present functional designs to the City and gain feedback. A presentation (attached) and Microstation files were shared to focus the discussion.

- Recent updates:
 - Planning Commission Meeting - Rezoning on north side;
 - Strong opposition to building impacts; and
 - Rezoning of undeveloped parcel from Atlas Stark.
 - Held first neighborhood meeting and zoning pre-application conference.
- Design feedback:
 - Match latest UDO standard – bike lane behind curb.
 - Anticipate floodway impacts – map revision would be needed.
 - Consider access points, sight distance.
 - Possibly have retaining wall on both sides – build right up to the wall for future development.
 - Shift design small amount north and add wall to maintain parking and structure to the south (Intersection alternative).
 - Review the Greenway Master Plan for location of Big Branch Greenway.
 - Add slope percent to matrix.
 - I-440 clearance – minimum 16.5 feet.



Meeting Notes

- Review distance from Six Forks Road interchange – approximately 3,000 feet. Auxiliary lanes connecting ramps.
- Possibility of raising Barrett a few feet?
- Thoughts on aligning Barrett and Wakefield?
 - Wake Towne is a heavier movement than Barrett.
- Include wetland maps and updated FRIS maps (link provided in chat).
 - Floodplain capacity – may impact businesses.
 - Concerned about showing wall inside floodway – no-rise, map change may be unavoidable.
 - Revise retaining to be outside of floodway.
 - Possibly extend structure span on piers.
 - Review wall height.
- Concerned about filling in drainage channel/culvert just south of I-440.
 - Provide longer span to cross the drainage channel.
- Roundabout results in better traffic operations, alternative best meets traffic needs.
- Future considerations:
 - Value engineering to tighten up design/possibly narrow typical section.
 - Evaluate 90 feet internal for roundabout – will require internal discussion by the City.
 - Leave roundabout as small as possible – trucks can use Six Forks Road and Wake Forest Road.
 - Does the roundabout need to be fully mountable? Grady to follow up.
 - Corridor is anticipated to be heavily used by bikes and pedestrians, should be unappealing to trucks.
 - Cost/benefit analysis (bridge spans v. retaining walls).
 - Create visualizations to illustrate viewshed.
 - Geotechnical analysis, SUE, utility coordination.
 - Coordination with NCDOT and City Parks & Recreation Department.



Meeting Notes

- NCDOT was part of the coordination during the St. Albans Small Area Plan.
- Impacts north of I-440 should not be the focus of this task order.
- Summary of design revisions:
 - All
 - Section to match UDO where on ground level, on structure - 2' buffer/5' bikeway/6' sidewalk
 - Add floodway/floodplain data from GIS.
 - Alt 1 - extend bridge over floodplain/utilities; pull out of floodway.
 - Alt 2 - Shift slightly north to reduce impact to buildings just south of alignment.
 - Alt 3 - Sharpen curve at southern end to avoid impact.
- Next Steps
 - VHB to revise concept plans and submit to City by 5/06/22.

END OF SUMMARY



City of Raleigh Midtown Bridge over I-440 Feasibility Functional Alignments Review Meeting

Presented by
Candice Andre
Don Bryson
Tim Goins
Mark Hussey
Liz Lawes

April 26, 2022

Agenda

- Project Progress
- Functional Alignments
- Potential Impacts, Challenges & Opportunities
- Cost Estimates
- Future Considerations



Project Progress

- Site Visit – 4/01/22
- Kick-off Meeting – 4/08/22
 - Direction on concepts
 - Roundabout (minimize impacts to creek)
 - Northern crossing through buildings
 - Concept 4 with more of an S curve (minimize impacts to the undeveloped property)
- Trade-offs
 - Cost
 - Environmental impacts
 - Support/Opposition
- Develop concepts
- Potential Resource Impacts Matrix
- Additional updates?

2030 Comp Plan Update

Action AP-MT 1 I-440 Bridges

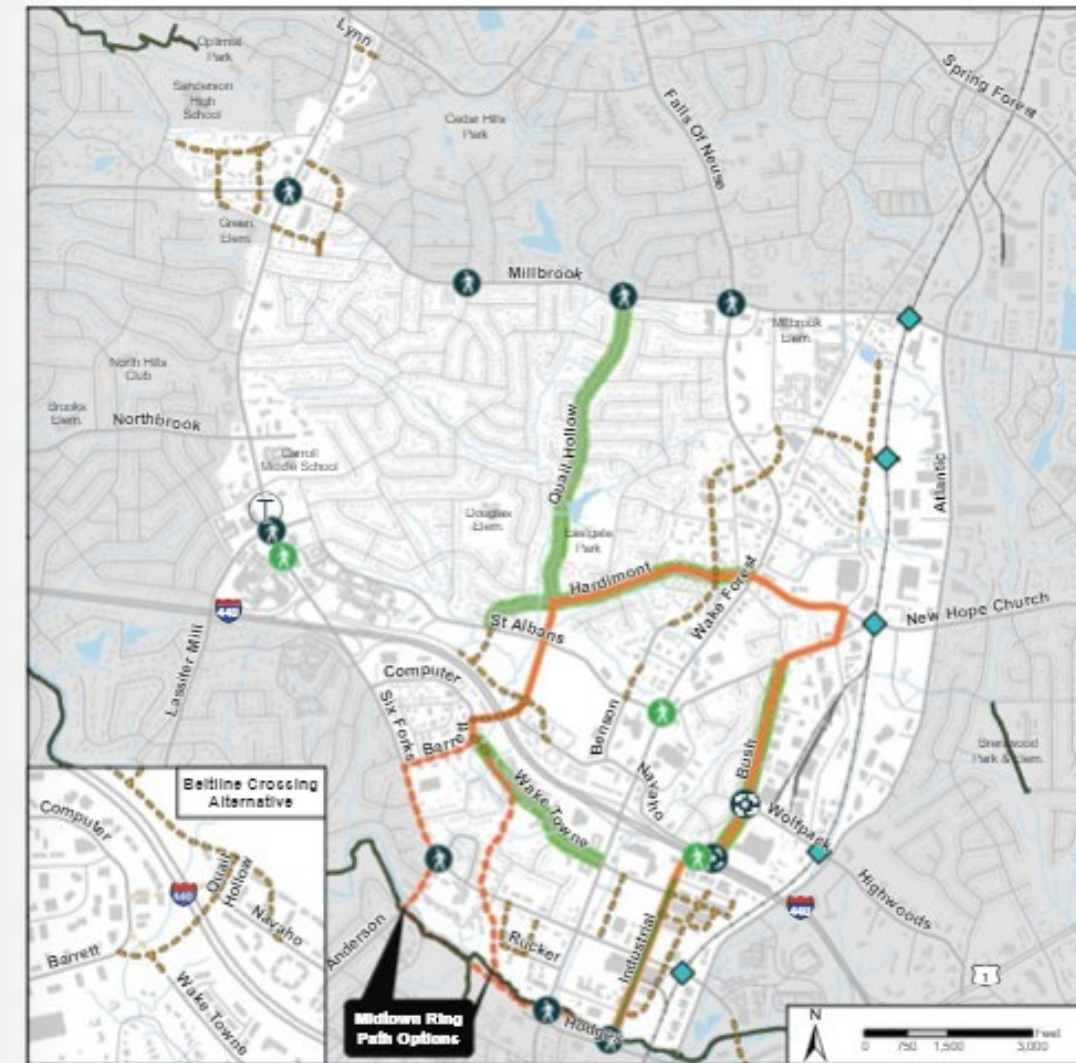
Design and construct two I-440 crossings:

1) A multimodal overpass connecting Barrett Drive or Wake Towne Drive with the southern segment of Quail Hollow Drive. The project will also connect Navaho Drive and Church at North Hills Drive with the new bridge/street connection. The exact alignment will be determined by a future study. The study will incorporate the following guidelines:

- Avoid condemnation of existing buildings and improvements;
- Avoid condemnation of existing businesses;
- Avoid multiple crossings of Big Branch Creek;
- Consider a direct connection from Wake Towne Drive to Quail Hollow Drive in lieu of a direct connection from Barrett Drive to Quail Hollow Drive, and;
- Consider an option, shown on maps AP MT 1 and AP MT 2, that meets the criteria above.

Map AP-MT2: Midtown Transportation

Adopted: 12/15/2020



- ⓧ Proposed Transit Hub
- ◆ Proposed Grade Separation
- 🚲 Proposed Pedestrian & Bike Facility
- 🌉 Proposed Pedestrian & Bike Bridge
- 🔄 Proposed Roundabout Location
- Proposed Street
- Proposed Green Streets
- Proposed "Waterfront District" Main Street*
- Proposed Midtown Ring*
- Existing Greenway Trail

*see policy guidance for specifics

Map created 1/4/2021 by the Raleigh Department of City Planning

Functional Alignments



Future Considerations



Future Considerations for Advancement

- Complete field survey, environmental study, hydraulic analysis, and further analyze traffic operations prior to advancing design of the preferred alternative.
- Determine property values of parcels affected by the proposed alternatives and coordinate with property owners as the project progresses.
- Coordinate with NCDOT to discuss impacts to I-440, including traffic control on I-440 during construction.

Discussion & Next Steps



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