

North Carolina

DEPARTMENT OF TRANSPORTATION

NCDOT Project Development Timeline

Rob Hanson, P.E.
Eastern Project Development Section Head

October 16, 2014

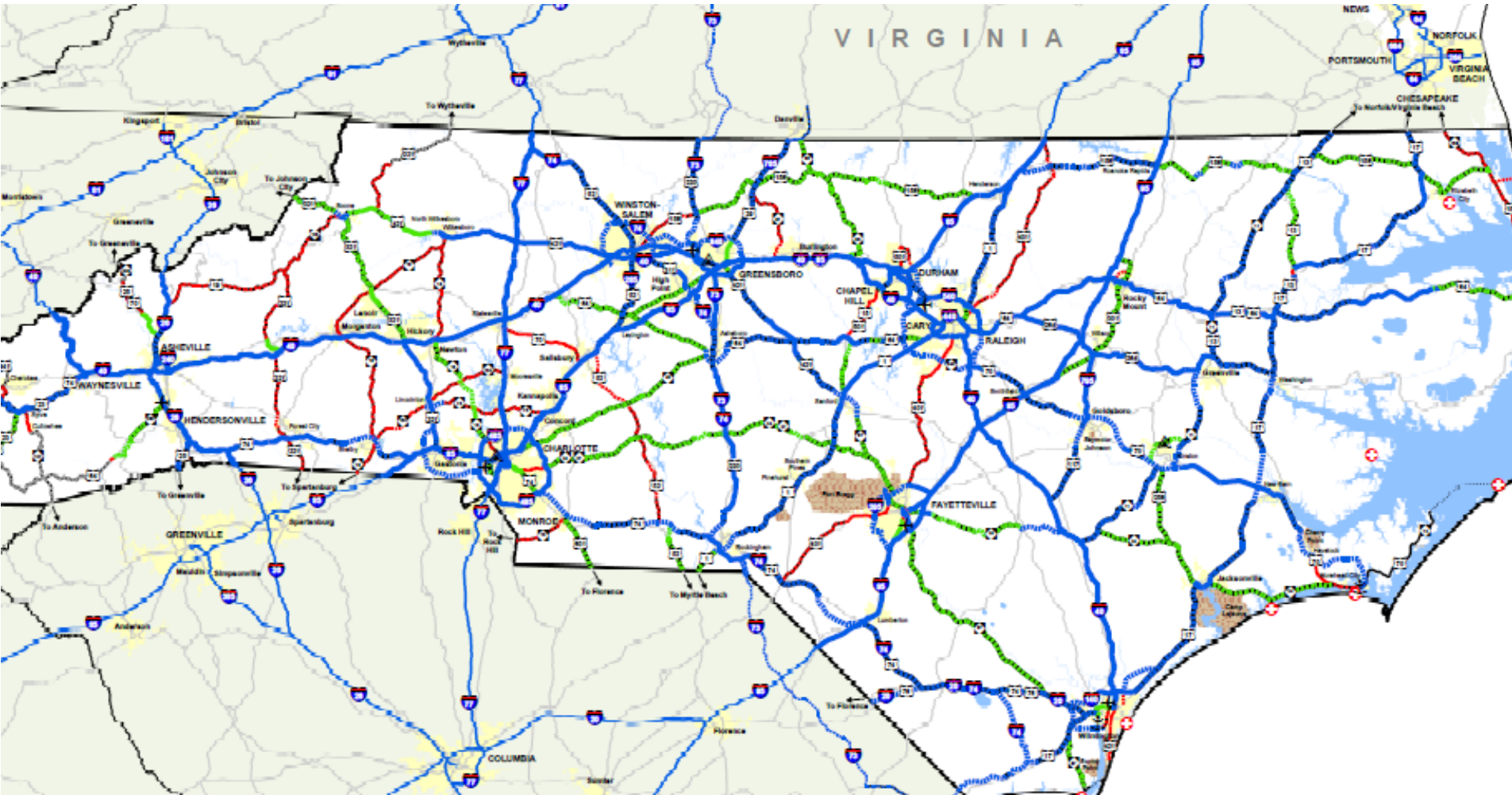
- How do concurrence points fit into the overall process?
- Why is it important to reach concurrence on schedule?
- Requests for additional information or study...How does this affect NCDOT?
- What happens between concurrence points?

- OVERALL PROCESS

- Long-Range Planning
- Programming (funding)
- NEPA/SEPA (Planning/Environmental Document)
- Design
- Right of Way
- Construction

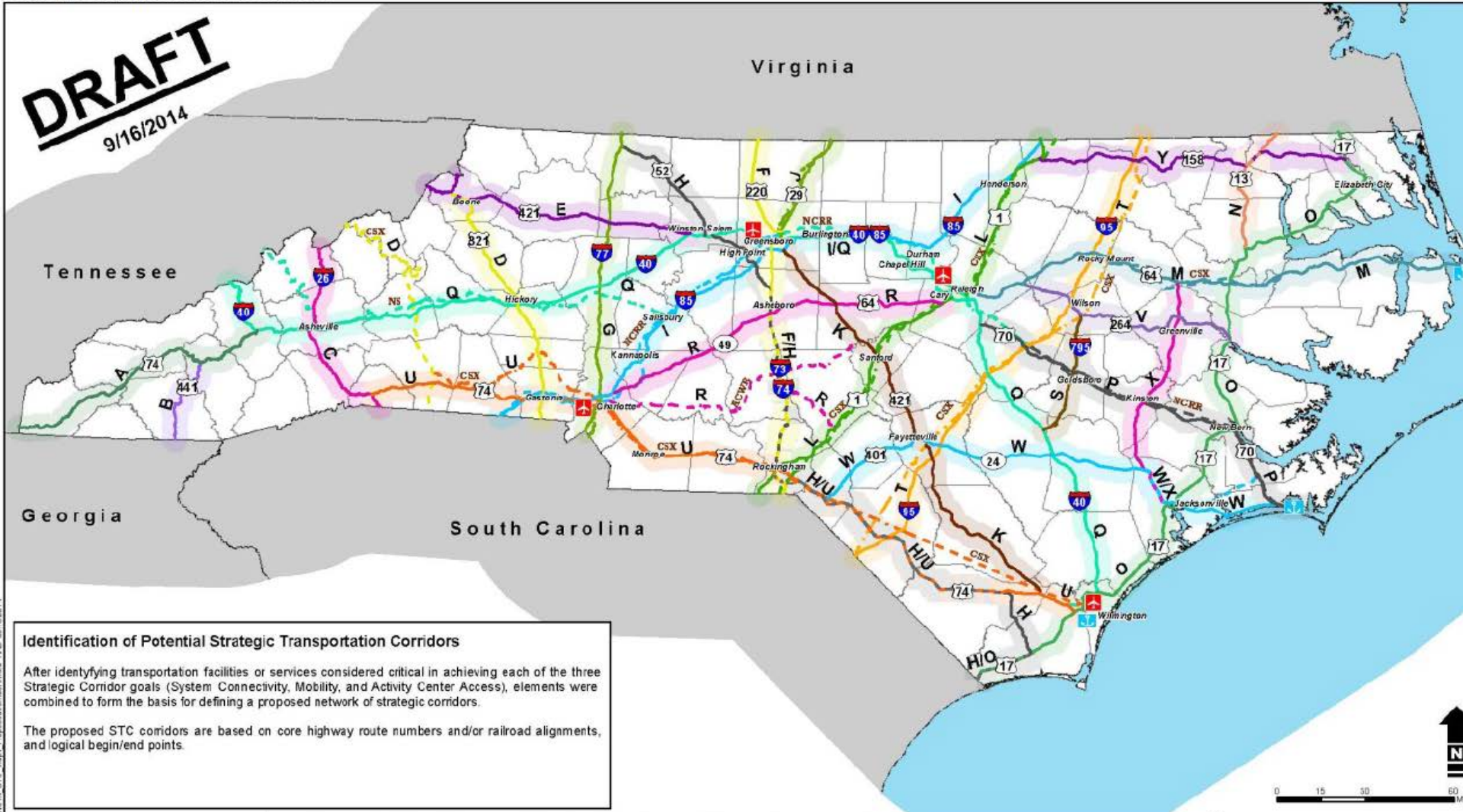
Long-Range Planning

Strategic Highway Corridors



Map 1
Strategic Transportation Corridors

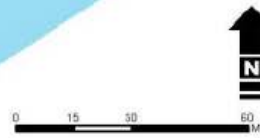
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9/16/2014

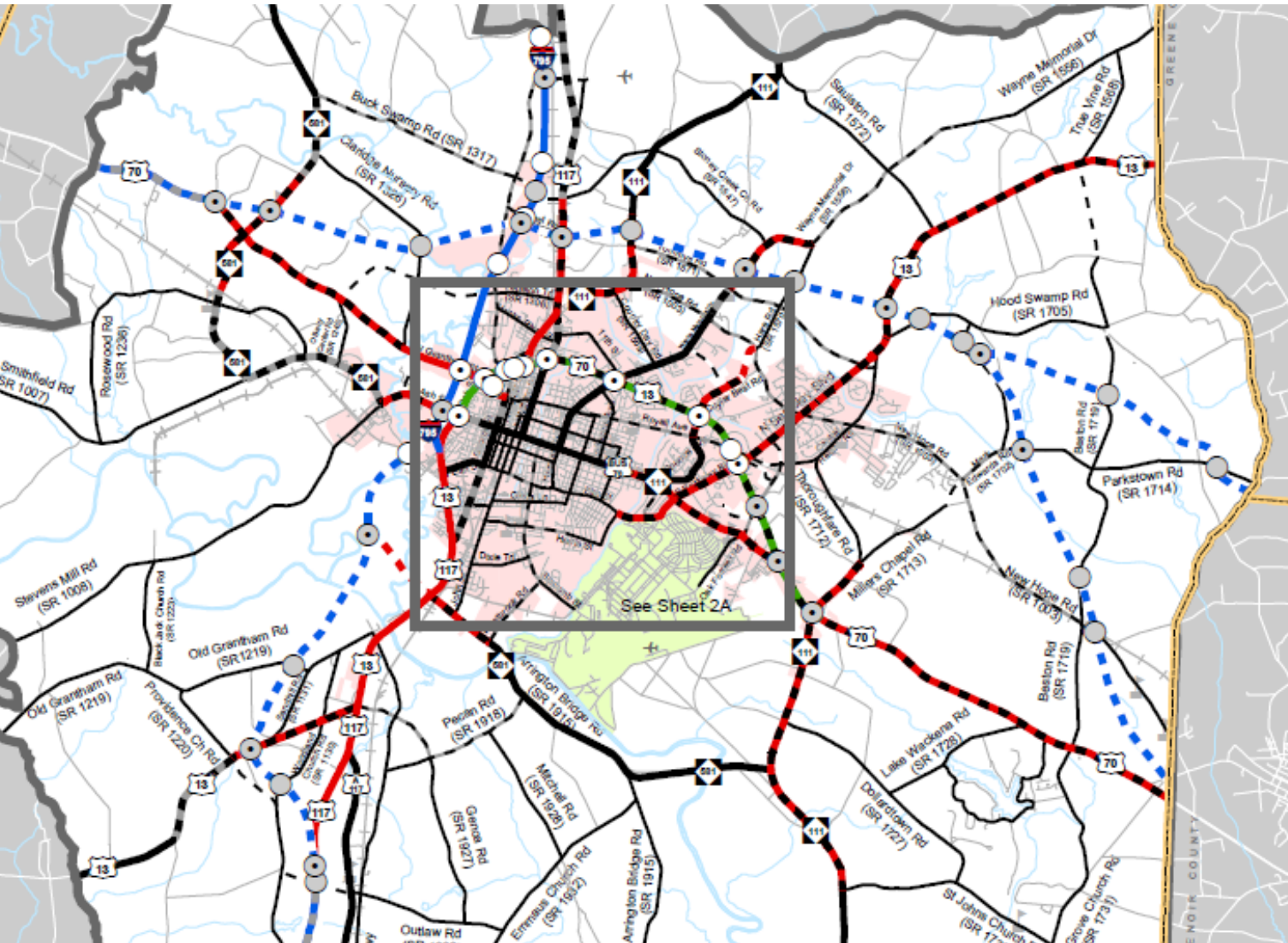


Identification of Potential Strategic Transportation Corridors

After identifying transportation facilities or services considered critical in achieving each of the three Strategic Corridor goals (System Connectivity, Mobility, and Activity Center Access), elements were combined to form the basis for defining a proposed network of strategic corridors.

The proposed STC corridors are based on core highway route numbers and/or railroad alignments, and logical begin/end points.





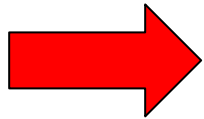
Goldsboro Metropolitan Planning Organization

Comprehensive Transportation Plan
Plan Date: August 13, 2009

- Freeways**
- Existing
 - Needs Improvement
 - Recommended
- Expressways**
- Existing
 - Needs Improvement
 - Recommended
- Boulevards**
- Existing
 - Needs Improvement
 - Recommended
- Other Major Thoroughfares**
- Existing
 - Needs Improvement
 - Recommended
- Minor Thoroughfares**
- Existing
 - Needs Improvement
 - Recommended
- Interchanges**
- Existing Interchange
 - Proposed Interchange

- Long-Range Planning
- Programming (funding)
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- Design
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- Construction

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- Design
- Right of Way
- Construction

Recommended schedule



- Scheduling
- Expectation of delivery
 - National...Congress Map-21
 - State Goals

H. R. 4348

One Hundred Twelfth Congress
of the
United States of America

AT THE SECOND SESSION

Begun and held at the City of Washington on Tuesday,
the third day of January, two thousand and twelve

An Act

To authorize funds for Federal-aid highways, highway safety programs, and transportation programs, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; ORGANIZATION OF ACT INTO DIVISIONS;
TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Moving Ahead for Progress in the 21st Century Act” or the “MAP-21”.

(b) DIVISIONS.—This Act is organized into 8 divisions as follows:

(1) Division A—Federal-aid Highways and Highway Safety Construction Programs.

(2) Division B—Public Transportation.

(3) Division C—Transportation Safety and Surface Transportation Policy.

(4) Division D—Finance.

(5) Division E—Research and Education.

(6) Division F—Miscellaneous.

(7) Division G—Surface Transportation Extension.

(8) Division H—Budgetary Effects.

(c) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title; organization of Act into divisions; table of contents.

Sec. 2. Definitions.

Sec. 3. Effective date.

DIVISION A—FEDERAL-AID HIGHWAYS AND HIGHWAY SAFETY
CONSTRUCTION PROGRAMS

TITLE I—FEDERAL-AID HIGHWAYS

Subtitle A—Authorizations and Programs

Sec. 1101. Authorization of appropriations.

Sec. 1102. Obligation ceiling.

Sec. 1103. Definitions.

Sec. 1104. National Highway System.

Sec. 1105. Apportionment.

Sec. 1106. National highway performance program.

Sec. 1107. Emergency relief.

Sec. 1108. Surface transportation program.

Sec. 1109. Workforce development.

Sec. 1110. Highway use tax evasion projects.

H. R. 4348—123

Subtitle C—Acceleration of Project
Delivery

SEC. 1301. DECLARATION OF POLICY AND PROJECT DELIVERY INITIATIVE.

(a) IN GENERAL.—It is the policy of the United States that—
(1) it is in the national interest for the Department, State departments of transportation, transit agencies, and all other recipients of Federal transportation funds—

(A) to accelerate project delivery and reduce costs; and

(B) to ensure that the planning, design, engineering, construction, and financing of transportation projects is done in an efficient and effective manner, promoting accountability for public investments and encouraging greater private sector involvement in project financing and delivery while enhancing safety and protecting the environment;

(2) delay in the delivery of transportation projects increases project costs, harms the economy of the United States, and impedes the travel of the people of the United States and the shipment of goods for the conduct of commerce; and

(3) the Secretary shall identify and promote the deployment of innovation aimed at reducing the time and money required to deliver transportation projects while enhancing safety and protecting the environment.

(b) PROJECT DELIVERY INITIATIVE.—

(1) IN GENERAL.—To advance the policy described in subsection (a), the Secretary shall carry out a project delivery initiative under this section.

(2) PURPOSES.—The purposes of the project delivery initiative shall be—

(A) to develop and advance the use of best practices to accelerate project delivery and reduce costs across all modes of transportation and expedite the deployment of technology and innovation;



















(B) to implement provisions of law designed to accel-

GOAL	EXECUTIVE PERFORMANCE MEASURE	SFY13 Target
Make our organization a place that works well	4.1 Percentage of work program STIP projects on schedule a. Percentage of centrally managed STIP projects on schedule b. Percentage of division managed STIP projects on schedule c. Percentage of municipal and locally managed STIP projects on schedule	85% or greater
	4.2 Percentage of division-managed non-STIP projects on schedule	85% or greater
	4.3 Percentage of construction projects completed on schedule	85% or greater
	4.4 Total budget overrun for completed construction projects	5% or less
	4.5 Percentage of NCDOT's total budget expended on external goods, materials and services	80.0% or greater

Make our transportation network move people and goods more efficiently	2.1 Average statewide accident clearance time	70 min. or less
	2.2 Travel time index for surveyed interstates	1.04 or less
	2.3 Percentage of planned ferry runs completed as scheduled	95.0% or greater
	2.4 Percentage of passenger trains arriving on schedule	80.0% or greater
	2.5 Percentage change in public transit ridership	+5% or greater
	2.6 Percentage change in Port Authority cargo movements (container and breakbulk cargo)	+5% or greater
GOAL	EXECUTIVE PERFORMANCE MEASURE	SFY13 Target
Make our infrastructure last longer	3.1 Percentage of bridges rated in good condition	65.0% or greater
	3.2 Percentage of pavement miles rated in good condition*	70.0% or greater
	3.3 Average highway feature condition scores (excluding pavement and bridges)*	84 or greater
	3.4 Average rest area condition scores	90 or greater
GOAL	EXECUTIVE PERFORMANCE MEASURE	SFY13 Target
Make our organization a place that works well	4.1 Percentage of work program STIP projects on schedule a. Percentage of centrally managed STIP projects on schedule b. Percentage of division managed STIP projects on schedule c. Percentage of municipal and locally managed STIP projects on schedule	85% or greater
	4.2 Percentage of division-managed non-STIP projects on schedule	85% or greater
	4.3 Percentage of construction projects completed on schedule	85% or greater
	4.4 Total budget overrun for completed construction projects	5% or less
	4.5 Percentage of NCDOT's total budget expended on external goods, materials and services	80.0% or greater
	4.6 Percentage of the overall budget for administrative costs	7.6% or less
	4.7 Percentage of the total program budget paid to minority- and women-owned businesses	10.7% or greater
	4.8 Average customer wait-time at DMV facilities that track transactions	24 min. or less
	4.9 Average statewide environmental compliance score on construction and maintenance projects	7.5 or greater
	4.10 Percentage of surveyed customers satisfied with transportation services in North Carolina*	75% or greater
GOAL	EXECUTIVE PERFORMANCE MEASURE	SFY13 Target
Make our organization a great place to work	5.1 Percentage of employees retained after three years	90% or greater
	5.2 Employee safety index	6.16 or less

Annual Funding Balance

+/-10% Variance Test

Year	2016	2017	2018	2019	2020	Total
Statewide						 Test
Regional						 Test
Division						 Test
Annual Budgets	Test	Test	Test	Test	Test	Test

- Long-Range Planning
- Programming (funding)
- NEPA/SEPA (Planning/Environmental Document)
- Design
- Right of Way
- Construction

Design

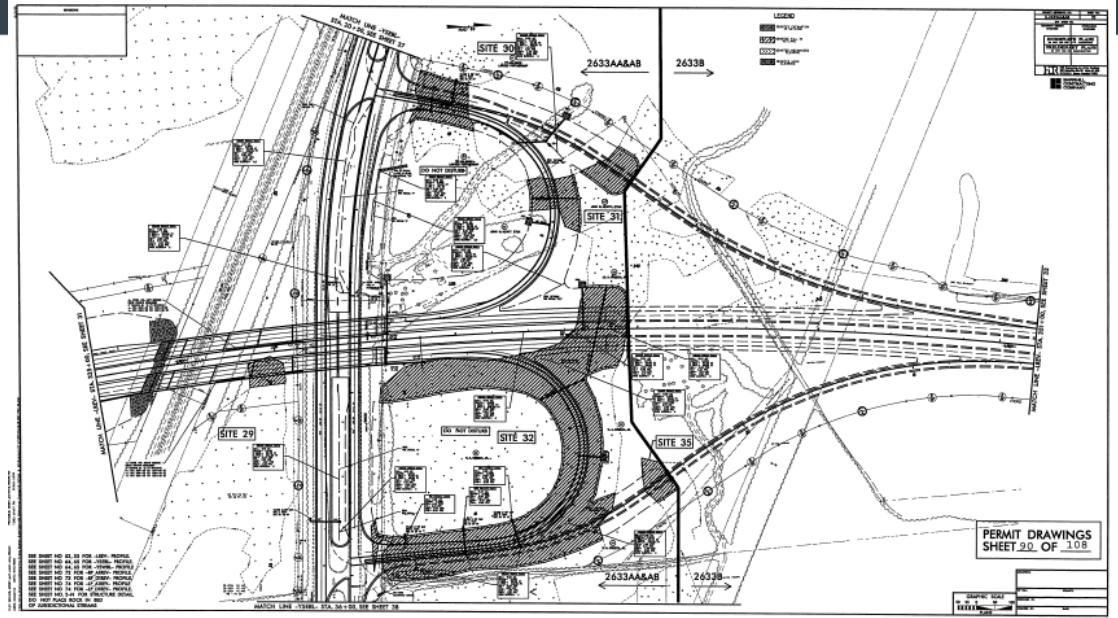
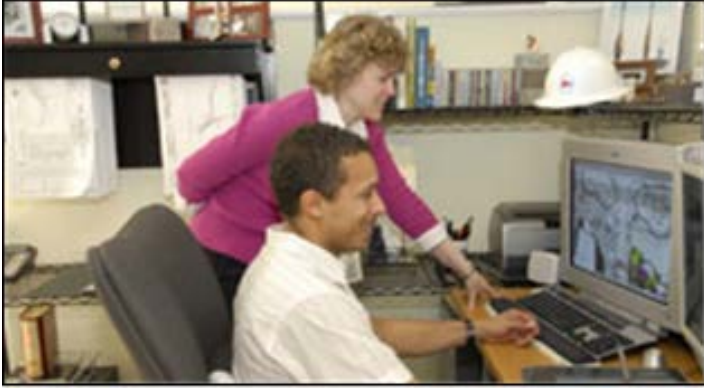
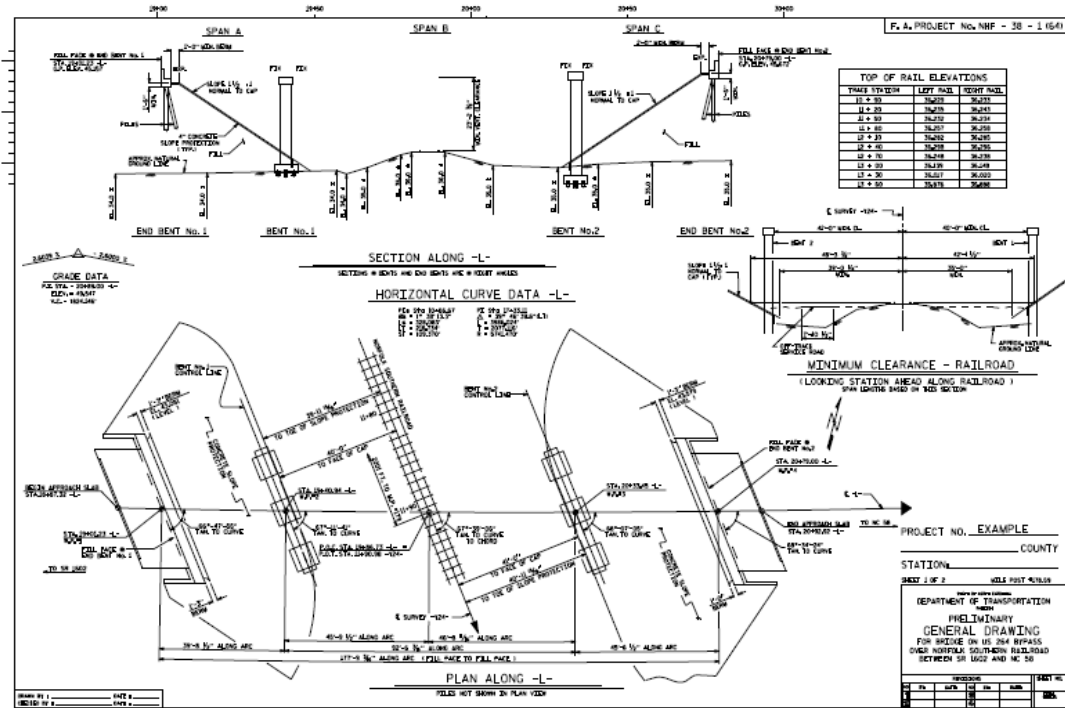


FIGURE 4 - 1

Design



PROJECT NO. EXAMPLE COUNTY

STATION _____

SHEET 2 OF 2

DEPARTMENT OF TRANSPORTATION

PRELIMINARY

GENERAL DRAWING

FOR BRIDGE ON 30' HIGH OVERPASS

OVER NORFOLK SOUTHERN RAILROAD

BETWEEN ST. 1022 AND NC 50

- Long-Range Planning
- Programming (funding)
- NEPA/SEPA (Planning/Environmental Document)
- Design
- Right of Way
- Construction

Right of Way



Right of Way Acquisitions

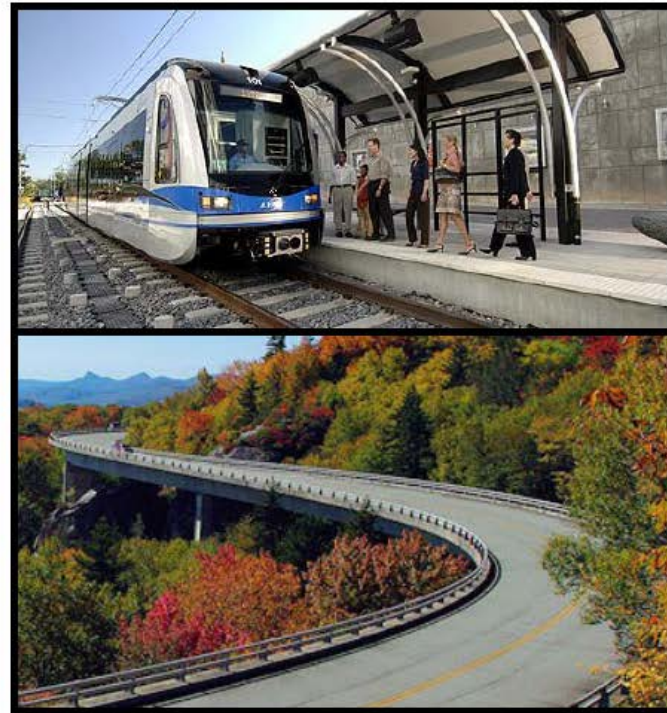


North Carolina Department of Transportation
Division of Highways

Right of Way



The Real Estate Acquisition Process Brochure



North Carolina Department of Transportation
Division of Highways

Right of Way

- Long-Range Planning
- Programming (funding)
- NEPA/SEPA (Planning/Environmental Document)
- Design
- Right of Way
- Construction

Construction



- Long-Range Planning
- Programming (funding)
- NEPA/SEPA (Planning/Environmental Document)
- Design
- Right of Way
- Construction

- How do concurrence points fit in the process?

- NEPA/SEPA
(Planning/Environmental
Document)



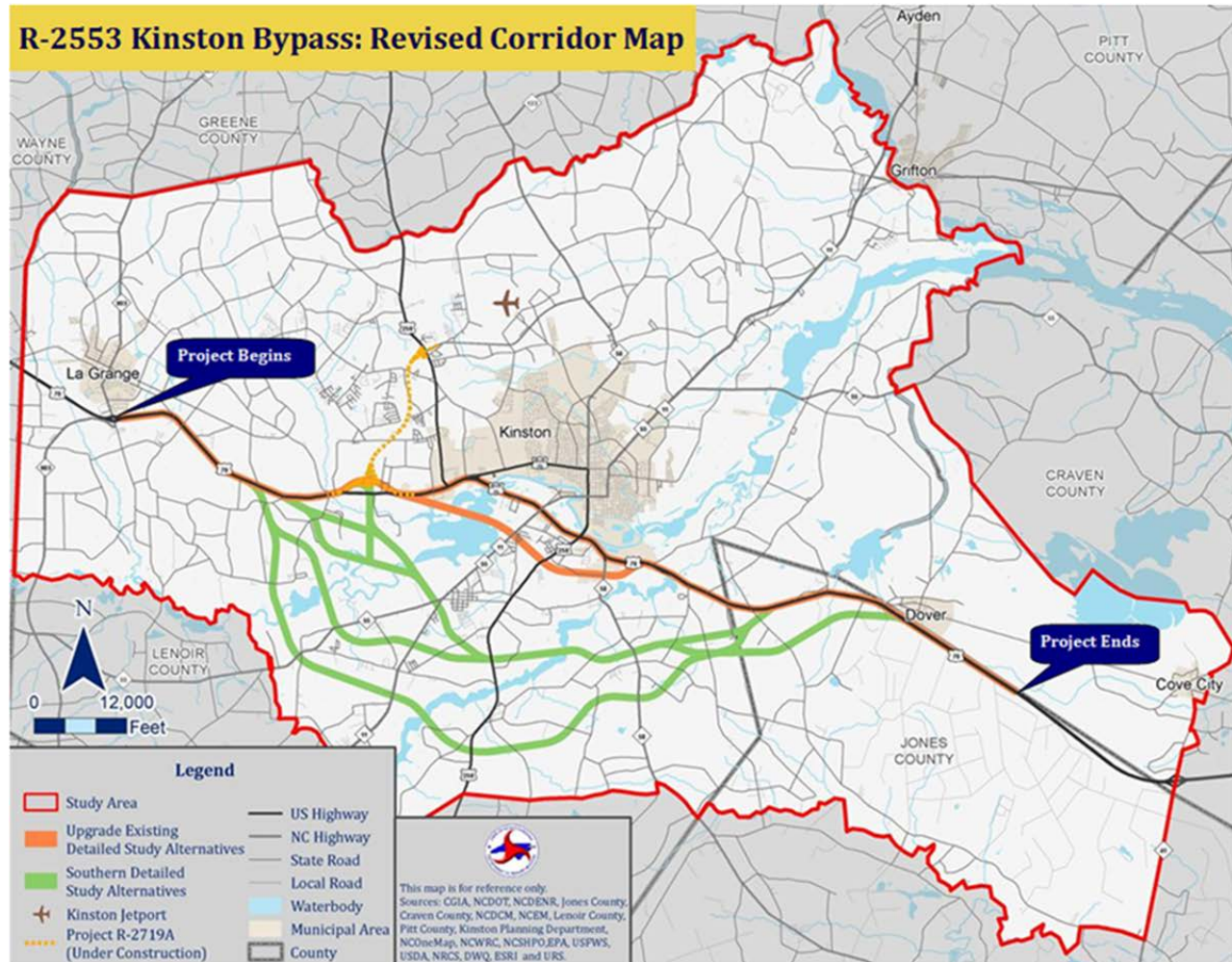




- Concurrence Point #1: Purpose and Need
- Concurrence Point #2: Alternatives to be studied
- Concurrence Point #2A: Bridging decisions
- Concurrence Point #3: Least Environmentally Damaging Practicable Alternative (LEDPA)
- Concurrence Point #4: Avoidance and Minimization
 - 4A: Alignment
 - 4B: 30% Hydraulic Design
 - 4C: Permit Drawing

New Location

CP 3 = R/W delivery (surveys can begin)



New Location

CP 3 = R/W delivery (surveys can begin)

New Location

CP 3 = R/W delivery (surveys can begin)

CP 1

CP 2

CP 2A

New Location

CP 3 = R/W delivery (surveys can begin)

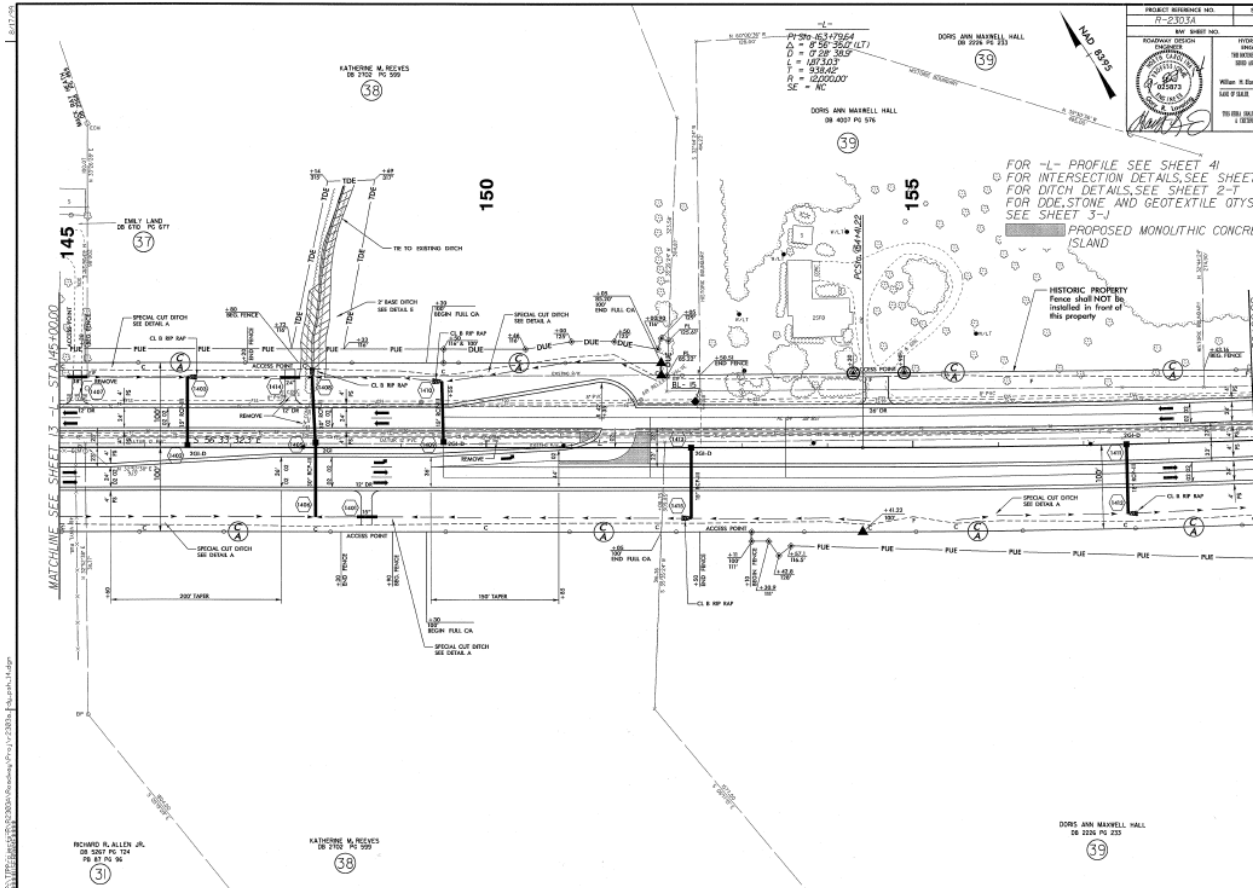
CP 1

CP 2

CP 2A

Widening & New Location

CP 4A & 4B = R/W delivery



New Location

CP 3 = R/W delivery (surveys can begin)

CP 1

CP 2

CP 2A

Widening & New Location

CP 4A = R/W delivery

New Location

CP 3 = R/W delivery (surveys can begin)

CP 1

CP 2

CP 2A

Widening & New Location

CP 4A = R/W delivery

CP 1

CP 2

CP 2A

CP 3

New Location

CP 3 = R/W delivery (surveys can begin)

CP 1

CP 2

CP 2A

Widening & New Location

CP 4A = R/W delivery

CP 1


CP 2

CP 2A

CP 3

Widening & New Location

Final Document = R/W delivery


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

October 7, 2014

MEMORANDUM


TO: FILE

RE: WBS No. 45450.1.1, B-5417, Dare County
F. A. Project BRZ-0154(3)
Bridge No. 17 on South Dogwood Trail over Snow Goose Canal,
Town of Southern Shores (Municipal Bridge)

SUBJECT: LOCATION AND DESIGN APPROVAL

The project calls for replacing the bridge with a bridge on the existing location. The proposed bridge typical will provide for two 11-foot travel lanes, a 2-foot 11-inch offset on the west side and a 5-foot 8.5-inch offset (5-foot multi-use bicycle and pedestrian path) on the east side. The approaches consist of 11-foot travel lanes with a 2-foot shoulder on the west side and a 5-foot full-depth paved shoulder (multi-use path) on the east side. During construction, traffic will be maintained off-site using local roads. There are no anticipated design exceptions. The Programmatic Categorical Exclusion (PCE) was approved on September 11, 2013. Newsletters were mailed to property owners and a public meeting was held in June 2013.

The project is approved. All branches and/or units are authorized to complete the necessary preliminary engineering and environmental requirements for letting the project to contract. Right of way acquisition may begin upon authorization by Project Management.

 10-13-2014
Deborah M. Barbour, PE Date
Director of Preconstruction

DMB: ejf

cc: R. A. Joyner, PE J. D. Jennings, PE
J. K. Lacy, PE C. K. Haire, PE
S. P. Grimes R. P. Hanson, PE
D. A. Rhodes

MAILING ADDRESS: TELEPHONE: 919-707-2540 LOCATION:
NC DEPARTMENT OF TRANSPORTATION
DIRECTOR OF PRECONSTRUCTION FAX: 919-733-9428 TRANSPORTATION BUILDING
1538 MA, SERVICE CENTER 1 SOUTH WILKINSON STREET
RALEIGH, NC 27699-1538 WEBSITE: WWW.NCDOT.GOV RALEIGH, NC

New Location

CP 3 = R/W delivery (surveys can begin)

CP 1

CP 2

CP 2A

Widening & New Location

CP 4A = R/W delivery

CP 1

CP 2

CP 2A

CP 3

Widening & New Location

Final Document = R/W delivery

CP 1

CP 2

CP 2A

CP 3

New Location

CP 3 = R/W delivery (surveys can begin)

CP 1

CP 2

CP 2A

Widening & New Location

CP 4A = R/W delivery

CP 1

CP 2

CP 2A

CP 3

Widening & New Location

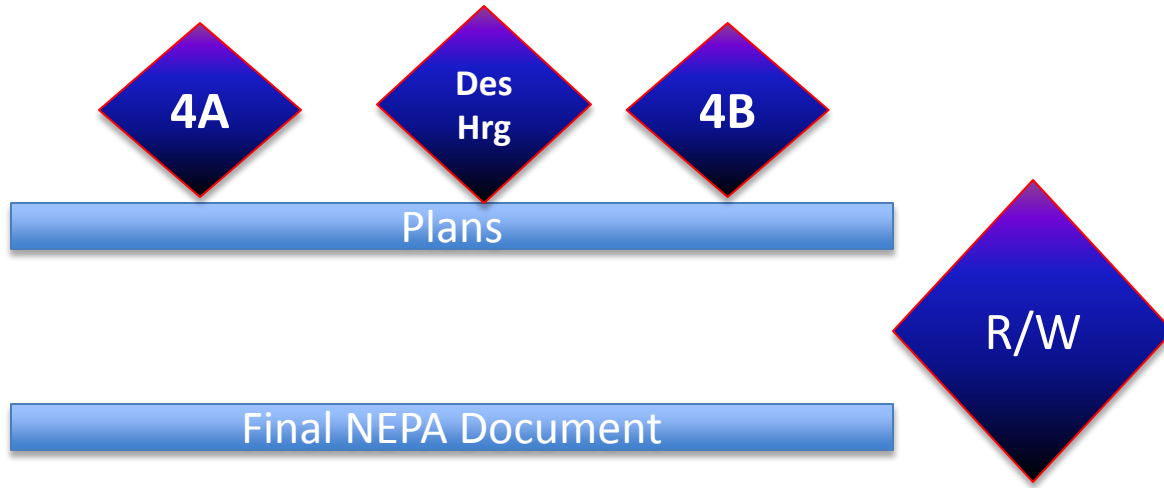
Final Document = R/W delivery

CP 1

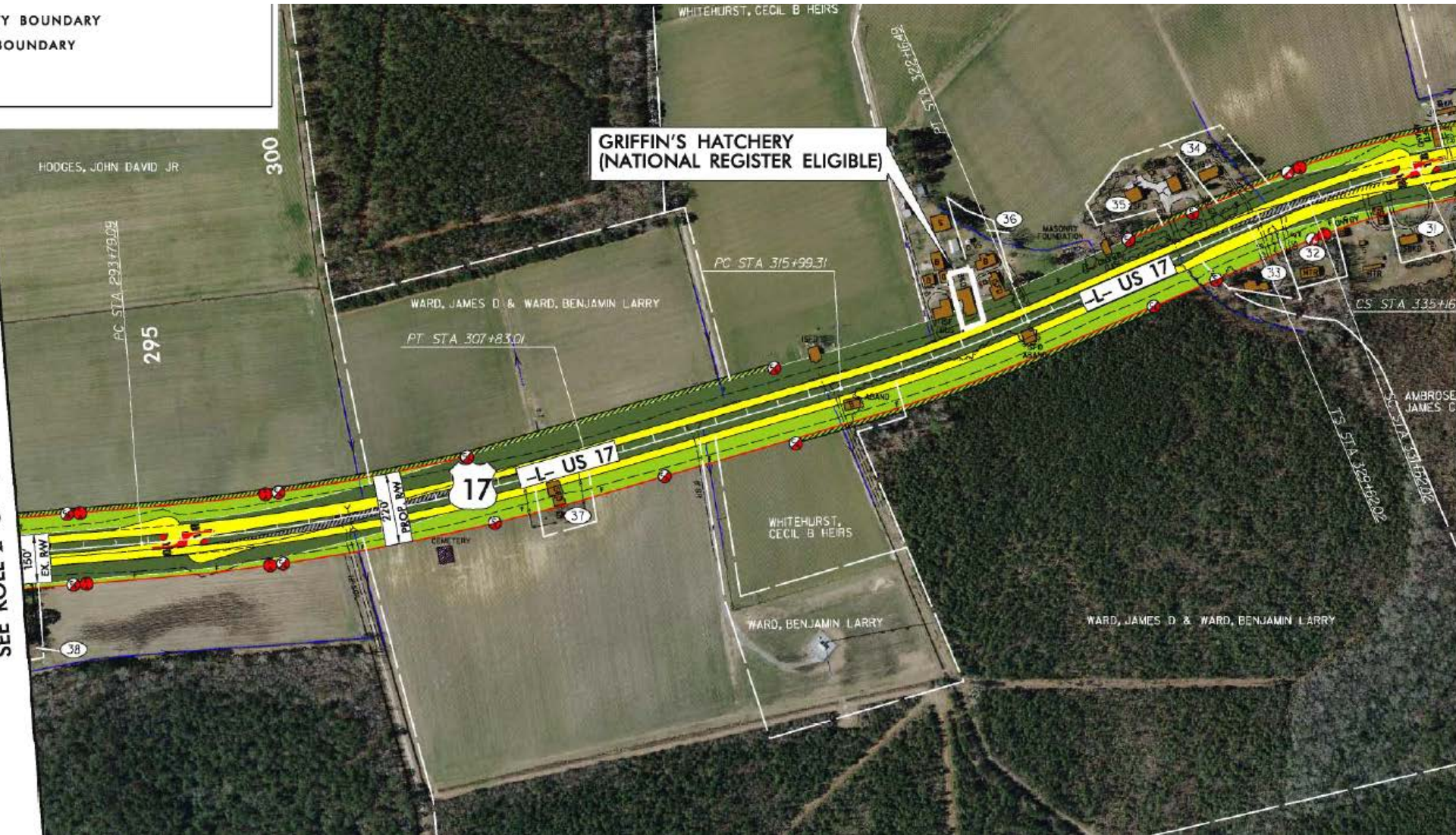
CP 2

CP 2A

CP 3



PROPERTY BOUNDARY
BOUNDARY



SEE ROLL 2

Widening & New Location Permit = Letting delivery

c. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

E. P. Lusk for Gregory J. Thayer, PhD Feb 28, 2011
(PERMITEE) NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

S. Kenneth Jolley 3-1-11
(DISTRICT ENGINEER) JEFFERSON M. RYSCAVAGE, COLONEL (DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFERE) (DATE)

Widening & New Location

Permit = Letting delivery

CP 1

CP 2

CP 2A

CP 3

CP 4A

CP 4B

CP 4C



- Requests for additional information or study...How does this affect NCDOT?
- What happens between concurrence points?



Merger Process Guide

Learn about this process and how it helps project development.

Home ▶ Resources ▶ Environmental ▶ Merger Process Guide

[Introduction to the Merger Process](#) **Process Information** [Roles & Responsibilities](#) [Training](#)

[Section 404 NEPA Merger Process Information](#)

[SAFETEA-LU Revisions to Merger Process](#)

[Memorandum of Understanding](#)

[Screening Process](#)

[Process I - Projects on New Location](#)

[Process I Map](#)

[Process II - Widening](#)

[Process II Map](#)

[Process III - Bridge Replacements](#)

[Process III Map](#)

[Merger Project Team Meeting Information](#)

[NOAA and DMF Counties](#)

[Conflict Resolution Guidelines](#)



Featured Downloads

[PDEA Merger Meeting Map](#)

2014-10-07 11:15:49



[Merger Meeting Packets](#)

2014-10-06 16:46:03



Merger Process Resources

[Merger Process Acronyms](#)

Common acronyms used in the Merger process.

[Merger Process Glossary](#)

Terms and definitions used in the Merger process.

[Merger Process Laws](#)

Legal information related to the Merger Process.

Agenda Archives

PDEA should coordinate with the Roadway Design Unit, Utilities Section, Traffic Engineering (Congestion Management), the Division, and FHWA to determine design options that meet the purpose of the project. Design options can include typical section options (number of lanes, curb and gutter, shoulder, median section, or 5 lane, etc.) and hydraulic structure requirements (bridge or culvert and length of bridge).

13. Concurrence Point 2 – Design Options for Detailed Study

The intent of the Concurrence Point 2 meeting is to obtain consensus from the Project Team on which design options will be fully evaluated as alternatives, including the "no build" alternative, in the Environmental Assessment. Any public comment on the range of alternatives to be considered would be shared with the Project Team at this time. The alternatives selected must meet the Purpose and Need of the project, with the exception of the "no build" alternative. If possible, the Concurrence Point 2 meeting will be held at the same time as the Concurrence Point 1 meeting. Design options to consider include typical sections, hydraulic structures, potential utility impacts, and widening scenarios.

Typical Section: The typical section components (number of lanes, lane width, and shoulder treatment) should address the facility deficiencies as stated in the Purpose and Need of the project. At the Concurrence Point 2 meeting, NCDOT will present the typical section which best addresses the Purpose and Need of the project. NCDOT should present information supporting the typical section recommendation such as capacity analyses, AASHTO design standards, bicycle and pedestrian needs, local government recommendations, utility accommodations, development and environmental constraints, and traffic flow/access concerns.

After viewing the proposed typical section and supporting information, the team will decide if additional typical section alternatives need to be studied and compared at Concurrence Point 2A.

Widening Scenarios: At the Concurrence Point 2 meeting, team members should provide guidance to NCDOT to aid in preparing a widening scenario which would minimize impacts to the human and natural environment. The team should also decide if alternative widening scenarios should be developed due to environmental conflicts existing on both sides of the road. Based on information received at this meeting, NCDOT will develop the designs for the widening alternatives identified by the team to present at the Concurrence Point 2A meeting for review and possible further refinement.

Hydraulic Structures: Based on available information, any potential need for special bridging accommodations should be discussed at Concurrence Point 2. The final bridging decisions will be made at Concurrence Point 2A. If there is a discrepancy concerning the type of hydraulic structure to carry forward at the Concurrence Point 2 meeting, NCDOT will prepare alternatives to be reviewed at Concurrence Point 2A.

Information which should be presented at the Concurrence Point 2 meeting includes: the environmental features map, environmental input obtained from the Offices of Human and Natural Environment (requested in Step 6), local government comments, public comments, traffic flow/access concerns, safety concerns, and preliminary mapping. Delineated wetlands and streams will be included on the environmental features map.

Concurrence Point 1

Purpose and Need

- Capacity
- Safety
- Economic Development
- Truck Traffic
- Strategic Corridors
- Hurricane Evac.

Includes Study Area

Concurrence Point 1

Purpose and Need

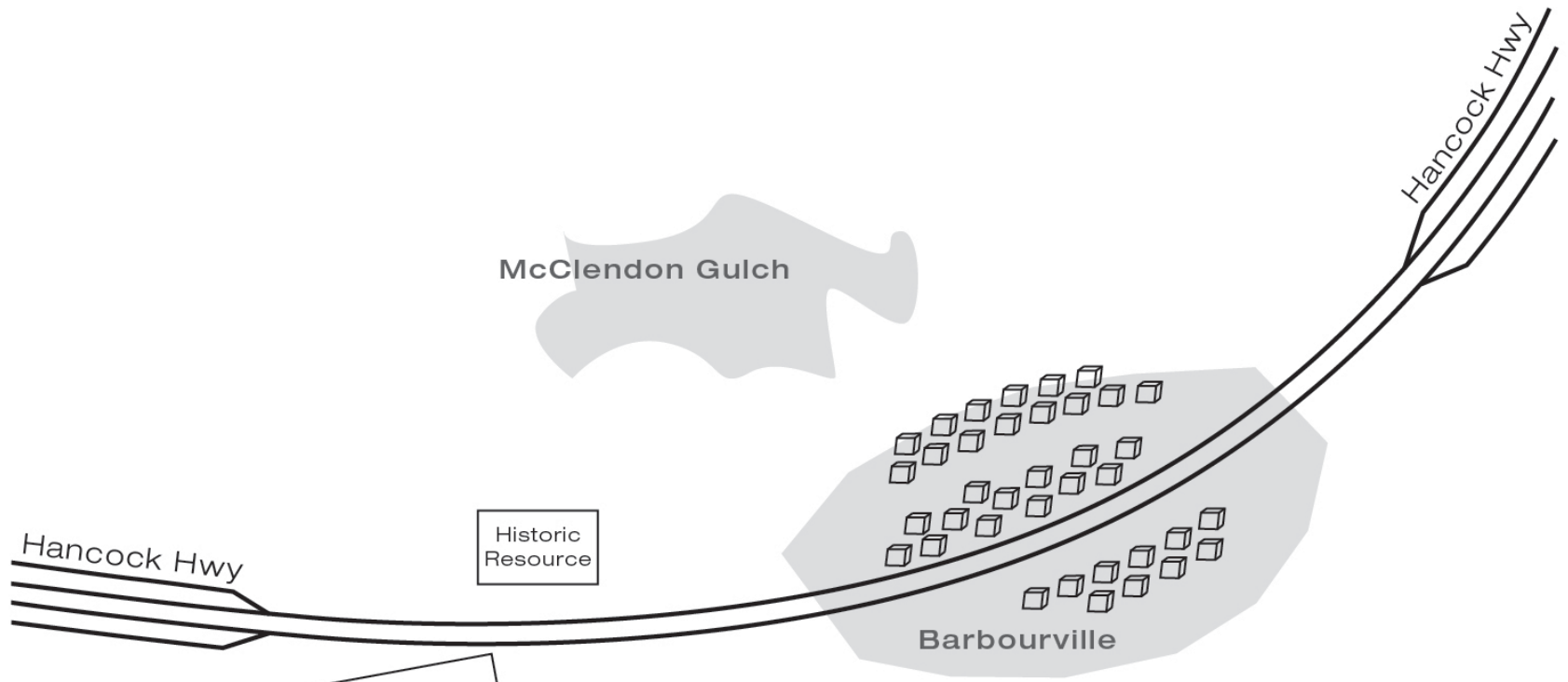
- Capacity
 - Traffic projections
- Safety
 - 3-year accident analysis, review of statistical data
- Economic Development
 - Local government and industry data
- Truck Traffic
 - Traffic projections
 - Local government data
- Strategic Corridors
 - Basis for designation
 - Comprehensive Transportation Plan
- Hurricane Evac.
 - Hurricane evacuation model
- Mobility/Travel Time
 - Delay, queue lengths

Concurrence Point 1

Purpose and Need

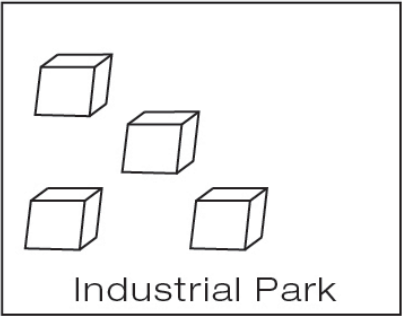
Other prep:

- Aerial base map with proposed study area
- Internal Scoping/External Scoping
- For EIS – Public involvement



Subdivision

Historic Resource



- Capacity
- Safety
- Economic Development
- Truck Traffic
- Strategic Corridor
- Hurricane Evac

Concurrence Point 2

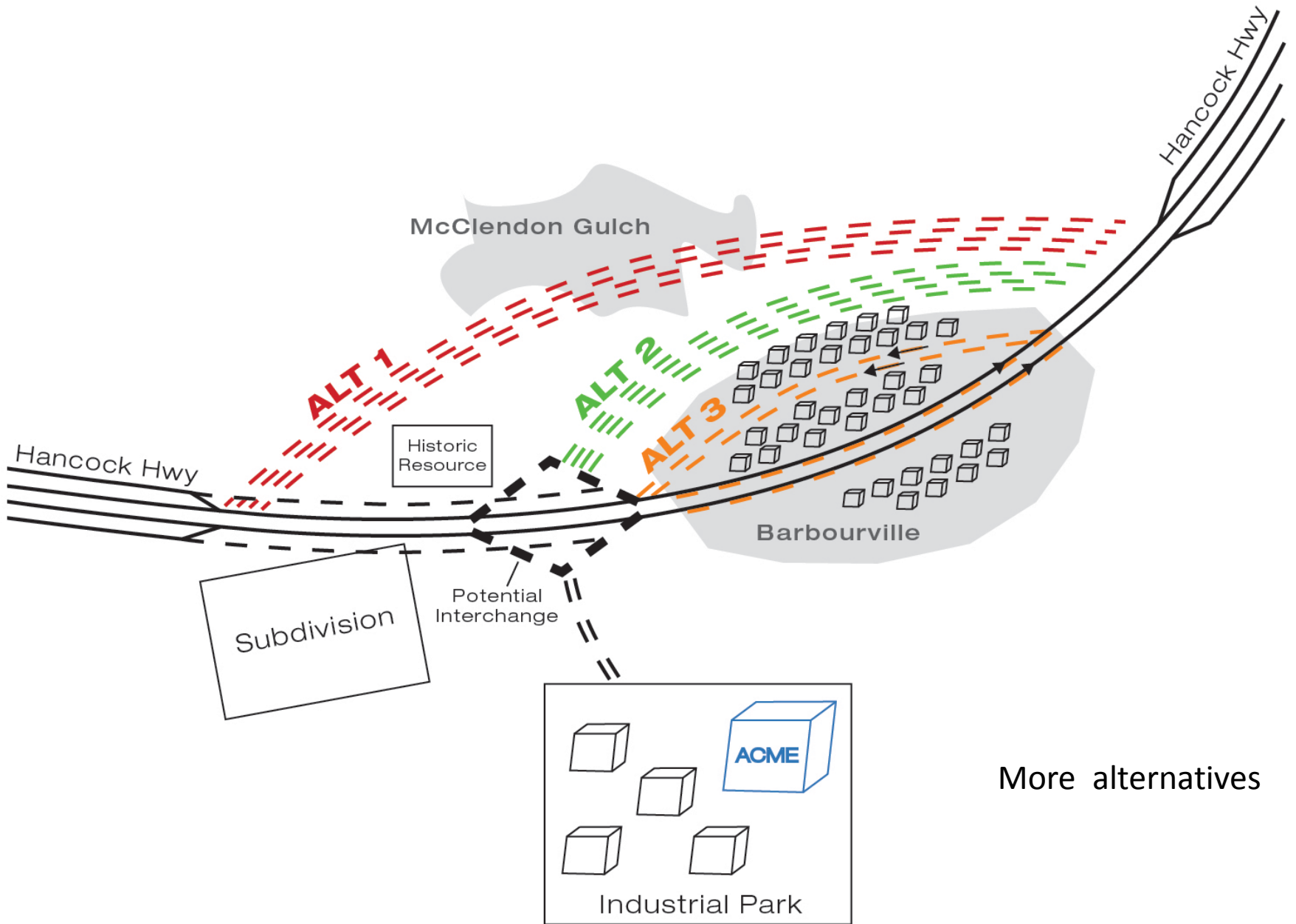
Concurrence Point 2 - Preparation

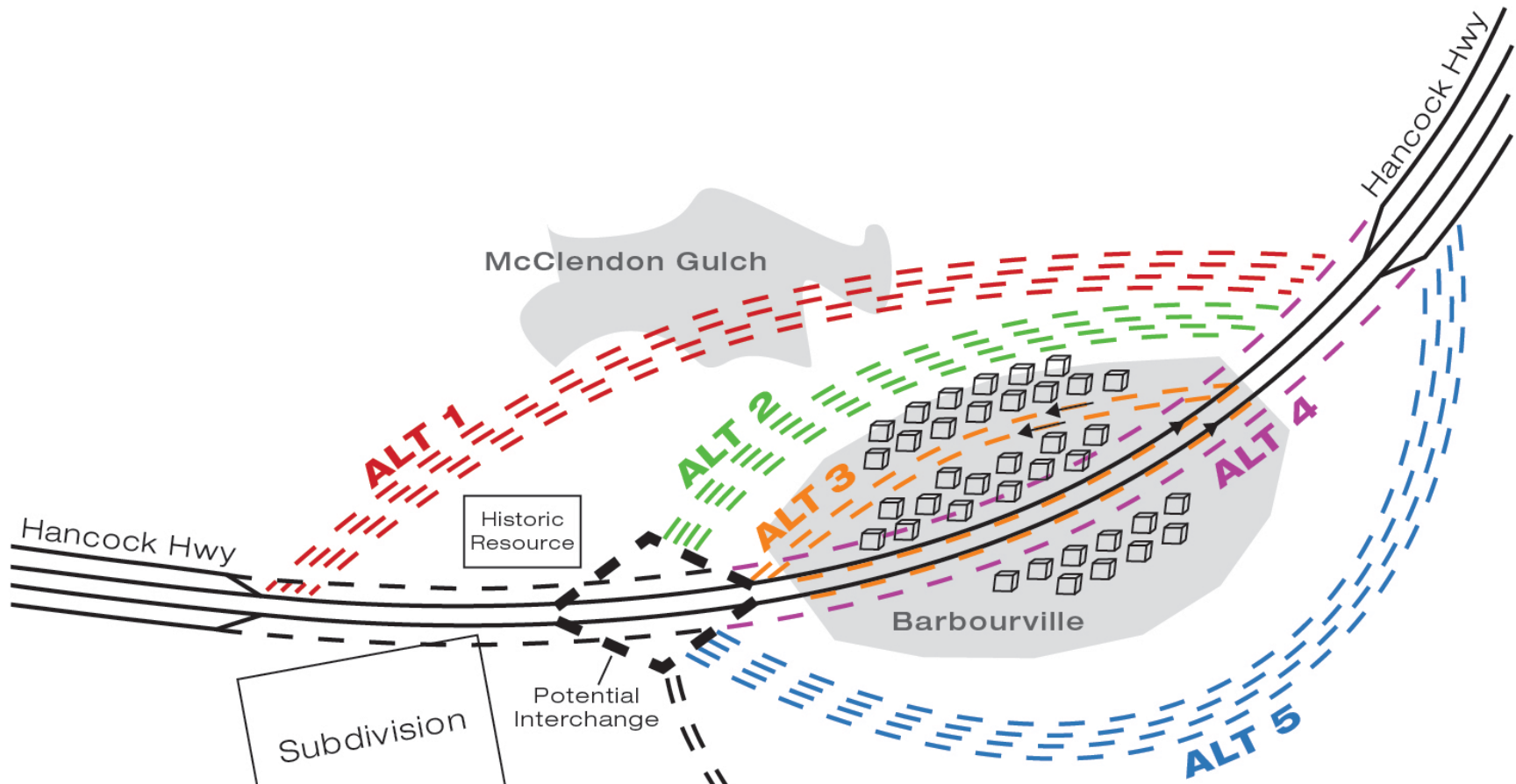
New Location

- GIS level environmental data
- Review of modal options
- Functional alignments/costs – computer modeling
- Public Involvement

Widening

- Environmental field info
- Prelim. Design
- Capacity analysis
- Public Involvement

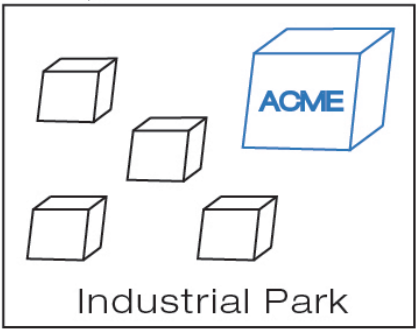




Subdivision

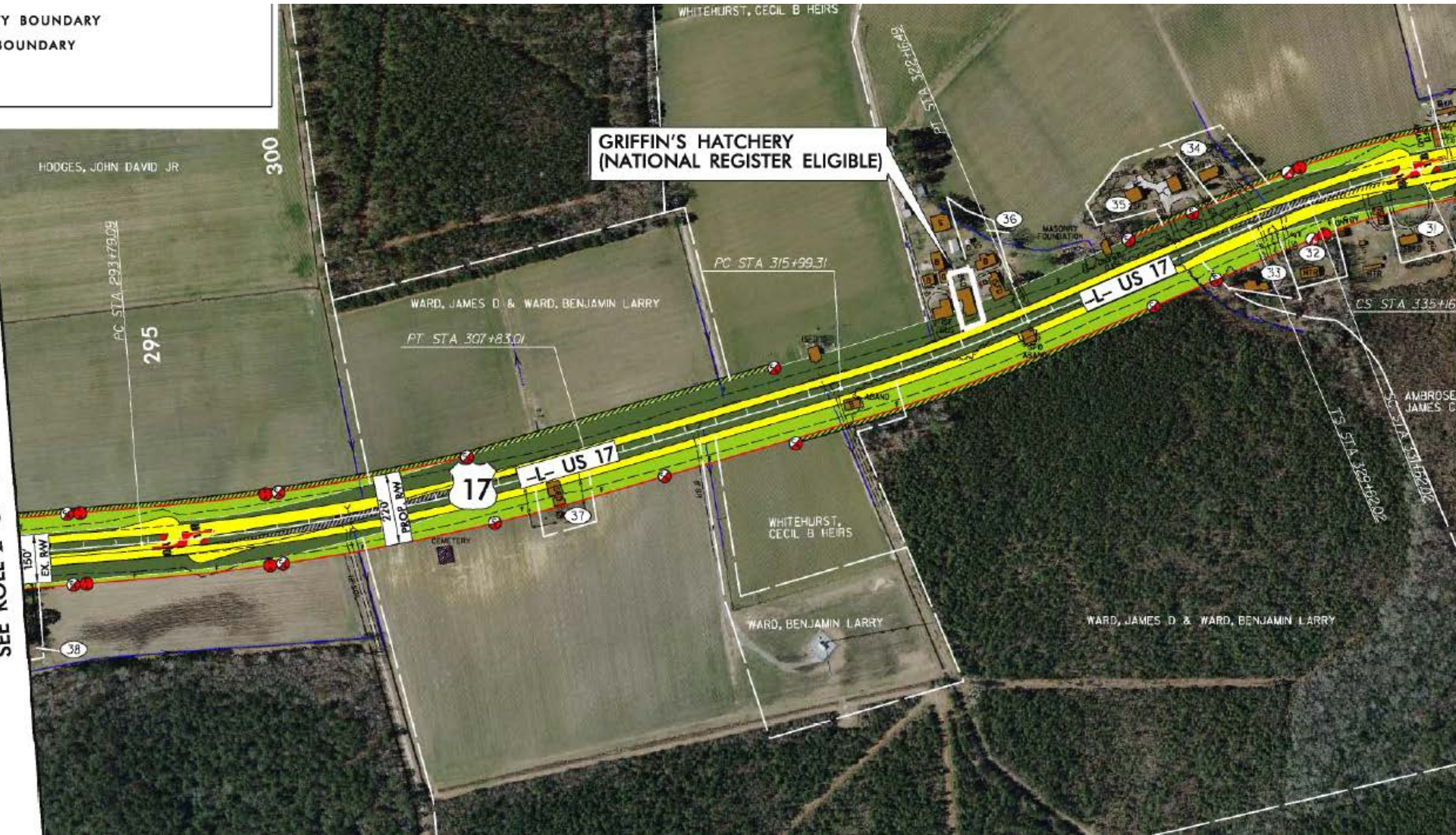
Historic Resource

Potential Interchange



- # of alternatives
- Widening , New location
- Public reaction
- Add'l design, cost estimates
- envir. Review/impacts calcs

PROPERTY BOUNDARY
BOUNDARY



SEE ROLL 2





Concurrence Point 2A: Bridging Decisions

Concurrence Point 2A: Prep

Prelim. design completed

Wetlands delineated

Hydraulic analysis completed for structures

Cost estimates

Historic eligibility determined

Protected species reviews conducted

Community impact assessment completed

Eliminate certain alternates?

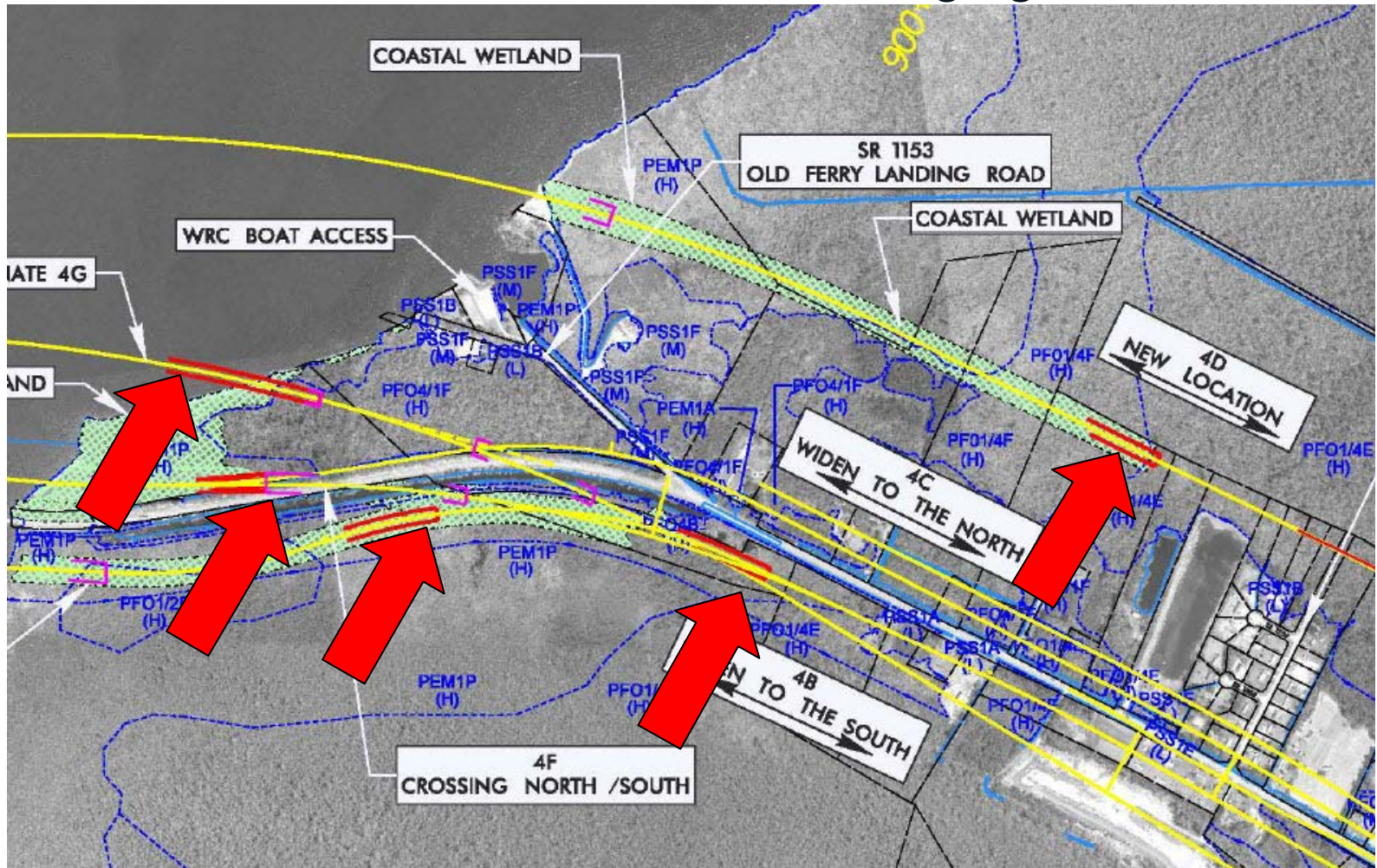
New Location

- Build condition traffic projections/capacity analysis

Meeting planning

- Field meeting, possible office meeting to follow

Concurrence Point 2A: Bridging Decisions

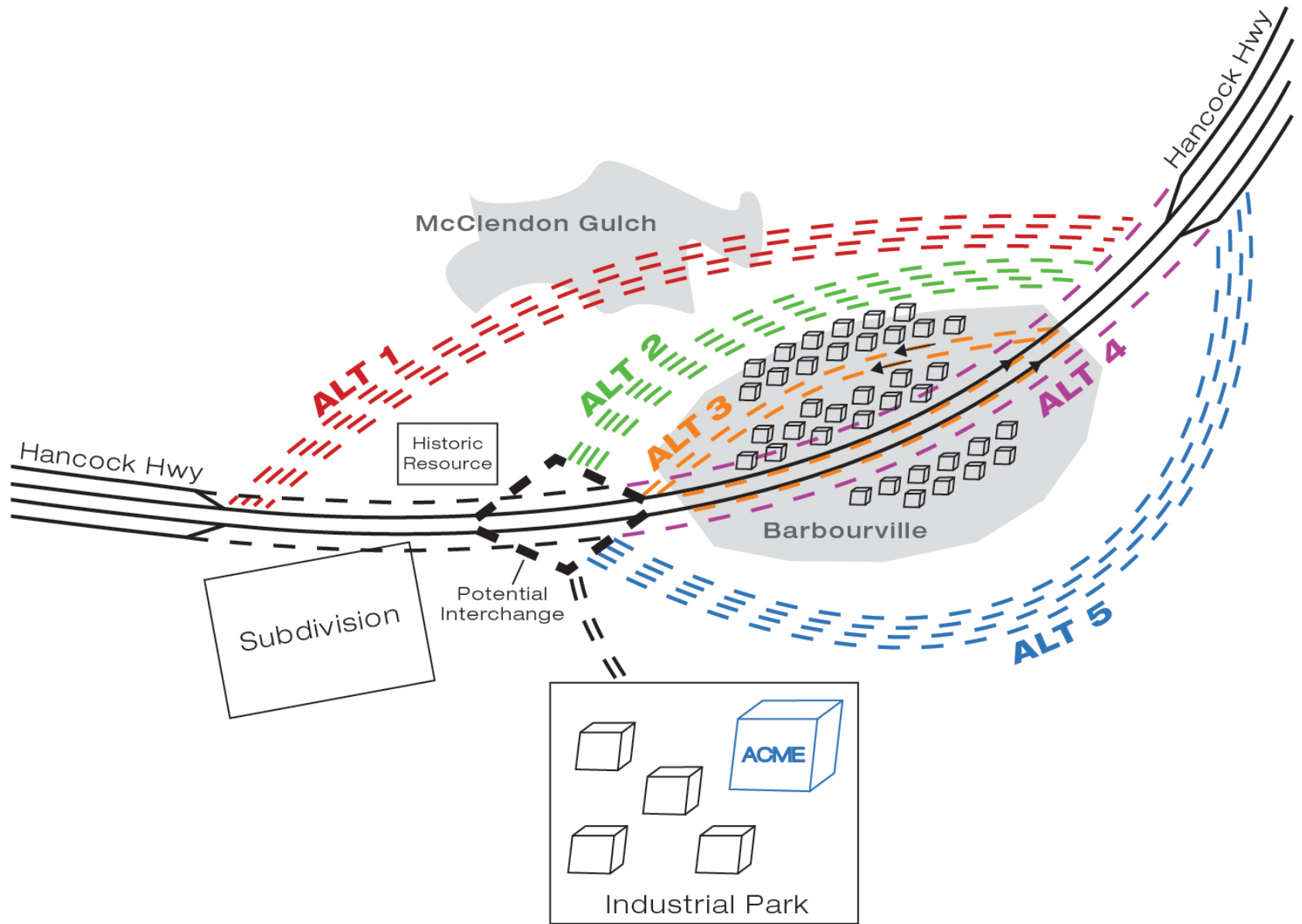


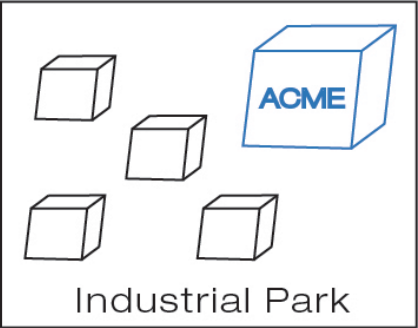
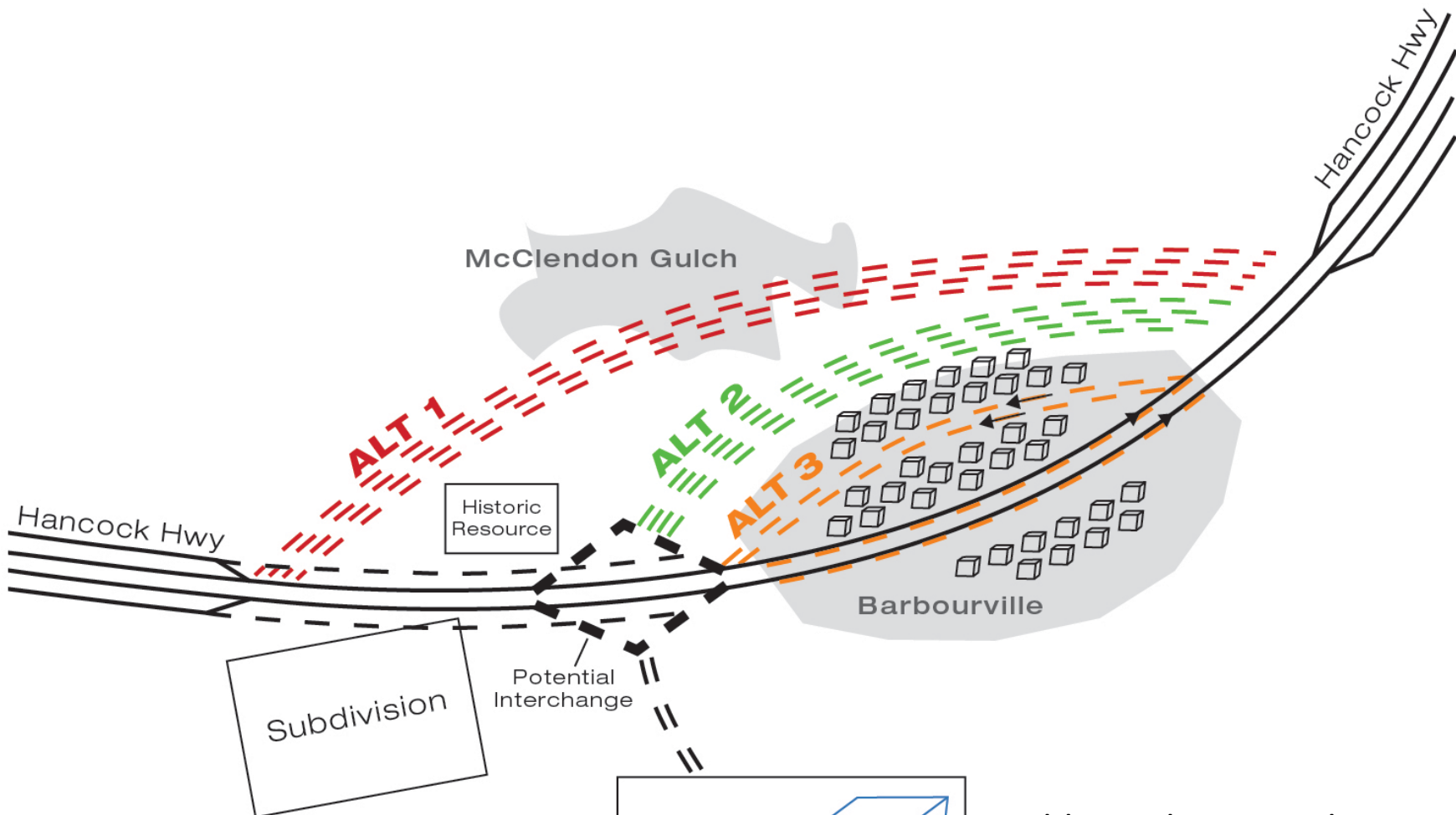










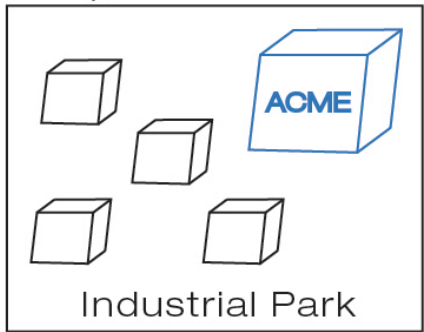
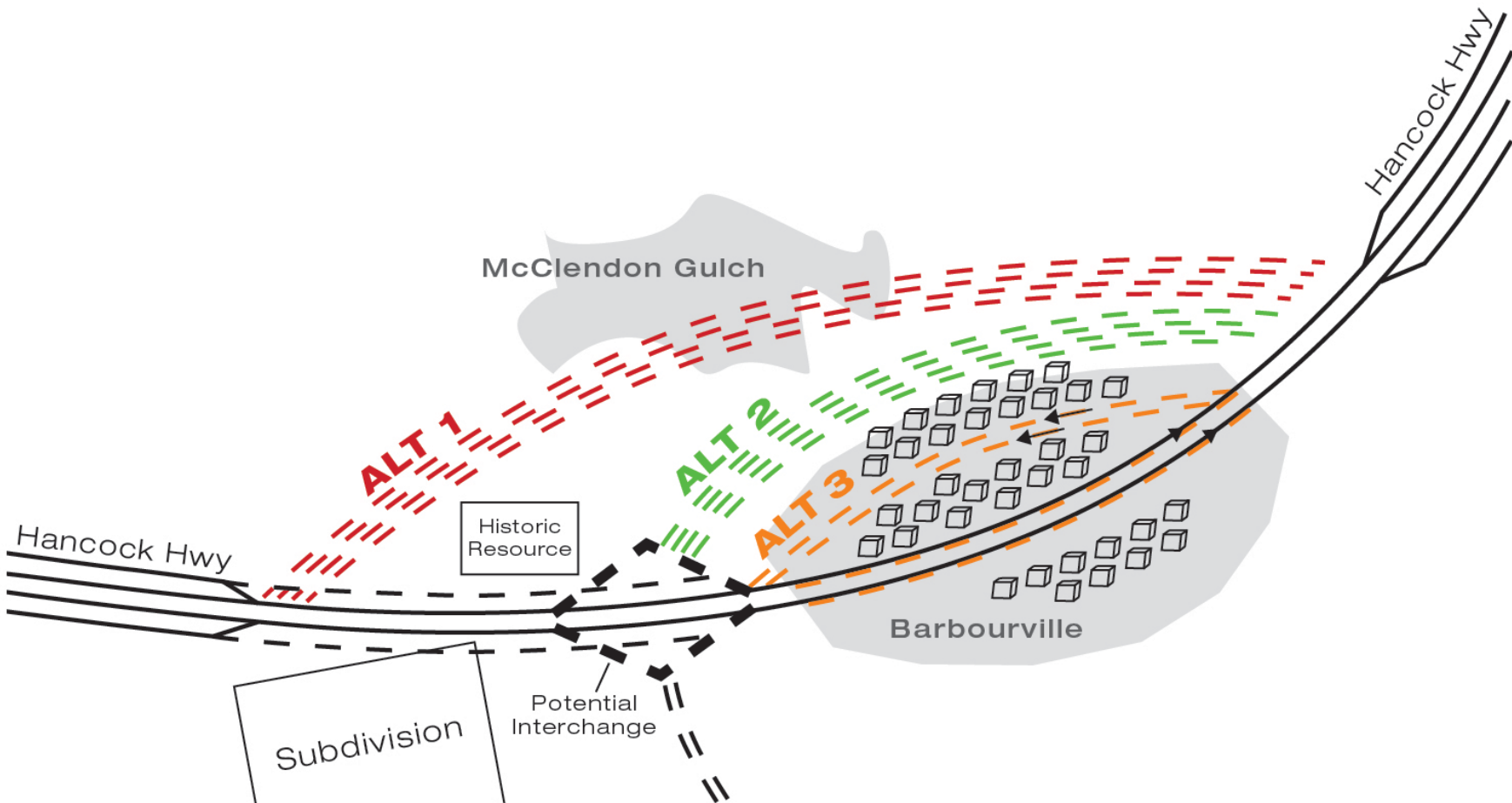


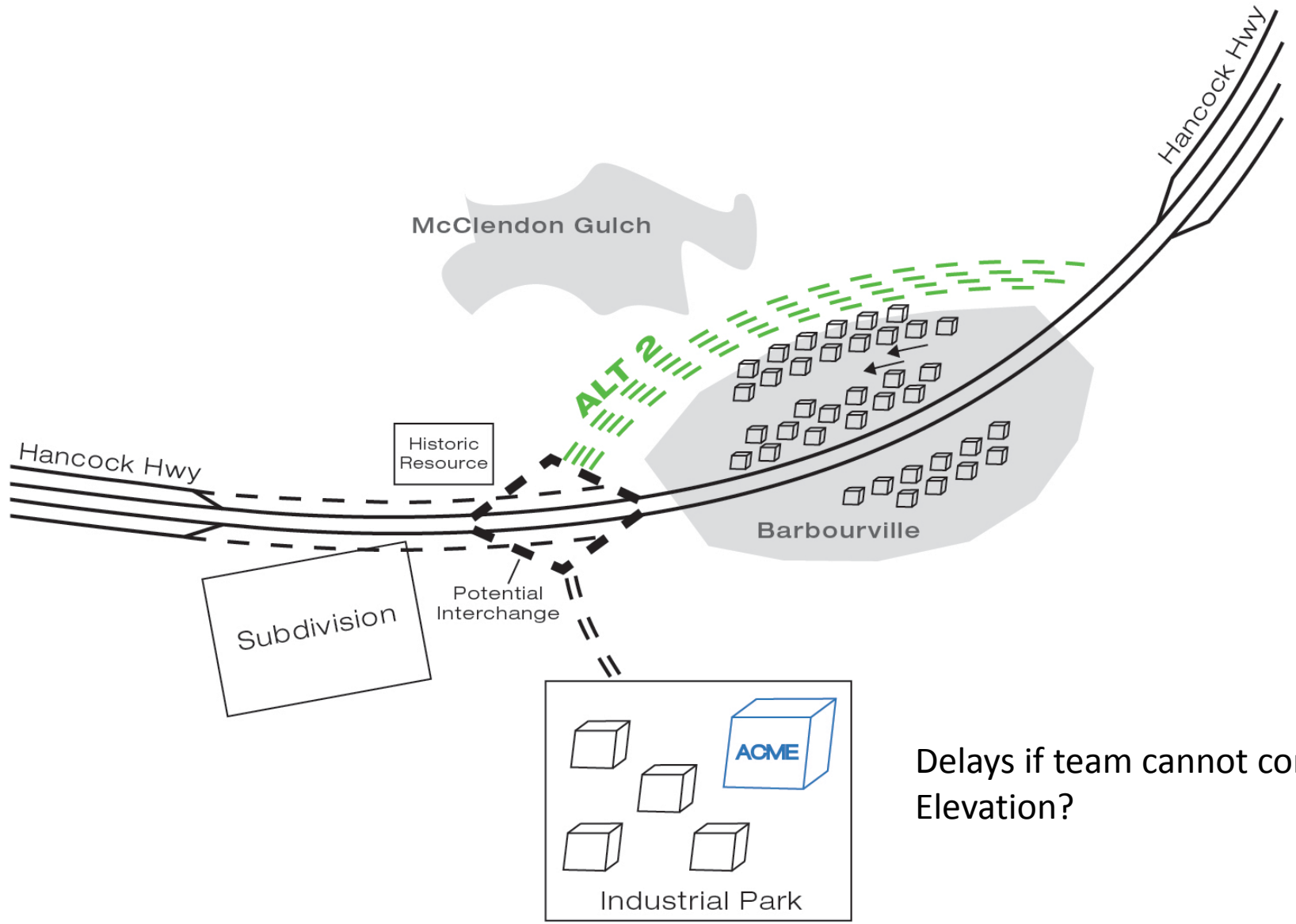
Unable to eliminate alternatives?
Disagree on bridge lengths?

Concurrence Point 3:

Concurrence Point 3: Prep.

- Finalize prelim. designs & environmental impacts
- NEPA document preparation, review, distribution
- Public Hearing – prep, conduct, comment period
- Post Hearing meeting/review of public comments
- Review of agency comments on DEIS/EA, etc.



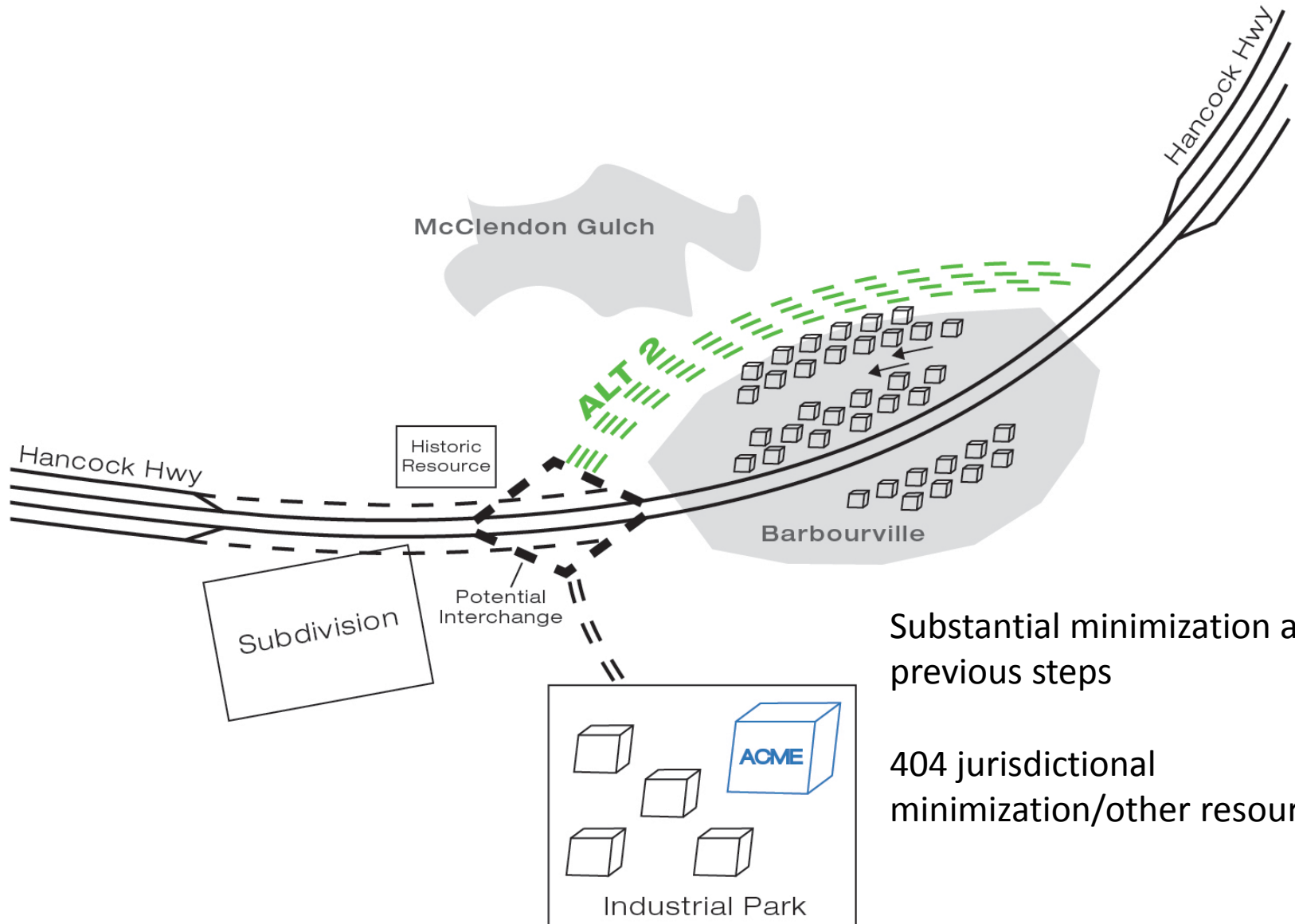


Delays if team cannot concur,
Elevation?

Concurrence Point 4A:

Concurrence Point 4A: Prep.

- Review selected alignment for further minimization
- Revise environmental data based on comments from agencies at CP 3 and from DEIS/EA comments



Substantial minimization at previous steps

404 jurisdictional minimization/other resources

Section 404/NEPA Interagency Agreement

Concurrence Point No. 4a Avoidance and Minimization

Project Title and Project Numbers:

Proposed SR 1409 (Military Cutoff Road) Extension, New Hanover County, TIP No. U-4751, State Project No. 40191.1.2, Corps Action ID 2007 1386

LEDPA/Recommended Alternative:

Military Cutoff Road Extension Alternative M1

Avoidance and Minimization:

Military Cutoff Road Extension Alternative M1 minimizes impacts to resources. However, it is not feasible for the proposed project to completely avoid impacts to the Waters of the US and still meet the purpose and need of the project. The following avoidance and minimization efforts have been incorporated into the proposed project:

Section 404 Avoidance and Minimization Measures

- 3:1 slopes are proposed in wetland areas and adjacent to streams.
- Loops and ramps in the Military Cutoff Road Extension interchange at Market Street were tightened, reducing wetland impacts by 0.89 acre [BWD -0.19 acre, ZWY -0.04 acre, PD-04 -0.66 acre]. Impacts to BDITCH1 were reduced by 1,911 square feet.
- A retaining wall was added on the west side of the proposed roadway south of Putnam Drive to avoid impacts to wetland PD-01 (-0.07 acre).
- Military Cutoff Road Extension north of Torchwood Boulevard was realigned in the vicinity of the Cape Fear Public Utility Authority's Nano Water Treatment Plant. Wetland impacts were reduced by 0.78 acre [BWI] and stream impacts were reduced by 677 feet [BSO -560 feet and BSP -117 feet].
- The U-turn bulb adjacent to wetland CWA just north of the Cape Fear Public Utility Authority property will be shifted southward out of Wetland CWA, reducing wetland impacts by 0.10 acre.
- The design was revised at the Military Cutoff Road Extension interchange with the US 17 Wilmington Bypass. The ramp in Quadrant D was pulled in, reducing wetland impacts by 1.16 acres [CWF -1.10 acres, DWC -0.06 acre]. Impacts to the Plantation Road Site were reduced by 0.02 acre and impacts to the Corbett Tract Residual Strip were reduced by 0.07 acre.

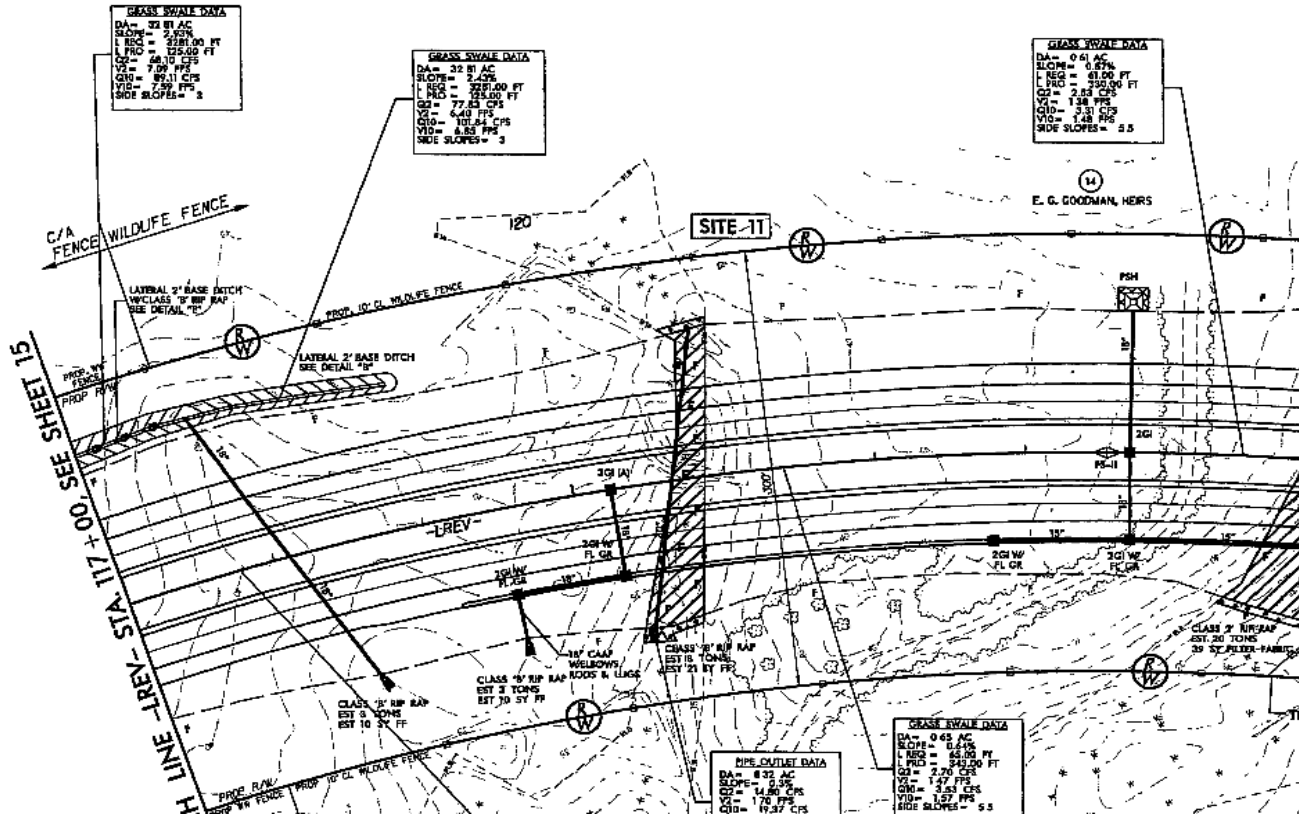
Additional Avoidance and Minimization

Wells

- The original design of proposed Military Cutoff Road Extension Alternative M1 would have relocated two water supply wells operated by the Cape Fear Public Utility Authority (CFPUA).

Concurrence Point 4B & 4C

Concurrence Point 4B & 4C





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- <https://connect.ncdot.gov/resources/Environmental/Pages/Merger.aspx>