

Utility Impact Report

R-2721, R-2828, R-2829

Triangle Expressway Southeast Extension

From NC 55 near Holly Springs to US 64 west of
Raleigh

Wake County, North Carolina

Prepared for:



Prepared by:



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November 19, 2014

EXECUTIVE SUMMARY

It is the intent of this report to furnish all relevant information concerning the general location, dimension and characteristics of major utilities found within the Triangle Expressway Southeast Extension (“Project”).

Forty two (42) segments among twelve (12) corridors identified by color were investigated.

CORRIDORS:

- | | |
|---|--|
| 1. Orange (“O”) - O1, O2, O3, O3 & O4 | 7. Lilac (“L”) - O3L, OxL, L2, L3, L4, L5, L6, G2L & B1L |
| 2. Green (“G”) - G1, G2, G3, G4, G5, G6, G7 | 8. Plum (“P”) - P1 & P2 (<i>No longer considered</i>) |
| 3. Brown (“B”) - B1, B2 & B3 | 9. Red (“R”) - R1, R2, R3, R4, R5, R6, & R7 |
| 4. Mint (“M”) - M1 & M2 | 10. Red Mod (“RM”) - RM1 (<i>No longer considered</i>) |
| 5. Tan (“T”) - T1 | 11. Blue (“BL”) - BL1, BL2, BL3, BLxL & L2BL |
| 6. Teal (“TL”) - TL1 | 12. Purple (“PU”) - O1PU, PU1 & PU2 |

This investigation and report captures by corridor and segment individual utility and some non-utility conflicts where the relocation cost to the NCTA is anticipated to exceed \$250K. Information was gathered utilizing on site investigation as well as data from previous investigations in the immediate area.

Utility conflicts exist throughout the Project. The more expensive relocations are where the Project conflicts with existing gas and/or electric transmission facilities. Below is a brief outline of utility and non-utility type facilities that exist within the Project limits.

1. Power:

- a. Duke Energy

2. Telecommunications:

- a. AT&T (formerly BellSouth)
- b. AT&T (Long Distance)

3. Gas Transmission:

- a. Cardinal Pipeline Company (subsidiary of Williams Pipeline Company)
- b. Colonial Pipeline Company

4. Non-Utility Facilities

- a. TV Towers
- b. Cell Towers
- c. FAA Antenna
- d. Warning Siren

This report identifies the anticipated utility relocation cost in 2014 dollars for each of the seventeen (17) end to end corridors consisting of various combinations colored corridors and segments. A summary of the utility and non-utility cost is represented in the following table.

The Impact Assessment outlines in further detail the cost to for utility relocation to the NCTA from utilities with compensable rights by corridor and segment.

EXECUTIVE SUMMARY

END to END CORRIDORS:

1	ORANGE-GREEN																
Segments	O1	O2	O3	O4	G1	G2	G3	G4	G5	G6	G7						
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$1,550,000						\$50,510,115				\$52,060,115						
2	ORANGE-GREEN-MINT-GREEN																
Segments	O1	O2	O3	O4	G1	G2	G3	M1	M2	G6	G7						
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$1,550,000						\$50,510,415				\$52,060,415						
3	ORANGE-BROWN-TAN-GREEN																
Segments	O1	O2	O3	O4	G1	B1	T1	G6	G7								
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$1,050,000						\$50,928,327				\$51,978,327						
4	ORANGE-BROWN-GREEN																
Segments	O1	O2	O3	O4	G1	B1	B2	B3	G6	G7							
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$11,800,000						\$50,793,327				\$62,593,327						
5	ORANGE-GREEN-TEAL-BROWN-GREEN																
Segments	O1	O2	O3	O4	G1	G2	TL1	B3	G6	G7							
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$11,800,000						\$50,404,515				\$62,204,515						
6	ORANGE-RED-GREEN																
Segments	O1	R1	R2	R3	R4	R5	R6	G5	G6	G7							
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$2,550,000						\$16,516,100				\$19,066,100						
7	ORANGE-RED-MINT-GREEN																
Segments	O1	R1	R2	R3	R4	R5	R7	M2	G6	G7							
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$2,550,000						\$16,516,400				\$19,066,400						
8	ORANGE-PURPLE-BLUE-LILAC-GREEN																
Segments	O1PU	PU1	PU2	BL1	BL2	BL3	BLxL	L2BL	L3	L4	L5	G2L	G3	G4	G5	G6	G7
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$22,550,000						\$8,003,641				\$30,553,641						
9	ORANGE-PURPLE-BLUE-LILAC-GREEN-MINT-GREEN																
Segments	O1PU	PU1	PU2	BL1	BL2	BL3	BLxL	L2BL	L3	L4	L5	G2L	G3	M1	M2	G6	G7
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$22,550,000						\$8,003,941				\$30,553,941						
10	ORANGE-PURPLE-BLUE-LILAC-BROWN-TAN-GREEN																
Segments	O1PU	PU1	PU2	BL1	BL2	BL3	BLxL	L2BL	L3	L4	L6	B1L	T1	G6	G7		
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$22,050,000						\$8,421,853				\$30,471,853						
11	ORANGE-PURPLE-BLUE-LILAC-BROWN-GREEN																
Segments	O1PU	PU1	PU2	BL1	BL2	BL3	BLxL	L2BL	L3	L4	L6	B1L	B2	B3	G6	G7	
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$32,800,000						\$8,286,853				\$41,086,853						
12	ORANGE-PURPLE-BLUE-LILAC-GREEN-TEAL-BROWN-GREEN																
Segments	O1PU	PU1	PU2	BL1	BL2	BL3	BLxL	L2BL	L3	L4	L5	G2L	TL1	B3	G6	G7	
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$32,800,000						\$7,898,041				\$40,698,041						
13	ORANGE-LILAC-GREEN																
Segments	O1	O2	O3L	OxL	L2	L3	L4	L5	G2L	G3	G4	G5	G6	G7			
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$21,550,000						\$52,617,526				\$74,167,526						
14	ORANGE-LILAC-GREEN-MINT-GREEN																
Segments	O1	O2	O3L	OxL	L2	L3	L4	L5	G2L	G3	M1	M2	G6	G7			
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$21,550,000						\$52,617,826				\$74,167,826						
15	ORANGE-LILAC-BROWN-TAN-GREEN																
Segments	O1	O2	O3L	OxL	L2	L3	L4	L6	B1L	T1	G6	G7					
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$21,050,000						\$53,035,738				\$74,085,738						
16	ORANGE-LILAC-BROWN-GREEN																
Segments	O1	O2	O3L	OxL	L2	L3	L4	L6	B1L	B2	B3	G6	G7				
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$31,800,000						\$52,900,738				\$84,700,738						
17	ORANGE-LILAC-GREEN-TEAL-BROWN-GREEN																
Segments	O1	O2	O3L	OxL	L2	L3	L4	L5	G2L	TL1	B3	G6	G7				
Cost	Non-Utility Cost						Utility Cost				Total End to End Cost						
	\$31,800,000						\$52,511,926				\$84,311,926						

PROJECT DESCRIPTION and OBJECTIVES

Description:

This project is designated as three projects in the North Carolina Department of Transportation's (NCDOT) State Transportation Improvement Program (STIP) - Projects R-2721, R-2828, and R-2829. The STIP describes the projects as a freeway facility on new location. These projects combine to form the southern and eastern portions of the Outer Loop around Raleigh and surrounding communities in Wake and Johnston Counties. The project extends from NC 55 at SR 1172 (Old Smithfield Road) near Apex to US 64/US 264 Bypass south of US 64 and east of Raleigh, a distance of 27.3 miles. In August 1996 and March 1997, the North Carolina Board of Transportation adopted Transportation Corridor Official Maps (Official Maps) for the portion of the project between NC 55 to I-40. This program allows the reservation of roadway corridors as provided by North Carolina General Statutes 136-44.5 through 136-44.54.

The project study area is located in the southern portion of the greater Raleigh metropolitan area in Wake and Johnston Counties south of the cities and towns of Apex, Cary, Raleigh, and Garner and north of Fuquay-Varina and Holly Springs. This Task Order, involves the study of 42 corridor segments that in various combinations make up seventeen (17) Detailed Study Alternatives (DSA).

Objectives:

The project team will prepare a utility relocation plan, for NCTA approval, that will include sufficient detail to develop the utility relocation cost estimate for inclusion in the Draft Environmental Impact Statement. In preparing the utility relocation plan, the project team will be responsible for identifying all necessary utility relocations, coordinating with utility owners on the utility relocations, and determining the cost responsibility for the utility relocations.

The scope of work is outlined on next page:

Utility Coordination:

SUBTASK B1& E1: IDENTIFY EXISTING UTILITIES

Using functional designs for the project DSAs, the project team will obtain existing utility information available for the project from NCTA and publicly available utility information not already available from NCTA. The project team will also survey the project study area to confirm data received from NCTA and the utility companies and will submit to NCTA a listing of utility owners within the project corridor. The project team will identify existing utilities within the project corridor from mapping provided by NCTA and information gathered during the field survey.

SUBTASK B2 & E2: PRELIMINARY UTILITY IDENTIFICATION REPORT

The project team will prepare a preliminary utility identification report for use in preparing the Draft EIS for the project. This report will evaluate and document the utility impacts (including wet and dry utilities) and will contain a utility impact and relocation cost estimate associated with each of the DSAs on an equal and consistent basis. The cost estimates will reflect whether prior rights exist for the utility to the extent that this information is readily available for this preliminary report. The report will also contain a listing of each utility owner identified, along with a contact person for that utility.

Utility Contact List

Type of Utility	Company Name	Address	Contact Person	Phone
Electric	Duke Energy (Transmission)	100 East Davie Street Raleigh, NC 27601	James Loy Sr. Eng.Tech Support Specialist jamie.loy@pgnmail.com	919-546-6034
	Duke Energy (Distribution)	1020 W. Chatham St. Cary, NC 27511	Ms. Sheila Talton Senior Utility Coordinator sheila.talton@pgnmail.com	919-481-6126
Telecommunications	AT&T (Long Distance)	5390 Overbend Trail Suwanee, GA 30024	Scott Logeman slogeman@att.com	770-335-8255
		239 Cleveland Street, Suite A-1, Blairsville, GA 30514	Danny Hemphill dan33@winstream.net	706-745-3105
	AT&T (old BellSouth)	5715 Glenwood Ave. Raleigh, NC 27612	Kelly J Malpass Manager Planning & Engineering Design km4631@att.com	919-785-7771
	Century Link	206 West Cumberland Street Dunn, NC 28334	Wayne Hall Manager - Engineering Ernest.W.Hall@Embarq.com	910-980-2229
			James D Johnson Network Engineer II james.d.johnson@embarq.com	910 980-2222
	Level 3	1 Turner Street Raleigh, NC 27607	Mike Weaver Outside Plant Engineer mike.weaver@level3.com	919-341-2202
		1025 Eldorado Blvd. Broomfield, CO 80021	Keith Osborn keith.osborn@level3.com	720-888-2774
	MCI / Verizon Business	4200 Atlantic Ave., Ste 116 Raleigh, NC 27604	Eric Crane OSP Sr. Engineer eric.crane@verizonbusiness.com	919-326-5604

Utility Contact List

Type of Utility	Company Name	Address	Contact Person	Phone
Cable Television	Time Warner Communications	1100 Perimeter Park Drive Suite 118 Morrisville, NC 27560	Roland Bruyere roland.bruyere@twcable.com	919-362-8327
			Larry Thorne Locate Supervisor larry.thorne@twcable.com	919 573-7230
Gas	Cardinal Pipeline Company (Williams Pipeline Company)	1345 Greenbrier Dr Charlottesville, VA 22901	David S Dickerson Division Engineer David.S.Dickerson@Williams.com	434 964-2122
			Ashley Greiwe ashley.greiwe@williams.com	434-964-2125
	Colonial Pipeline Company	411 Gallimore Dairy Road Greensboro, NC 27409	Tom West twest@colpipe.com	336-931-6039 or 336 669 7996
Sewer & Water	Town of Apex	P. O. Box 250 Apex, NC 27502	Tim Donnelly Public Works Director tim.donnelly@apexnc.org	919-249-3427
			Steve Miller Public Works Project Coordinator steve.miller@apexnc.org	919 362-8166
	Town of Holly Springs	128 South Main Street Holly Springs, NC 27540	Luncie McNeil Public Works Director luncie.mcneil@Hollyspringsnc.us	919-552-5920

Utility Contact List

Type of Utility	Company Name	Address	Contact Person	Phone
Communication Tower	American Tower Corporation	496 Long Point Rd. Mount Pleasant, SC 29464	Mike Flint Area VP Mike.Flint@AmericanTower.com	843 971-8385
		900 Circle 75 Parkway, Suite 300 Atlanta, GA 30339	Jeffery Singleton Project Manager Jeffery.Singleton@AmericanTower.com	770 308-1960
SBA Towers	SBA Communications Corp.	5900 Broken Sound Parkway NW Boca Raton, Florida 33487	Elaine Tarkington etarkington@sbsite.com	919-868-0426
Crown Castle	Crown Castle Inc.		Ashley Child Account Executive	704-405-6625
			Tony Queen Manager of East Carolina District	919-465-3508
TV Tower				
FAA Tower				
Nuclear Siren	Progress Energy	1020 W. Chatham St. Cary, NC 27511	Ms. Sheila Talton Senior Utility Coordinator sheila.talton@pgnmail.com	919-481-6126

Utility Impact Assessment

The following outlines at a high level the impact utilities may have with regard to the successful design and construction of the Triangle Expressway Southeast Extension (“Project”). This version of the assessment highlights utility and some non-utility conflicts with relocation cost of greater than \$250K or significant impact to project schedule.

The NCTA has requested Hinde Engineering, Inc. (“Hinde”) to perform a preliminary utility assessment for multiple corridors of the Project. Each corridor is identified by color and may have multiple segments.

Included in this report are the following corridors and segments:

1. Orange corridor
 - 1.1. Segment - O1
 - 1.2. Segment - O2
 - 1.3. Segment - O3
 - 1.4. Segment - O4
2. Green corridor
 - 2.1. Segment - G1
 - 2.2. Segment - G2
 - 2.3. Segment - G3
 - 2.4. Segment - G4
 - 2.5. Segment - G5
 - 2.6. Segment - G6
 - 2.7. Segment - G7
3. Brown corridor
 - 3.1. Segment - B1
 - 3.2. Segment - B2
 - 3.3. Segment - B3
4. Mint corridor
 - 4.1. Segment - M1
 - 4.2. Segment - M2
5. Tan corridor
 - 5.1. Segment - T1
6. Teal corridor
 - 6.1. Segment - TL1
7. Lilac corridor
 - 7.1. Segment - O3L
 - 7.2. Segment - OxL
 - 7.3. Segment - L2
 - 7.4. Segment - L3
 - 7.5. Segment - L4
 - 7.6. Segment - L5
 - 7.7. Segment - L6
 - 7.8. Segment - G2L
 - 7.9. Segment - B1L

Utility Impact Assessment

8. *Plum corridor No longer being considered*

9. Red corridor

9.1. Segment - R1

9.2. Segment - R2

9.3. Segment - R3

9.4. Segment - R4

9.5. Segment - R5

9.6. Segment - R6&7

10. *Red Modified corridor No longer being considered*

11. Blue corridor

11.1. Segment - BL1

11.2. Segment - BL2

11.3. Segment - BL3

11.4. Segment - BLxL

11.5. Segment - L2BL

12. Purple corridor

12.1. Segment - O1PU

12.2. Segment - PU1

12.3. Segment - PU2

Utility Impact Assessment

A total of seventeen End to End Corridors are addressed consisting of multiple combinations of the ten (10) colored corridors and segments in the pages that follow. In all cases, only conflicts where the relocation cost to the NCTA is anticipated to be greater than \$250K are documented. In some cases a **conceptual** relocation design is illustrated showing what the impacted utility **may consider** to reintegrate its system to eliminate conflicts within the proposed NCDOT right-of-way. Cost and conceptual design are based on the information derived from previous projects, site visits and discussions with utility representatives. All conflicts are summarized by corridor and segment in the “Utility Impact Assessment Matrix”.

The most costly relocations for highway projects are related to transmission facilities owned by both electric and gas companies. These companies will have prior rights and each will seek compensation for relocation and/or modification to its facilities. Facilities such as Radio/TV Towers, Cell Towers, Warning Sirens, FAA Antennas and Wastewater Treatment ponds and/or spray fields were also documented during this investigation. Cost related to relocate these facilities will likely be addressed in the real estate settlement rather than a Utility Relocation Agreement.

In addition to the cost to relocate and / or modify these types of facilities, they are also the most time consuming. In many cases transmission facilities may take as long as one year or longer to clear the Project given the need to purchase new right-of-way, order special materials as well as possible moratoriums, both regulatory and seasonal.

Based on the information gathered thus far the NCTA may want to consider some of the following suggestions to help reduce the impact of utility conflicts and consequentially costs related to relocations and / or modifications.

- At any location where the Project crosses an aerial transmission line, the design team should try to avoid having to excavate (cut or fill) within thirty (30) feet of an existing structure.
- Consider realignment of roadway to avoid existing towers, especially “corner” towers.
- Minimize reduction in vertical clearance when crossing transmission line between towers (mid span).
- Minimize fill over gas transmission lines
- Avoid cuts at gas transmission lines

Utility Impact Assessment

1 Orange Corridor

1.1 Segment - 01 (21+45.00 to 386+31.44)

Protected Corridor from Beginning of Project to a point where the Red Corridor ties.

1.1.1 Existing Facilities

(Highlighted on COR-O_RDY_ROLL1_UC)

- Colonial Pipeline Company has a single petroleum line in conflict with proposed expressway at the intersection of Sunset Lake Road (SR-1301)

(Highlighted on COR-O_RDY_ROLL2_UC)

- AT&T has a Remote Terminal Site in conflict with the proposed improvements to Holly Springs Road (SR-1152) just across from Fairview Street
- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway at the intersection of Pierce Olive Road (SR-1389)
- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway at the intersection of West Lake Road (SR-1387)
- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with proposed improvements to Bells Lake Road (SR-1386) just to the south of proposed expressway

1.1.2 Future Facilities

There are no future transmission facilities planned at this time

1.1.3 Prior Rights

Colonial Pipeline Company – deeded R/W

AT&T – owner of property

Duke/Progress Energy – deeded R/W

1.1.4 Estimate Cost to NCTA for Relocation

- Colonial Pipeline Company
 - Sunset Lake Road (SR-1301) \$2.769M
 - Install 2,769 feet of new pipeline x 1 line at \$1K per foot per line
 - West Lake Road \$6.144M
 - Install 2,048 feet of new pipeline x 3 lines at \$1K per foot per line
 - Bells Lake Road \$1.071M
 - Install 357 feet of new pipeline x 3 lines at \$1K per foot per line

Utility Impact Assessment

- Duke/Progress Energy
 - Pierce Olive Rd. \$879.3K
 - Install 2,931 feet of new transmission line x 1 line at \$300.00 per foot per line
- AT&T
 - Holly Springs Rd. \$400K

1.1.5 Estimated Time to Relocate

- Colonial Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- AT&T
 - Acquisition of new site 6-12 months
 - Construction/Cutover/Removal 12-18 months

1.1.6 Restrictions and/or Moratoriums

- Colonial Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

Utility Impact Assessment

1.1.7 Non-Utility Conflicts Observed During Investigation

- Warning Siren – Nuclear Plant
 - Existing Facility
(Highlighted on COR-O_RDY_ROLL2_UC)
 - Duke/Progress Energy has a warning siren for a nearby nuclear plant located on Kildare Road just to the northwest of Holly Springs Road.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)
 - \$50K
 - Estimated Time to Relocate
 - Acquisition of new site
 - 6-12 months
 - Permitting/Construction/Cutover/Removal
 - 12-18 months
 - Restrictions and / or Moratoriums
 - Duke/Progress Energy may have to obtain permits from various regulatory agencies prior to relocating this facility.

Utility Impact Assessment

1.2 Segment - 02 (386+31.44 to 484+00.00)

Protected Corridor from 01 to 03/02L-US 401 (Builds only the Portion of US 401 needed to complete R-2721)

1.2.1 Existing Facilities

(Highlighted on COR-O_RDY_ROLL3_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway from Lake Wheeler Road (SR-1371) eastward to US 401. This conflict continues east to Old McCullers Road (SR-2722) in segment O3.

1.2.2 Future Facilities

There are no future transmission facilities planned at this time

1.2.3 Prior Rights

Colonial Pipeline Company – deeded R/W

1.2.4 Estimate Cost to NCTA for Relocation

- Colonial Pipeline Company
 - Lake Wheeler to US-401 \$9.576M
 - Install 3,193 feet of new pipeline x 3 lines at \$1K per foot per line

1.2.5 Estimated Time to Relocate

- Colonial Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

1.2.6 Restrictions and/or Moratoriums

- Colonial Pipeline Company
 - Cutover for pipelines are restricted during winter months

1.2.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

1.3 Segment – 03 (484+00.00 to 877+65.00)

Protected Corridor from O2- US 401 (Builds the Remaining Portion of US 401 Interchange) to a point where the I-40 Interchange starts.

1.3.1 Existing Facilities

(Highlighted on COR-O_RDY_ROLL3_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway from US 401 east to just east of Old McCullers Road (SR-2722).

(Highlighted on COR-O_RDY_ROLL4_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway from west of Fanny Brown Road (SR-2723) to approximately 1,000 feet west of Holland Church Road (SR-2725)
- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway at the intersection of Holland Church Road (SR-2725)
- Cardinal Pipeline Company has a gas line adjacent to Duke/Progress Energy transmission R/W in conflict with the proposed expressway at the intersection of Holland Church Road (SR-2725)

(Highlighted on COR-O_RDY_ROLL6_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway just east of NC-50
- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway just east of NC-50.

1.3.2 Future Facilities

There are no future transmission facilities planned at this time

1.3.3 Prior Rights

Colonial Pipeline Company – deeded R/W
Cardinal Pipeline Company – deeded R/W
Duke/Progress Energy – deeded R/W

1.3.4 Estimate Cost to NCTA for Relocation

- Colonial Pipeline Company
 - US-401 to McCullers \$4.359M
 - Install 1,453 feet of new pipeline x 3 lines at \$1K per foot per line
 - Fanny Brown to Holland Church \$19.887M
 - Install 6,629 feet of new pipeline x 3 lines at \$1K per foot per line
 - East of NC-50 \$3.408M
 - Install 1,136 feet of new pipeline x 3 lines at \$1K per foot per line

Utility Impact Assessment

- Cardinal Pipeline Company
 - Holland Church Rd. \$801.515K
 - Install 0.4 miles (2,116 feet) of new pipeline x 1 line at \$2.0M per mile per line
- Duke/Progress Energy
 - Holland Church Road \$634.5K
 - Install 2,115 feet of new transmission line at \$300 per foot per line
 - East of NC-50 \$364.2K
 - Install 1,214 feet of new transmission lines at \$300 per foot per line

1.3.5 Estimated Time to Relocate

- Colonial Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Cardinal Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

1.3.6 Restrictions and/or Moratoriums

- Colonial Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Cardinal Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

1.3.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

1.4 Segment - 04 (877+65.00 to 952+00.00)

Protected Corridor from O3 to I-40 Interchange (Only builds a portion of I-40 Interchange needed to complete R-2828)

1.4.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

1.4.2 Future Facilities

There are no future transmission facilities planned at this time

1.4.3 Prior Rights

N/A

1.4.4 Estimate Cost to NCTA for Relocation

N/A

1.4.5 Estimated Time to Relocate

N/A

1.4.6 Restrictions and/or Moratoriums

N/A

1.4.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

2 Green Corridor

2.1 Segment – G1 (952+00.00 to 1009+15.00)

Green Corridor from I-40 (Completes Ultimate I-40 Interchange) to a point where the Brown Corridor ties.

2.1.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

2.1.2 Future Facilities

There are no future transmission facilities planned at this time

2.1.3 Prior Rights

N/A

2.1.4 Estimate Cost to NCTA for Relocation

N/A

2.1.5 Estimated Time to Relocate

N/A

2.1.6 Restrictions and/or Moratoriums

N/A

2.1.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

2.2 Segment – G2 (1021+00.00 to 1158+00.00)

Green Corridor from B1 tie to a point where Teal ties to Green.

2.2.1 Existing Facilities

(Highlighted on COR-G_RDY_ROLLI_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 3,000 feet south of US-70 (Business)

2.2.2 Future Facilities

There are no future transmission facilities planned at this time

2.2.3 Prior Rights

Duke/Progress Energy – deeded R/W

2.2.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - South of US-70 Business \$111K
 - Adjust span lengths and pole heights to accommodate 370ft. crossing of new corridor

2.2.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

2.2.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

2.2.7 Non-Utility Conflicts Observed During Investigation

- None

Utility Impact Assessment

2.3 Segment – G3 (1158+00.00 to 1195+31.00)

Green Corridor from a point where Teal ties to Green to a point where Mint ties to Green.

2.3.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

2.3.2 Future Facilities

There are no future transmission facilities planned at this time

2.3.3 Prior Rights

N/A

2.3.4 Estimate Cost to NCTA for Relocation

N/A

2.3.5 Estimated Time to Relocate

N/A

2.3.6 Restrictions and/or Moratoriums

N/A

2.3.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

2.4 Segment – G4 (1195+31.00 to 1238+53.00)

Green Corridor from a point where Mint ties to Green to a point where Red ties to Green.

2.4.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

2.4.2 Future Facilities

There are no future transmission facilities planned at this time

2.4.3 Prior Rights

N/A

2.4.4 Estimate Cost to NCTA for Relocation

N/A

2.4.5 Estimated Time to Relocate

N/A

2.4.6 Restrictions and/or Moratoriums

N/A

2.4.7 Non-Utility Conflicts Observed During Investigation

- FAA Air Traffic Control Antenna
 - Existing Facility
(*Highlighted on COR-G_RDY_ROLL2_UC*)
 - The FAA has an antenna site for air traffic control near the intersection of Rock Quarry Road and Old Baucom Road that is in conflict with new expressway.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(*Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below*)
 - \$500K
 - Estimated Time to Relocate
 - Acquisition of new site
 - 6-12 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - May have to obtain permits from various regulatory agencies prior to relocating this facility.

Utility Impact Assessment

2.5 Segment – G5 (1238+53.00 to 1388+00.00)

Green Corridor from a point where Red ties to Green to a point where Mint, Brown, and Tan ties back to Green.

2.5.1 Existing Facilities

(Highlighted on COR-G_RDY_ROLL2_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 1,600 feet north of Battle Bridge Road (SR-2552)

2.5.2 Future Facilities

There are no future transmission facilities planned at this time

2.5.3 Prior Rights

Duke/Progress Energy – deeded R/W

2.5.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - Northeast of Battle Bridge Rd \$105.6K
 - Adjust span lengths and pole heights to accommodate 352ft. crossing of new corridor

2.5.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

2.5.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

2.5.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

2.6 Segment – G6 (1388+00.00 to 1439+00.00)

Green Corridor from a point where Mint/Brown/Tan ties back to Green to Poole Rd. (Former Corridor Tie Point).

2.6.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

2.6.2 Future Facilities

There are no future transmission facilities planned at this time

2.6.3 Prior Rights

N/A

2.6.4 Estimate Cost to NCTA for Relocation

N/A

2.6.5 Estimated Time to Relocate

N/A

2.6.6 Restrictions and/or Moratoriums

N/A

2.6.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

2.7 Segment – G7 (1439+00.00 to 1529+00.00)

Green Corridor from Poole Rd to Green to end point north of US 64/US264.

2.7.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

2.7.2 Future Facilities

There are no future transmission facilities planned at this time

2.7.3 Prior Rights

N/A

2.7.4 Estimate Cost to NCTA for Relocation

N/A

2.7.5 Estimated Time to Relocate

N/A

2.7.6 Restrictions and/or Moratoriums

N/A

2.7.7 Non-Utility Conflicts Observed During Investigation

- Cell Tower
 - Existing Facility
(*Highlighted on COR-G_RDY_ROLL3_UC*)
 - SBA has a cell tower site just off Pool Road in conflict with new expressway.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(*Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below*)
 - \$1.0M
 - Estimated Time to Relocate
 - Acquisition of new site
 - 6-12 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - Permits and existing contracts with tenants may impact schedules for relocations and / or transfers to new tower site.

Utility Impact Assessment

3 Brown Corridor

3.1 Segment – B1 (1021+00.00 to 1206+00.00)

Brown Corridor from a point where Brown ties to Green to a point where Tan ties to Brown.

3.1.1 Existing Facilities

(Highlighted on COR-B_RDY_ROLL3_UC)

- Duke/Progress Energy has a 500KV transmission line on steel lattice structures in conflict with the proposed expressway approximately 3,000 feet east of White Oak Road
- Cardinal Pipeline Company has a gas transmission line in conflict with the proposed expressway approximately 3,000 feet east of White Oak Road. This portion of the pipeline is parallel with the Duke/Progress Energy 500KV transmission line.
- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 800 feet north of Guy Road

3.1.2 Future Facilities

There are no future transmission facilities planned at this time

3.1.3 Prior Rights

Cardinal Pipeline Company – deeded R/W

Duke/Progress Energy – deeded R/W

3.1.4 Estimate Cost to NCTA for Relocation

- Cardinal Pipeline Company
 - East of White Oak \$171.2K
 - Adjustment to 0.09 miles (452 feet) of transmission line to account for fill \$2.0M per mile per line
- Duke/Progress Energy
 - East of White Oak \$223K
 - Adjust span lengths and structure heights to accommodate 446ft crossing of new corridor
 - North of Guy Road \$105.6K
 - Adjust span lengths and pole heights to accommodate 352ft. crossing of new corridor

Utility Impact Assessment

3.1.5 Estimated Time to Relocate

- Cardinal Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 18-24 months

3.1.6 Restrictions and/or Moratoriums

- Cardinal Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

3.1.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

3.2 Segment – B2 (1206+00.00 to 1330+00.00)

Brown Corridor from a point where Tan ties to Brown to a point where Teal ties to Brown.

3.2.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

3.2.2 Future Facilities

N/A

3.2.3 Prior Rights

N/A

3.2.4 Estimate Cost to NCTA for Relocation

N/A

3.2.5 Estimated Time to Relocate

N/A

3.2.6 Restrictions and/or Moratoriums

N/A

3.2.7 Non-Utility Conflicts Observed During Investigation

- Waste Water Treatment Ponds & Spray Fields
 - Existing Facility
(Highlighted on COR-B_RDY_ROLLA_UC)
 - Brown corridor in conflict with 33 acres of existing wastewater spray field at the Neuse River Wastewater Treatment Plant.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)
 - \$8.25M
 - Estimated Time per tower to Relocate
 - Acquisition of new site
 - 12-24 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - Unknown

Utility Impact Assessment

3.3 Segment – B3 (1330+00.00 to 1446+87.00)

Brown Corridor from a point where Teal ties to Brown to a point where Brown ties back to Green.

3.3.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

3.3.2 Future Facilities

There are no future transmission facilities planned at this time

3.3.3 Prior Rights

N/A

3.3.4 Estimate Cost to NCTA for Relocation

N/A

3.3.5 Estimated Time to Relocate

N/A

3.3.6 Restrictions and/or Moratoriums

N/A

3.3.7 Non-Utility Conflicts Observed During Investigation

- Waste Water Treatment Ponds & Spray Fields
 - Existing Facility
 - (Highlighted on COR-B_RDY_ROLL5_UC)*
 - Brown corridor in conflict with 10 acres of existing wastewater spray field at the Neuse River Wastewater Treatment Plant.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
 - (Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)*
 - \$2.5M
 - Estimated Time per tower to Relocate
 - Acquisition of new site
 - 12-24 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - Unknown

Utility Impact Assessment

4 Mint Corridor

4.1 **Segment – M1** (1195+31.00 to 1239+00.00)

Mint Corridor from a point where Mint ties to Green to a point where Red ties to Mint.

4.1.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

4.1.2 Future Facilities

There are no future transmission facilities planned at this time

4.1.3 Prior Rights

N/A

4.1.4 Estimate Cost to NCTA for Relocation

N/A

4.1.5 Estimated Time to Relocate

N/A

4.1.6 Restrictions and/or Moratoriums

N/A

4.1.7 Non-Utility Conflicts Observed During Investigation

- FAA Air Traffic Control Antenna
 - Existing Facility
(*Highlighted on COR-MG_RDY_ROLL1_UC*)
 - The FAA has an antenna site for air traffic control near the intersection of Rock Quarry Road and Old Baucom Road that is in conflict with new expressway.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(*Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below*)
 - \$500K
 - Estimated Time to Relocate
 - Acquisition of new site
 - 6-12 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - May have to obtain permits from various regulatory agencies.

Utility Impact Assessment

4.2 Segment – M2 (1239+00.00 to 1388+00.00)

Mint Corridor from a point where Red ties to Mint to a point where Mint ties back to Green.

4.2.1 Existing Facilities

(Highlighted on COR-MG_RDY_ROLL1_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 1,600 feet north of Battle Bridge Road (SR-2552)

4.2.2 Future Facilities

There are no future transmission facilities planned at this time

4.2.3 Prior Rights

Duke/Progress Energy – deeded R/W

4.2.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - North of Battle Bridge Rd. \$105.9K
 - Adjust span lengths and structure heights to accommodate 353ft crossing of new corridor

4.2.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

4.2.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

4.2.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

5 Tan Corridor

5.1 Segment – T1 (1206+00.00 to 1426+45.00)

Tan Corridor from a point where Brown ties to Tan to a point where Tan ties to Green.

5.1.1 Existing Facilities

(Highlighted on COR-T_RDY_ROLL2_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 900 feet north of Battle Bridge Road

5.1.2 Future Facilities

There are no future transmission facilities planned at this time

5.1.3 Prior Rights

Duke/Progress Energy – deeded R/W

5.1.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - Battle Bridge Road \$135K
 - Adjust span lengths and structure heights to accommodate 450ft crossing of new corridor

5.1.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 18-24 months

5.1.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

5.1.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

6 Teal Corridor

6.1 **Segment – TL1** (1158+00.00 to 1327+71.00)

Teal Corridor from a point where Teal ties to Green to a point where Teal ties to Brown.

6.1.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

6.1.2 Future Facilities

There are no future transmission facilities planned at this time

6.1.3 Prior Rights

N/A

6.1.4 Estimate Cost to NCTA for Relocation

N/A

6.1.5 Estimated Time to Relocate

N/A

6.1.6 Restrictions and/or Moratoriums

N/A

6.1.7 Non-Utility Conflicts Observed During Investigation

- Waste Water Treatment Ponds & Spray Fields
 - Existing Facility
(*Highlighted on COR-TL_RDY_ROLL3_UC*)
 - Teal corridor in conflict with existing 33 acres of wastewater spray field at the Neuse River Wastewater Treatment Plant.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(*Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below*)
 - \$8.25M
 - Estimated Time per tower to Relocate
 - Acquisition of new site
 - 12-24 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - Unknown

Utility Impact Assessment

7 Lilac Corridor

7.1 Segment – 03L (484+00.00 to 663+45.51)

Portion of Orange Corridor from US 401 Interchange (Includes completing US 401 Interchange) to a point where Orange to Lilac Cross Over Begins.

7.1.1 Existing Facilities

(Highlighted on COR-O_RDY_ROLL3_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway from US 401 east to just east of Old McCullers Road (SR-2722).

(Highlighted on COR-O_RDY_ROLL4_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway from west of Fanny Brown Road (SR-2723) to approximately 1,000 feet west of Holland Church Road (SR-2725)
- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway at the intersection of Holland Church Road (SR-2725)
- Cardinal Pipeline Company has a gas line adjacent to Duke/Progress Energy transmission R/W in conflict with the proposed expressway at the intersection of Holland Church Road (SR-2725)

7.1.2 Future Facilities

There are no future transmission facilities planned at this time

7.1.3 Prior Rights

Colonial Pipeline Company – deeded R/W
Cardinal Pipeline Company – deeded R/W
Duke/Progress Energy – deeded R/W

7.1.4 Estimate Cost to NCTA for Relocation

- Colonial Pipeline Company
 - US-401 to McCullers \$4.359M
 - Install 1,453 feet of new pipeline x 3 lines at \$1K per foot per line
 - Fanny Brown to Holland Church \$19.887M
 - Install 6,629 feet of new pipeline x 3 lines at \$1K per foot per line
- Cardinal Pipeline Company
 - Holland Church Rd. \$801.515K
 - Install 0.4 miles (2,116 feet) of new pipeline x 1 line at \$2.0M per mile per line

Utility Impact Assessment

- Duke/Progress Energy
 - Holland Church Road \$634.5K
 - Install 2,115 feet of new transmission line at \$300 per foot per line

7.1.5 Estimated Time to Relocate

- Colonial Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Cardinal Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

7.1.6 Restrictions and/or Moratoriums

- Colonial Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Cardinal Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

7.1.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

7.2 Segment – OxL (663+45.51 to 709+98.05)

Lilac Corridor from a point where Orange ties to Lilac (Former Cross Over) (L1 Segment south of Orange was eliminated).

7.2.1 Existing Facilities

(Highlighted on COR-L_RDY_ROLL2_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway from Huntwyck Drive just west of Joe Leach Rd. (SR-2730).

7.2.2 Future Facilities

There are no future transmission facilities planned at this time

7.2.3 Prior Rights

Colonial Pipeline Company – deeded R/W

7.2.4 Estimate Cost to NCTA for Relocation

- Colonial Pipeline Company
 - Huntwyck Rd. and new corridor \$3.333M
 - Install 1,111 feet of new pipeline x 3 lines at \$1K per foot per line

7.2.5 Estimated Time to Relocate

- Colonial Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

7.2.6 Restrictions and/or Moratoriums

- Colonial Pipeline Company
 - Cutover for pipelines are restricted during winter months

7.2.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

7.3 Segment - L2 (716+83.95 to 865+00.00)

Lilac Corridor from a point where Orange X-Over ties to Lilac to a point where the I-40 Interchange begins (Not Inclusive of I-40 Interchange).

7.3.1 Existing Facilities

(Highlighted on COR-L_RDY_ROLL3_UC)

- Duke/Progress Energy has another 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 1 mile east of Benson Road (NC-50).

7.3.2 Future Facilities

There are no future transmission facilities planned at this time

7.3.3 Prior Rights

Duke/Progress Energy – deeded R/W

7.3.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - East of Benson Rd. \$200.4K
 - Adjust span lengths and pole heights to accommodate 668ft. crossing of new corridor

7.3.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

7.3.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

Utility Impact Assessment

7.3.7 Non-Utility Conflicts Observed During Investigation

- Waste Water Treatment Pond & Spray Fields
 - Existing Facility
 - Highlighted on COR-L_RDY_ROLL3_UC*
 - Lilac corridor in conflict with 1 existing wastewater pond and 7.05 acres of spray field at the Wrenn Road Wastewater Treatment Plant.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
 - (Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)*
 - \$10.0M
 - Estimated Time per tower to Relocate
 - Acquisition of new site
 - 12-24 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - Unknown

Utility Impact Assessment

7.4 Segment - L3 (865+00.00 to 937+80.98)

Lilac Corridor I-40 interchange (Builds only the portion of the I-40 Interchange needed to complete R-2829).

7.4.1 Existing Facilities

(Highlighted on COR-L_RDY_ROLLA_UC)

- Cardinal Pipeline Company has a gas line that traverses east to west through the interchange of I-40 and the proposed Lilac corridor.

7.4.2 Future Facilities

There are no future transmission facilities planned at this time

7.4.3 Prior Rights

Cardinal Pipeline Company – deeded R/W

7.4.4 Estimate Cost to NCTA for Relocation

- Cardinal Pipeline Company
 - I-40 Interchange \$540.53K
 - Install 0.27 miles (1,427ft) of new pipeline x 1 line at \$2.0M per mile per line

7.4.5 Estimated Time to Relocate

- Cardinal Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

7.4.6 Restrictions and/or Moratoriums

- Cardinal Pipeline Company
 - Cutover for pipelines are restricted during winter months

Utility Impact Assessment

7.4.7 Non-Utility Conflicts Observed During Investigation

- Waste Water Treatment Ponds & Spray Fields
 - Existing Facility
 - Highlighted on COR-L_RDY_ROLL3_UC*
 - Lilac corridor in conflict with 1 existing wastewater pond and 7.05 acres of spray field at the Wrenn Road Wastewater Treatment Plant.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
 - (Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)*
 - \$10.0M
 - Estimated Time per tower to Relocate
 - Acquisition of new site
 - 12-24 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - Unknown

Utility Impact Assessment

7.5 Segment - L4 (937+80.98 to 984+98.45)

Lilac Corridor from I-40 (Completes I-40 Interchange) to a point where Lilac Cross Overs begin.

7.5.1 Existing Facilities

(Highlighted on COR-L_RDY_ROLLA_UC)

- Cardinal Pipeline Company has a gas line that traverses east to west through the interchange of I-40 and the proposed Lilac corridor.

7.5.2 Future Facilities

There are no future transmission facilities planned at this time

7.5.3 Prior Rights

Cardinal Pipeline Company – deeded R/W

7.5.4 Estimate Cost to NCTA for Relocation

- Cardinal Pipeline Company
 - I-40 Interchange \$1.806M
 - Install 0.9 miles (4,767ft) of new pipeline x 1 line at \$2.0M per mile per line

7.5.5 Estimated Time to Relocate

- Cardinal Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

7.5.6 Restrictions and/or Moratoriums

- Cardinal Pipeline Company
 - Cutover for pipelines are restricted during winter months

7.5.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

7.6 Segment - L5 (984+98.45 1012+50.98)

Lilac Corridor crosses over to Green Corridor.

7.6.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

7.6.2 Future Facilities

There are no future transmission facilities planned at this time

7.6.3 Prior Rights

N/A

7.6.4 Estimate Cost to NCTA for Relocation

N/A

7.6.5 Estimated Time to Relocate

N/A

7.6.6 Restrictions and/or Moratoriums

N/A

7.6.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

7.7 Segment - L6 (984+98.45 to 1031+75.65)

Lilac Corridor cross over to Brown Corridor.

7.7.1 Existing Facilities

(Highlighted on COR-L_RDY_ROLL5A_UC)

- Duke/Progress Energy has a 500KV transmission line on steel lattice structures in conflict with the proposed expressway approximately 3,000 feet east of White Oak Road
- Cardinal Pipeline Company has a gas transmission line in conflict with the propose expressway approximately 3,000 feet east of White Oak Road. This portion of the pipeline is parallel with the Duke/Progress Energy 500KV transmission line.

7.7.2 Future Facilities

There are no future transmission facilities planned at this time

7.7.3 Prior Rights

Cardinal Pipeline Company – deeded R/W

Duke/Progress Energy – deeded R/W

7.7.4 Estimate Cost to NCTA for Relocation

- Cardinal Pipeline Company
 - East of White Oak \$171.2K
 - Adjustment to 0.09 miles (452 feet) of transmission line to account for fill \$2.0M per mile per line
- Duke/Progress Energy
 - East of White Oak \$223K
 - Adjust span lengths and structure heights to accommodate 446ft crossing of new corridor

7.7.5 Estimated Time to Relocate

- Cardinal Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 18-24 months

Utility Impact Assessment

7.7.6 Restrictions and/or Moratoriums

- Cardinal Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

7.7.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

7.8 Segment – G2L (1055+84.23 to 1158+00.00)

Portion of Green Corridor from a point where Lilac ties to Green to a point where Teal ties to Green.

7.8.1 Existing Facilities

(Highlighted on COR-G_RDY_ROLLI_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 3,000 feet south of US-70 (Business)

7.8.2 Future Facilities

There are no future transmission facilities planned at this time

7.8.3 Prior Rights

Duke/Progress Energy – deeded R/W

7.8.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - South of US-70 Business \$111K
 - Adjust span lengths and pole heights to accommodate 370ft. crossing of new corridor

7.8.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

7.8.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

7.8.7 Non-Utility Conflicts Observed During Investigation

- None

Utility Impact Assessment

7.9 Segment – B1L (1085+00.00 to 1206+00.00)

Portion of Brown Corridor from a point where Lilac ties to Brown to a point where Tan ties to Brown.

7.9.1 Existing Facilities

(Highlighted on COR-B_RDY_ROLL3_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 800 feet north of Guy Road

7.9.2 Future Facilities

There are no future transmission facilities planned at this time

7.9.3 Prior Rights

Duke/Progress Energy – deeded R/W

7.9.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - North of Guy Road \$105.6K
 - Adjust span lengths and pole heights to accommodate 352ft. crossing of new corridor

7.9.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 18-24 months

7.9.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

7.9.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

8 Plum Corridor *(no longer being considered)*

Utility Impact Assessment

9 Red Corridor

9.1 Segment – R1 (386+31.44 to 495+00.00)

Red Corridor from Orange to US 401 (Builds only the portion of the US 401 Interchange needed to complete R-2721).

9.1.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

9.1.2 Future Facilities

There are no future transmission facilities planned at this time

9.1.3 Prior Rights

N/A

9.1.4 Estimate Cost to NCTA for Relocation

N/A

9.1.5 Estimated Time to Relocate

N/A

9.1.6 Restrictions and/or Moratoriums

N/A

9.1.7 Non-Utility Conflicts Observed During Investigation

- Cell Tower
 - Existing Facility
(Highlighted on COR-R_RDY_ROLL1_UC)
 - Crown Castle Tower has a cell tower site near the intersection of Caddy Road and Fayetteville (US-401) in conflict with new expressway.
 - Prior Rights
 - Deeded property
 - Estimated Cost per tower to NCTA for Relocation
(Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)
 - \$1.0M
 - Estimated Time per tower to Relocate
 - Acquisition of new site 6-12 months
 - Permitting/Construction/Cutover/Removal 12-24 months
 - Restrictions and / or Moratoriums
 - Permits and existing contracts with tenants may impact schedules for relocations and / or transfers to new tower site.

Utility Impact Assessment

9.2 Segment – R2 (495+00.00 to 618+00.00)

Red Corridor from US 401 to a point where Red Mod (Former Corridor) ties to Red (Builds the remaining portion of the US 401 interchange).

9.2.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

9.2.2 Future Facilities

There are no future transmission facilities planned at this time

9.2.3 Prior Rights

N/A

9.2.4 Estimate Cost to NCTA for Relocation

N/A

9.2.5 Estimated Time to Relocate

N/A

9.2.6 Restrictions and/or Moratoriums

N/A

9.2.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

9.3 Segment – R3 (618+00.00 to 854+72.00)

Red Corridor from a point where Red Mod (Former Corridor) ties to Red west of Old Stage Rd to a point where Red Mod (Former Corridor) ties back to Red west of I-40.

9.3.1 Existing Facilities

(Highlighted on COR-R_RDY_ROLL3_UC)

- AT&T has a Remote Terminal Site in conflict with the proposed expressway at Vandora Springs Road. just north of roundabout with Buffalo Road

9.3.2 Future Facilities

There are no future transmission facilities planned at this time

9.3.3 Prior Rights

AT&T – property owner

9.3.4 Estimate Cost to NCTA for Relocation

- AT&T
 - Vandora Springs Rd. just north of roundabout with Buffalo Rd. \$400K

9.3.5 Estimated Time to Relocate

- AT&T
 - Acquisition of new site 6-12 months
 - Construction/Cutover/Removal 12-18 months

9.3.6 Restrictions and/or Moratoriums

None

9.3.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

9.4 Segment – R4 (854+72.00 to 916+28.91)

Red Corridor from a point where Red Mod (Former Corridor) ties back to Red west of I-40 to I-40 (Includes building only a portion of I-40 need to complete R-2828).

9.4.1 Existing Facilities

(Highlighted on COR-R_RDY_ROLL5_UC)

- Duke/Progress Energy has three (3) parallel 115KV transmission lines residing in a common right-of-way in conflict with the interchange of the new expressway and I-40.
 - All three (3) lines in parallel are in conflict for about 600 feet
 - Two (2) lines in parallel on “H” wood structures continue in conflict for an additional 2,600 feet
 - One (1) line on single wood poles continues in conflict for an additional 3,500 feet.

9.4.2 Future Facilities

There are no future transmission facilities planned at this time

9.4.3 Prior Rights

Duke/Progress Energy – deeded R/W

9.4.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - Interchange of I-40 and Red corridor
 - Install 6,091 feet of transmission line on wood “H” structures \$1.827M
 - Install 6,031 feet of transmission line on wood “H” structures \$1.809M
 - Install 3,240 feet of transmission line on single wood poles \$972K

9.4.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

9.4.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

9.4.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

9.5 Segment – R5 (916+28.91 to 986+64.48)

Red Corridor from R4 to cross over for Red to Mint and Red to Green (Includes building the remaining portion of the I-40 Interchange).

9.5.1 Existing Facilities

(Highlighted on COR-R_RDY_ROLL6_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway at approximately 2,800 southwest of US-70 near Waterfield Drive.

9.5.2 Future Facilities

There are no future transmission facilities planned at this time

9.5.3 Prior Rights

Duke/Progress Energy – deeded R/W

9.5.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - Southwest of US-70 near Waterfield Dr. \$138.6K
 - Adjust span lengths and pole heights to accommodate 668ft. crossing of new corridor

9.5.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

9.5.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

9.5.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

9.6 Segment – R6 & R7 (986+64.48 to 1064+00.00)

R6 - Red Corridor cross over from Red to Green and;

R7 - Red Corridor cross over from Red to Mint.

9.6.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

9.6.2 Future Facilities

There are no future transmission facilities planned at this time

9.6.3 Prior Rights

N/A

9.6.4 Estimate Cost to NCTA for Relocation

N/A

9.6.5 Estimated Time to Relocate

N/A

9.6.6 Restrictions and/or Moratoriums

N/A

9.6.7 Non-Utility Conflicts Observed During Investigation

- FAA Air Traffic Control Antenna
 - Existing Facility
(*Highlighted on COR-R_RDY_ROLL6_UC*)
 - The FAA has an antenna site for air traffic control near the intersection of Rock Quarry Road and Old Baucom Road that is in conflict with new expressway.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(*Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below*)
 - \$500K
 - Estimated Time to Relocate
 - Acquisition of new site
 - 6-12 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - May have to obtain permits from various regulatory agencies prior to relocating this facility.

Utility Impact Assessment

10 Red Modified Corridor *(no longer being considered)*

Utility Impact Assessment

11 Blue Corridor

11.1 Segment – BL1 (478+00.00 to 505+00.00)

Blue Corridor from a point before the US 401 Interchange to a point just after the US 401 (Builds only the Portion of US 401 needed to complete R-2721).

11.1.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

11.1.2 Future Facilities

There are no future transmission facilities planned at this time

11.1.3 Prior Rights

N/A

11.1.4 Estimate Cost to NCTA for Relocation

N/A

11.1.5 Estimated Time to Relocate

N/A

11.1.6 Restrictions and/or Moratoriums

N/A

11.1.7 Non-Utility Conflicts Observed During Investigation

- Cell Tower
 - Existing Facility
(Highlighted on COR-BL_RDY_ROLL01_UC)
 - Crown Castle Tower has a cell tower site near the intersection of US-401 in conflict with new expressway.
 - Prior Rights
 - Deeded property
 - Estimated Cost per tower to NCTA for Relocation
(Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)
 - \$1.0M
 - Estimated Time per tower to Relocate
 - Acquisition of new site 6-12 months
 - Permitting/Construction/Cutover/Removal 12-24 months
 - Restrictions and / or Moratoriums
 - Permits and existing contracts with tenants may impact schedules for relocations and / or transfers to new tower site.

Utility Impact Assessment

11.2 Segment - BL2 (505+00.00 to 680+69.89)

Blue Corridor from US 401 (Builds the Remaining Portion of US 401 Interchange) to a point after the Old Stage Road Interchange.

11.2.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

11.2.2 Future Facilities

There are no future transmission facilities planned at this time

11.2.3 Prior Rights

N/A

11.2.4 Estimate Cost to NCTA for Relocation

N/A

11.2.5 Estimated Time to Relocate

N/A

11.2.6 Restrictions and/or Moratoriums

N/A

11.2.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

11.3 Segment - BL3 (680+69.89 to 850+50.00)

Blue Corridor from a point after Old Stage Road Interchange to where Blue Crossover to Lilac picks up.

11.3.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

11.3.2 Future Facilities

There are no future transmission facilities planned at this time

11.3.3 Prior Rights

N/A

11.3.4 Estimate Cost to NCTA for Relocation

N/A

11.3.5 Estimated Time to Relocate

N/A

11.3.6 Restrictions and/or Moratoriums

N/A

11.3.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

11.4 Segment – BLxL (850+50.00 to 958+13.12)

Blue Corridor Crossover to Lilac ties in to the middle of Lilac segment L2.

11.4.1 Existing Facilities

(Highlighted on COR-BL_RDY_ROLL05_UC)

- Colonial Pipeline Company has three (3) petroleum lines within a single R/W in conflict with the proposed expressway just to the east of Benson Road (NC-50)

11.4.2 Future Facilities

There are no future transmission facilities planned at this time

11.4.3 Prior Rights

Colonial Pipeline Company – deeded R/W

11.4.4 Estimate Cost to NCTA for Relocation

- Colonial Pipeline Company
 - West of Benson Rd. (NC-50) \$1.488M
 - Install 496 feet of new pipeline x 3 lines at \$1K per foot per line

11.4.5 Estimated Time to Relocate

- Colonial Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

11.4.6 Restrictions and/or Moratoriums

- Colonial Pipeline Company
 - Cutover for pipelines are restricted during winter months

11.4.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

11.5 Segment - L2BL (794+00.00 to 937+80.98)

Portion of Lilac Corridor that ties the Blue Corridor to a common segment break between L2 & L3.

11.5.1 Existing Facilities

(Highlighted on COR-L_RDY_ROLL3_UC)

- Duke/Progress Energy has another 115KV transmission line on wood “H” structures in conflict with the proposed expressway approximately 1 mile east of Benson Road (NC-50).

11.5.2 Future Facilities

There are no future transmission facilities planned at this time

11.5.3 Prior Rights

Duke/Progress Energy – deeded R/W

11.5.4 Estimate Cost to NCTA for Relocation

- Duke/Progress Energy
 - East of Benson Rd. \$200.4K
 - Adjust span lengths and pole heights to accommodate 668ft. crossing of new corridor

11.5.5 Estimated Time to Relocate

- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months

11.5.6 Restrictions and/or Moratoriums

- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

Utility Impact Assessment

11.5.7 Non-Utility Conflicts Observed During Investigation

- Waste Water Treatment Pond & Spray Fields
 - Existing Facility
 - Highlighted on COR-L_RDY_ROLL3_UC*
 - Lilac corridor in conflict with 1 existing wastewater pond and 7.05 acres of spray field at the Wrenn Road Wastewater Treatment Plant.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
 - (Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)*
 - \$10.0M
 - Estimated Time per tower to Relocate
 - Acquisition of new site
 - 12-24 months
 - Permitting/Construction/Cutover/Removal
 - 12-24 months
 - Restrictions and / or Moratoriums
 - Unknown

Utility Impact Assessment

12 Purple Corridor

12.1 Segment – O1PU (21+45.00 to 197+34.10)

Orange Corridor from the Beginning of the Project to a point where the Purple Corridor ties.

12.1.1 Existing Facilities

(Highlighted on COR-O_RDY_ROLL1_UC)

- Colonial Pipeline Company has a single petroleum line in conflict with proposed expressway at the intersection of Sunset Lake Road (SR-1301)

(Highlighted on COR-O_RDY_ROLL2_UC)

- AT&T has a Remote Terminal Site in conflict with the proposed improvements to Holly Springs Road (SR-1152) just across from Fairview Street

12.1.2 Future Facilities

There are no future transmission facilities planned at this time

12.1.3 Prior Rights

Colonial Pipeline Company – deeded R/W
AT&T – owner of property

12.1.4 Estimate Cost to NCTA for Relocation

- Colonial Pipeline Company
 - Sunset Lake Road (SR-1301) \$2.769M
 - Install 2,769 feet of new pipeline x 1 line at \$1K per foot per line
- AT&T
 - Holly Springs Rd. \$400K

12.1.5 Estimated Time to Relocate

- Colonial Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- AT&T
 - Acquisition of new site 6-12 months
 - Construction/Cutover/Removal 12-18 months

12.1.6 Restrictions and/or Moratoriums

- Colonial Pipeline Company
 - Cutover for pipelines are restricted during winter months

Utility Impact Assessment

12.1.7 Non-Utility Conflicts Observed During Investigation

- Warning Siren – Nuclear Plant
 - Existing Facility
(Highlighted on COR-O_RDY_ROLL2_UC)
 - Duke/Progress Energy has a warning siren for a nearby nuclear plant located on Kildare Road just to the northwest of Holly Springs Road.
 - Prior Rights
 - Deeded property
 - Estimated Cost to NCTA for Relocation
(Note: actual cost will be part of real estate settlement and may deviate greatly from the amount estimated below)
 - \$50K
 - Estimated Time to Relocate
 - Acquisition of new site
 - 6-12 months
 - Permitting/Construction/Cutover/Removal
 - 12-18 months
 - Restrictions and / or Moratoriums
 - Duke/Progress Energy may have to obtain permits from various regulatory agencies prior to relocating this facility.

Utility Impact Assessment

12.2 Segment – PU1 (195+84.46 to 338+53.25)

Purple Corridor from Orange Corridor to a point after the Optimist Farm Road crossing.

12.2.1 Existing Facilities

(Highlighted on COR-PU_RDY_ROLL01_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway just west of Pierce Olive Road.

(Highlighted on COR-PU_RDY_ROLL02_UC)

- Duke/Progress Energy has a 115KV transmission line on wood “H” structures in conflict with the proposed expressway at the end of Draycroft Place.
- Cardinal Pipeline Company has a gas transmission line in conflict with the proposed expressway at the end of Draycroft Place.

12.2.2 Future Facilities

There are no future transmission facilities planned at this time

12.2.3 Prior Rights

Cardinal Pipeline Company – deeded R/W

Duke/Progress Energy – deeded R/W

12.2.4 Estimate Cost to NCTA for Relocation

- Cardinal Pipeline Company
 - Draycroft Place \$203.0K
 - Adjustment to 0.1 miles (536 feet) of transmission line to account for fill \$2.0M per mile per line
- Duke/Progress Energy
 - Draycroft Place \$273.6K
 - Adjust span lengths and structure heights to accommodate 712ft crossing of new corridor
 - Pierce Olive Road \$106.8K
 - Adjust span lengths and pole heights to accommodate 356ft. crossing of new corridor

Utility Impact Assessment

12.2.5 Estimated Time to Relocate

- Cardinal Pipeline Company
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 12-18 months
- Duke/Progress Energy
 - Acquisition of new R/W and Design 12 months
 - Construction/Cutover/Removal 18-24 months

12.2.6 Restrictions and/or Moratoriums

- Cardinal Pipeline Company
 - Cutover for pipelines are restricted during winter months
- Duke/Progress Energy
 - Cutover for transmission lines are restricted during winter and summer months

12.2.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment

12.3 Segment – PU2 (338+53.25 to 478+00.00)

Purple Corridor from the point after the Optimist Farm Road crossing to a point before the US 401 Blue Corridor Interchange.

12.3.1 Existing Facilities

No facilities exist in this segment that would exceed \$250K to relocate.

12.3.2 Future Facilities

N/A

12.3.3 Prior Rights

N/A

12.3.4 Estimate Cost to NCTA for Relocation

N/A

12.3.5 Estimated Time to Relocate

N/A

12.3.6 Restrictions and/or Moratoriums

N/A

12.3.7 Non-Utility Conflicts Observed During Investigation

None

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission				Gas		Water / Sewer		Non-Utility Cost		Corridor Totals		
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas				TV Towers, Cell Towers, FAA Towers, etc.				
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost			
1 ORANGE-GREEN	ORANGE	O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000							\$2,769,000		
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000												\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300															\$879,300
		O1	West Lake Rd. (SR-1387)								Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000								\$6,144,000
		O1	Bells Lake Rd. (SR-1386)								Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000								\$1,071,000
		O1	Kildare Farm Rd. just west of Holly Springs Rd.															Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
		O2	Lake Wheeler Rd. to US-401								Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000								\$9,576,000
		O3	US-401 to Old McCullers Rd. (SR-2722)								Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000								\$4,359,000
		O3	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)								Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000								\$19,887,000
		O3	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515											\$1,436,015
		O3	East of NC-50	115KV Transmission line Wood "H" structures Rem-570ft Inst-1,214ft	\$364,200						Petroleum line x 3 Rem-640ft Inst-1,136ft	\$3,408,000								\$3,772,200
		O4	No conflicts greater than \$250K																	\$0
	GREEN	G1	No conflicts greater than \$250K																\$0	
		G2	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing	\$111,000														\$111,000	
		G3	No conflicts greater than \$250K																\$0	
		G4	Near intersection of Rock Quarry Rd. & Old Baucom Rd.															FAA Air Traffic Control	\$500,000	\$500,000
		G5	1,600 feet NE of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing	\$105,600															\$105,600
G6	No conflicts greater than \$250K																	\$0		
G7	Poole Rd. (SR-1007)																SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost				\$2,094,600	\$400,000	\$801,515	\$47,214,000	\$0	\$0	\$1,550,000	\$52,060,115									

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals			
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.					
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost				
2 ORANGE-GREEN-MINT-GREEN	ORANGE	O1	Sunset Lake Rd. (SR-1301)														\$2,769,000		
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000											\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300														\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000								\$6,144,000
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000								\$1,071,000
		O1	Kildare Farm Rd. just west of Holly Springs Rd.													Warning Siren for nearby Nuclear Plans	\$50,000		\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000								\$9,576,000
		O3	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000								\$4,359,000
		O3	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000								\$19,887,000
		O3	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515										\$1,436,015
		O3	East of NC-50	115KV Transmission line Wood "H" structures Rem-570ft Inst-1,214ft	\$364,200					Petroleum line x 3 Rem-640ft Inst-1,136ft	\$3,408,000								\$3,772,200
		O4	No conflicts greater than \$250K																\$0
		G1	No conflicts greater than \$250K																\$0
		G2	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing	\$111,000														\$111,000
		G3	No conflicts greater than \$250K																\$0
		M1	Near intersection of Rock Quarry Rd. & Old Baucom Rd.													FAA Air Traffic Control	\$500,000		\$500,000
M2	1,600 feet north of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 353ft crossing	\$105,900														\$105,900		
G6	No conflicts greater than \$250K																\$0		
G7	Poole Rd. (SR-1007)													SBA Cell Tower	\$1,000,000		\$1,000,000		
Total End to End Utility Cost				\$2,094,900	\$400,000	\$801,515	\$47,214,000	\$0	\$0	\$1,550,000	\$52,060,415								

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals		
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.				
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost			
3 ORANGE-BROWN-TAN-GREEN		O1	Sunset Lake Rd. (SR-1301)													\$2,769,000		
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300													\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000							\$6,144,000
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000							\$1,071,000
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000		\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000							\$9,576,000
		O3	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000							\$4,359,000
		O3	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000							\$19,887,000
		O3	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515									\$1,436,015
		O3	East of NC-50	115KV Transmission line Wood "H" structures Rem-570ft Inst-1,214ft	\$364,200					Petroleum line x 3 Rem-640ft Inst-1,136ft	\$3,408,000							\$3,772,200
		O4	No conflicts greater than \$250K															\$0
		G1	No conflicts greater than \$250K															\$0
		B1	3,000' east of White Oak Rd.	500KV Transmission line on steel structures Adj spans and structure height for 446ft crossing	\$223,000			Gas transmission line Adjust-452ft to account for cut/fill	\$171,212									\$394,212
		B1	800' north of Guy Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing	\$105,600													\$105,600
T1	900' north of Battle Bridge Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 450ft crossing	\$135,000													\$135,000		
G6	No conflicts greater than \$250K															\$0		
G7	Poole Rd. (SR-1007)													SBA Cell Tower	\$1,000,000	\$1,000,000		
Total End to End Utility Cost				\$2,341,600		\$400,000		\$972,727		\$47,214,000		\$0		\$0	\$1,050,000	\$51,978,327		

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
4 ORANGE-BROWN-GREEN	ORANGE	O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000	
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000									\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300												\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000						\$6,144,000
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000						\$1,071,000
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000						\$9,576,000
		O3	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000						\$4,359,000
		O3	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000						\$19,887,000
		O3	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515								\$1,436,015
		O3	East of NC-50	115KV Transmission line Wood "H" structures Rem-570ft Inst-1,214ft	\$364,200					Petroleum line x 3 Rem-640ft Inst-1,136ft	\$3,408,000						\$3,772,200
	O4	No conflicts greater than \$250K														\$0	
	G1	No conflicts greater than \$250K														\$0	
	BROWN	B1	3,000' east of White Oak Rd.	500KV Transmission line on steel structures Adj spans and structure height for 446ft crossing	\$223,000			Gas transmission line Adjust-452ft to account for cut/fill	\$171,212								\$394,212
		B1	800' north of Guy Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing	\$105,600												\$105,600
		B2	Area along corridor from Old Baucom Rd. 2,300 feet north to connection with Brown corridor (B-3)												Wastewater Spray Fields 33 acres	\$8,250,000	\$8,250,000
B3		Area along corridor from connection with Brown (B-2) north to 1,100 feet north of Battle Bridge Rd.												Wastewater Spray Fields 10 acres	\$2,500,000	\$2,500,000	
G6		No conflicts greater than \$250K														\$0	
G7	Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000		
Total End to End Utility Cost				\$2,206,600	\$400,000	\$972,727	\$47,214,000	\$0	\$0	\$11,800,000	\$62,593,327						

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals		
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.				
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost			
5 ORANGE-GREEN-TEAL-BROWN-GREEN		O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000		
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300													\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000						\$6,144,000	
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000						\$1,071,000	
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000	
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000						\$9,576,000	
		O3	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000						\$4,359,000	
		O3	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000						\$19,887,000	
		O3	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515								\$1,436,015	
		O3	East of NC-50	115KV Transmission line Wood "H" structures Rem-570ft Inst-1,214ft	\$364,200					Petroleum line x 3 Rem-640ft Inst-1,136ft	\$3,408,000						\$3,772,200	
		O4	No conflicts greater than \$250K														\$0	
		G1	No conflicts greater than \$250K														\$0	
		G2	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing	\$111,000												\$111,000	
		TL1	Area along corridor from Old Baucom Rd. 2,300 feet north to connection with Brown corridor (B-3)													Wastewater Spray Fields 33 acres	\$8,250,000	\$8,250,000
B3	Area along corridor from connection with Brown (B-2) north to 1,100 feet north of Battle Bridge Rd.													Wastewater Spray Fields 10 acres	\$2,500,000	\$2,500,000		
G6	No conflicts greater than \$250K														\$0			
G7	Poole Rd. (SR-1007)													SBA Cell Tower	\$1,000,000	\$1,000,000		
Total End to End Utility Cost				\$1,989,000	\$400,000	\$801,515	\$47,214,000	\$0	\$0	\$11,800,000	\$62,204,515							

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals		
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.				
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost			
6 ORANGE-RED-GREEN	ORANGE	O1	Sunset Lake Rd. (SR-1301)													\$2,769,000		
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300													\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000							\$6,144,000
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000							\$1,071,000
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000		\$50,000
	RED	R1	Near the intersection of Caddy Rd. & Fayetteville Rd. (US-401)												Crown Castle Tower	\$1,000,000	\$1,000,000	
		R2	No conflicts greater than \$250K														\$0	
		R3	Vandora Springs Rd. just north of roundabout with Buffalo Rd.			Remote Terminal Site	\$400,000										\$400,000	
		R4	Interchange of I-40 and Red corridor	115KV Transmission line Wood "H" structures Rem-5,158ft Inst-6,091ft	\$1,827,300												\$1,827,300	
		R4	Interchange of I-40 and Red corridor	115KV Transmission line Wood "H" structures Rem-5,040ft Inst-6,031ft	\$1,809,300												\$1,809,300	
		R4	Interchange of I-40 and Red corridor	115KV Transmission line Single pole structures Rem-3,236ft Inst-3,240ft	\$972,000												\$972,000	
		R5	2,800' SW of US-70 near Waterfield Dr.	115KV Transmission line Wood "H" structures Adj spans and pole height for 461ft crossing	\$138,600												\$138,600	
	R6&7	Near intersection of Rock Quarry Rd. & Old Baucom Rd.												FAA Air Traffic Control	\$500,000	\$500,000		
	GREEN	G5	1,600 feet NE of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing	\$105,600												\$105,600	
G6		No conflicts greater than \$250K														\$0		
G7		Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000		
Total End to End Utility Cost				\$5,732,100		\$800,000		\$0		\$9,984,000		\$0		\$0	\$2,550,000	\$19,066,100		

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals		
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.				
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost			
7 ORANGE-RED-MINT-GREEN	ORANGE	O1	Sunset Lake Rd. (SR-1301)													\$2,769,000		
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300													\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000							\$6,144,000
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000							\$1,071,000
		O1	Kildare Farm Rd. just west of Holly Springs Rd.													Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
	RED	R1	Near the intersection of Caddy Rd. & Fayetteville Rd. (US-401)													Crown Castle Tower	\$1,000,000	\$1,000,000
		R2	No conflicts greater than \$250K															\$0
		R3	Vandora Springs Rd. just north of roundabout with Buffaloe Rd.			Remote Terminal Site	\$400,000											\$400,000
		R4	Interchange of I-40 and Red corridor	115KV Transmission line Wood "H" structures Rem-5,158ft Inst-6,091ft	\$1,827,300													\$1,827,300
		R4	Interchange of I-40 and Red corridor	115KV Transmission line Wood "H" structures Rem-5,040ft Inst-6,031ft	\$1,809,300													\$1,809,300
		R4	Interchange of I-40 and Red corridor	115KV Transmission line Single pole structures Rem-3,236ft Inst-3,240ft	\$972,000													\$972,000
		R5	2,800' SW of US-70 near Waterfield Dr.	115KV Transmission line Wood "H" structures Adj spans and pole height for 461ft crossing	\$138,600													\$138,600
	R6&7	Near intersection of Rock Quarry Rd. & Old Baucom Rd.													FAA Air Traffic Control	\$500,000	\$500,000	
	MINT-GREEN	M2	1,600 feet north of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 353ft crossing	\$105,900													\$105,900
G6		No conflicts greater than \$250K															\$0	
G7		Poole Rd. (SR-1007)													SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost				\$5,732,400		\$800,000		\$0		\$9,984,000		\$0		\$0		\$2,550,000	\$19,066,400	

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
8 ORANGE-PURPLE-BLUE-LILAC-GREEN	Orange	O1PU	Sunset Lake Rd. (SR-1301)													\$2,769,000	
		O1PU	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000
		O1PU	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
	Purple	PU1	Just west of Pierce Olive Rd. SR 1389	115KV Transmission line Wood "H" structures Adj spans and pole height for 356ft crossing		\$106,800											\$106,800
		PU1	Draycroft Place	115KV Transmission line Wood "H" structures Adj spans and pole height for 712ft crossing		\$273,600			Gas transmission line Adjust-536ft to account for cut/fill	\$203,030							\$476,630
		PU2	No conflicts greater than \$250K														\$0
	Blue	BL1	Intersection with US-401												Crown Castle Tower	\$1,000,000	\$1,000,000
		BL2	No conflicts greater than \$250K														\$0
		BL3	No conflicts greater than \$250K														\$0
		BLxL	1,800 ft west of Benson Rd. (NC-50)								Petroleum line x 3 Rem-473ft Inst-496ft	\$1,488,000					\$1,488,000
	Lilac	L2BL	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing		\$200,400											\$200,400
		L2BL	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
	Green	L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Interchange of I-40						Gas transmission line Rem-977ft Inst-1,427ft	\$540,530							\$540,530
		L4	Interchange of I-40						Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681							\$1,805,681
		L5	No conflicts greater than \$250K														\$0
		G2L	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing		\$111,000											\$111,000
	Green	G3	No conflicts greater than \$250K														\$0
		G4	Near intersection of Rock Quarry Rd. & Old Baucom Rd.												FAA Air Traffic Control	\$500,000	\$500,000
		G5	1,600 feet NE of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing		\$105,600											\$105,600
G6		No conflicts greater than \$250K														\$0	
G7		Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost					\$797,400		\$400,000		\$2,549,241		\$4,257,000		\$0		\$0	\$22,550,000	\$30,553,641

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
9 ORANGE-PURPLE-BLUE-LILAC-GREEN-MINT-GREEN	Orange	O1PU	Sunset Lake Rd. (SR-1301)													\$2,769,000	
		O1PU	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000
		O1PU	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
	Purple	PU1	Just west of Pierce Olive Rd. SR 1389	115KV Transmission line Wood "H" structures Adj spans and pole height for 356ft crossing		\$106,800											\$106,800
		PU1	Draycroft Place	115KV Transmission line Wood "H" structures Adj spans and pole height for 712ft crossing		\$273,600			Gas transmission line Adjust-536ft to account for cut/fill	\$203,030							\$476,630
		PU2	No conflicts greater than \$250K														\$0
	Blue	BL1	Intersection with US-401												Crown Castle Tower	\$1,000,000	\$1,000,000
		BL2	No conflicts greater than \$250K														\$0
		BL3	No conflicts greater than \$250K														\$0
		BLxL	1,800 ft west of Benson Rd. (NC-50)								Petroleum line x 3 Rem-473ft Inst-496ft	\$1,488,000					\$1,488,000
	Light Blue	L2BL	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing		\$200,400											\$200,400
		L2BL	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Interchange of I-40						Gas transmission line Rem-977ft Inst-1,427ft	\$540,530							\$540,530
		L4	Interchange of I-40						Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681							\$1,805,681
	L5	No conflicts greater than \$250K														\$0	
	Green	G2L	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing		\$111,000											\$111,000
		G3	No conflicts greater than \$250K														\$0
	Light Green	M1	Near intersection of Rock Quarry Rd. & Old Baucom Rd.												FAA Air Traffic Control	\$500,000	\$500,000
		M2	1,600 feet north of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 353ft crossing		\$105,900											\$105,900
G6		No conflicts greater than \$250K														\$0	
G7	Poole Rd. (SR-1007)													SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost					\$797,700		\$400,000		\$2,549,241		\$4,257,000		\$0		\$0	\$22,550,000	\$30,553,941

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
10 ORANGE-PURPLE-BLUE-LILAC-BROWN-TAN-GREEN	Orange	O1PU	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000	
		O1PU	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000									\$400,000	
		O1PU	Kildare Farm Rd. just west of Holly Springs Rd.											Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000	
	Purple	PU1	Just west of Pierce Olive Rd. SR 1389	115KV Transmission line Wood "H" structures Adj spans and pole height for 356ft crossing		\$106,800										\$106,800	
		PU1	Draycroft Place	115KV Transmission line Wood "H" structures Adj spans and pole height for 712ft crossing		\$273,600			Gas transmission line Adjust-536ft to account for cut/fill	\$203,030						\$476,630	
		PU2	No conflicts greater than \$250K													\$0	
	Blue	BL1	Intersection with US-401												Crown Castle Tower	\$1,000,000	\$1,000,000
		BL2	No conflicts greater than \$250K													\$0	
		BL3	No conflicts greater than \$250K													\$0	
		BLxL	1,800 ft west of Benson Rd. (NC-50)								Petroleum line x 3 Rem-473ft Inst-496ft	\$1,488,000				\$1,488,000	
	Light Blue	L2BL	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing		\$200,400										\$200,400	
		L2BL	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Interchange of I-40						Gas transmission line Rem-977ft Inst-1,427ft	\$540,530						\$540,530	
		L4	Interchange of I-40						Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681						\$1,805,681	
		L6	3,000' east of White Oak Rd.	500KV Transmission line on steel structures Adj spans and structure height for 446ft crossing		\$223,000			Gas transmission line Adjust-452ft to account for cut/fill	\$171,212						\$394,212	
	Brown	B1L	800' north of Guy Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing		\$105,600										\$105,600	
		T1	900' north of Battle Bridge Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 450ft crossing		\$135,000										\$135,000	
Green	G6	No conflicts greater than \$250K													\$0		
	G7	Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost					\$1,044,400		\$400,000		\$2,720,453		\$4,257,000		\$0		\$0	\$22,050,000	\$30,471,853

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
11 ORANGE-PURPLE-BLUE-LILAC-BROWN-GREEN	Orange	O1PU	Sunset Lake Rd. (SR-1301)													\$2,769,000	
		O1PU	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000
		O1PU	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
	Purple	PU1	Just west of Pierce Olive Rd. SR 1389	115KV Transmission line Wood "H" structures Adj spans and pole height for 356ft crossing		\$106,800											\$106,800
		PU1	Draycroft Place	115KV Transmission line Wood "H" structures Adj spans and pole height for 712ft crossing		\$273,600			Gas transmission line Adjust-536ft to account for cut/fill	\$203,030							\$476,630
		PU2	No conflicts greater than \$250K														\$0
	Blue	BL1	Intersection with US-401												Crown Castle Tower	\$1,000,000	\$1,000,000
		BL2	No conflicts greater than \$250K														\$0
		BL3	No conflicts greater than \$250K														\$0
		BLxL	1,800 ft west of Benson Rd. (NC-50)								Petroleum line x 3 Rem-473ft Inst-496ft	\$1,488,000					\$1,488,000
	Light Blue	L2BL	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing		\$200,400											\$200,400
		L2BL	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
	Light Purple	L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Interchange of I-40						Gas transmission line Rem-977ft Inst-1,427ft	\$540,530							\$540,530
		L4	Interchange of I-40						Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681							\$1,805,681
		L6	3,000' east of White Oak Rd.	500KV Transmission line on steel structures Adj spans and structure height for 446ft crossing		\$223,000			Gas transmission line Adjust-452ft to account for cut/fill	\$171,212							\$394,212
		B1L	800' north of Guy Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing		\$105,600											\$105,600
		Brown	B2	Area along corridor from Old Baucom Rd. 2,300 feet north to connection with Brown corridor (B-3)												Wastewater Spray Fields 33 acres	\$8,250,000
	B3		Area along corridor from connection with Brown (B-2) north to 1,100 feet north of Battle Bridge Rd.												Wastewater Spray Fields 10 acres	\$2,500,000	\$2,500,000
	Green	G6	No conflicts greater than \$250K														\$0
G7		Pooler Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost					\$909,400		\$400,000		\$2,720,453		\$4,257,000		\$0		\$0	\$32,800,000	\$41,086,853

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
12 ORANGE-PURPLE-BLUE-LILAC-GREEN-TEAL-BROWN-GREEN	Orange	O1PU	Sunset Lake Rd. (SR-1301)													\$2,769,000	
		O1PU	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000
		O1PU	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
	Purple	PU1	Just west of Pierce Olive Rd. SR 1389	115KV Transmission line Wood "H" structures Adj spans and pole height for 356ft crossing		\$106,800											\$106,800
		PU1	Draycroft Place	115KV Transmission line Wood "H" structures Adj spans and pole height for 712ft crossing		\$273,600			Gas transmission line Adjust-536ft to account for cut/fill	\$203,030							\$476,630
		PU2	No conflicts greater than \$250K														\$0
	Teal	BL1	Intersection with US-401												Crown Castle Tower	\$1,000,000	\$1,000,000
		BL2	No conflicts greater than \$250K														\$0
		BL3	No conflicts greater than \$250K														\$0
		BLxL	1,800 ft west of Benson Rd. (NC-50)								Petroleum line x 3 Rem-473ft Inst-496ft	\$1,488,000					\$1,488,000
	Brown	L2BL	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing		\$200,400											\$200,400
		L2BL	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Interchange of I-40							Gas transmission line Rem-977ft Inst-1,427ft	\$540,530						\$540,530
		L4	Interchange of I-40							Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681						\$1,805,681
	Green	L5	No conflicts greater than \$250K														\$0
		G2L	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing		\$111,000											\$111,000
		TL1	Area along corridor from Old Baucom Rd. 2,300 feet north to connection with Brown corridor (B-3)												Wastewater Spray Fields 33 acres	\$8,250,000	\$8,250,000
	Orange	B3	Area along corridor from connection with Brown (B-2) north to 1,100 feet north of Battle Bridge Rd.												Wastewater Spray Fields 10 acres	\$2,500,000	\$2,500,000
		G6	No conflicts greater than \$250K														\$0
G7		Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost					\$691,800		\$400,000		\$2,549,241		\$4,257,000		\$0		\$0	\$32,800,000	\$40,698,041

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
13 ORANGE-LILAC-GREEN	Orange	O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000	
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000									\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300												\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000					\$6,144,000	
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000					\$1,071,000	
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000					\$9,576,000	
		O3L	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000					\$4,359,000	
		O3L	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000					\$19,887,000	
		O3L	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515							\$1,436,015	
	OXL	Intersection of Lilac corridor and Huntwyck Dr.							Petroleum line x 3 Rem-616ft Inst-1,111ft	\$3,333,000					\$3,333,000		
	L2	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing	\$200,400											\$200,400		
	L2	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000	
	L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000	
	L3	Interchange of I-40					Gas transmission line Rem-977ft Inst-1,427ft	\$540,530							\$540,530		
	L4	Interchange of I-40					Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681							\$1,805,681		
	L5	No conflicts greater than \$250K													\$0		
	G2L	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing	\$111,000											\$111,000		
	G3	No conflicts greater than \$250K													\$0		
	G4	Near intersection of Rock Quarry Rd. & Old Baucom Rd.												FAA Air Traffic Control	\$500,000	\$500,000	
G5	1,600 feet NE of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing	\$105,600											\$105,600			
G6	No conflicts greater than \$250K													\$0			
G7	Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000		
Total End to End Utility Cost				\$1,930,800	\$400,000	\$3,147,726	\$47,139,000	\$0	\$0	\$21,550,000	\$74,167,526						

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
14 ORANGE-LILAC-GREEN-MINT-GREEN	Orange	O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000	
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000									\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300												\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000					\$6,144,000	
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000					\$1,071,000	
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000						\$9,576,000
		O3L	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000						\$4,359,000
		O3L	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000						\$19,887,000
		O3L	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515								\$1,436,015
	OXL	Intersection of Lilac corridor and Huntwyck Dr.							Petroleum line x 3 Rem-616ft Inst-1,111ft	\$3,333,000						\$3,333,000	
	L2	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing	\$200,400												\$200,400	
	L2	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000	
	L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000	
	L3	Interchange of I-40					Gas transmission line Rem-977ft Inst-1,427ft	\$540,530								\$540,530	
	L4	Interchange of I-40					Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681								\$1,805,681	
	L5	No conflicts greater than \$250K														\$0	
	G2L	South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing	\$111,000												\$111,000	
	G3	No conflicts greater than \$250K														\$0	
	M1	Near intersection of Rock Quarry Rd. & Old Baucom Rd.												FAA Air Traffic Control	\$500,000	\$500,000	
M2	1,600 feet north of Battle Bridge Rd. (SR-2552)	115KV Transmission line Wood "H" structures Adj spans and pole height for 353ft crossing	\$105,900												\$105,900		
G6	No conflicts greater than \$250K														\$0		
G7	Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000		
Total End to End Utility Cost				\$1,931,100	\$400,000	\$3,147,726	\$47,139,000	\$0	\$0	\$21,550,000	\$74,167,826						

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals		
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.				
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost			
15 ORANGE-LILAC-BROWN-TAN-GREEN		O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000		
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000										\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300													\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000							\$6,144,000
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000							\$1,071,000
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000		\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000							\$9,576,000
		O3L	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000							\$4,359,000
		O3L	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000							\$19,887,000
		O3L	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515									\$1,436,015
		OXL	Intersection of Lilac corridor and Huntwyck Dr.							Petroleum line x 3 Rem-616ft Inst-1,111ft	\$3,333,000							\$3,333,000
		L2	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing	\$200,400													\$200,400
		L2	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000		\$10,000,000
		L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000		\$10,000,000
		L3	Interchange of I-40					Gas transmission line Rem-977ft Inst-1,427ft	\$540,530									\$540,530
		L4	Interchange of I-40					Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681									\$1,805,681
		L6	3,000' east of White Oak Rd.	500KV Transmission line on steel structures Adj spans and structure height for 446ft crossing	\$223,000			Gas transmission line Adjust-452ft to account for cut/fill	\$171,212									\$394,212
		B1L	800' north of Guy Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing	\$105,600													\$105,600
T1	900' north of Battle Bridge Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 450ft crossing	\$135,000													\$135,000		
G6	No conflicts greater than \$250K															\$0		
G7	Poole Rd. (SR-1007)													SBA Cell Tower	\$1,000,000	\$1,000,000		
Total End to End Utility Cost				\$2,177,800	\$400,000	\$3,318,938	\$47,139,000	\$0	\$0	\$21,050,000	\$74,085,738							

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
16 ORANGE-LILAC-BROWN-GREEN	Orange	O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000	
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000									\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300												\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000					\$6,144,000	
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000					\$1,071,000	
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000						\$9,576,000
		O3L	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000						\$4,359,000
		O3L	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000						\$19,887,000
		O3L	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515								\$1,436,015
	OXL	Intersection of Lilac corridor and Huntwyck Dr.							Petroleum line x 3 Rem-616ft Inst-1,111ft	\$3,333,000						\$3,333,000	
	L2	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing	\$200,400												\$200,400	
	L2	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000	
	L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000	
	L3	Interchange of I-40					Gas transmission line Rem-977ft Inst-1,427ft	\$540,530								\$540,530	
	L4	Interchange of I-40					Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681								\$1,805,681	
	L6	3,000' east of White Oak Rd.	500KV Transmission line on steel structures Adj spans and structure height for 446ft crossing	\$223,000			Gas transmission line Adjust-452ft to account for cut/fill	\$171,212								\$394,212	
	B1L	800' north of Guy Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 352ft crossing	\$105,600												\$105,600	
	B2	Area along corridor from Old Baucom Rd. 2,300 feet north to connection with Brown corridor (B-3)													Wastewater Spray Fields 33 acres	\$8,250,000	\$8,250,000
	B3	Area along corridor from connection with Brown (B-2) north to 1,100 feet north of Battle Bridge Rd.													Wastewater Spray Fields 10 acres	\$2,500,000	\$2,500,000
G6	No conflicts greater than \$250K															\$0	
G7	Poole Rd. (SR-1007)													SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost				\$2,042,800	\$400,000	\$3,318,938	\$47,139,000	\$0	\$0	\$31,800,000	\$84,700,738						

Utility Impact Assessment Matrix - End to End

Conflicts >\$250K EA

Corridor Description	Corridor Colors	Segment	At or near the intersection of new expressway and:	Power		Telephone		Gas Transmission		Gas		Water / Sewer		Non-Utility Cost		Corridor Totals	
				Duke/Progress Energy Transmission		AT&T		Cardinal Pipeline (Williams Pipeline)		Colonial Pipeline Company (multiple steel lines)		Piedmont Natural Gas		TV Towers, Cell Towers, FAA Towers, etc.			
				Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost	Facility	Est. Cost		
17 ORANGE-LILAC-GREEN-TEAL-BROWN-GREEN	Orange	O1	Sunset Lake Rd. (SR-1301)							Petroleum line x 1 Rem-917ft Inst-2,769ft	\$2,769,000					\$2,769,000	
		O1	Holly Springs Rd. (SR-1152)			Remote Terminal Site	\$400,000									\$400,000	
		O1	Pierce Olive Rd. (SR-1389)	115KV Transmission line Wood "H" structures Rem-669ft Inst-2,931ft	\$879,300												\$879,300
		O1	West Lake Rd. (SR-1387)							Petroleum line x 3 Rem-1,060ft Inst-2,048ft	\$6,144,000					\$6,144,000	
		O1	Bells Lake Rd. (SR-1386)							Petroleum line x 3 Rem-180ft Inst-357ft	\$1,071,000					\$1,071,000	
		O1	Kildare Farm Rd. just west of Holly Springs Rd.												Warning Siren for nearby Nuclear Plans	\$50,000	\$50,000
		O2	Lake Wheeler Rd. to US-401							Petroleum line x 3 Rem-2,955ft Inst-3,192ft	\$9,576,000					\$9,576,000	
	Light Blue	O3L	US-401 to Old McCullers Rd. (SR-2722)							Petroleum line x 3 Rem-1,323ft Inst-1,453ft	\$4,359,000					\$4,359,000	
		O3L	Fanny Brown Rd. (SR-2723) to Holland Church Rd. (SR-2725)							Petroleum lines x 3 Rem-6,473ft Inst-6,629ft	\$19,887,000					\$19,887,000	
		O3L	Holland Church Rd. (SR-2725)	115KV Transmission line Wood "H" structures Rem-594ft Inst-2,115ft	\$634,500			Gas transmission line Rem-607ft Inst-2,116ft	\$801,515							\$1,436,015	
	Light Purple	OXL	Intersection of Lilac corridor and Huntwyck Dr.							Petroleum line x 3 Rem-616ft Inst-1,111ft	\$3,333,000					\$3,333,000	
		L2	1 mile east of Benson Rd.	115KV Transmission line Wood "H" structures Adj spans and pole height for 668ft crossing	\$200,400											\$200,400	
		L2	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Off Wrenn Rd.												Wastewater Pond (1) and 7.05 acres of Spray Field	\$10,000,000	\$10,000,000
		L3	Interchange of I-40					Gas transmission line Rem-977ft Inst-1,427ft	\$540,530							\$540,530	
		L4	Interchange of I-40					Gas transmission line Rem-3,692ft Inst-4,767ft	\$1,805,681							\$1,805,681	
	Green	L5	No conflicts greater than \$250K													\$0	
G2L		South of US 70 Business	115KV Transmission line Wood "H" structures Adj spans and pole height for 370ft crossing	\$111,000											\$111,000		
Teal	TL1	Area along corridor from Old Baucom Rd. 2,300 feet north to connection with Brown corridor (B-3)												Wastewater Spray Fields 33 acres	\$8,250,000	\$8,250,000	
	B3	Area along corridor from connection with Brown (B-2) north to 1,100 feet north of Battle Bridge Rd.												Wastewater Spray Fields 10 acres	\$2,500,000	\$2,500,000	
Green	G6	No conflicts greater than \$250K													\$0		
	G7	Poole Rd. (SR-1007)												SBA Cell Tower	\$1,000,000	\$1,000,000	
Total End to End Utility Cost				\$1,825,200	\$400,000	\$3,147,726	\$47,139,000	\$0	\$0	\$31,800,000	\$84,311,926						