

APPENDIX B

CORRIDOR STUDY ADDENDUM

Corridor Study Addendum

Thomson – Vogtle
500 kV Transmission Project

Georgia Power Company

April, 2010

Thomson - Vogtle 500 kV Transmission Line: Siting Study Addendum

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Part I: Alternate Routes

In 2009, Georgia Power resumed work on the Thomson – Vogtle project. In September of that year, Photo Science was given the notice to proceed on collecting additional field data elements within the Field Verified Corridor, and develop the Alternate Route Statistics.

The data used in generating statistics for the Alternate Route Evaluation model was extracted from 2008 13 aerial photography, then updated and verified during subsequent field visits. The Field Verified Corridor was used as the study area, with exceptions being made in those locations where Alternate Route Segments extended beyond this corridor.

Statistics were generated for 85 Alternate Route Segments identified by the Georgia Power routing team over the course of several meetings and site visits. The routing team then examined the results of the analysis and created 18 Alternate Routes. The Alternate Route Evaluation Model was used for the next stage of analysis. The criteria of the Alternate Route Evaluation Model consist of elements from the Built, Engineering, and Natural environments. Construction, generalized land acquisition, maintenance, and other costs were also input to the analysis. As with the suitability grids, the analysis is weighted for Built, Engineering, Natural, and Simple Average scenarios. The Alternate Routes can be found in Figures 2 - 19, and are described below. The routes are organized into four different groups by title: “Member” routes, “Co-Locate” routes, “Potential” routes, and “Committee” routes.

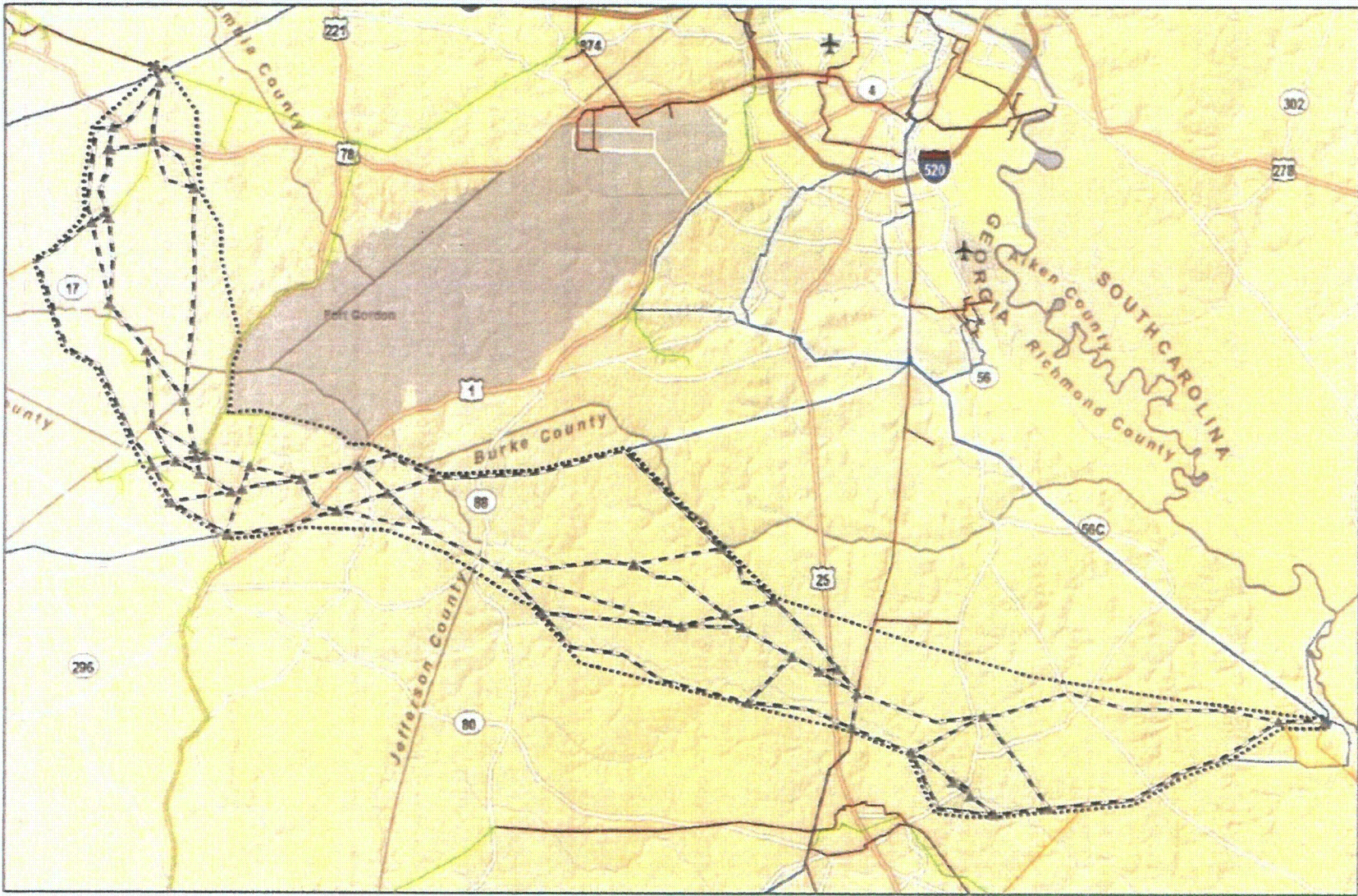


Figure 1
Alternate Route Segments & Segment Nodes



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- - - Alternate Route Segment

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

⋯ Study Area

Figure 1 - Alternate Route Segments & Segment Nodes

Figure 2 - Alternate Route Segments, Segment Nodes, & Alternate Corridors

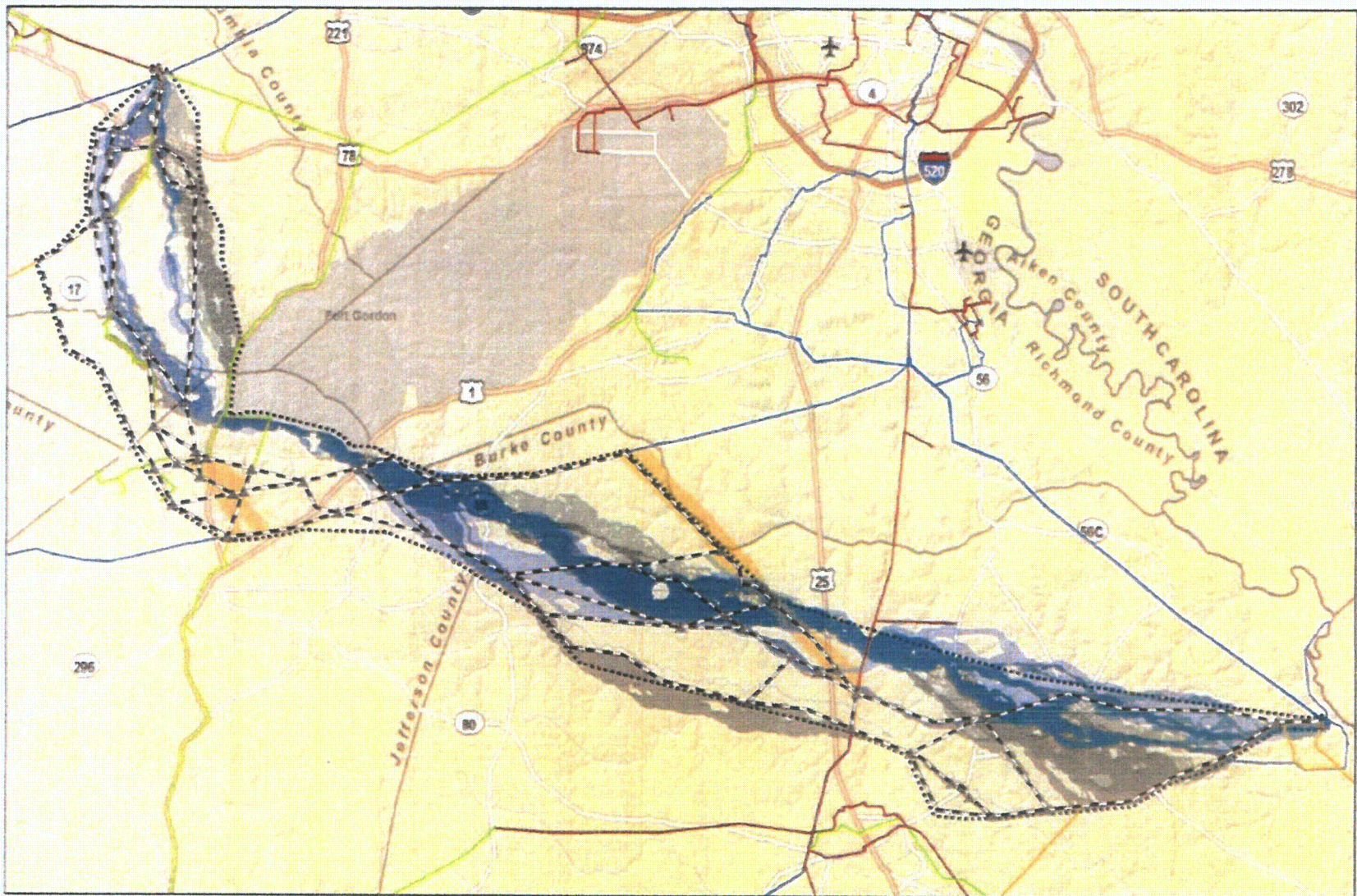
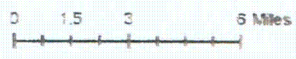


Figure 2
Alternate Route Segments, Segment Nodes
& Alternate Corridor Overlay

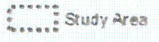


Legend

- ▲ Segment Nodes
- - - Alternate Route Segment

- Existing Transmission Line**
- kV Rating**
- 46
 - 115
 - 230
 - 500

- Alternate Corridors**
- Built Environment
 - Engineering Environment
 - Natural Environment
 - Simple Average



Study Area

1.1 Route "Member 01"

All routes initially leave the Thomson substation to the southeast towards node AA, paralleling an existing 500 kV transmission for approximately 1.75 miles. At this point, route Member 01 bends to the southwest, then eventually heads south staying within the Built Corridor for approximately 13 miles until node DD. Here it begins a more easterly route, travelling for approximately 9 miles before re-entering the Built Corridor near node L. Member 01 continues within the Built Corridor (and in some locations, the Natural Corridor as well) for approximately 19.25 miles to node UU. All of the "Member" routes follow an identical path from node UU to Plant Vogtle. This path consists of the Built and Natural Corridors for approximately 9.75 miles to node Z. From node Z, all 18 routes co-locate with an existing 500 kV transmission line for approximately 1.5 miles into Plant Vogtle. Route Member 01 is approximately 53.64 miles in length.

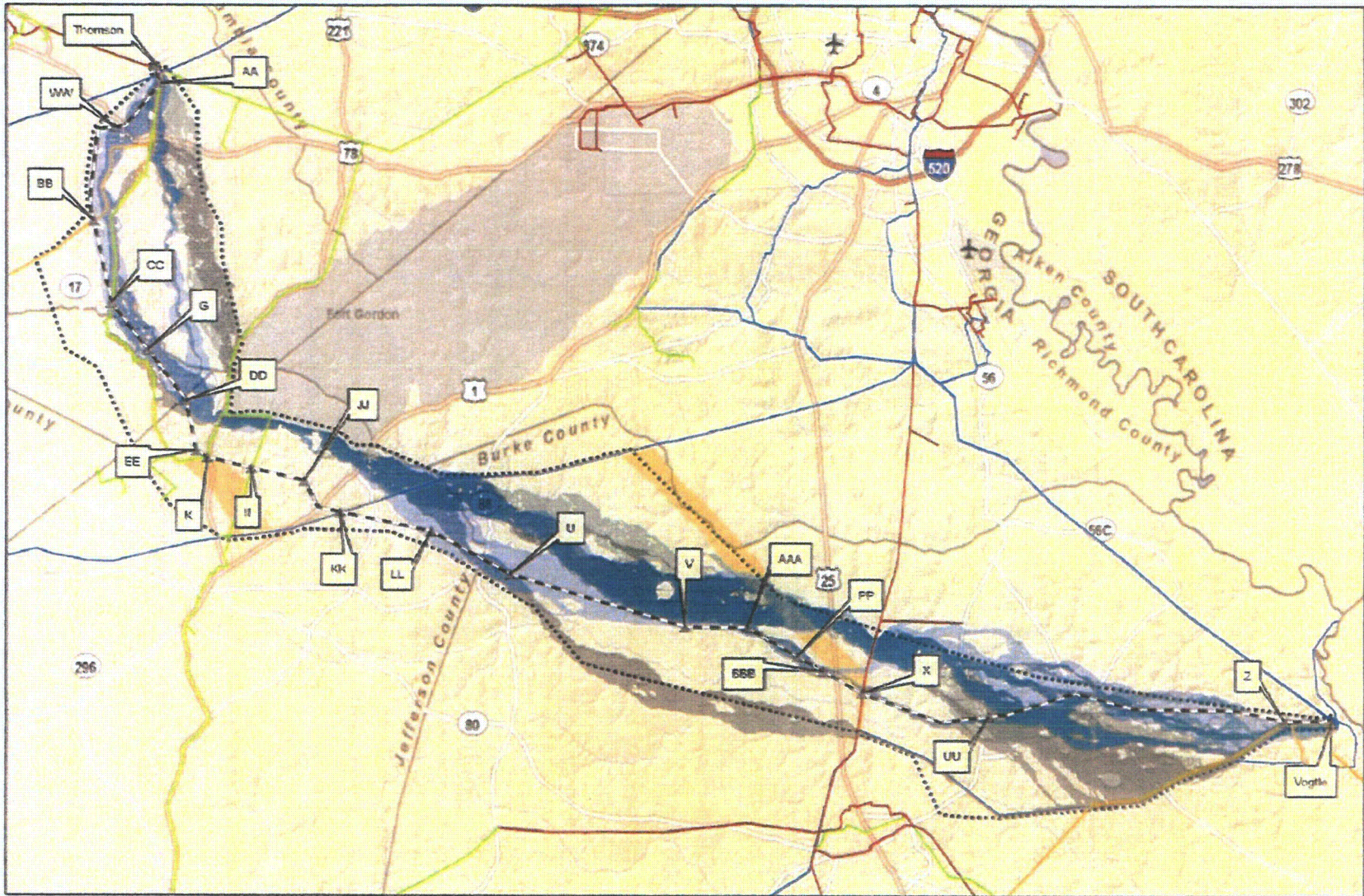
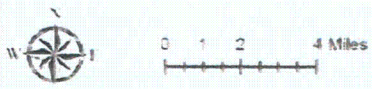


Figure 3
Route Member 01



Legend

- ▲ Segment Nodes
- - - Route Member 01

- Existing Transmission Line
kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

Figure 3 - Route Member 01

1.2 Route “Member 02”

At node AA, route Member 02 continues to parallel the Thomson – Warthen 500 kV transmission line for approximately 5.5 miles to node EEE. From node EEE, Member 02 intermittently parallels an existing 46 kV transmission line traveling south for approximately 7.5 miles to node K. Until this point, route Member 02 stays primarily within the Built and/or Engineering corridors. Leaving node K, it exits the corridors and travels east for approximately 6.25 miles before re-entering the Engineering Corridor near node S. Beginning at this node, Member 02 travels east paralleling an existing 230 kV transmission line for approximately 7.75 miles. At this point, the route bends to the southeast in order to stay within the Engineering Corridor, and continues for approximately 11 miles to node X. From this node to Plant Vogtle, the route is identical to route Member 01. Route Member 02 is approximately 56.8 miles in length.

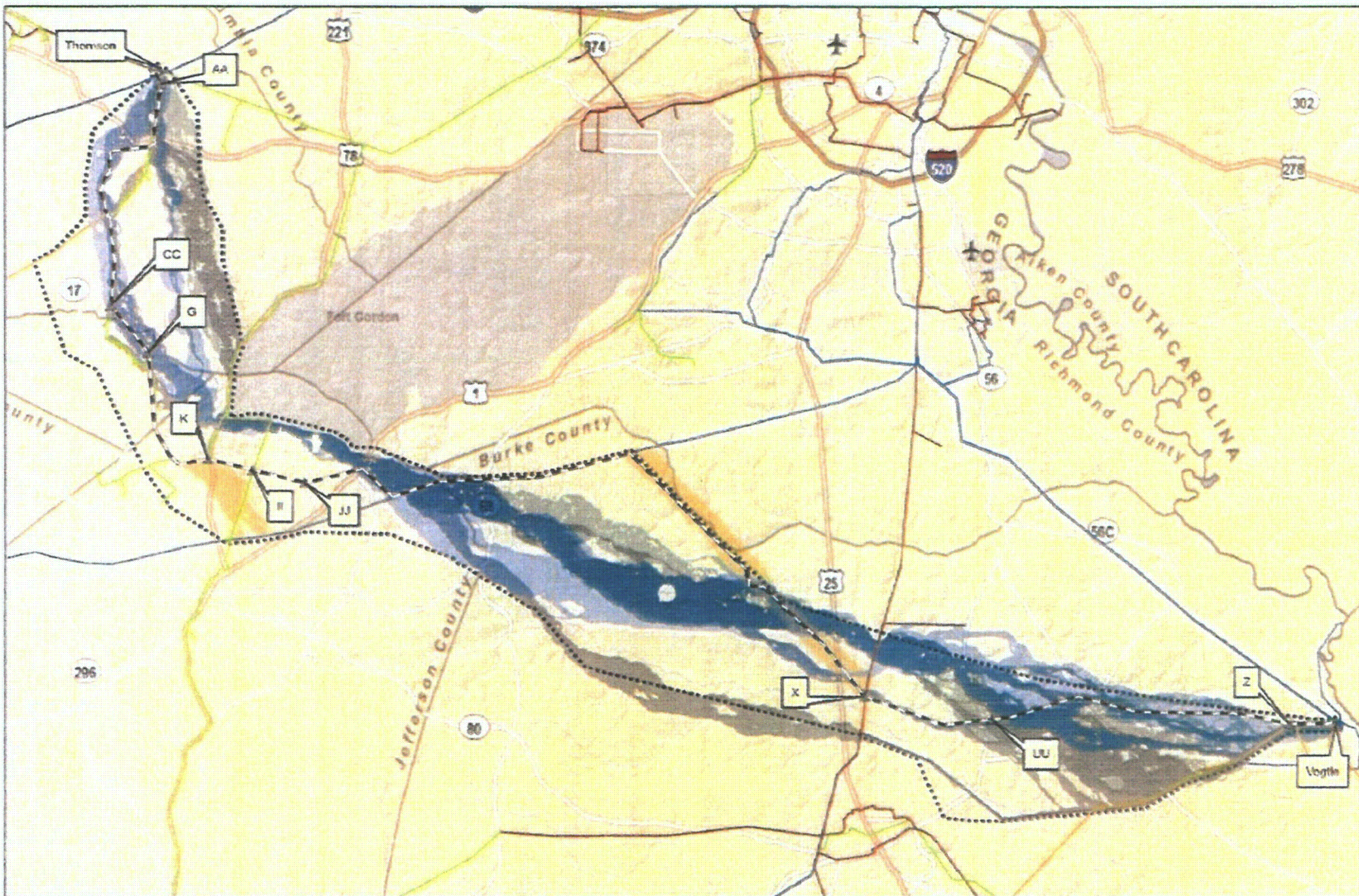


Figure 4
Route Member 02



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- Route Member 02

Existing Transmission Line

KV Rating

- 46
- 115
- 230
- 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- ⋯ Study Area

Figure 4 - Route Member 02

1.3 Route "Member 03"

Member 03 is identical to route Member 01 between the Thomson substation and node EE. At this point, route Member 03 exits the Engineering Corridor and travels east for approximately 5.75 miles before re-entering the Built & Natural corridors near node Q. From node Q to node L, the route stays within the Built Corridor. From node L to Plant Vogtle, route Member 03 is identical to Route Member 01. Route Member 03 is approximately 54.60 miles in length.

Figure 5 - Route Member 03

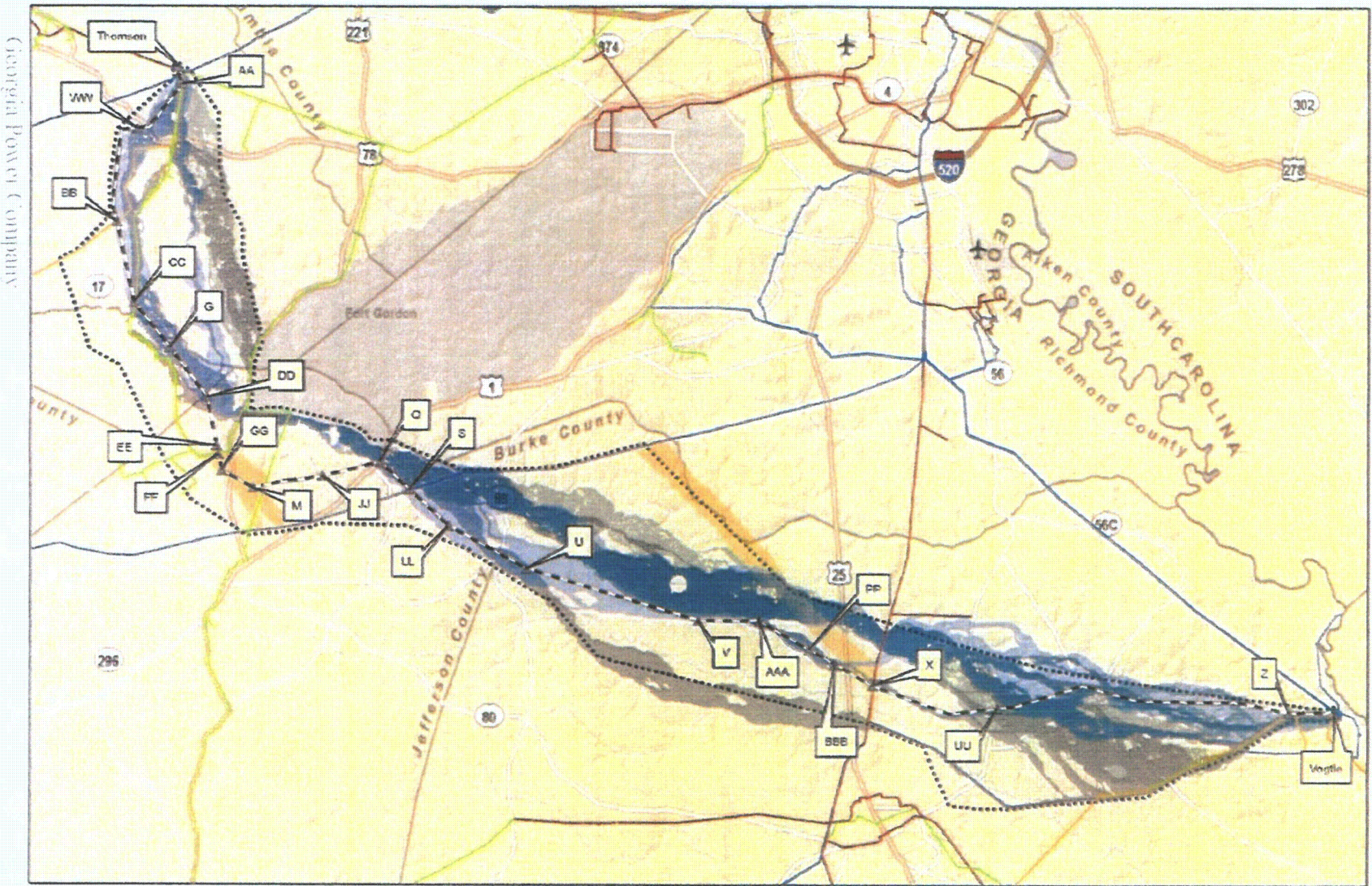
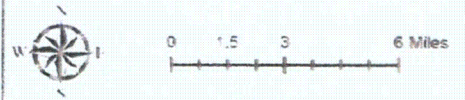


Figure 5
Route Member 03



Legend

- ▲ Segment Nodes
- Route Member 03

Existing Transmission Line	
kV Rating	
	46
	115
	230
	500

Alternate Corridors	
	Built Environment
	Engineering Environment
	Natural Environment
	Simple Average

Study Area

1.4 Route "Member 04"

From the Thomson Substation to node EE, Route Member 04 is identical to Route Member 01. From node EE, the route travels east for approximately 6 miles to node Q where it re-enters the Built & Natural Corridors. From this point, the route turns southeast and travels approximately 3.25 miles to node L. From node L, Member 04 follows an identical path as Route Member 01 with the exception of a more direct path between nodes Q and V. Route Member 04 is approximately 54.95 miles in length.

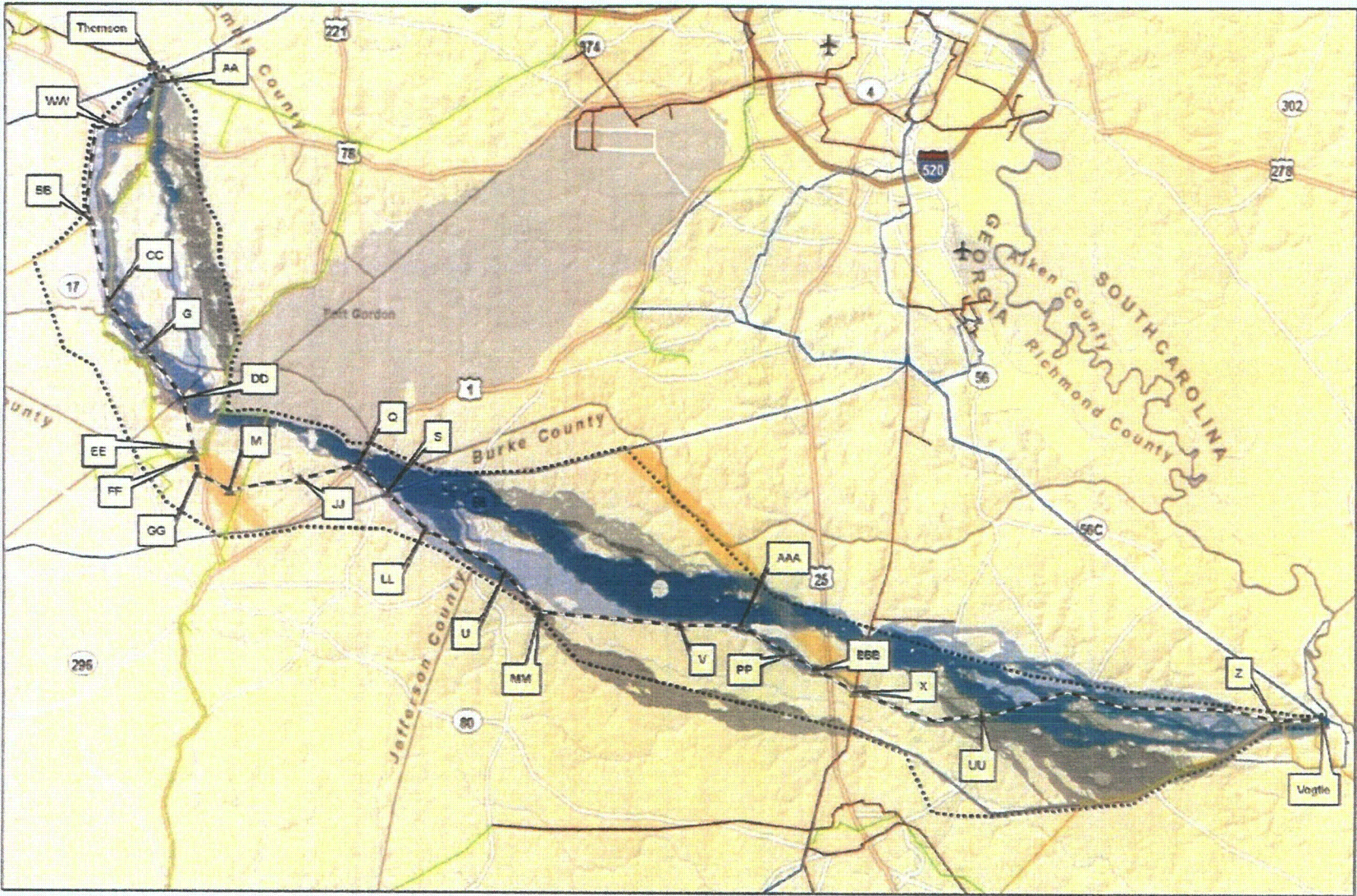


Figure 6
Route Member 04



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- Route Member 04

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

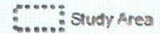


Figure 6 - Route Member 04

1.5 Route "Member 05"

Route Member 05 is identical to route Member 02 between the Thomson substation and node A. From node A, the route continues south within the Natural Corridor for a distance of approximately 5.5 miles where it leaves the Natural Corridor and enters the Built Corridor. Member 05 then continues in the corridor for approximately 3.5 miles. At node EE, the route travels another 3.5 miles to node JJ. From node JJ to Plant Vogtle, route Member 05 is identical to route Member 03. Route Member 05 is approximately 52.41 miles in length.

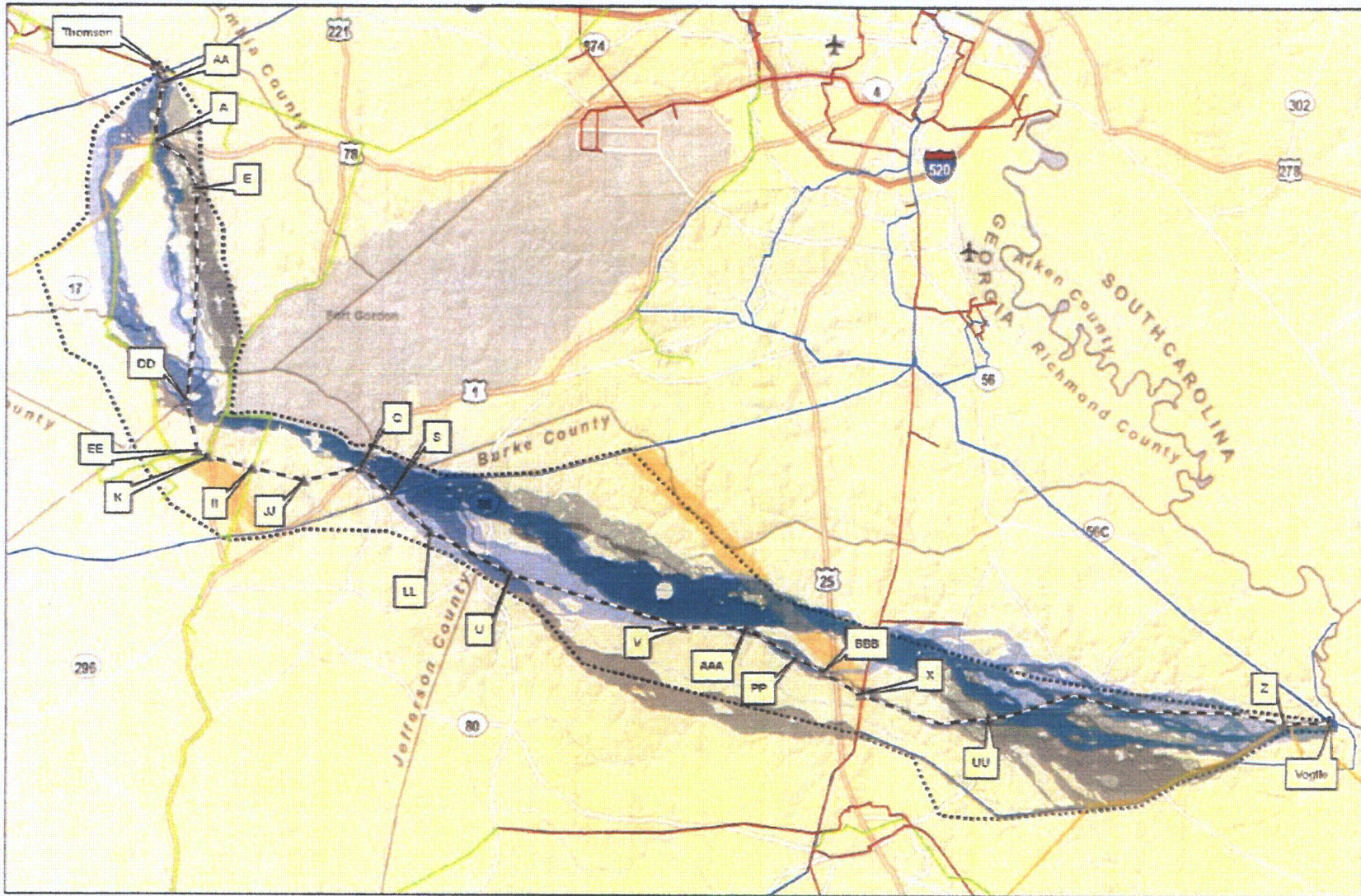


Figure 7
Route Member 05



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- - - Route Member 05

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

Study Area

Figure 7 - Route Member 05

1.6 Route “Member 06”

Routes Member 06 and Member 05 are identical with the exception of the segments between nodes EE and K. Member 05 makes a direct connection between the two nodes, while Member 06 travels approximately .25 miles south to node FF, where the route then bends northeast for approximately .5 miles to node K, paralleling an existing 46 kV transmission line. Route Member 06 is approximately 52.58 miles in length.

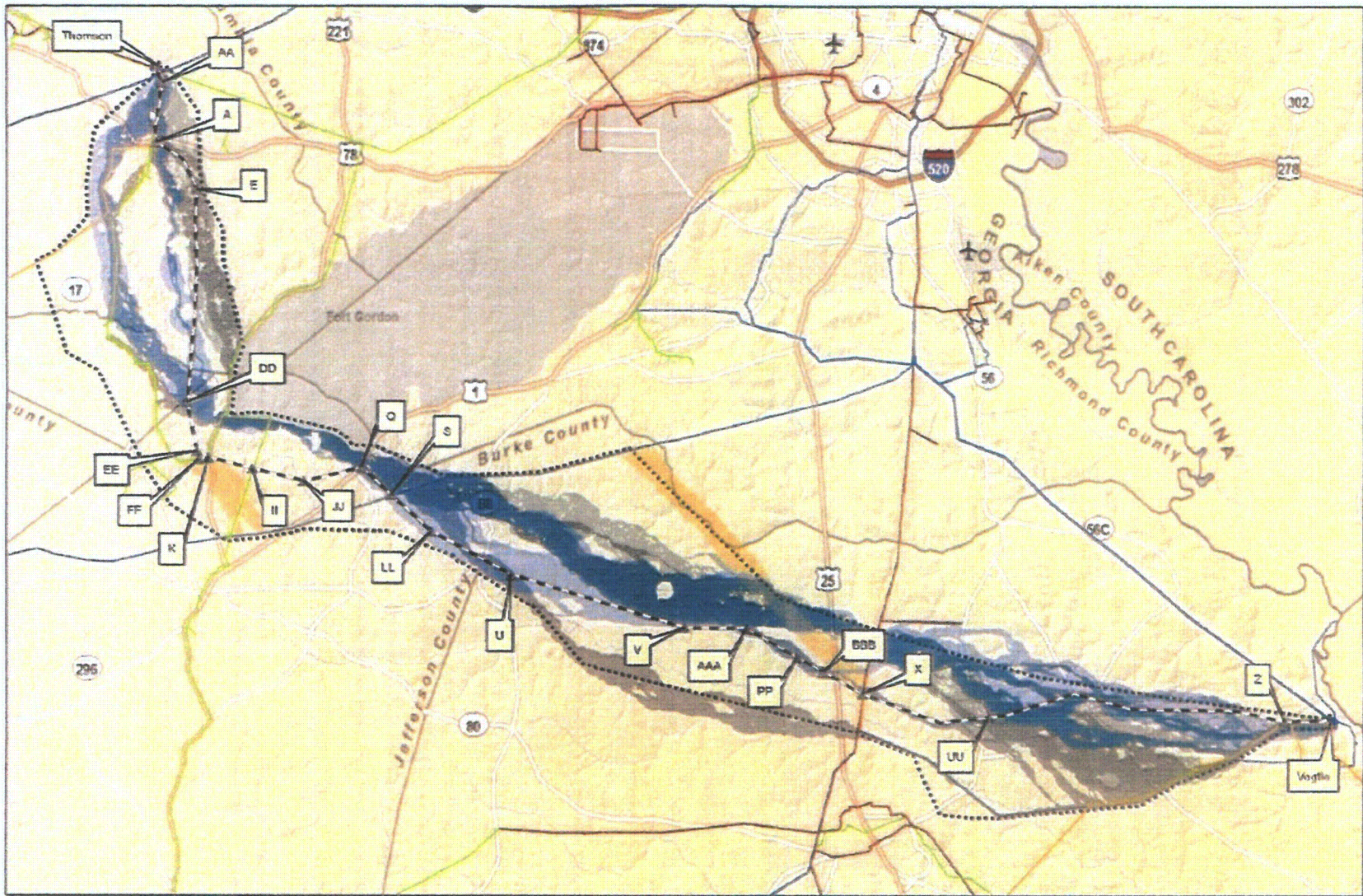


Figure 8
Route Member 06



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- Route Member 06

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

Study Area

Figure 8 - Route Member 06

1.7 Route "Member 08"

Special Note – Route Member 07 was removed from consideration earlier in the selection process.

Routes Member 08 and Member 03 are identical with the exception of the segments between nodes FF and L. Between these two nodes, route Member 08 travels .25 miles paralleling an existing 46 kV transmission line within the Engineering Corridor, before exiting the corridor and heading 7.25 miles east to node L. Route Member 08 is approximately 53.80 miles in length.

Figure 9 - Route Member 08

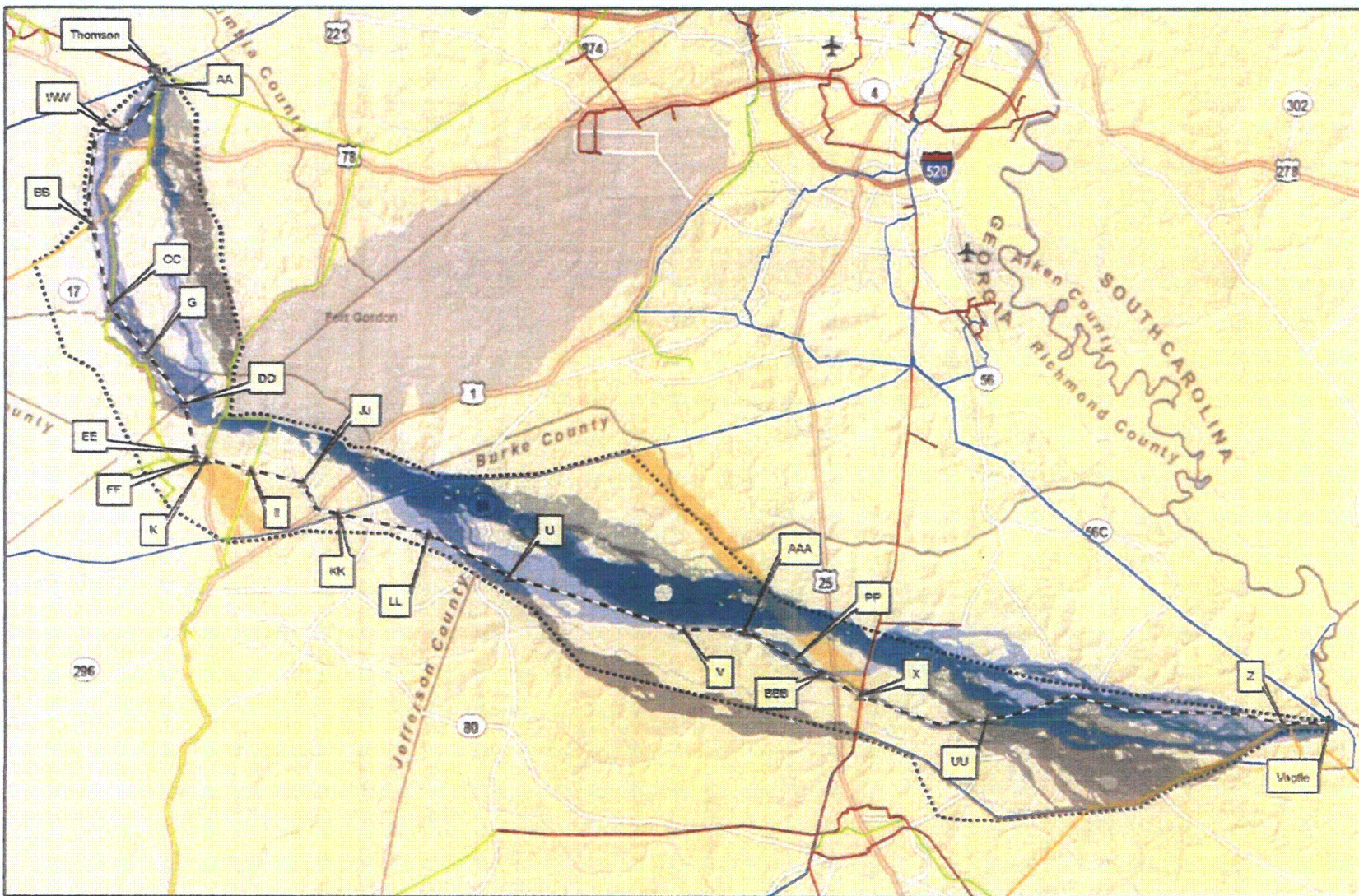
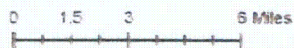


Figure 09
Route Member 08



Legend

- ▲ Segment Nodes
- Route Member 08

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- ▭ Study Area

1.8 Route "Member 09"

Routes Member 09 and Member 01 are identical between the Thomson Substation and node U. At node U, Member 09 turns more southeast and exits the Built Corridor and runs for 7.75 miles before entering the Engineering Corridor near node Y. From this point, the route parallels an existing 230 kV transmission line for approximately 2 miles before bending to the northeast and leaving the corridor. Member 09 travels a further 2.5 miles before coming to node UU, where it follows an identical path to the Vogtle substation as all "Member" routes. Route Member 09 is approximately 54.67 miles in length.

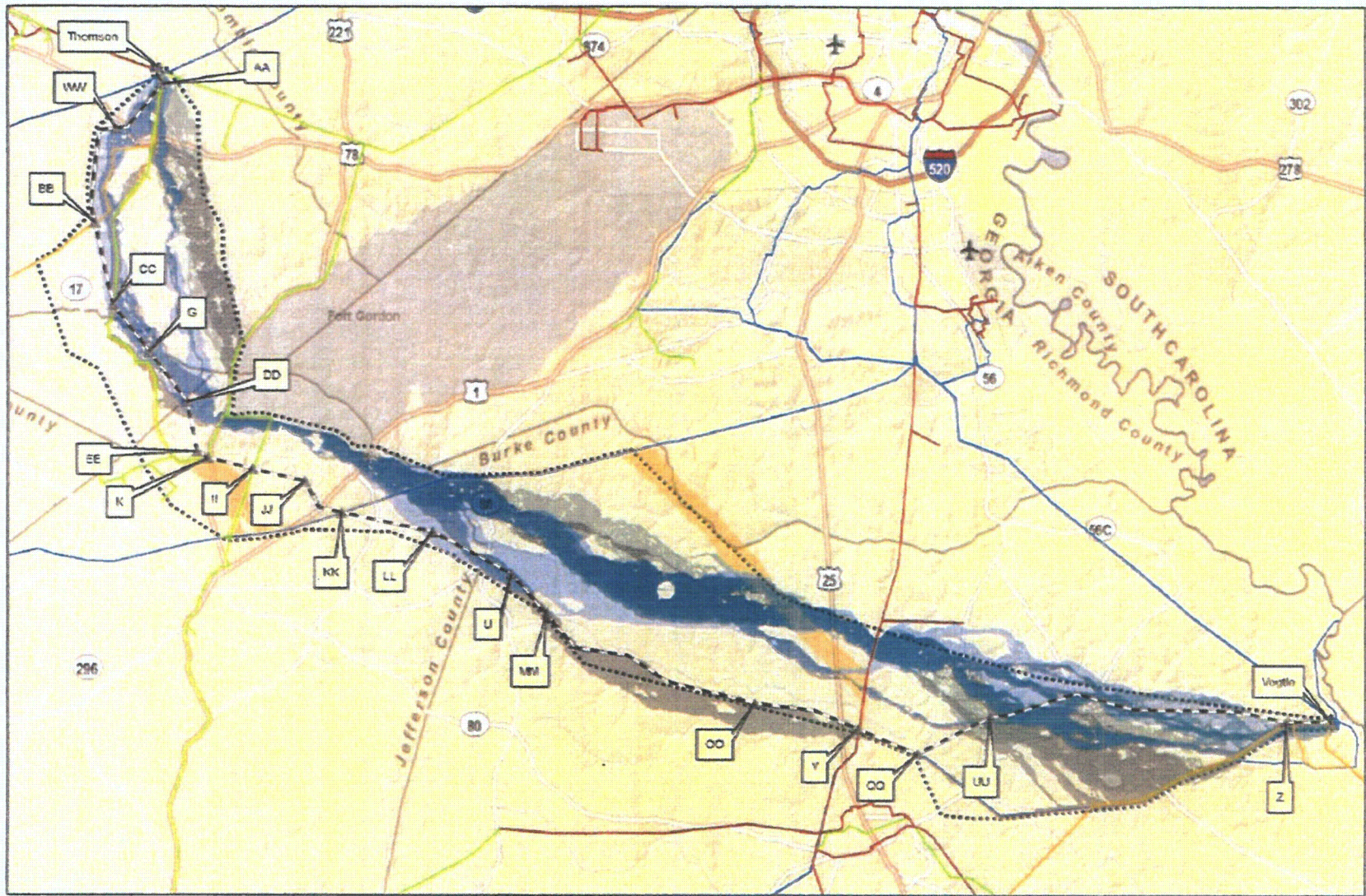


Figure 10
Route Member 09



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- - - Route Member 09

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

Figure 10 - Route Member 09

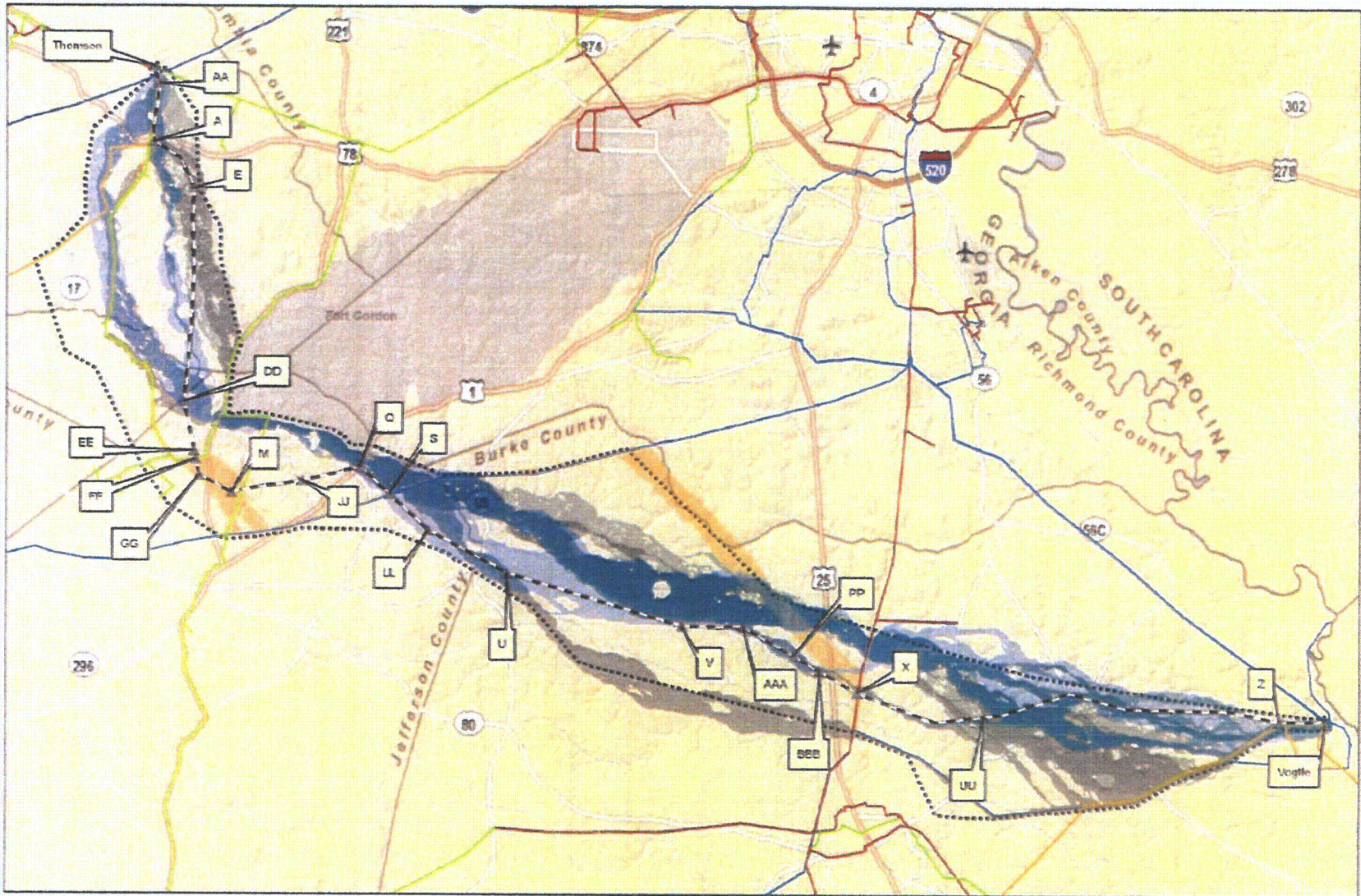


Figure 11
Route Member 10



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- - - Route Member 10

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- ⋯ Study Area

Figure 11 - Route Member 10

1.9 Route "Member 10"

From the Thomson substation to node DD, route Member 10 follows the same path as route Member 01. From node DD to Plant Vogtle, Route Member 10 is identical to route Member 03. The overall length of the route is 53.11 miles.

1.10 Route “Member 12”

Special Note – Route Member 11 was removed from consideration earlier in the selection process.

Route Member 12 is identical to route Member 02 beginning at the Thomson substation and diverging at node JJ. From node JJ to Plant Vogtle, Member 12 is identical to Member 01. The overall length of the route is 54.43 miles.

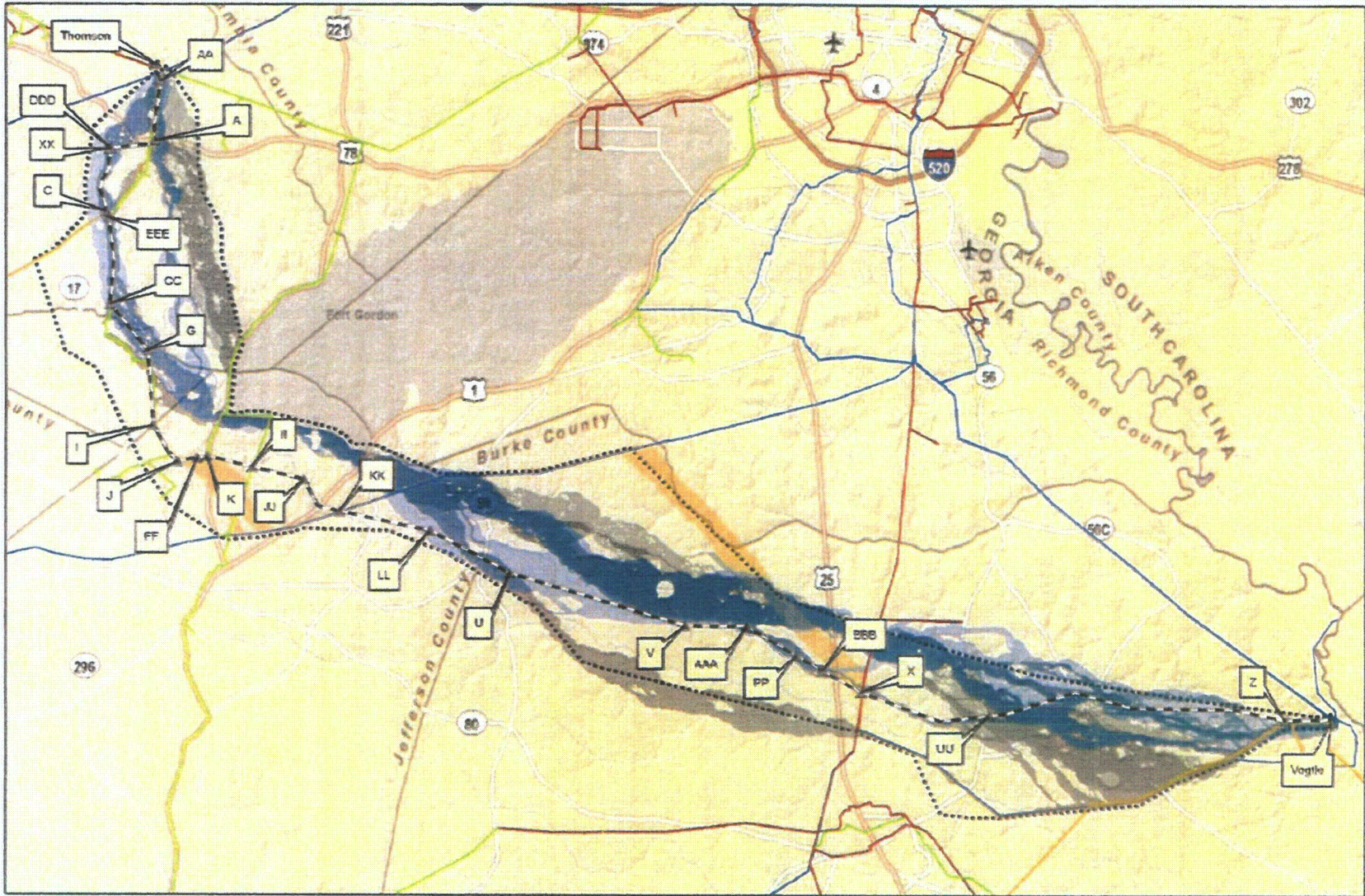


Figure 12
Route Member 12



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- Route Member 12

Existing Transmission Line

- kV Rating**
- 45
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

Figure 12 - Route Member 12

1.11 Route “Colocate 01”

Both “Co-Locate” routes begin by leaving the Thomson substation paralleling the existing Thomson – Vogtle 500 kV transmission line. Co-Locate 01 does so for approximately 9 miles. At this point, the route bends sharply southeast and travels approximately 4 miles before beginning to parallel Georgia Highway 17. After roughly 2.75 miles, route Co-Locate 01 bends more to the southeast and travels approximately 4.25 miles before again turning to the northeast near node O. Here, the route enters the Engineering Corridor and parallels an existing 230 kV transmission line for approximately 13.25 miles, passing through node T. Both “Co-Locate” routes are identical between node T and Plant Vogtle. At this point, the route turns sharply to the southeast staying within the corridor. Eleven miles later, Co-Locate 01 bends to the southwest paralleling an existing 115 kV transmission line for 1.25 miles, then turns southeast to parallel an existing 230 kV transmission line. Still staying within the Engineering Corridor, Co-Locate 01 travels 8.25 miles before a 500 kV line joins the 230 kV line and continues the final 8.5 miles into Plant Vogtle. Route Co-Locate 01 is approximately 62.47 miles in length.

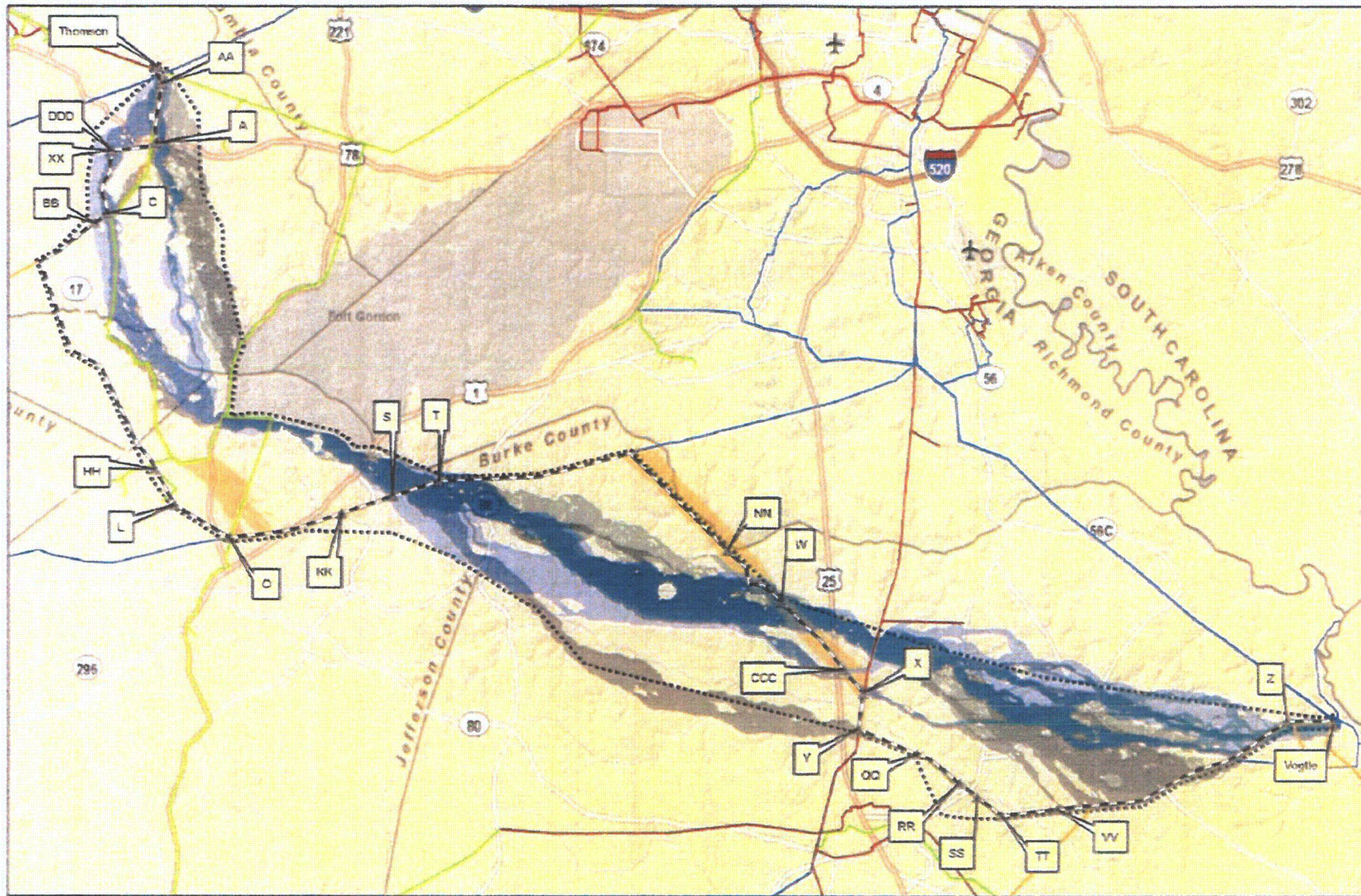
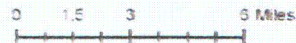


Figure 13
Route Co-Location 01



Legend

- ▲ Segment Nodes
- Co-Location 01

Existing Transmission Line

kV Rating

- 46
- 115
- 230
- 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

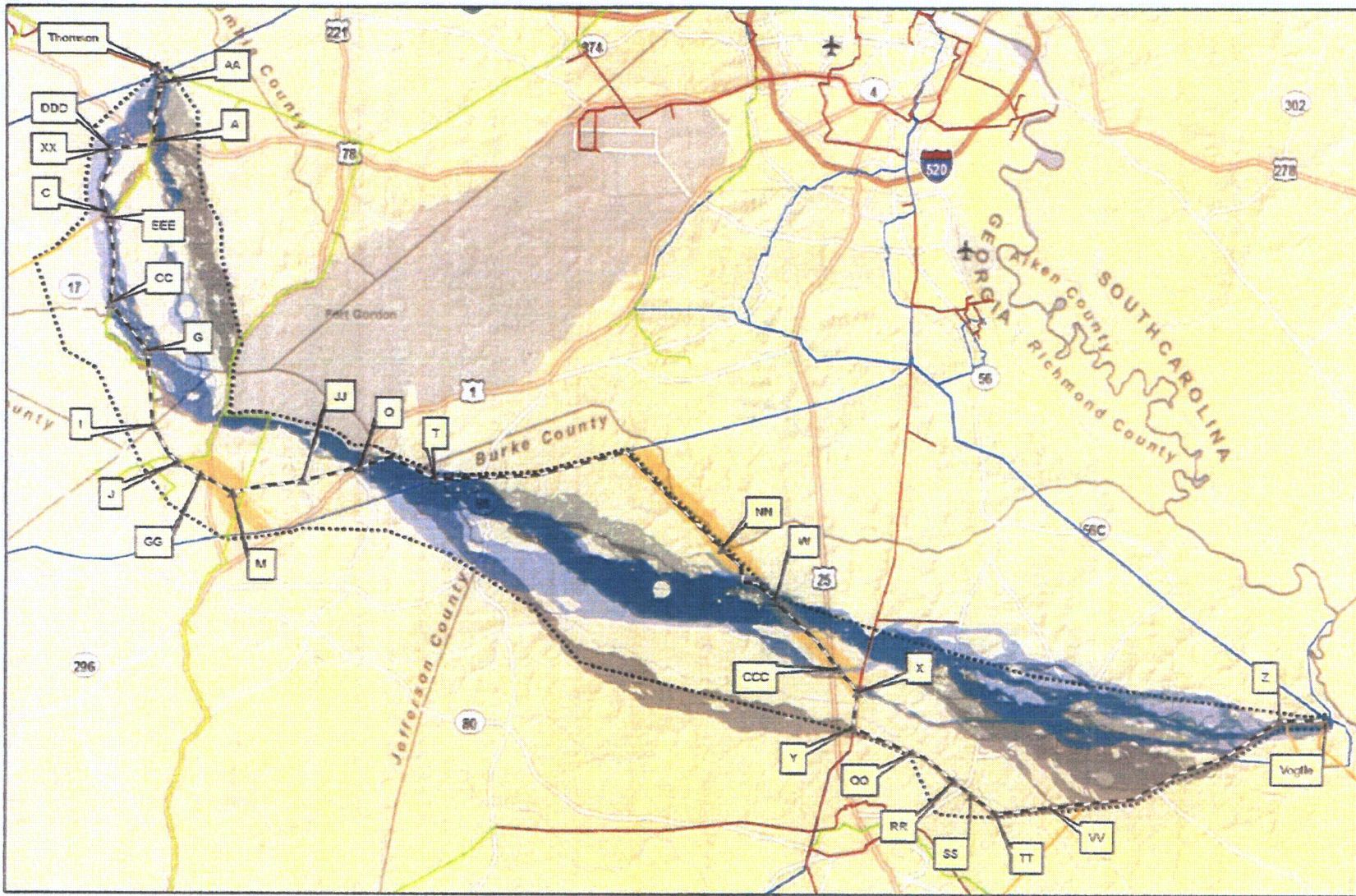
- Study Area

Figure 13 - Route Co-Location 01

1.12 Route "Colocate 02"

Route Co-Locate 02, similar to Co-Locate 01, parallels the Thomson – Warthen 500 kV transmission line, but only as far as node C. At this point, the transmission line continues south within the Engineering Corridor, intermittently paralleling an existing 46 kV transmission line for 8.5 miles. Here, the route stops paralleling existing infrastructure and continues for 2.5 miles, turns east, and then exits the Engineering Corridor. After 3.5 miles, the route enters the Built & Natural Corridors and travels for 3 miles before arriving at node T. Here, the route is identical to route Co-Locate 01. Route Co-Locate 02 is 59.19 miles in length.

Figure 14 - Route Co-Location 02



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Figure 14
Route Co-Location 02



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- - - Co-Location 02

Existing Transmission Line

kV Rating

- 4E
- 115
- 230
- 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

1.13 Route “Committee 011310”

Route Committee 011310 leaves the Thomson substation headed southwest in the Built Corridor to meet with the Thomson – Warthen 500 kV transmission line. The 500 kV line is paralleled for approximately 2.25 miles, staying within the Built Corridor to node C. Here, the route continues within the Engineering Corridor south, paralleling an existing 46 kV transmission line for 2.75 miles. At this point, Committee 011310 no longer parallels existing infrastructure and continues southeast within the Built Corridor for approximately 4.25 miles. The route leaves the corridor and continues southeast for 6.5 miles before re-entering the Built Corridor near node Q. From node Q, the route continues within the built corridor (and, at times, the Natural Corridor as well), for approximately 34.5 miles to Plant Vogtle. Route Committee 011310 is approximately 53.62 miles in length.

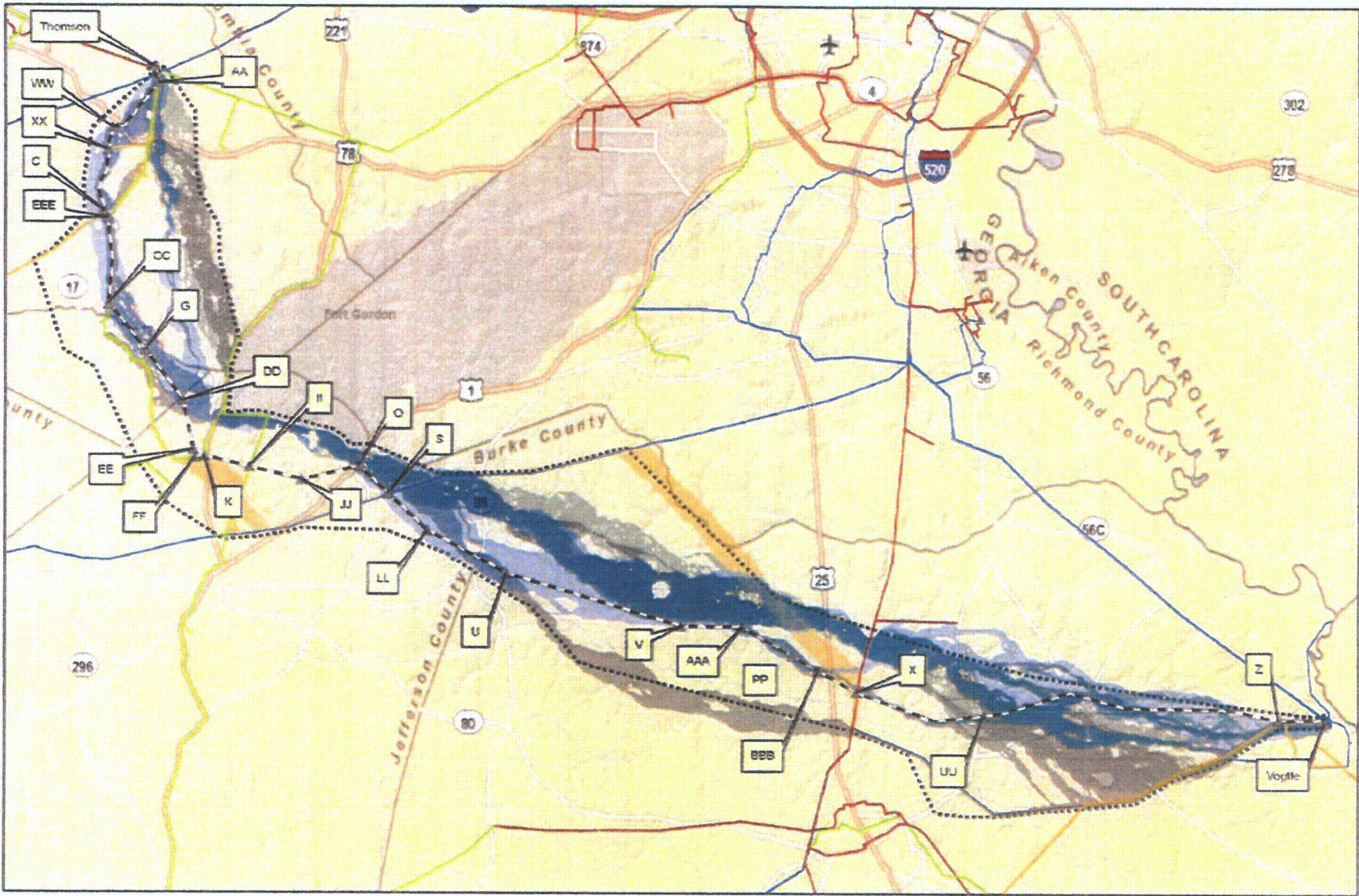
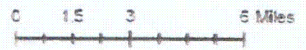


Figure 15 - Route Committee 011310

Figure 15
Route Committee 011310



Legend

- ▲ Segment Nodes
- - - Committee 011310

Existing Transmission Line	KV Rating
	4E
	115
	230
	500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average



1.14 Route "Committee 012810"

Route Committee 012810 is identical to route Committee 011310 with the exception of two segments. Between node AAA and node U, Committee 011310 takes a more southerly and direct route, staying within the Built Corridor. Committee 012810 takes a northerly route, staying within both the Built and, for the majority of the path, the Natural Corridor as well. The second difference between the two routes is in the area between node BBB and node X. Here again, route Committee 011310 takes a more direct southerly route between the two nodes, while route Committee 012810 takes a less direct northerly route. Beginning at node X and ending at Plant Vogtle, the two routes are identical. Route Committee 012810 is approximately 53.62 miles in length.

Figure 16 - Route Committee 012810

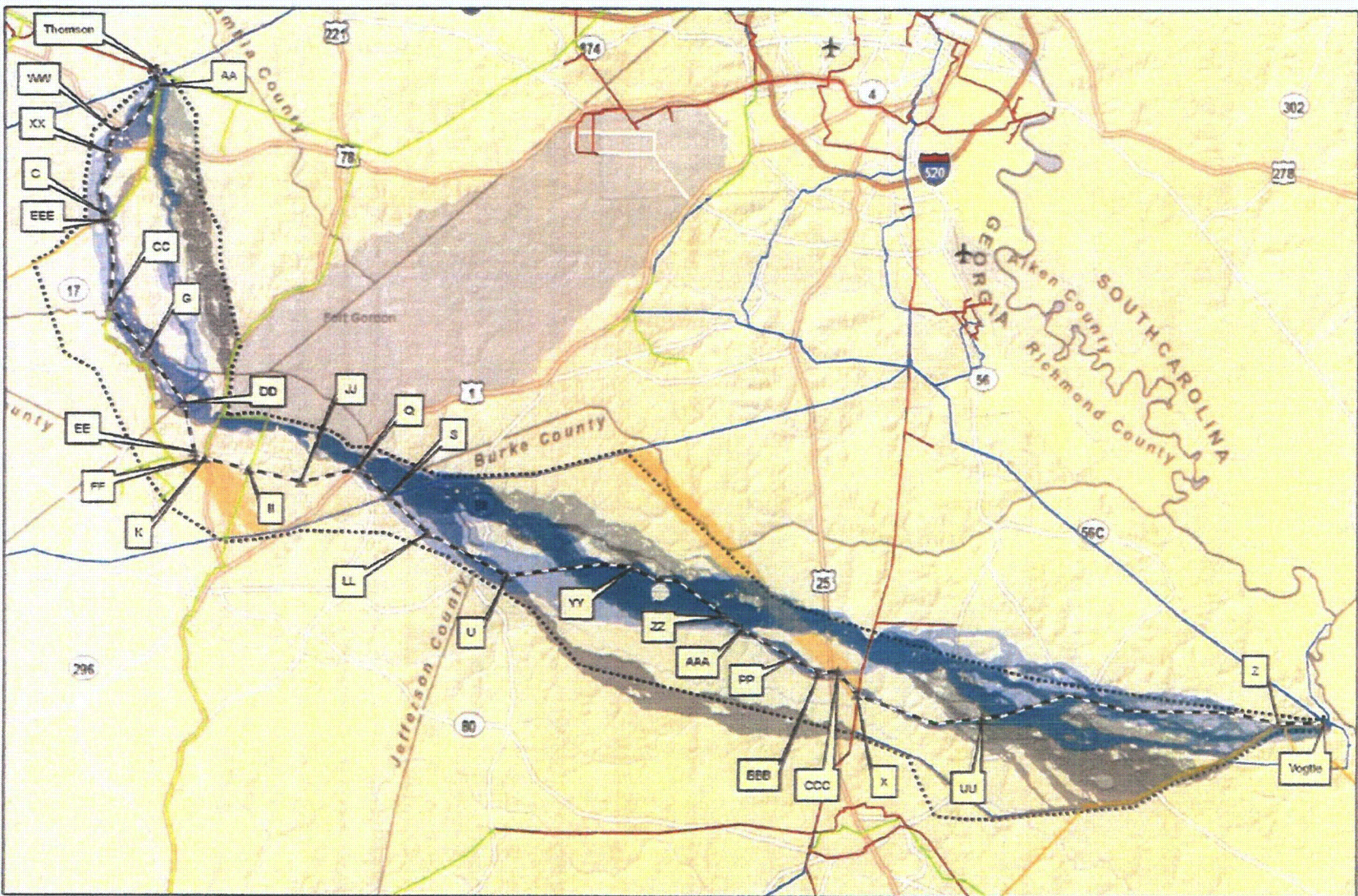


Figure 16
Route Committee 012810



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- Committee 012810

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

1.15 Route "Committee 021010"

Route Committee 021010 begins by paralleling the existing Thomson – Warthen 500 kV transmission line for 6 miles before joining with the other "Committee" routes near node EEE. Here, all three "Committee" routes follow identical paths to node U, with one exception. Between node G and node FF, the route bends south in order to parallel an existing 46 kV transmission line before rejoining the other "Committee" routes. Between node FF and Plant Vogtle, routes Committee 021010 and Committee 012810 are identical. Route Committee 021010 is approximately 55.23 miles in length.

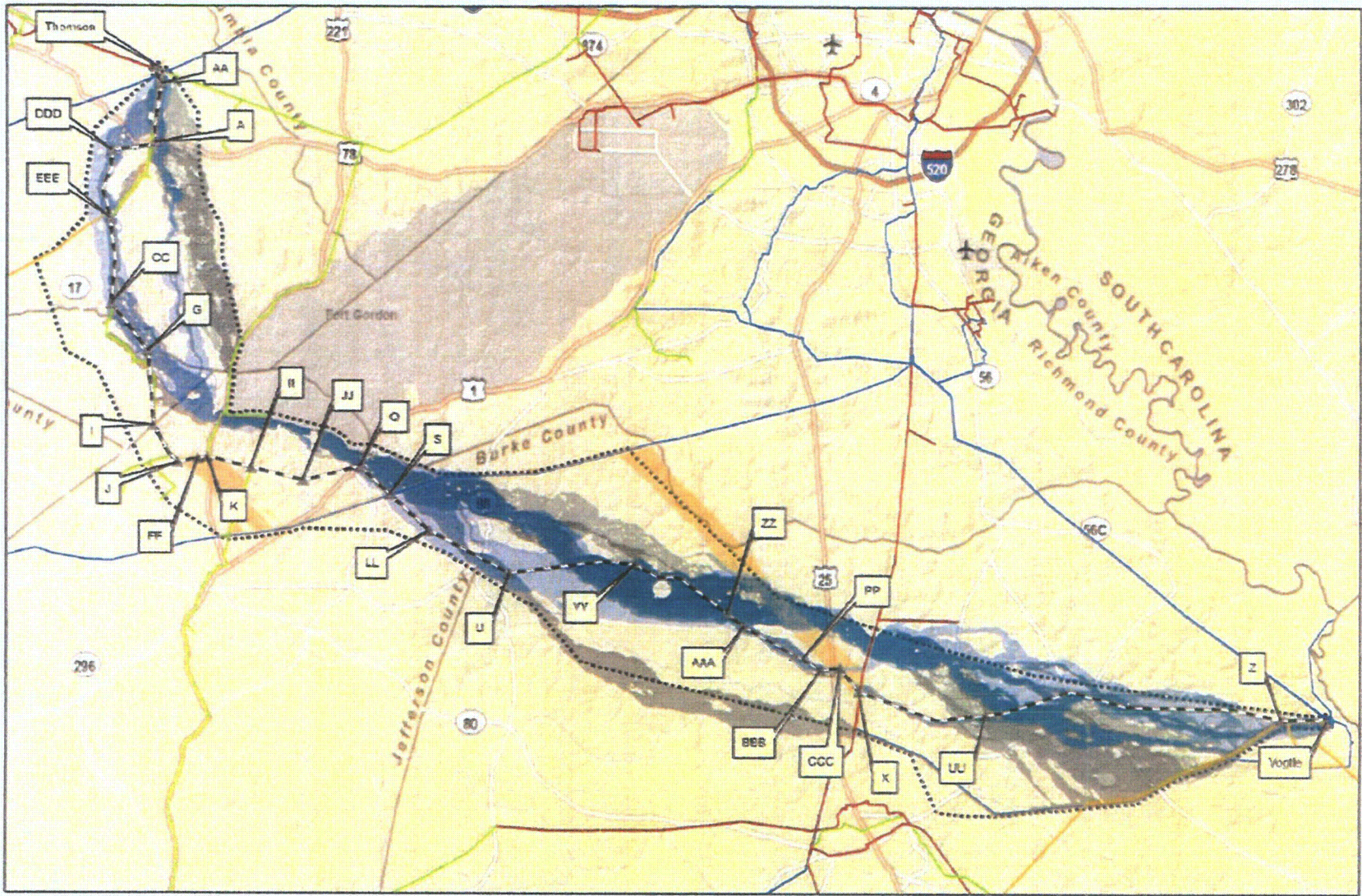
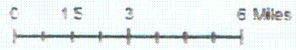


Figure 17
Route Committee 021010



Legend

- ▲ Segment Nodes
- - - Committee 021010

Existing Transmission Line

- kV Rating**
- 45
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

Figure 17 - Route Committee 021010

1.16 Route “Potential 01”

Route Potential 01 begins by leaving the Thomson substation traveling southwest for approximately 3.5 miles within the Built Corridor. Here, the route begins to parallel the existing Thomson – Warthen 500 kV transmission line for approximately 2 miles. At node EEE, Potential 01 intermittently parallels an existing 46 kV transmission line for approximately 7 miles, through node CC, to node I. From node CC to Plant Vogtle, all of the “Potential” routes are identical. From node I, the route turns east for approximately 6.75 miles until it enters the Built & Natural Corridors near node Q. From node Q, the route continues within the built corridor (and, at times, the Natural Corridor as well), for approximately 34.5 miles to Plant Vogtle. Route Potential 01 is approximately 54.39 miles in length.

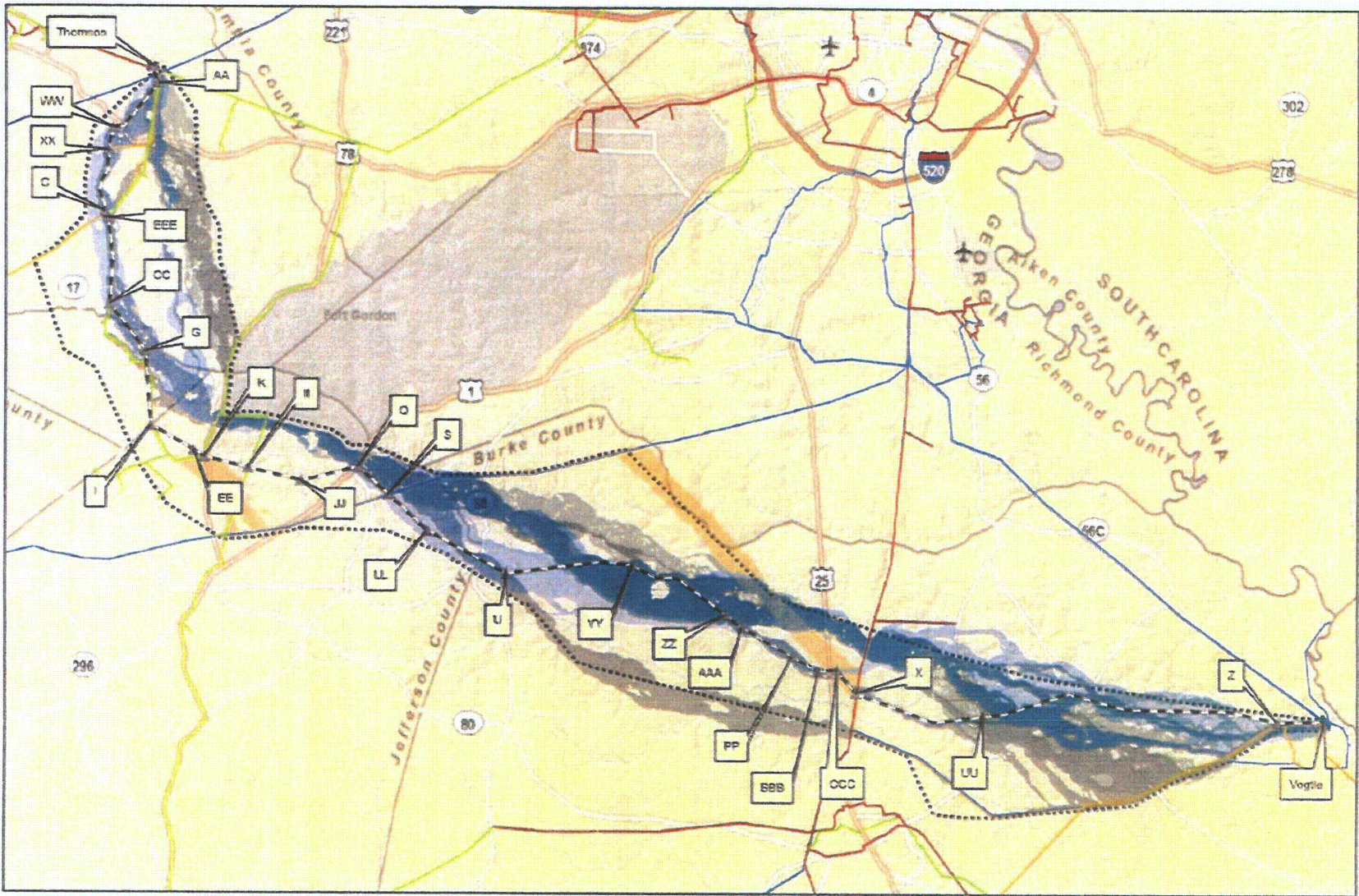


Figure 18
Route Potential 01



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- - Potential 01

Existing Transmission Line

kV Rating

- 4E
- 115
- 230
- 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

Figure 18 - Route Potential 01

1.17 Route "Potential 02"

Route Potential 02 begins by leaving the Thomson substation traveling southwest for approximately 6 miles paralleling the existing Thomson - Warthen 500 kV transmission line to node EEE. At node EEE, Potential 02 continues south within the Engineering Corridor, and intermittently parallels an existing 46 kV transmission line for approximately 7 miles. From node CC to Plant Vogtle, all "Potential" Routes are identical. Route Potential 02 is approximately 54.82 miles in length.

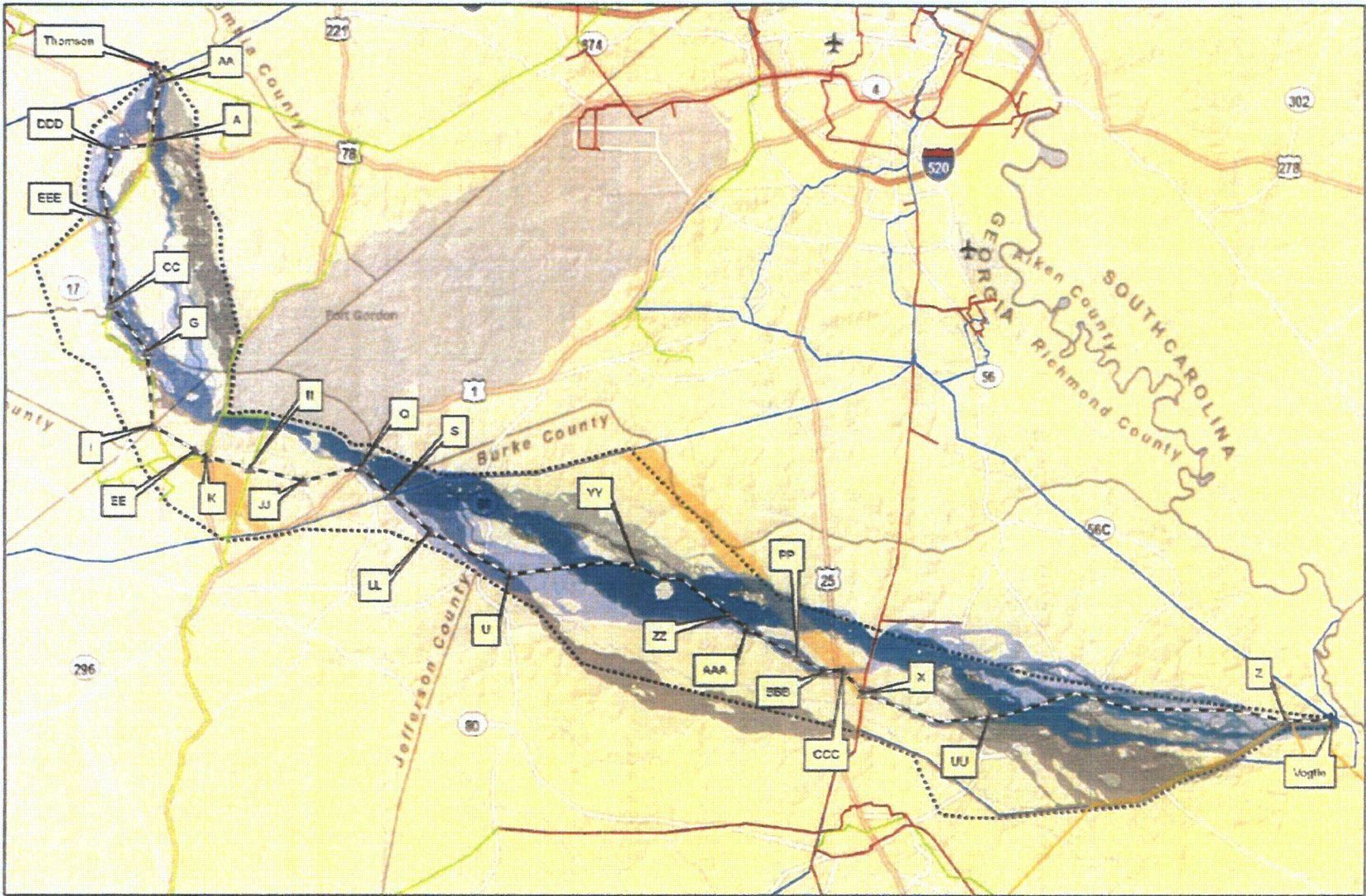


Figure 19
Route Potential 02



0 1.5 3 6 Miles

Legend

- ▲ Segment Nodes
- - - Potential 02

Existing Transmission Line

- kV Rating**
- 4E
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- Study Area

Figure 19 - Route Potential 02

1.18 Route "Potential 03"

Route Potential 03 leaves the Thomson Substation and travels west beyond route Potential 01 and does not parallel the Thomson – Warthen 500 kV transmission line except for the .75 mile portion near the substation that all routes utilize. After 3.25 miles, the route bends sharply to the south and continues for approximately 5.75 miles to node CC. From node CC to Plant Vogtle, all "Potential" Routes are identical. Route Potential 03 is approximately 54.84 miles in length.

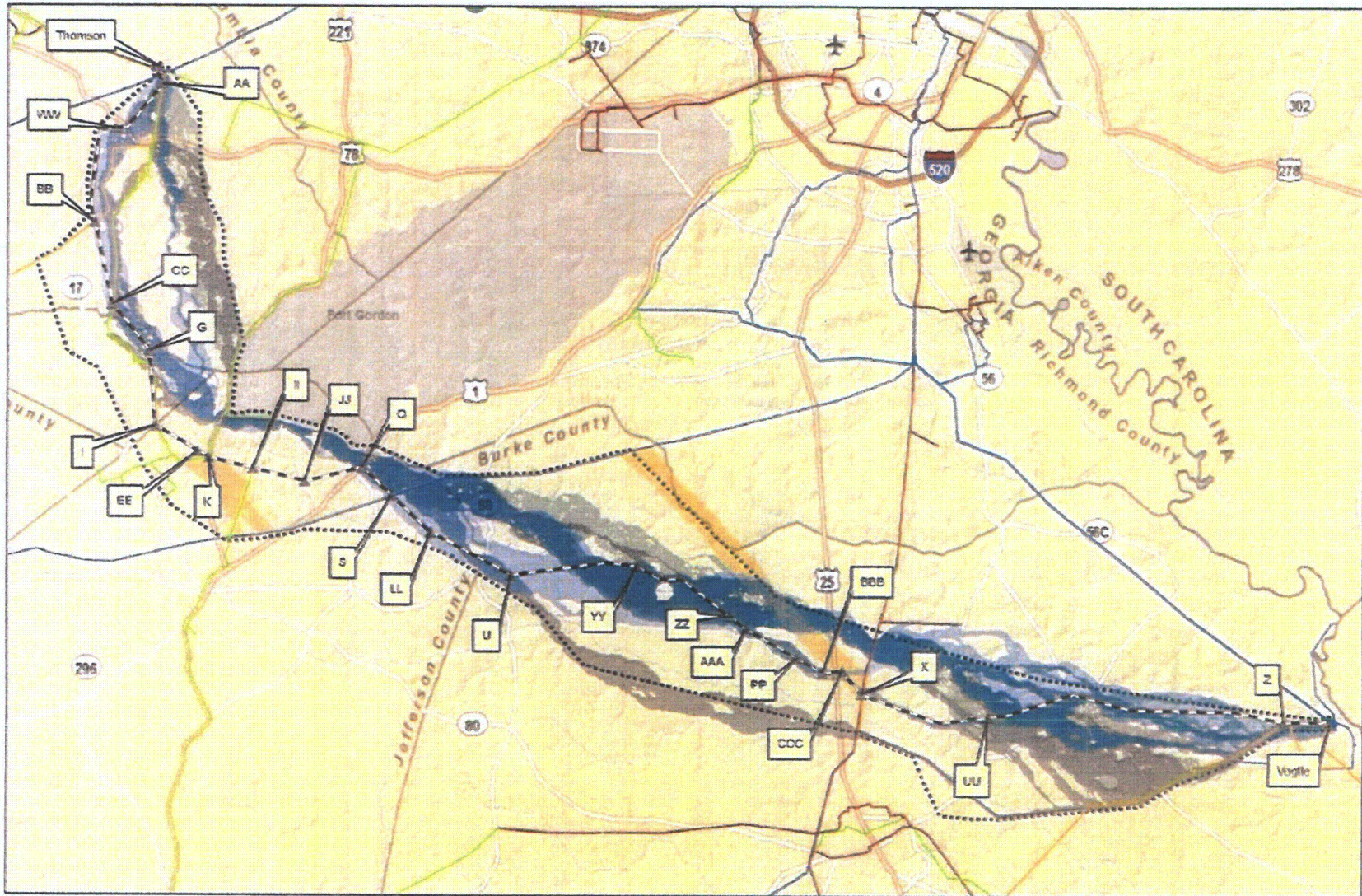
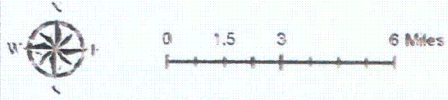


Figure 20 - Route Potential 03

Figure 20
Route Potential 03



Legend

- ▲ Segment Nodes
- - - Potential 03

Existing Transmission Line

- kV Rating**
- 46
 - 115
 - 230
 - 500

Alternate Corridors

- Built Environment
- Engineering Environment
- Natural Environment
- Simple Average

- ⋯ Study Area