

Comparison of GIS Stream Lengths in Mixed Use Nodes For the June 11, 2010 Meeting of the Chatham-Cary Joint Issues Committee

This memo compares the lengths of streams from different GIS (Geographic Information Systems) sources for the mixed use nodes proposed by draft Plan 6, and proposed Plan 6A and Plan 6B. The comparisons use the maximum node boundaries proposed by Plans 6A and 6B. For Plan 6B, the two smaller nodes are reported separately: the west node is the one at NC 751 and Lewter Shop Rd., and the east node is on Lewter Shop Rd./Morrisville Parkway at the County Line. Only the portion of the east node that is within Chatham County was analyzed, since the data sources for Wake County are not comparable.

Please note that none of the data sources have been field-verified, and that the actual stream lengths may in fact be quite different than those contained in the GIS source data.

Definitional notes:

- No USGS (U.S. Geological Survey) perennial streams were found within any of the mixed use node options.
- USGS "Shoreline" refers to the edges around farm ponds and other water bodies.
- All soils survey streams are in addition to the USGS streams and shorelines. That is, none of the soils survey streams overlap the USGS streams.
- DTM Breakline data are reported as a separate item in the table, and should be considered apart from the USGS and soils data. Some of the DTM lines seem to correspond to USGS or soils streams, but many do not. DTM features rarely overlap USGS and soils data, so it was not feasible to consider them in concert with the USGS and soils data.

Data Source	Feature	Total Length of Stream Features (in feet)			
		Plan 6	Plan 6A	Plan 6B – west node	Plan 6B – east node
USGS					
	Intermittent Stream	8,144.69	9,959.34	112.42	0.00
	Shoreline	5,359.43	3,442.54	3,371.74	0.00
	Total USGS Stream Lengths	13,504.12	13,401.88	3,484.16	0.00
Soils Survey	Stream/Creek	10,711.68	14,912.35	4,982.90	2,789.80
	Total of USGS + Soils Survey Streams:	24,215.80	28,314.23	8,467.06	2,789.80
	Linear ft/acre (USGS + Soils)	51.92	57.56	37.17	37.78
DTM Breakline	Cleaned (obvious roads and non-creek lines removed)	35,017.99	39,332.60	10,336.80	5,313.40