



**Corridor Analysis Tool
GIS LAYERS AND FEATURE VALUING WORKSHEET**

Background

The worksheet is for ranking and valuing evaluation criteria for the Corridor Analysis Tool (CAT). The GIS data are organized by layers which represent major data categories (wetlands, mitigation banks/sites, roadways, etc.). Within each layer are features that describe the layer in greater detail. For example, the wetlands layer contains features such as "Estuarine Forest", "Freshwater Marshes", etc. The individual layers are assigned a percentage value representing their influence or importance, relative to other layers. The layer influence values must total 100 percent for all layers being evaluated. The percent influence values must be whole numbers. The features are valued from 1 to 10, with 1 being the feature that is least important to avoid and 10 being the most important to avoid. For example, Upland Agriculture would have a low value, while a Freshwater Marsh would have a high value. In other words, the lower the value the more desirable that feature type is for roadway siting, the higher the value the more undesirable.

Other Comments:

Status - Status indicates if the GIS data is considered appropriate for corridor evaluation. Appropriateness considered data quality and duplication, and negative, positive or no impacts to the environment, roadways, infrastructure and socioeconomic issues. Three identifiers are used for Status, 'In' means the data will be used; 'Out' means the data is not used; or "Constraint" which is defined below.

Constraint - Constraint features are removed from consideration by the CAT. No roadway can be sited through a constraint feature.

Buffers - Some features, especially point features, may require a buffer to ensure avoidance. For example, it might be desirable to avoid encroaching within a specified buffer distance of a protected species habitat.

D. Demographic/Socioeconomic - These layers have been broken down into features. The features represent high, moderate or low density areas with an appropriate scale value for each density level. The range of densities will be determined based on the evaluation of the minority, low income and population densities for the project area.

Layer No.	Status	Layer Name	Layer Influence (%)	Feature (Sub Layer)	Scale Value (1 to 10)	Buffer (if required) (feet)	Comments
A. Environmental							
1a	In	Wetlands (NWI based)	40	Open Ocean			
	Constraint			Beaches & Bars			
	Constraint			Bays & Sounds			
	Constraint			Impacted			
	Constraint			Not Impacted			
				Estuarine Intertidal Marsh			
				Impacted	9		
				Not Impacted	10		
				Estuarine Shrub-Scrub			
				Impacted	9		
				Not Impacted	10		
				Estuarine Forested			
	Out			Impacted			
	Constraint			Not Impacted			
				Freshwater Lakes & Impoundments	3		
				Rivers & Canals			
				Artificial/Canal	5		
				Natural	8		
				Ponds & Borrow Pits			
				Impacted	2		
				Not Impacted	8		
				Unvegetated Flats			
				Impacted	2		
				Not Impacted	7		
				Savannahs & Wet Meadows			
				Impacted	7		
				Not Impacted	10		
				Freshwater Marshes			
				Impacted	7		
				Not Impacted	10		
				Aquatic Beds			
				Impacted	2		
				Not Impacted	10		
				Pine Savannahs & Wet Flatwoods			
				Impacted	4		
				Not Impacted	8		
				Bottomland Hardwoods			
				Impacted	6		
				Not Impacted	9		
				Hardwood Swamp			
				Impacted	6		
				Not Impacted	9		
				Bay Forests			
				Impacted	4		
				Not Impacted	7		
				Evergreen Shrub Bogs/Pocosins			
				Impacted	4		
				Not Impacted	7		
				Deciduous Shrub Swamps			
				Impacted	3		
				Not Impacted	5		
				Flooded Swamp/Beaver Ponds			
				Impacted	3		
				Not Impacted	5		
	Constraint			Carolina Bays			Aerial photography will be used to identify non impacted Carolina Bays
		Uplands (NWI based)		Upland Residential	1		
				Upland Commercial/ Services	1		
				Upland Industrial	1		
				Upland Transportation & Utilities	1		
				Upland Industrial & Commercial Complex	1		
				Upland Mixed Urban	1		
				Other Urban	1		
				Upland Agriculture (Cropland/Pasture)	1		
				Upland Orchards/ Nurseries	1		
				Upland Confined Feed Operations	1		
				Upland Herbaceous Rangeland	1		
				Upland Scrub-Shrub Rangeland	1		
				Deciduous Forest	5		
				Upland Evergreen Forest	4		
				Upland Evergreen Forest (Irregularly Flooded)	4		
				Upland Mixed Forest	4		
	Constraint			Beaches	6		
				Non-Beach Sandy Areas	1		
				Bare, Exposed Rock	3		
				Quarries	1		
				Transitional Areas	1		
				Mixed, Barren Land	1		
				Unknown	1		
		Little Pee Dee River in Dillion County			10	Buffer	
2a	Out	Soils					May use later in process for more detailed analyses
3a	Constraint	Mitigation Banks & Sites					Rank Scale Value High
4a	In	Species of Concern	10				Add subcategories to Species of Concern with ranking to be provided by SCDNR
5a	Constraint	Federal and State Threatened & Endangered Species				Buffer	Buffer based on species' habitat requirements
6a	In	Archaeology Sites					
	Constraint			Listed on NRHP/Eligible			
	Constraint			Potentially Eligible for NRHP			
	Out			Others			No impact to project
7a	In	Historic Resources					
	Constraint			Listed on NRHP/Eligible			
	Constraint			Potentially Eligible for NRHP			
	Out			Others			No impact to project
8a	Out	National Historic Register Sites					
9a	Constraint	Heritage Preserves					Cross check with Land Stewardship; Duplication
10a	Constraint	Parks (Federal, state and local)					

Layer No.	Status	Layer Name	Layer Influence (%)	Feature (Sub Layer)	Scale Value (1 to 10)	Buffer (if required) (feet)	Comments
11a	Constraint	Wildlife Refuges					Duplication; Data in Heritage Preserves
12a	Constraint	Federal Lands (>640 acres)					None present in study area
13a	Constraint	Land Stewardship/DNR Gap Analysis					Cross check with Heritage Preserves
14a	Constraint	Hazardous Sites					Use only NPS/SPL
15a	Constraint	Landfills					
16a	Out	NPDES Sites					No impact to project
17a	Out	Streams/Rivers/Lakes					Duplication; Data in NWI
18a	Out	Streams/Rivers/Lakes-Special Designation					Duplication; Data in NWI or no impact to project
	Out			Fish Advisory Areas			Duplication; Data in NWI or no impact to project
	Out			Navigable Streams			Duplication; Data in NWI or no impact to project
	Out			Recreational Waters			Duplication; Data in NWI or no impact to project
	Out			303d Designated Streams			Duplication; Data in NWI or no impact to project
19a	Out	Watersheds					No impact to project
20a	Constraint	Flood Plain for Great Pee Dee River					Great Pee Dee River designated Constraint; others out
21a	Out	Flood Plains					All other flood plains
22a	Out	Land Cover					Duplication; Using NWI data
	Out			Fresh Water			Duplication; Using NWI data
	Out			Marine Water			Duplication; Using NWI data
	Out			Marsh/Emergent Wetland			Duplication; Using NWI data
	Out			Pocosin			Duplication; Using NWI data
	Out			Swamp			Duplication; Using NWI data
	Out			Bottomland/Floodplain Forest			Duplication; Using NWI data
	Out			Wet Soil			Duplication; Using NWI data
	Out			Wet Scrub/Shrub Thicket			Duplication; Using NWI data
	Out			Dry Scrub/Shrub Thicket			Duplication; Using NWI data
	Out			Sandy Bare Soil			Duplication; Using NWI data
	Out			Open Canopy/Recently Cleared Forest			Duplication; Using NWI data
	Out			Rock Outcrop			Duplication; Using NWI data
	Out			Aquatic Vegetation			Duplication; Using NWI data
	Out			Closed Canopy Evergreen Forest/Woodland			Duplication; Using NWI data
	Out			Needle-leaved evergreen mixed forest/woodland			Duplication; Using NWI data
	Out			Pine Woodland			Duplication; Using NWI data
	Out			Dry deciduous forest/woodland			Duplication; Using NWI data
	Out			Mesic deciduous forest/woodland			Duplication; Using NWI data
	Out			Mesic deciduous forest/woodland			Duplication; Using NWI data
	Out			dry mixed forest/woodland			Duplication; Using NWI data
	Out			mesic mixed forest/woodland			Duplication; Using NWI data
	Out			Grassland/pasture			Duplication; Using NWI data
	Out			Cultivated Land			Duplication; Using NWI data
	Out			Urban Development			Duplication; Using NWI data
	Out			Urban Residential			Duplication; Using NWI data
	Out			Wet evergreen			Duplication; Using NWI data
	Out			Maritime forest			Duplication; Using NWI data
	Out			Beach			Duplication; Using NWI data
23a	Constraint	Mines/Geologic Features					
		Environmental Total	50				
B. Roadways							
1b	In	Roads	10				Break out into Functional Class and Urban/Rural
				<u>Urban</u>			
				Principal Arterial - Other	1		4 or more lanes
				Minor Arterial	2		2 to 4 lanes
				Major Collector	2		2 to 3 lanes
				Minor Collector	3		2 lanes
				Local	3		2 lanes
				<u>Rural</u>			
				Principal Arterial - Other Freeways & Expressways	1		4 or more lanes
				Principal Arterial - Other	1		4 or more lanes
				Minor Arterial	3		2 lanes
				Collector	3		2 lanes
				Local	3		2 lanes
		Roadways Total	10				
C. Infrastructure							
1c	In	Infrastructure	20			Buffer	Evaluating buffer for infrastructure point features
	Out			Railroads			No impact to project
	Out			Transmission Lines			No impact to project
	Out			Oil Pipelines			No impact to project
	Out			Bridges			No impact to project
	Constraint			Airports			
	Out			Buildings (industrial vacant)			No impact to project
	Out			Dams (Haz)			No impact to project
	In			Fire Stations	6	Buffer	Rank Scale Value Med/High
	In			Administrative Buildings (government)	4	Buffer	Rank Scale Value Low/Med
	In			Churches	9	Buffer	Rank Scale Value High
	In			Community Facilities (City Hall, etc.)	8	Buffer	Rank Scale Value High
	In			Health Facilities (licensed)	5	Buffer	Rank Scale Value Med
	In			Hospitals	8	Buffer	Rank Scale Value High
	In			Libraries	8	Buffer	Rank Scale Value Med
	In			Mental Health Facilities	5	Buffer	Rank Scale Value Med
	Constraint			Schools		Buffer	
	Constraint			Cemeteries		Buffer	
	In			Incorporated Areas	6		
	Out			Municipalities			Duplication; Used Incorporated Areas data
	In			Sewer Infrastructure			
	Out			Pipe lines			No impact to project
	In			Treatment Plants	9	Buffer	Rank Scale Value High
	Out			Discharge Points			No impact to project
	In			Water Infrastructure			
	Out			Pipe lines			No impact to project
	In			Treatment Plants	9	Buffer	Rank Scale Value High
	In			Surface Withdrawal Locations	8	Buffer	Rank Scale Value High
	In			Storage Sites	7	Buffer	Rank Scale Value Med
		Infrastructure Total	20				
D. Demographic/Socioeconomic							
1d	In	Minority Areas/Density	5				
				High Density (> X)	9		Determine density values/range and Scale Value
				Moderate Density (≤ X > Y)	6		Determine density values/range and Scale Value
				Low Density (< Y)	2		Determine density values/range and Scale Value
2d	In	Low Income Areas/Density	5				
				High Density (> X)	9		Determine density values/range and Scale Value
				Moderate Density (≤ X > Y)	6		Determine density values/range and Scale Value
				Low Density (< Y)	2		Determine density values/range and Scale Value
3d	In	Population Density	10				
				High Density (> X)	9		Determine density values/range and Scale Value
				Moderate Density (≤ X > Y)	6		Determine density values/range and Scale Value
				Low Density (< Y)	2		Determine density values/range and Scale Value
		Demographic/Socioeconomic Total	20				
		Grand Total	100				