

# Sewage Disposal

Chatham County, North Carolina

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The table shows only the top five limitations for any given soil. The soil may have additional limitations]

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BaE: Badin	50	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	1	Slope	1
		Slow water movement	0.5	Seepage	0.5
Nanford	30	Very limited		Very limited	
		Slope	1	Slope	1
		Slow water movement	0.5	Seepage	0.5
		Depth to bedrock	0.41	Depth to soft bedrock	0.02
BdB: Badin	50	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slow water movement	0.5	Slope	0.68
				Seepage	0.5
Tarrus	40	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.78	Slope	0.68
		Slow water movement	0.5	Seepage	0.5
				Depth to soft bedrock	0.42
BdC: Badin	45	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	0.63	Slope	1
		Slow water movement	0.5	Seepage	0.5
Tarrus	45	Somewhat limited		Very limited	
		Depth to bedrock	0.78	Slope	1
		Slope	0.63	Seepage	0.5
		Slow water movement	0.5	Depth to soft bedrock	0.42
BeB2: Badin, moderately eroded	45	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slow water movement	0.5	Slope	0.68
				Seepage	0.5

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		Rating class and limiting features	Value	Rating class and limiting features	Value
BeB2: Tarrus, moderately eroded	40	Somewhat limited		Somewhat limited	
		Depth to bedrock	0.78	Slope	0.68
		Slow water movement	0.5	Seepage	0.5
				Depth to soft bedrock	0.42
BeC2: Badin, moderately eroded	60	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	0.63	Slope	1
		Slow water movement	0.5	Seepage	0.5
Tarrus, moderately eroded	35	Somewhat limited		Very limited	
		Depth to bedrock	0.78	Slope	1
		Slope	0.63	Seepage	0.5
		Slow water movement	0.5	Depth to soft bedrock	0.42
CaB: Callison	62	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Depth to saturated zone	1	Depth to saturated zone	0.75
				Slope	0.32
				Seepage	0.18
Lignum	30	Very limited		Somewhat limited	
		Slow water movement	1	Depth to saturated zone	0.75
		Depth to saturated zone	1	Depth to soft bedrock	0.42
		Depth to bedrock	0.78	Slope	0.32
				Seepage	0.18
Wehadkee, undrained	2	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	0.5	Seepage	0.5
CbC: Callison	50	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Depth to saturated zone	1	Slope	1
		Slope	0.01	Depth to saturated zone	0.75
				Seepage	0.18

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
CbC: Misenheimer	35	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Seepage, bottom layer	1	Slope	1
		Slope	0.01	Seepage	1
Wehadkee, undrained	1	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	0.5	Seepage	0.5
CcB: Carbonton	50	Very limited		Very limited	
		Slow water movement	1	Depth to soft bedrock	1
		Depth to bedrock	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	0.32
Brickhaven	40	Very limited		Somewhat limited	
		Slow water movement	1	Depth to saturated zone	0.44
		Depth to saturated zone	1	Slope	0.32
		Depth to bedrock	0.73	Depth to soft bedrock	0.32
CcC: Carbonton	50	Very limited		Very limited	
		Slow water movement	1	Depth to soft bedrock	1
		Depth to bedrock	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	1
		Slope	0.01		
Brickhaven	35	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	0.44
		Depth to bedrock	0.73	Depth to soft bedrock	0.32
		Slope	0.01		

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
CcD: Carbonton	45	Very limited		Very limited	
		Slow water movement	1	Depth to soft bedrock	1
		Depth to bedrock	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slope	0.84		
Brickhaven	40	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	0.44
		Slope	0.84	Depth to soft bedrock	0.32
		Depth to bedrock	0.73		
CeB: Cecil	95	Somewhat limited		Very limited	
		Slow water movement	0.5	Seepage	1
				Slope	0.32
CeC: Cecil	95	Somewhat limited		Very limited	
		Slow water movement	0.5	Slope	1
		Slope	0.01	Seepage	1
CeD: Cecil	95	Somewhat limited		Very limited	
		Slope	0.84	Slope	1
		Slow water movement	0.5	Seepage	1
ChA: Chewacla	60	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Seepage, bottom layer	1	Seepage	0.5
		Slow water movement	0.5		

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
ChA: Wehadkee, undrained	35	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	0.5	Seepage	0.5
Wehadkee, drained	5	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	0.5	Seepage	0.5
CkC: Cid	70	Very limited		Very limited	
		Slow water movement	1	Depth to hard bedrock	1
		Depth to bedrock	1	Depth to soft bedrock	1
		Depth to saturated zone	1	Slope	1
		Slope	0.01	Depth to saturated zone	1
				Seepage	0.18
CmB: Cid	50	Very limited		Very limited	
		Slow water movement	1	Depth to hard bedrock	1
		Depth to bedrock	1	Depth to soft bedrock	1
		Depth to saturated zone	1	Depth to saturated zone	1
				Slope	0.32
				Seepage	0.18
Lignum	20	Very limited		Somewhat limited	
		Slow water movement	1	Depth to saturated zone	0.75
		Depth to saturated zone	1	Depth to soft bedrock	0.68
		Depth to bedrock	0.88	Seepage	0.5
			Slope	0.32	
Wehadkee, undrained	2	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	0.5	Seepage	0.5

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
CrB: Creedmoor	45	Very limited		Somewhat limited	
		Slow water movement	1	Depth to saturated zone	0.92
		Depth to saturated zone	1	Slope	0.32
Green Level	40	Very limited		Very limited	
		Slow water movement	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	0.32
CrC: Creedmoor	65	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	0.92
		Slope	0.01		
Green Level	25	Very limited		Very limited	
		Slow water movement	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	1
		Slope	0.01		
CrD: Creedmoor	60	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	0.92
		Slope	0.84		
Green Level	15	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slope	0.84		
DAM: Dam	95	Not rated		Not rated	

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
GaB: Georgeville	90	Somewhat limited Slow water movement	0.5	Somewhat limited Seepage Slope	0.5 0.32
GaC: Georgeville	90	Somewhat limited Slow water movement Slope	0.5 0.01	Very limited Slope Seepage	1 0.5
GbB: Georgeville	90	Somewhat limited Slow water movement	0.5	Somewhat limited Slope Seepage	0.68 0.5
GbC: Georgeville	90	Somewhat limited Slope Slow water movement	0.63 0.5	Very limited Slope Seepage	1 0.5
GeB2: Georgeville, moderately eroded	88	Somewhat limited  Slow water movement	 0.5	Somewhat limited  Seepage Slope	 0.5 0.32
GeC2: Georgeville, moderately eroded	89	Somewhat limited  Slow water movement Slope	 0.5 0.01	Very limited  Slope Seepage	 1 0.5
GhB2: Georgeville, moderately eroded	90	Somewhat limited  Slow water movement	 0.5	Somewhat limited  Slope Seepage	 0.68 0.5
GhC2: Georgeville, moderately eroded	90	Somewhat limited  Slope Slow water movement	 0.63 0.5	Very limited  Slope Seepage	 1 0.5

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
GkD: Georgeville	66	Somewhat limited		Very limited	
		Slope	0.84	Slope	1
		Slow water movement	0.5	Seepage	0.5
Badin	19	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	0.84	Slope	1
		Slow water movement	0.5	Seepage	0.5
GkE: Georgeville	54	Very limited		Very limited	
		Slope	1	Slope	1
		Slow water movement	0.5	Seepage	0.5
Badin	26	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	1	Slope	1
		Slow water movement	0.5	Seepage	0.5
GnC: Georgeville	55	Somewhat limited		Somewhat limited	
		Slow water movement	0.5	Slope Seepage	0.92 0.5
Urban land	40	Not rated		Not rated	
GoC: Goldston	55	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Seepage, bottom layer	1	Slope Seepage	1 0.18
		Slope	0.63		
		Large stones content	0.01		
Badin	30	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	0.63	Slope Seepage	1 0.5



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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
GoE: Goldston	55	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	1	Slope	1
		Seepage, bottom layer	1	Seepage	0.18
		Large stones content	0.01		
Badin	30	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	1	Slope	1
				Seepage	0.5
HeB: Helena	90	Very limited		Very limited	
		Slow water movement	1	Seepage	1
		Depth to saturated zone	1	Depth to saturated zone	0.75
				Slope	0.32
Worsham, undrained	2	Very limited		Very limited	
		Slow water movement	1	Depth to saturated zone	1
		Depth to saturated zone	1		
HeC: Helena	75	Very limited		Very limited	
		Slow water movement	1	Seepage	1
		Depth to saturated zone	1	Slope	1
		Slope	0.01	Depth to saturated zone	0.75
HrB: Herndon	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.5	Seepage	0.5
				Slope	0.32
HrC: Herndon	80	Somewhat limited		Very limited	
		Slow water movement	0.5	Slope	1
		Slope	0.01	Seepage	0.5

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
IrB: Iredell	80	Very limited		Very limited	
		Slow water movement	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	0.32
				Seepage	0.18
LsF: Louisa	85	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	1	Slope	1
		Seepage, bottom layer	1	Seepage	1
M-W: Water, sanitary ponds	100	Not rated		Not rated	
MaA: Mattaponi	75	Very limited		Very limited	
		Slow water movement	1	Seepage	1
		Depth to saturated zone	1		
MaB: Mattaponi	85	Very limited		Very limited	
		Slow water movement	1	Seepage	1
		Depth to saturated zone	1	Slope	0.68
McC: Mattaponi	55	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Seepage	1
		Slope	0.5		
Peawick	30	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	0.44
		Slope	0.5		

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
MdB: Mayodan	75	Somewhat limited Slow water movement	0.5	Somewhat limited Seepage Slope	0.5 0.32
MdC: Mayodan	80	Somewhat limited Slow water movement Slope	0.5 0.01	Very limited Slope Seepage	1 0.5
MgD: Mayodan	93	Somewhat limited Slope Slow water movement	0.84 0.5	Very limited Slope Seepage	1 0.5
MhE: Mayodan	55	Very limited Slope Slow water movement	1 0.5	Very limited Slope Seepage	1 0.5
Brickhaven	35	Very limited Slow water movement Depth to saturated zone Slope Depth to bedrock	1 1 1 0.73	Very limited Slope Depth to saturated zone Depth to soft bedrock	1 0.44 0.32
MrA: Merry Oaks	45	Very limited Flooding Slow water movement Depth to saturated zone	1 1 1	Very limited Flooding Depth to saturated zone Seepage	1 1 0.5
Moncure, undrained	40	Very limited Flooding Slow water movement Ponding Depth to saturated zone Seepage, bottom layer	1 1 1 1 1	Very limited Ponding Flooding Depth to saturated zone Seepage	1 1 1 1

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
NaB: Nanford	36	Somewhat limited		Somewhat limited	
		Slow water movement	0.5	Seepage	0.5
		Depth to bedrock	0.41	Slope	0.32
Badin	33	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slow water movement	0.5	Seepage	0.5
NaC: Nanford	50	Somewhat limited		Very limited	
		Slow water movement	0.5	Slope	1
		Depth to bedrock	0.41	Seepage	0.5
Badin	30	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slow water movement	0.5	Slope	1
NaD: Nanford	40	Somewhat limited		Very limited	
		Slope	0.84	Seepage	0.5
		Slow water movement	0.5	Depth to soft bedrock	0.02
Badin	35	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Slope	0.84	Slope	1
PaE: Pacolet	85	Very limited		Very limited	
		Slope	1	Slope	1
		Slow water movement	0.5	Seepage	0.5

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
PcA: Peawick	90	Very limited		Somewhat limited	
		Slow water movement	1	Depth to saturated zone	0.44
		Depth to saturated zone	1	Flooding	0.4
		Flooding	0.4		
PeA: Peawick	90	Very limited		Somewhat limited	
		Slow water movement	1	Depth to saturated zone	0.44
		Depth to saturated zone	1		
PeB: Peawick	90	Very limited		Somewhat limited	
		Slow water movement	1	Slope	0.68
		Depth to saturated zone	1	Depth to saturated zone	0.44
PsB: Pittsboro, stony	55	Very limited		Very limited	
		Depth to bedrock	1	Depth to soft bedrock	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	1	Depth to hard bedrock	0.92
				Slope	0.68
Iredell, stony	25	Very limited		Very limited	
		Slow water movement	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	0.68
				Seepage	0.32
Qr: Pits, quarry	95	Not rated		Not rated	
Udorthents	5	Somewhat limited		Somewhat limited	
		Slow water movement	0.5	Seepage	0.5
				Slope	0.08

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
RvA: Riverview	85	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	0.71
		Slow water movement	0.5	Seepage	0.5
Wehadkee, undrained	1	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	0.5	Seepage	0.5
StB: State	75	Very limited		Very limited	
		Seepage, bottom layer	1	Seepage Slope	1 0.32
		Slow water movement	0.5		
		Depth to saturated zone	0.4		
TuA: Turbeville	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.5	Seepage	0.5
UdC: Udorthents, loamy	85	Somewhat limited		Very limited	
		Slow water movement	0.82	Slope	1
		Slope	0.01	Seepage	0.18
VaB: Vance	85	Very limited		Very limited	
		Slow water movement	1	Seepage	1
		Seepage, bottom layer	1	Slope	0.32
W: Water	100	Not rated		Not rated	
WdC: Wedowee, bouldery	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.5	Slope Seepage	0.92 0.5

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Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
WdE: Wedowee, bouldery	75	Very limited Slope Slow water movement	1 0.5	Very limited Slope Seepage	1 0.5
WeB: Wedowee	90	Somewhat limited Slow water movement	0.5	Somewhat limited Seepage Slope	0.5 0.32
WeC: Wedowee	85	Somewhat limited Slow water movement Slope	0.5 0.01	Very limited Slope Seepage	1 0.5
WeD: Wedowee	85	Somewhat limited Slope Slow water movement	0.84 0.5	Very limited Slope Seepage	1 0.5
WeE: Wedowee	85	Very limited Slope Slow water movement	1 0.5	Very limited Slope Seepage	1 0.5
WhB: White Store	55	Very limited Slow water movement Depth to saturated zone Depth to bedrock	1 1 0.99	Very limited Depth to saturated zone Depth to soft bedrock Seepage Slope	1 0.96 0.5 0.32
Polkton	40	Very limited Slow water movement Depth to bedrock Depth to saturated zone	1 1 1	Very limited Depth to soft bedrock Depth to saturated zone Seepage Slope	1 1 0.5 0.32

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		Rating class and limiting features	Value	Rating class and limiting features	Value
WhC: White Store	50	Very limited		Very limited	
		Slow water movement	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	1
		Depth to bedrock	0.99	Depth to soft bedrock	0.96
		Slope	0.01	Seepage	0.5
Polkton	35	Very limited		Very limited	
		Slow water movement	1	Depth to soft bedrock	1
		Depth to bedrock	1	Depth to saturated zone	1
		Depth to saturated zone	1	Slope	1
		Slope	0.01	Seepage	0.5
Wehadkee, undrained	1	Very limited		Very limited	
		Flooding	1	Flooding	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Slow water movement	0.5	Seepage	0.5
WhD: White Store	60	Very limited		Very limited	
		Slow water movement	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	1
		Depth to bedrock	0.99	Depth to soft bedrock	0.96
		Slope	0.84	Seepage	0.5
Polkton	35	Very limited		Very limited	
		Slow water movement	1	Depth to soft bedrock	1
		Depth to bedrock	1	Slope	1
		Depth to saturated zone	1	Depth to saturated zone	0.75
		Slope	0.84	Seepage	0.5
WtB: Wynott	60	Very limited		Very limited	
		Slow water movement	1	Depth to soft bedrock	1
		Depth to bedrock	1	Slope	0.68
				Seepage	0.5



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		Rating class and limiting features	Value	Rating class and limiting features	Value
WtB: Enon	30	Very limited Slow water movement	1	Somewhat limited Slope Seepage	0.68 0.32
WtC: Wynott	55	Very limited Slow water movement Depth to bedrock Slope	1 1 0.63	Very limited Depth to soft bedrock Slope Seepage	1 1 0.5
Enon	35	Very limited Slow water movement Slope	1 0.63	Very limited Slope Seepage	1 0.32
WyB2: Wynott, moderately eroded	45	Very limited Depth to bedrock	1	Very limited Depth to soft bedrock Slope Seepage	1 0.68 0.18
Enon, moderately eroded	40	Very limited Slow water movement	1	Somewhat limited Slope Seepage	0.68 0.32
WyC2: Wynott, moderately eroded	40	Very limited Depth to bedrock Slope	1 0.63	Very limited Depth to soft bedrock Slope Seepage	1 1 0.18
Enon, moderately eroded	35	Very limited Slow water movement Slope	1 0.63	Very limited Slope Seepage	1 0.32

## Sewage Disposal

This table shows the degree and kind of soil limitations that affect septic tank absorption fields and sewage lagoons. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

"Septic tank absorption fields" are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches or between a depth of 24 inches and a restrictive layer is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

"Sewage lagoons" are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, saturated hydraulic conductivity (Ksat), depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Saturated hydraulic conductivity (Ksat) is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a Ksat rate of more than 14 micrometers per second are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

Information in this table is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this table. Local ordinances and regulations should be considered in planning, in site selection, and in design.

# Hydric Soils

Chatham County, North Carolina

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
CaB: Callison-Lignum complex, 2 to 6 percent slopes	Wehadkee, undrained	2	Depressions, Flood plains	Yes	2B3, 4
CbC: Callison-Misenheimer complex, 6 to 10 percent slopes	Wehadkee, undrained	1	Depressions, Flood plains	Yes	2B3, 4
ChA: Chewacla and Wehadkee soils, 0 to 2 percent slopes, frequently flooded	Wehadkee, undrained	35	Depressions, Flood plains	Yes	2B3, 4
	Wehadkee, drained	5	Depressions, Flood plains	Yes	2B3, 4
CmB: Cid-Lignum complex, 2 to 6 percent slopes	Wehadkee, undrained	2	Depressions, Flood plains	Yes	2B3, 4
HeB: Helena sandy loam, 2 to 6 percent slopes	Worsham, undrained	2	Depressions	Yes	2B3
MrA: Merry Oaks-Moncure complex, 0 to 2 percent slopes, occasionally flooded	Moncure, undrained	40	Depressions, Stream terraces	Yes	2B3, 3
RvA: Riverview silt loam, 0 to 3 percent slopes, frequently flooded	Wehadkee, undrained	1	Depressions, Flood plains	Yes	2B3, 4
WhC: White Store-Polkton complex, 6 to 10 percent slopes	Wehadkee, undrained	1	Depressions, Flood plains	Yes	2B3, 4

## Explanation of hydric criteria codes:

1. All Histels except for Folistels, and Histosols except for Folistols.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1.) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2.) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3.) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S.

## Hydric Soils

Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2) a water table at a depth of 0.5 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3) a water table at a depth of 1.0 foot or less during the growing season if saturated hydraulic conductivity (Ksat) is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

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