

Town of North Topsail Beach



Build-Out and Non-Conforming Lot Study

In Coordination with
The Eastern Carolina Council of Governments
February 2010

Introduction

The Town of North Topsail Beach has conducted a subdivision lot inventory and potential build-out scenario based on the existing zoning designations. The inventory identifies the number of platted lots within the municipal limits and identifies those that are vacant or built upon. The build-out scenario uses the existing zoning density regulations, calculates the potential growth of the Town if the maximum permitted density of residential and commercial uses were to be built. The purpose of the lot inventory and build-out scenario to assist in the continued planning of the town into the future.

The study consists of the following elements:

1. A determination of which existing lots are built, and of those that are built, determination of their existing density. This is to include both residential density (by dwelling unit) and commercial density (by floor area).
2. Potential residential density was calculated by using the maximum allowable density of the existing zoning district. For large parcels that may be further subdivided, estimation was made of the required infrastructure and open space and will not be included in the residential calculation. The calculation of potential residential density will exclude existing built single family residential lots and multifamily units. Lots that are non-conforming as to area and cannot be built upon will also be identified.
3. The potential additional commercial density is be based on the maximum square footage that is permitted within the zoning district. A portion of the parcel area is be allocated to parking, open space etc. and will not be included in the density calculation in order to obtain a more accurate estimate. Existing sites that are built-out at maximum density will not be included in the scenario.
4. An estimate of additional housing units and commercial square footage will be reported based on the GIS model as well as a population increase estimate and identification of areas which may have the potential to see a large increase in population density.

Methodology

The initial task of the study was to gather pertinent data for analysis. The following data was obtained from Onslow County: Parcel, zoning, and aerial photography in shapefile and raster format. The data was then converted into a single comprehensive geodatabase using ESRI ArcGIS software. Additionally, information regarding recent building permits issued and current zoning regulations were be obtained from the town.

Using the data obtained from Onslow County, each lot/parcel will be evaluated to determine the following:

- a. If there is a principal structure on the property.
- b. If a principal structure exists on the property, the density will be determined (i.e. a single family residence on a single lot, the number of multi-family units in a complex, estimated size of commercial structures), and recorded in the geodatabase.
- c. The basic land use category was determined and recorded in the geodatabase. The following categories were used (with the abbreviation in parentheses):

1. Single Family residential (SFR)
2. Multi-family residential (MFR)
3. Mobile Home (MH)
4. Agricultural (AG)
5. Commercial (COM)
6. Institutional (INS)
7. Industrial (IND)
8. Office (OFF)
9. Government (GOV)
10. Recreational (REC)
11. Utility (UTL)
12. Vacant (VAC, may be developed with accessory uses or as supplemental parcels for beach access etc.)
13. Undeveloped (UND, raw land)

The next stage of the project was to evaluate undeveloped parcels to estimate the potential maximum density allowable under current zoning regulations. Potential residential density was estimated by using the maximum allowable density of the existing zoning district, lot size, and other bulk restrictions. For large residentially zoned parcels that may be further subdivided, 20% was reserved for the required infrastructure and open space and was not be included in the residential calculation.

The potential additional commercial density will be based on the maximum square footage that is permitted within the zoning district. The maximum lot coverage (30 percent) of the parcel area will be calculated to estimate commercial square footage. Forty percent of the remaining parcel area will be allocated to parking, open space etc. and will not be included in the density calculation in order to obtain a more accurate estimate.

Lots that are non-conforming as to area are also identified and not included in the calculations. Non-conforming lots are lots where the calculated area (by geometry, not taxable value) is less than the minimum lot size for the zoning district. EXCEPTIONS: lots that are the result of a split for creating a condominium in multifamily units and attached townhomes where the lot is part of a larger development that was subdivided.

Areas that cannot be built-upon for environmental regulatory reasons were also be identified so that they may be excluded from the overall build-out calculation. This was accomplished in two ways: 1) creating an outline along the estimated dune line and the estimated coastal marsh areas and using the 'clip' feature in ArcGIS to remove all parcel area that was estimated to be environmentally sensitive and 2) analysis of the remaining data according to the following criteria- 1) parcels that are east of the dune line, 2) parcels that are coastal marsh or water, 3) parcels that are clearly for access purposes (beach access or right-of-way) 4) parcels that are owned by an HOA or similar entity and contain accessory uses or are undeveloped, 5) Town, County, or State owned undeveloped property.

Sites where analysis cannot be done by using the data sources alone, and sites where questionable data exist were verified by town staff to determine structures, land-use, and density.

Findings

Existing Land Use and Non-conforming lots

Using GIS with current parcel data and aerial photography, each tax parcel was examined to determine if a principal structure was present and subsequently the current land use. Table 1 illustrates the number and land use classification of developed parcels, while Table 2 lists the number of vacant and undeveloped parcels.

Table 1. Number and Description of existing structures by Zoning District

District	Land Use										
	SFR ¹	MFR ²	MH	AG	COM	INS	IND	OFF	GOV	REC	UTL
R-5	240	1018				1					1
R-8	12	76									
R-10	508	33				3			2		1
R-15	62										
R-20	70								5	1	
RA	5										
MHR	239		70								
B-1	1				3				1		1
B-2					2						
CON-D	27										
CUR-5	89				1				4		
CUR-8	20										
CUR-10	21										
CUR-15	20										

1. Includes individual units in duplexes.
2. Multi Family is reported in number of existing units, not individual structures.

Table 2. Number of Undeveloped and Vacant Lots by Zoning District

Zoning District	UND	VAC	Total Lots	Zoning District	UND	VAC	Total Lots
R-5	299	66	1625	CON-D	505	3	535
R-8	9	2	99	B-1	22	2	30
R-10	215	39	801	B-2	3	0	5
R-15	67	6	135	CUR-5	85	0	179
R-20	190	3	269	CUR-8	50	2	72
RA	32	0	37	CUR-10	28	0	49
MHR	162	6	477	CUR-15	6	2	28

In addition to land use, lots that are non-conforming as to area (e.g. a 8,000 square foot lot zoned R-10, minimum lot size of 10,000 square feet) were identified. The geometric area of each parcel was calculated and compared with the existing zoning district minimum lot size (i.e. R-8 has a minimum

lot size of 8,000 square feet) using a mathematical comparison to determine if the parcel area was less than the minimum lot size for each zoning district. Parcels that were created as the result of a condominium split (where a small parcel exists within a larger parcel and the larger parcel is considered to be common area) were not counted as non-conforming as to area. Table 3 indicates the number of non-conforming lots by zoning district.

Table 3. Number of Non-conforming lots by Zoning District

Zoning District	Non-Conforming Lots	Zoning District	Non-Conforming Lots
R-5	63	MHR	128
R-8	62	B-1	8
R-10	400	B-2	0
R-15	23	CUR-5	78
R-20	34	CUR-8	8
RA	0	CUR-10	3
		CUR-15	0

Buildable and Non-Buildable Lots

The second part of the analysis was to determine the number of buildable and non-buildable lots. This was accomplished by ‘clipping’ out the environmentally sensitive area of the tax parcels including areas in front of the dune line on the ocean side and the estimated extent of the coastal marsh on the sound side. This analysis included those lots that may already be built but have been significantly impacted by environmental reasons such as dune erosion or coastal march encroachment. The non-buildable lot calculation also includes any parcels that are common area for condominiums and multifamily developments because they are considered to be a part of the larger development even though the parcel itself may be vacant. Table 4 indicates the number of non-buildable lots by zoning district.

Table 4. Number of Non-Buildable Lots by Zoning District

Zoning District	Non-buildable	Zoning District	Non-buildable
R-5	165	MHR	22
R-8	2	B-1	2
R-10	126	B-2	1
R-15	8	CUR-5	39
R-20	16	CUR-8	4
RA	6	CUR-10	1
		CUR-15	2

The build-out analysis also identified the number of buildable, undeveloped lots in each zoning district. This number is critical because it will indicate the geographic location and potential density that be built on a parcel. Table 5 indicates the number of buildable, undeveloped lots in each zoning district.

Table 5. Number of Buildable, Undeveloped Lots by Zoning District

Zoning District	Buildable Undeveloped	Zoning District	Buildable Undeveloped
R-5	192	MHR	143
R-8	9	B-1	22
R-10	127	B-2	2
R-15	58	CUR-5	46
R-20	171	CUR-8	48
RA	24	CUR-10	27
		CUR-15	5

Estimated Growth Potential

The third part of the analysis was to estimate the potential growth, both commercial and residential, based on the remaining undeveloped, buildable lots and the permitted density of each zoning district. Using the number of buildable undeveloped lots, the permitted densities and uses in each zoning district, and the minimum lot sizes for each zoning district (Appendix A) the number of housing units and commercial square footage was estimated. Housing units include single family, duplexes, and multifamily structures depending on what ever the highest density use is permitted in the zoning district. Table 6 indicates the estimated number of additional housing units and commercial square footage that may be developed.

Table 6. Estimated Housing Units and Commercial space by Zoning District

Zoning District	Housing Units/GFA	Zoning District	Housing Units/GFA
R-5	552	MHR	195
R-8	80	B-1	280,648 sq. ft.
R-10	321	B-2	151,710 sq. ft.
R-15	118	CUR-5	46
R-20	333	CUR-8	48
RA	24	CUR-10	27
		CUR-15	5

Also as a part of the growth potential analysis is a population increase estimate based on the average household size and the number of potential dwelling units. According to the 2000 census, the average household size is 1.87 persons. Using this number multiplied by the number of potential housing units, Table 7 indicates an estimated population increase (rounded) by residential zoning district.

Table 7. Estimated Population Increase (in persons) by Zoning District

Zoning District	Population Increase	Zoning District	Population Increase
R-5	1,032	MHR	365
R-8	150	CUR-5	86
R-10	600	CUR-8	90
R-15	221	CUR-10	50
R-20	623	CUR-15	9
RA	45		

Appendix A

North Topsail Beach Zoning District Densities

	Com.	MH	SFR	Duplex	Three-Four	Multi
CON-D:						
B-1:	X					
B-2:	X					
MHR:		X	X	X		
R-5:		X	X	X	X	X
R-8:		X	X	X	X	X
R-10:		X	X	X	X	X
R-15:			X	X		
R-20:			X			
R-A:		X	X			
CUR-5:			X			
CUR-8:			X			
CUR-10:			X			
CUR-15:			X			

Minimum Lot sizes:

CON-D:	NA
B-1:	8,000 per building
B-2:	8,000 per building
MHR:	5,000 sf, 5,000 for each unit over 1
R-5:	5,000 sf, 5,000 sf for each unit over 2
R-8:	8,000 sf, 2,750 for each unit over 2
R-10:	10,000 sf, plus 10,000 for each unit over 2
R-15:	15,000 sf, 15,000 sf for a duplex
R-20:	20,000 sf
R-A:	3 acres (130,680 sf)
CUR-5:	5,000 sf
CUR-8:	8,000 sf
CUR-10:	10,000 sf
CUR-15:	15,000 sf