

Memorandum

To George Meservey, Director of Planning and Community Development
Michael Domenica, PE, Program Manager

CC Betsy Shreve, AICP, AECOM Project Director
Aaron Weieneth, AICP, AECOM

Subject **Town of Orleans, MA**
Water Quality and Wastewater Planning
Task Number 1.b – Downtown Planning
Technical Memorandum on Updated Downtown Build-Out Analysis and Land
Use/Market Conditions and Development Constraints – 50 percent Rough Draft

Project Number 60476644

From Thomas Parece, P.E., AECOM Project Manager

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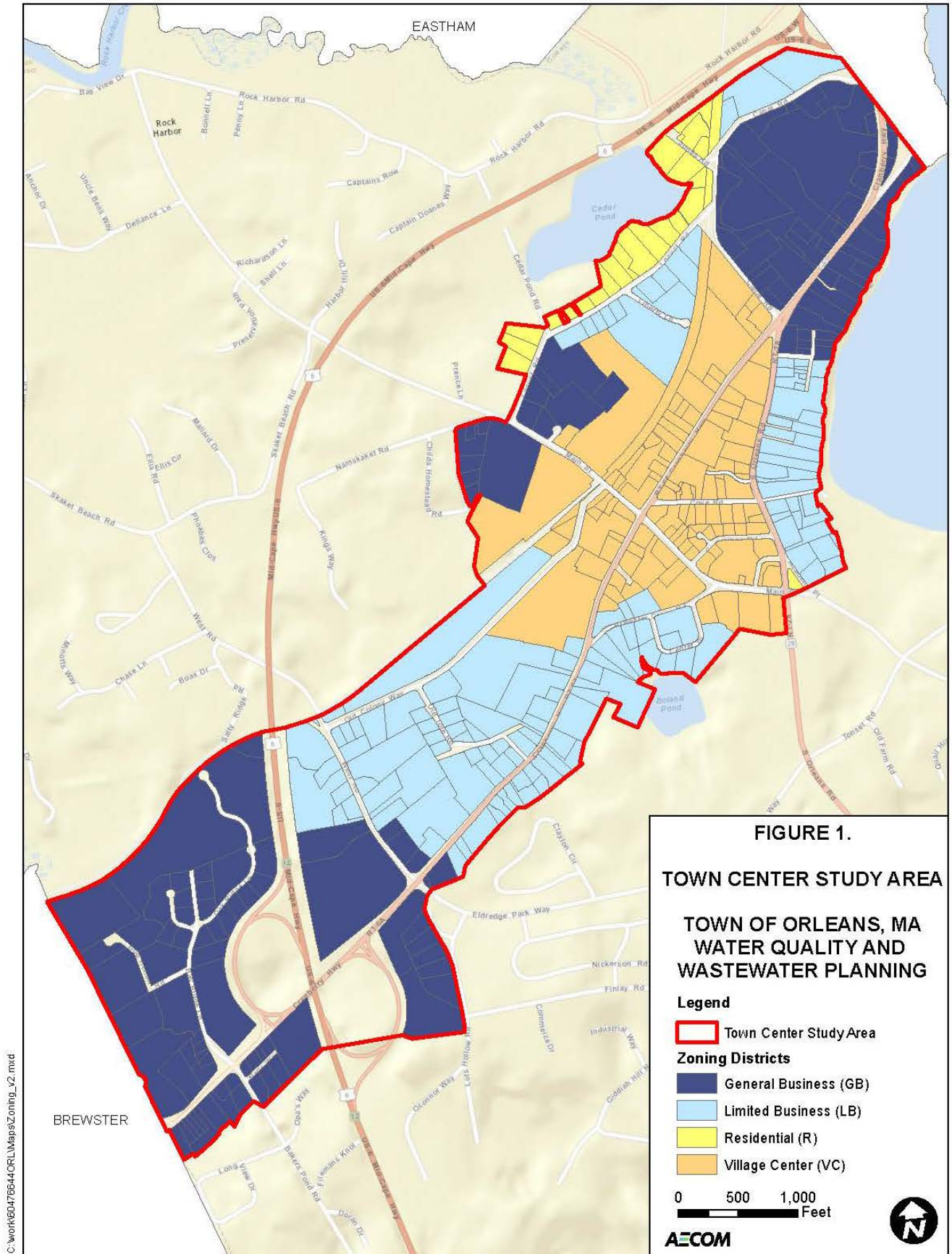
1. Background

This Technical Memorandum on Updated Downtown Build-Out Analysis and Land Use / Market Conditions and Development Constraints presents the results of an updated economic conditions and market trend analysis for the Town Center Study Area, as well as the methodology and results for an updated build-out analysis of the Town Center Study Area based on existing Town regulations and zoning.

2. Introduction

The goal of the Downtown Planning task of the Town of Orleans Water Quality and Wastewater Planning project is to conduct planning and engineering services for development of a Town Center plan that will support water quality and wastewater planning on a sub-watershed basis. The area addressed in this task is the Town Center Study Area, which includes the business districts along the Route 6A corridor as well as some residential use (see Figure 1).

This Technical Memorandum presents the results of two subtasks: (a) updated economic conditions and market trend analysis; and (b) updated build-out-analysis for the Town Center Study Area. The economic conditions and market trend analysis reflects an update to the 2010 Orleans Village Center Economic Analysis conducted by FinePoint Associates, and an expansion of the analysis to include the new Town Center Study Area identified in Figure 1. The build-out analysis is based on existing land use conditions and zoning for the study area, and it is conducted on a parcel basis and categorized by sub-watershed area.



3. Updated Economic Conditions and Market Trend Analysis

In 2010, FinePoint Associates conducted an economic analysis of the Orleans Village Center and worked collaboratively with the Planning Department, Planning Board, Chamber of Commerce, and interested citizens to develop a set of 24 strategy recommendations along with potential action steps to consider. Many of these recommendations have since been implemented or are underway. As part of the Downtown Planning Task of the Town of Orleans Water Quality and Wastewater Planning project, FinePoint Associates, as a subcontractor to AECOM, conducted an updated economic analysis for the Town Center Study Area, which incorporates the Village Center. This analysis resulted in the production of an *Orleans Town Center Economic Analysis Primer*, which provides information and analysis pertaining to economic conditions and other factors that will inform the Town and appropriate Boards or Committees as they complete the following task: Reassess/reconfirm the vision for the Town Center and selected strategy recommendations that came out of the 2010 economic analysis (particularly those that impact future development and therefore wastewater planning) as well as review any new strategy considerations arising from the 2015 economic analysis.

The Economic Analysis Primer is comprised of three parts:

- Real Estate and Business Conditions;
- Understanding of the Year Round and Seasonal Retail Market; and
- Other Conditions Pertinent to Town Center Planning.

Bulleted highlights from each part of the analysis are provided below, and the Primer is included in its entirety in Appendix A.

a. Real Estate and Business Conditions

Highlights regarding the real estate and business conditions in the Town Center are provided below:

- Over 1.1 million square feet (sf) of commercial space in the Town Center, with a 4 percent vacancy rate;
- 320 businesses, most relatively small (median size is 1,500 sf);
- Most businesses stable or growing; and
- Several restaurants indicated they would like to expand if they could (obstacles cited: wastewater, regulatory or permitting issues, and space constraints).

b. Understanding of the Year Round and Seasonal Retail Market

1) Market Segment Characteristics

Businesses located in the Town Center have the opportunity to attract two major market segments: (a) year-round residents in the surrounding area; and (b) seasonal home population and visitors in the surrounding area. Detail on each market segment is provided below.

- Year-round Customer Base
 - Primary Trade Area: Orleans, Eastham, and a portion of Brewster – 15,000 people;
 - Secondary Trade Area: Harwich to Provincetown – 46,000 people;
 - Wide range of income levels; median household income for the Primary Trade Area is 5 percent lower than Massachusetts, and per capita income is 13 percent higher; and
 - The Primary Trade Areas is well educated and older; 37 percent over age 65 compared to 15 percent for Massachusetts.
- Seasonal Customer Base
 - Day-trippers and motel visitors;
 - Seasonal homeowners and guests: Primary Trade Area – 7,000 seasonal home;
 - Secondary Trade Area – 24,700 seasonal homes; and
 - Seasonal customer base is very important for supporting local businesses (e.g. Orleans year-round population alone could support less than one-third of the businesses in Orleans).

2) Demand vs. Supply (retail and restaurants)

A sales leakage analysis compares the annual sales of businesses within the trade area to the amount and type of annual purchases that trade area residents make. If the expenditures exceed the sales, this indicates that local supply is not entirely meeting local demand. The difference between what the residents spend and what the local businesses are capturing is called “leakage”. This is also sometimes referred to as the “retail gap”. The leakage indicates the amount of market demand that is not being captured; i.e. the amount of sales that are being lost because trade area residents are going outside of the trade area to make purchases. A summary of the leakage analysis results for retail and restaurants is provided below:

- No glaring retail gaps – supply seems close to meeting demand in most categories in Primary Trade Area;
- Clothing and Accessories – showed sales leakage but local apparel;
- General Merchandise category (department stores) – significant sales leakage but limited site opportunity and community interest for large footprint retailers;
- Other categories with modest sales leakage (Secondary Trade Area) – sporting goods/hobby, health and personal care, electronics; and
- Restaurants – did not show sales leakage but we sense there might be market opportunity based on: (a) several local restaurants believe there is adequate market support to expand; and (b) the leakage analysis did not include expenditures of day-trippers and motel visitors –typically high spenders in restaurant category.

c. Other Conditions Pertinent to Town Center Planning

Key considerations regarding the Town's demographic profile and trends as well as housing supply and needs are identified below.

1) Orleans Demographic Profile and Trends

- Approximately 5,700 people live year-round in Orleans;
- Population has declined from a high figure of 6,797 in 2004~~is declining~~;
- 43 percent of the population is age 65 or older;
- There is a distinct dDiversity of household income levels;
- Median household income 5 percent lower than Massachusetts, per capita income is 22 percent higher;
- Small household size – 1.95 (compared to 2.5 in Massachusetts); and
- Aging population and loss of young workers:
 - Over the last 15 years – 34 percent drop in 25- 44 year olds, meanwhile senior population grew by 8 percent; and
 - Young people leave due to lack of: job opportunities, higher education options, social options, housing they can afford.

2) Housing Supply and Needs

- Almost as many seasonal homes as year-round homes;
- Little variety in housing choice;
 - 80 percent single family, 20 percent condos and apartments (compared to 52 percent and 48 percent, respectively, in Massachusetts);
 - 77 percent homeowner, 23 percent rental (compared to 62 percent and 38 percent, respectively, in Massachusetts); and
 - Very low vacancy in rental market.
- High housing cost;
 - Median home value close to \$600,000, which is 55 percent higher compared to Cape Cod as a whole (while median household income is only 4 percent higher compared to Cape Cod).
- Housing Needs; and
 - Maintenance-free homes in close proximity to services (condos and apartments) – older population downsizing, do not want maintenance, looking to drive less (cost may be issue for some, for others more about no maintenance and location); and
 - Entry-level housing, workforce housing – lower priced homes, more rentals and condos, affordable to young singles and families.

- Continuing Expansion of Arts and Culture.
 - Establishment of cultural district, expansion of programming and facilities.

4. Updated Town Center Study Area Build-out Analysis

a. Build-out Approach

The Town Center Study Area build-out analysis was initiated by reviewing previous relevant planning studies and build-out analyses for the Town, including the following:

- 2004 Orleans Town Center Transportation Study by Judith Nitsch Engineering Inc.);
- 2005 Buildout by the Town of Orleans;
- 2006 Comprehensive Plan by the Town of Orleans;
- 2009 Village Center Vision Statement by the Town of Orleans;
- 2010 Economic Analysis of the Village Center by FinePoint Associates;
- 2010 Comprehensive Wastewater Management Plan by Wright-Peirce;
- 2011 Orleans Village Center Streetscape Plan by the Cape Cod Commission;
- 2012 Cape Wide Buildout Analysis to Support Regional Wastewater Planning by the Cape Cod Commission;
- 2015 Route 6A Orleans RESET by the Cape Cod Commission;
- 2015 Town Center Business Inventory by FinePoint Associates and
- 2015 Orleans Town Center Economic Analysis Primer by FinePoint Associates.

The following information was also collected and reviewed to aid in the build-out analysis:

- Fiscal Year 2016 Assessors Database;
- Orleans Zoning Bylaws and Regulations;
- Orleans 2011 Zoning Map;
- Orleans 2009 Nutrient Management Regulations;
- Historic parcel water use data for 2014 and 2015; and
- State Environmental Code Title 5 (310 CMR 15.000).

An ESRI ArcMap geodatabase and Excel spreadsheet were developed by AECOM to allow for organization and subsequent calculation of relevant information on a parcel basis.

Following review and organization of available information, the Orleans Downtown Planning Workshop No. 1 was convened with the Board of Selectmen and other invited stakeholders on December 15, 2015. The purpose of this workshop was to:

- Confirm the Vision for the Downtown as stated in the 2006 Orleans Comprehensive Plan;
- Confirm the 2009 Vision Statement for Village Center; and
- Review/revisit the recommendations from the 2010 Economic Analysis of the Village Center prepared by FinePoint Associates and modify as needed based on findings of updated economic analysis.

Provide summary of Workshop No. 1 in 100 percent TM submittal.

After Workshop No. 1, AECOM utilized output from the workshop and coordinated with the Town's Planning Department and subconsultant FinePoint Associates to develop an updated build-out for the Town Center Study Area and a range of future growth / build-out scenarios. Then, the Orleans Downtown Planning Workshop No. 2 was convened with the Board of Selectmen and other invited stakeholders on February 4, 2016. The purpose of this workshop was to:

- Summarize input and key takeaways from Workshop No. 1;
- Review assumptions and results for the Town Center Study Area build-out scenarios; and
- Conduct a group discussion to obtain input on the build-out scenarios.

Provide summary of Workshop No. 2 in 100 percent TM submittal.

Detail on the assumptions and results for the updated build-out for the Town Center Study Area is provided below. The range of future growth / build-out scenarios will be presented in a subsequent Downtown Planning Technical Memorandum.

b. Updated Build-out for the Town Center Study Area

1) 2015 Existing Conditions

Existing conditions for the Town Center Study Area were initially determined to provide a baseline from which to develop potential growth scenarios. Baseline values for the number of dwelling units, non-residential development (i.e. non-residential square footage), and wastewater generation within the Town Center Study Area were developed as explained below:

- Dwelling Units for Residential District Parcels - Number of existing dwelling units for each parcel determined by use of the following sources: assessors database, water account records, and online research (Google Earth, etc.).
- Dwelling Units for Business District (Limited Business, General Business, Village Center) Parcels - Number of existing dwelling units for each parcel determined by use of the following sources: assessors database, water account records, FinePoint Associates 2015 Town Center Business Inventory, and online research (Google Earth, etc.).

- Non-Residential Development - Total non-residential square footage in the Town Center Study Area determined for each parcel by use of the following sources: assessors database, FinePoint Associates 2015 Town Center Business Inventory, and online research (Google Earth, etc.).
- Wastewater Generation
 - Average daily wastewater generation (gallons per day, or gpd) determined for each parcel by use of historic water account data for 2014 and 2015; and
 - A factor of 0.95 was applied to the average daily water use to arrive at an estimated wastewater generation value for each parcel.

This process resulted in the 2015 Existing Conditions results presented in Table 1 and Table 2.

2) Updated Build-out

Following completion of the 2015 Existing Conditions analysis, an updated build-out scenario assuming no change to land use patterns or zoning regulations was developed. The scenario was then evaluated in light of three options:

- Scenario Option 0a: Full Build-out under Current Zoning with Existing Wastewater Limitations;
- Scenario Option 0b: Full Build-out under Current Zoning with Existing Wastewater Limitations and Title 5 Septic Systems Constructed under Parking; and
- Scenario Option 0c: Full Build-out under Current Zoning with Wastewater Limitations, Title 5 Constructed under Parking, and Local Nutrient Management Regulations Removed.

Each scenario option is described below. The results for all scenario options are presented in Table 1 and Table 2.

Table 1. Orleans Town Center Study Area Updated Build-out Results by Subwatershed

Subwatershed	2015 Existing Conditions		Scenario Option 0a		Scenario Option 0b		ScenarioOption 0c	
	Residential (dwelling units)	Non-Residential (sf)	Residential (dwelling units)	Non-Residential (sf)	Residential (dwelling units)	Non-Residential (sf)	Residential (dwelling units)	Non-Residential (sf)
Town Cove	181	718,297	207	872,471	207	898,495	207	904,895
Boat Meadow River	5	-	5	-	5	-	5	-
Rock Harbor Stream	1	-	1	-	1	-	1	-
Cedar Pond	98	301,286	119	595,108	119	638,404	121	639,375
Rock Harbor Main	368	78,326	369	83,784	369	100,715	371	101,479
Boland Pond	1	17,121	2	17,121	2	17,121	2	24,691
Little Namskaket	128	218,907	151	493,038	151	552,003	163	659,557
Namskaket Main	10	89,762	22	194,123	22	226,154	22	226,154
Namskaket Stream	8	50,429	26	129,698	26	163,618	26	163,618
<i>Total</i>	<i>800</i>	<i>1,474,128</i>	<i>902</i>	<i>2,385,343</i>	<i>902</i>	<i>2,596,509</i>	<i>918</i>	<i>2,719,769</i>

Table 2. Orleans Town Center Study Area Wastewater Flows by Subwatershed (gpd)

Subwatershed	2015 Existing Conditions	Scenario Option 0a	Scenario Option 0b	Scenario Option 0c
Town Cove	61,178	68,902	77,688	69,421
Boat Meadow River	837	837	837	837
Rock Harbor Stream	53	53	53	53
Cedar Pond	26,277	33,830	40,723	34,977
Rock Harbor Main	29,705	30,013	31,592	31,025
Boland Pond	2,603	2,768	2,768	2,858
Little Namskaket	21,699	34,105	36,675	52,990
Namskaket Main	5,252	14,259	17,029	17,029
Namskaket Stream	4,252	14,355	17,919	17,919
<i>Total</i>	<i>151,855</i>	<i>199,122</i>	<i>225,282</i>	<i>227,107</i>

Scenario Option 0a – Full Build-out under Current Zoning with Wastewater Limitations

Scenario Option 0a assumes on-site wastewater management continues to be required and a variance would not be issued by the Board of Health to allow construction of new or expanded Title 5 systems under parking areas. The assumptions used for estimating residential and non-residential build-out for each parcel and associated wastewater generation are provided below.

- Dwelling Units for Residential District (R) Parcels:
 - For parcels with a total area of 40,000 sf (i.e. minimum lot size) or less, assume no separate residential structures can be built;
 - For parcels with a conforming lot size of 40,000 sf or more, assume an accessory dwelling unit can be added if the Title 5 nitrogen loading limitation of 440 gpd / acre is not exceeded in Nitrogen Sensitive Areas designated in 310 CMR 15.215, or the Town’s Nutrient Management Regulations wastewater limitation of 440 gpd / 40,000 sf is not exceeded for undesignated areas. For non-conforming lots, assume no accessory dwelling units can be added;
 - For parcels with total area greater than 40,000 sf, parcel size was evaluated using the 40,000 sf of buildable upland (i.e. contiguous area outside wetland resource areas and FEMA 100-year floor zone) minimum requirement to see if additional residential structures could be built by subdividing the property. Note: This does not apply to any parcels in the Town Center Study Area;
 - Assume no tear downs and reconstruction resulting in greater number of dwelling units on a parcel; and
 - Assume tax exempt properties (i.e. properties with a State Classification Code 9) would not support dwelling units in the future.
- Dwelling Units for Business District (LB, GB, VC) Parcels:
 - Zoning regulations were reviewed for each parcel to determine if additional dwelling units could be added. Assume apartment regulations are applicable to condominium uses;

- Assume that under buildout conditions, business district parcels would max out allowed dwelling units (i.e. three or four units for 2-floor or 3-floor structures, respectively, in the Village Center District; two dwelling units for parcels in other business districts) if it is determined there is no on-site wastewater limitation. Note: See description of determination of wastewater limitation below under the Non-Residential Development heading;
 - Assume commercial condominiums (based on state class description) can support dwelling units;
 - Assume current uses do not change (e.g. do not account for removal of a business and replacement with apartment complex or condo, or conversion of a motel to dwelling units);
 - Assume tax exempt properties (i.e. properties with a State Classification Code 9) would not support dwellings in the future;
 - For existing apartment and condominium developments, confirm number of existing units (using sources identified above) and assume up to full density / number of units identified in Section 164-31 Apartment Development of the Town's Zoning Bylaw are built if it is determined there is no on-site wastewater limitation; and
 - For non-conforming lots with state class descriptions of single-family, multiple houses, two- family, or three-family, assume no accessory dwelling units can be added.
- Non-Residential Development:
 - Determine estimated remaining / future developable floor area by calculating buildout potential for each LB, GB, and VC parcel based on existing floor area ratio (FAR) compared to max allowed FAR in the Town's zoning regulations (GB and LB: 40 percent; VC: 100 percent). Existing FAR determined by dividing the current gross floor area (as reported in the FinePoint Associates 2015 Town Center Business Inventory or the Town's assessors database) by the lot area (as calculated using the Town's GIS parcel data layer);
 - Assume square footage expansion would be lateral;
 - Reduce build-out potential for each parcel as needed due to on-site wastewater limitation;
 - Estimate wastewater limitation using the following approach:
 - Estimate remaining developable lot area for a parcel by deducting approximate lot setback requirements, Title 5 setback requirements, and existing building coverage from the buildable upland area value (i.e. contiguous area outside wetland resource areas and FEMA 100-year floor zone); and
 - Estimate the total additional wastewater flow (gpd) for a parcel by calculating flow associated with the remaining developable floor area square footage (using a gpd/sf value derived from historic water usage and existing gross area) and new dwelling units (assuming an average 1.5 bedrooms per new unit and Title 5's factor of 110 gpd per bedroom), if applicable.

- Estimate the area requirements for the new Title 5 system required to handle the projected flows for each parcel, as well as area requirements for additional parking required for the additional development. Assume that the Title 5 system would not be constructed beneath parking, which requires a variance from the Board of Health. Note that if it is determined that less than 6 off-street parking spaces are required to support the additional development, then no additional parking spaces are required per Section 164-34.B.(1) of the Town's zoning regulations. These values are deducted from the remaining developable lot area estimated for each parcel (see first bullet) to determine if adequate area is available to support the additional development. If adequate area is available, then assume no wastewater limitation factor needs to be applied. If adequate area is not available (or if projected wastewater flow generation would exceed the Title 5 nitrogen loading limitation of 440 gpd / acre in Nitrogen Sensitive Areas designated in 310 CMR 15.215, or the Town's Nutrient Management Regulations wastewater limitation of 440 gpd / 40,000 sf for undesignated areas), additional development is scaled back to reflect a wastewater limitation and what could be supported on the parcel.
- Wastewater Generation:
 - Residential dwelling unit wastewater flows are generated based on 110 gpd per bedroom (based on Title 5's design flow standard for most residential uses). Accessory dwelling units are assumed to have one bedroom within the Residential district and an average of 1.5 bedrooms within the Business districts. If a parcel within the Business district could only support a maximum of a one bedroom unit due to site constraints, this value is used to generate wastewater flows. Additional residential structures (i.e. new single family houses) are assumed to have an average of three bedrooms. Note: There were no additional residential structures predicted in the Town Center Study Area; and
 - Non-residential wastewater flows are generated based on the existing average wastewater usage rate (gpd/non-residential square foot) for the individual parcel.

Scenario Option 0b – Full Build-out under Current Zoning with Wastewater Limitation and Title 5 Systems Constructed under Parking

Scenario Option 0b applies the same approach / assumptions as used for Scenario Option 0a, except it assumes a variance would be issued by the Board of Health to allow construction of new or expanded Title 5 systems under parking areas. This scenario was created as a result of input received at Orleans Downtown Planning Workshop No. 2.

Scenario Option 0c – Full Build-out under Current Zoning with Wastewater Limitation, Title 5 Systems Constructed under Parking, and Nutrient Management Regulations Removed

Scenario Option 0c applies the same approach / assumptions as used for Scenario Option 0b, except it assumes the Town's Nutrient Management Regulations would not be applicable to any parcel in the study area. This scenario was created as a result of input received at Orleans Downtown Planning Workshop No. 2.

5. Next Steps

The following Downtown Planning tasks will be completed:

- Develop range of future build-out scenarios (including high, low, and moderate growth) and consideration of market demand conditions;
- Prepare Technical Memorandum on Downtown Future Growth Scenarios, Strategies to Limit Growth, and Draft Regulations to Obtain Zero Interest Financing;
- Prepare Technical Memorandum on Implications for Wastewater Loading Impacts and Other Community Impacts in the Downtown; and
- Prepare Technical Memorandum on Management of Future Downtown Wastewater Flows and Biosolids.

Appendix A

Orleans Town Center: Economic Analysis Primer