

Engineering Report

To Accompany Special Permit Application

Seaside at Scituate

Residential Development

Located off Hatherly Road and Tilden Road

Scituate, Massachusetts

May 5, 2017

Applicant:

Toll MA Land III Limited Partnership
134 Flanders Road, Suite 275
Westborough, MA 01581

Prepared by:



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Table of Contents

- 1.0 Traffic Impacts on Roadway Capacity, Safety and Level of Service
- 2.0 Impacts on Transportation Facilities, Shopping and Local Businesses
- 3.0 Impacts on the Public School System
- 4.0 Effect on Town Services including Wastewater, Water, Gas, Electric and Other Public Services
 - 4.1 Wastewater
 - 4.2 Water
 - 4.3 Gas and Electric Service
 - 4.4 Impacts on Levels of Service
- 5.0 Fiscal Analysis Demonstrating Cost vs. Revenue Generated by the Proposed Development

Figure 1 - Site Locus Map

List of Appendices

(bound as separate documents)

- Traffic Impact Study, Age Restricted Residential Development, Tilden Road and Hatherly Road, Scituate, MA, prepared by McMahon Associates, Inc., dated March 2017
- Fiscal Impact Analysis Report, prepared by Hannah Mazzaccaro, AICP, dated May 3, 2017
- Letter to the Scituate Board of Selectmen regarding Scituate Sewer and Wastewater Treatment Capacity, prepared by Fay, Spofford & Thorndike (now Stantec Consulting Services, Inc.), dated November 21, 2014
- Letter to the Scituate Board of Selectmen regarding Scituate Sewer and Wastewater Treatment Capacity and Updated Flow Allocation, prepared by Stantec Consulting Services, Inc. (Stantec), dated March 22, 2017
- Town of Scituate Department of Public Works, Water Allocation Letter prepared by Jim DeBarros, Water Superintendent, dated May 29, 2015

The Seaside at Scituate project, proposed by Toll MA Land II L.P., is a 152-unit age-restricted townhome and single-family residential redevelopment of a 70±-acre site located east of Chief Justice Cushing Highway (Route 3A) and immediately east and west of Hatherly Road in Scituate, Massachusetts (Figure 1 – Site Locus Map). The site also affords frontage on Tilden Road, Longley Road, Ermine Road, Sixth Avenue, Seventh Avenue, and Oceanside Drive.

The development project will involve the construction of a roadway network consisting of approximately 5,515 linear feet of roadway. A total of 142 active adult townhome units (configured as three and four unit buildings) will be constructed on the western (main) portion of the Site. This western portion of the development will also include a clubhouse for residents and one free-standing single-family house lot accessed from Longley Road. An additional nine (9) single-family house lots will be constructed to the east of Hatherly Road (seven to the south of 6th Avenue and two to the north).

Per the requirements of Zoning Bylaw Section 510.5 Special Permit Procedures, C.2.b, this Engineering Report has been prepared to summarize the findings from the Impact Studies that have been completed for the proposed Seaside at Scituate development project. These Impact Studies include the following reports, which are summarized below and are attached by reference herewith:

- i. *Traffic Impact Study, Age Restricted Residential Development, Tilden Road and Hatherly Road, Scituate, MA*, prepared by McMahon Associates, Inc. (McMahon), dated March 2017;
- ii. *Fiscal Impact Analysis Report*, prepared by Hannah Mazzaccaro, AICP, dated May 3, 2017;
- iii. *Letter to the Scituate Board of Selectmen regarding Scituate Sewer and Wastewater Treatment Capacity*, prepared by Fay, Spofford & Thorndike (now Stantec), dated November 21, 2014;
- iv. *Letter to the Scituate Board of Selectmen regarding Scituate Sewer and Wastewater Treatment Capacity and Updated Flow Allocation*, prepared by Stantec Consulting Services, Inc. (Stantec), dated March 22, 2017; and
- v. Town of Scituate Department of Public Works, Water Allocation Letter prepared by Jim DeBarros, Water Superintendent, dated May 29, 2015.

1.0 Traffic Impacts on Roadway Capacity, Safety and Level of Service

The Traffic Impact Study prepared by McMahon evaluated existing and projected traffic operations at nearby study area intersections (both with and without the proposed development) and assessed whether mitigating measures were deemed to be necessary to offset potential project-related traffic impacts on the surrounding roadways. The study area determination was based on a review of the surrounding roadway network serving the project site and included the following intersections:

- Hatherly Road at Longley Road
- Hatherly Road at Project Site Drive (Crescent Boulevard)
- Hatherly Road at Turner Road (signalized)
- Tilden Road at Project Site Drive (Crescent Boulevard)
- Tilden Road at Edith Holmes Drive
- Tilden Road at Norwell Avenue
- Norwell Avenue at Ermine Street/Longley Road

The study traffic study was conducted in three steps. The first step involved an inventory of existing traffic conditions nearby the site. As part of this inventory, traffic counts were collected at key intersections during the weekday morning and weekday afternoon peak periods when adjacent roadway volumes were the greatest. Crash data for the study area intersections was also obtained from the Massachusetts Department of Transportation (MassDOT) to evaluate existing traffic safety within the study area.

The second step of the study built upon data collected in the first phase and established the basis for evaluating transportation impacts associated with the future conditions. In this step, the projected traffic demands of other future developments that could influence traffic volumes at the study area intersections were also assessed. Existing 2016 traffic volumes were projected to the 2023 No Build (without project) condition and the 2023 Build (with project) condition.

The final step evaluated if measures were necessary to improve existing and future traffic operations and safety, to minimize potential traffic impacts, and to provide safe and efficient access to the project site.

The Traffic Study analysis determined that construction of the proposed 152 unit (10 single-family houses and 142 age-restricted townhome units) residential community between Hatherly Road and Tilden Road would be expected to have a negligible impact on the operations of the study area roadways. Access to the townhomes would be provided by two unsignalized full access site drives, one on Hatherly Road and one on Tilden Road. Access to the single-family homes would be provided via existing roadways; including Hatherly Road, Longley Road, and Sixth Street.

The Traffic Study projected that the proposed development would result in approximately 58 new vehicle trips (26 entering vehicles and 32 exiting vehicles) during the weekday morning peak hour and an increase of approximately 53 vehicle trips (30 entering vehicles and 23 exiting vehicles) during the weekday afternoon peak hour. The majority of these project trips are expected to be generated by the townhomes, which would use the project site drives located on Hatherly Road and Tilden Road.

The capacity analysis indicated that the proposed residential development would not have a significant impact on the traffic operations of the study area intersections. The exiting movements at both site driveways are expected to operate at LOS B or better and well under capacity during both the weekday morning and weekday afternoon peak hours under the 2023 Build conditions.

With the proposed project in place, the level-of service for all movements along Hatherly Road and Tilden Road within the study area were shown to be maintained from the 2023 No Build conditions during both peak hours studied.

2.0 Impacts on Transportation Facilities, Shopping and Local Businesses

The Fiscal Impact Analysis Report prepared by Hannah Mazzaccaro, AICP identified that age-restricted communities have much lower traffic impacts on a per-household basis than typical single-family developments. The Institute of Transportation Engineers (ITE) Trip Generation Manual data indicates that a typical single-family home generates an average of 10.1 car trips daily while an active adult home generates only about 3.5 trips per day. Anticipating that at least half of future residents will be retired or working part time, the peak hour traffic demand of the new community is anticipated to be much less than that of a typical subdivision. Additionally, there will be very little school bus traffic generated by the small number of children that are expected to live in the (10) single-family homes, with more than half of these children able to walk to the local elementary school.

The Fiscal Impact Analysis Report calculated the personal income that would be added to the local economy by the proposed Project. Assuming 50% (113) of the active adult residents (142 units with 1.6 residents per unit) are employed and earning the area median income for those over 65 (\$65,685), and that the 10 single homes will each have the average household income for Scituate (\$127,730), the Fiscal Impact Analysis Report estimated that the new development will add \$8.7 million of personal income to the local economy which will lead to an increase in local spending, primarily on food (groceries and eating establishments) and services.

3.0 Impacts on the Public School System

The proposed development includes construction of a 142-unit age-restricted condominium townhome community and (10) single-family homes that will be sited on lands peripheral to the main development site and will not be age-restricted. Deed-restrictions will limit occupants of the age-restricted portion of the community to at least one occupant per household aged 55 or older and will prohibit occupants under the age of 18, in accordance with the Federal Housing for Older Persons Act.

The Fiscal Impact Analysis Report estimates that the 142 age-restricted townhomes will have an average of 1.6 occupants per dwelling unit (227 residents) primarily between the ages of 55 and 74 and will not contribute any children to the public school system. The 10 single-family homes are expected to have an average of 3.6 occupants per dwelling unit (36 residents) and to contribute an average of 1 child per home (10 children) to the public school system. The projected 10 public school students will likely be spread evenly throughout K-12th grades. This will result in approximately 6 new students at Wampatuck Elementary (K-6), 1 new student at Gates Intermediate (7 & 8), and 3 new students at Scituate High School (9-12).

4.0 Effect on Town Services including Wastewater, Water, Gas, Electric and Other Public Services

4.1 Wastewater:

On November 21, 2014, Fay, Spofford & Thorndike (now Stantec) submitted a letter to the Scituate Board of Selectmen evaluating the operating condition of the Town of Scituate municipal sewage collection and treatment facilities and summarizing the progress made by the Town in removing Infiltration/Inflow (I/I) from the existing collection system. The letter was prepared for a proposed Toll Brothers, residential subdivision consisting of 90 four-bedroom houses. The proposed 90-house subdivision was projected to contribute an average daily sanitary sewage flow of 17,487 gpd. An additional contribution due to infiltration and inflow (I/I) within the new sewers (500 gpd/inch-diameter/mile of sewer pipe) was also added to the sanitary flows (1.25 miles of 8" sewer pipe results in an estimated I/I flow of 5,000 gpd), which resulted in an overall wastewater flow of approximately 22,487 gpd for the Hatherly Road, 90-lot subdivision. Sewer connection fees for the 90 houses were estimated to be \$1.26 million which, assuming an average I/I removal cost of \$6/gallon, could be used by the Town to remove approximately 210,000 gpd of existing I/I, providing more than sufficient WWTF capacity to accommodate the proposed site and to serve all anticipated future phases of the municipal sewer expansion project.

The November 21, 2014 letter was presented to the Scituate Board of Selectmen on January 20, 2015 at which time the Selectmen voted to provide sufficient sewage disposal capacity to support the construction of the 90 four-bedroom houses.

On March 22, 2017, Stantec submitted a letter to the Scituate Board of Selectmen that provided updated wastewater flows associated with the revised Seaside at Scituate development concept. The Seaside at Scituate townhome concept reduces the number of single-family houses to ten and includes a total of 142 age-restricted, active adult townhome units. The townhomes will include a mixture of 116 two-bedroom units and 26 three-bedroom units.

As detailed in the March 22, 2017 letter, the revised Seaside at Scituate development concept will have less bedrooms (350 bedrooms) and will have lower sanitary and total design flows (13,416 gpd sanitary flow and 18,096 gpd total wastewater flow) than was envisioned by the original 90 single-family house subdivision plan (360 bedrooms, 17,487 gpd sanitary flow and 22,487 gpd of total sewage flow). These flow and bedroom reductions are attributed to Deed-restrictions for the age-restricted portion of the community which require at least one occupant per household to be aged 55 or older and prohibit occupants under the age of 18, in accordance with the Federal Housing for Older Persons Act.

Bedroom Reduction

Original 90-Lot Subdivision Plan: 90 houses x 4-bedrooms/house

= 360 bedrooms

Seaside at Scituate: 10 Single-Family Houses and 142 Age Restricted Townhomes:

Single-family:	10 houses x 4-bedrooms/house	= 40 bedrooms
Townhomes:	116 units x 2-bedrooms/unit	= 232 bedrooms
	<u>26 units x 3-bedrooms/unit</u>	<u>= 78 bedrooms</u>
	Total Seaside at Scituate	= 350 bedrooms

The March 22, 2017 letter further outlined that if a very conservative maximum daily sewage allocation for the clubhouse facilities (approximately 3,930 gpd)¹ were added to the residential sanitary flows, this additional clubhouse flow would still be less than the 4,359 gpd average daily flow reduction estimated for the revised development concept.

On April 18, 2017, the Scituate Board of Selectmen voted to approve the sewer flow allocation for the revised Seaside at Scituate development. Since the wastewater flows associated with the revised Seaside at Scituate development are similar to, but less than, the original development concept, the sewer connection fee paid to the Town remained at the same level (\$1.260 million) as determined for the original 90-lot subdivision. This \$1.260 million sewer connection fee money will be available for use by the Town to fund upgrades to the Scituate wastewater treatment facility or to offset almost half of the anticipated cost for the remaining phases of the Town's I/I remediation project.

4.2 Water:

On May 29, 2015 the Scituate Water Department provided a letter to Attorney William H. Ohrenberger, III that verified that sufficient water capacity is available and approved an allocation of 18,310 gpd of potable water to service the 90 single-family home residential development that was originally proposed by Toll Brothers. The 18,310 gpd water use projection was based on Scituate Water Department methodology that relied on an average of 3.13 people per household with an average per capita water flow of 65 gpd.

Water Supply Projections per Scituate Water Department Guidelines - 90 Single-Family Houses:

$$90 \text{ houses} \times 3.13 \text{ people/house} \times 65.0 \text{ gpd/person} = 18,310 \text{ gpd}$$

The revised development concept limits the single-family units to 10 four-bedroom houses and includes a total of 142 age-restricted, active adult townhome units. Similar developments constructed by Toll Brothers indicate that the age-restricted, active-adult townhomes will have an average occupancy of 1.6 residents per unit. Therefore, relying on the Scituate Water Department average per capita water flow of 65 gpd, the anticipated water demand from the proposed townhome concept will be 16,802 gpd which is less than the 18,310 gpd projected water demand for the 90 single-family houses that the Scituate Water Department has already agreed to serve:

¹ The use of the clubhouse will be limited to residents of Seaside at Scituate, with very limited use by any house guests and no use by the general community. Therefore, the sanitary flow at the clubhouse comes from the residents and is already accounted for in the residential flow estimates.

Revised Water Supply Projections - 10 Single-Family Houses and 142-Unit Age Restricted Units:

10 houses x 3.13 people/house x 65 gpd/person	= 2,034 gpd
142 units x 1.6 people/unit x 65 gpd/person	= <u>14,768 gpd</u>
Total Projected Water Demand	= 16,802 gpd

4.3 Gas and Electric Service:

The Project Site is served by Columbia Gas and Eversource Electric. The project proponent is working with both utilities to ensure that adequate service is provided without negatively impacting the neighboring community.

4.4 Impacts on Levels of Service:

The majority of residents in "Active Adult" communities are between the ages of 55 and 74. These communities have lower impacts on public services than typical single-family homes do, in large part because of smaller household sizes with no school children. Many of the public services that are included in the Town budgets will not be utilized by residents of the age-restricted community. These include waste disposal (private waste disposal is planned), playing fields and family-oriented recreation, education, and other child and family services.

4.4.1 Fire and Emergency Medical Services Impacts: All the proposed homes will be new construction equipped with required fire safety protections to meet building safety codes.

4.4.2 Public Safety Impacts: Similar "Active Adult" communities have been shown to generate approximately 0.01 public safety calls per home per month. Using this multiplier, the proposed active adult community in Scituate will generate 17 additional police dispatch calls per year (1.4 per month). The causes for police calls are typically suspicious activity, disturbance complaints, parking complaints, lost wallet, welfare checks (checking on a neighbor or family member's well-being), open door, missing items, lockouts, debris in roadway, and motor vehicle stops.

5.0 Fiscal Analysis Demonstrating Cost vs. Revenue Generated by the Proposed Development

The Fiscal Impact Analysis Report, prepared by Hannah Mazzaccaro, AICP, dated May 3, 2017 used the Per Capita Multiplier method to calculate the cost of public services and compared those costs with the projected property taxes that will be generated by the Project. This analysis identifies that the construction of (142) age-restricted townhomes and (10) single-family homes by Toll Brothers will generate an estimated annual property tax revenue of \$1,283,881 and will provide the Town of Scituate with almost \$885,000 per year in net surplus tax revenue. The new community will also provide revenues in construction fees and other taxes, and will generate hundreds of jobs and millions of dollars of income in the local economy.

The Town of Scituate Fiscal Year 2018 Budget indicates that the town spends a total of \$950 per person per year for public services that are paid for by the residential tax levy. The projected 263 residents at Seaside at Scituate will therefore, result in a \$249,850 total cost for public services. This

public service cost does not include public education costs and factors out revenues paid by outside sources and about 4% of the property tax levy that is paid by commercial and industrial property owners.

The Massachusetts Department of Education reports that the total cost to educate each student in the Scituate schools is \$14,936 per year (2015 data). With (10) new public school students expected in the proposed single-family homes, the total increased cost to the school district will be approximately \$149,360 per year.

The proposed development is anticipated to cost the Town of Scituate \$249,850 per year in property-tax-supported service costs and the Scituate Public Schools a total of \$149,360 per year. The *Fiscal Impact Analysis Report* contained the following summaries of anticipated fiscal impacts of the development on the Town of Scituate's budget.

Projected Demographics

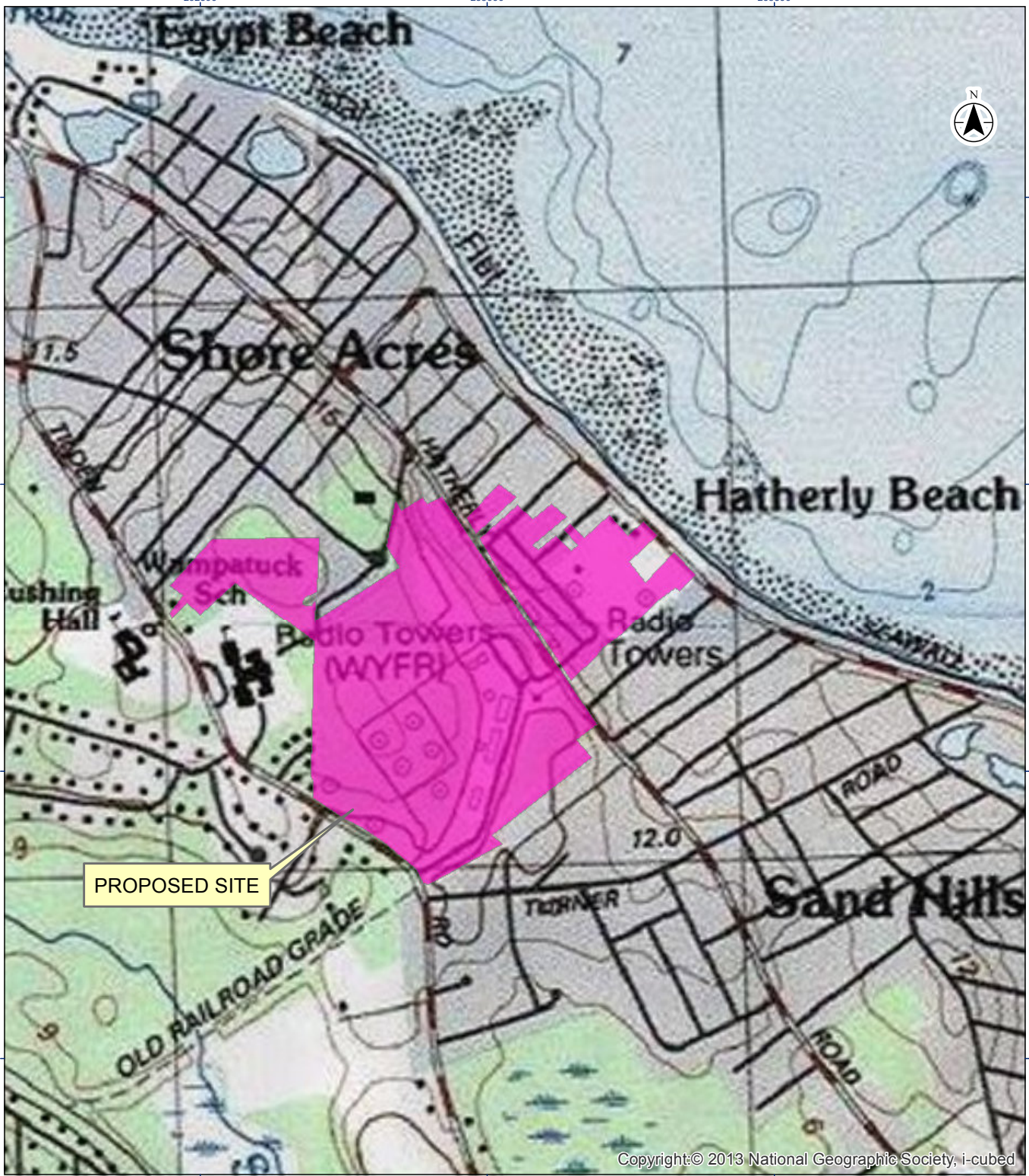
Proposed Number of New Homes	Total Residents: Age-Restricted Homes	New School Children: Age-Restricted Homes
(142) Age-Restricted Townhomes	227 (1.6 per DU)	0 (0 per home)
(10) Single-Family Homes	Total Residents: Single-Family Homes	New School Children: Single-Family Homes
	36 (3.6 per home)	10 (1.0 per home)

Net Fiscal Impacts – Town of Scituate Budget

Taxing Entity	Annual Property Tax Revenue	Annual Cost of Services	Annual NET SURPLUS from New Homes
Town of Scituate	\$ 1,283,881 <i>(Average \$8,447 / Home)</i>	(\$ 399,210) <i>(Average \$2,626 / Home)</i>	\$ 884,671 <i>(Average \$5,820/ Home)</i>

Overall Community Economic Impacts

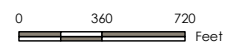
	Annual Benefits – During Construction	Annual Benefits – Recurring After Build-out
NET SURPLUS Real Estate Taxes to be Paid to Town of Scituate	\$ 295,000 – Year 1 \$ 590,000 – Years 2 & 3	\$ 884,671
Local Economic Impact – Increased Income and Tax Revenue	\$ 43 million over 3 years	\$ 6 million annually (business income, wages, and sales & income taxes)
Local Economic Impact – Job Creation	355 Construction Jobs 235 Local Jobs	105 Permanent Local Jobs



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Legend

PROPOSED SITE



1:10,000 (at original document size of 8.5x11)

- Notes**
1. Coordinate System: NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
 2. Base features produced under license with the Ontario

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Project Location: HATHERLY ROAD, SCITUATE MA 195150107
 Prepared by ATR on 2017-02-14

Client/Project: TOLL MA LAND III L.P. Project SEASIDE AT SCITUATE

Figure No. 1

Title: **SITE LOCUS MAP**