



# Places Associates, Inc.

Planning, Landscape Architecture, Civil Engineering and Surveying  
Certified WBE

August 9, 2017

Boxborough Planning Board  
29 Middle Road,  
Boxborough Ma 01719

Re: **Site Plan Review**  
Enclave at Boxborough aka Regency at Boxborough  
Project No. 5249

Dear Board Members:

This office has reviewed the revised submission for the above referenced project. The following items were received as part of the revisions:

1. "Responses to Places Associates, Inc. Review Letter dated January 23, 2017 prepared by Stamski and McNary Inc., Updated June 23, 2017.
2. Stormwater Management Report, Regency at Boxborough, prepared by Stamski and McNary Inc., dated December 22, 2016, revised June 23, 2017.
3. Site Plan for Regency at Boxborough sheets 1-30, prepared by Stamski and McNary Inc., dated December 22, 2016, revised June 22, 2017.
4. Landscape Plan, Regency at Boxborough sheets 1-8, prepared by ESE Consultants Inc., dated 12-22-16, revised 6/21/17.

These items have been reviewed for compliance with the *Town of Boxborough Zoning Bylaw (2012)*, the *Town of Boxborough Site Plan Approval Rules and Regulations (2011)*, *MADEP Stormwater Management Standards* and standard engineering practices.

This letter will address only those items outstanding from our January review or any other items resulting from the revised plans. At this time we have the following comments and concerns:

## **Zoning- based on the 2012 By-law:**

4. Note 2 on sheet 27 should be revised. The pedestrian access should not "generally comply" with the ADA requirements, it must fully comply. (Zoning 6004). ADA compliance is particularly sensitive for Senior housing.

## **Site Plan Regulations:**

11. Details should be added to the plans for all signs and posts, i.e. stop signs, dead-end sign, etc.(Site 3.1-6). The response stated that they are on the Landscape plans. As the site contractor is generally responsible for the MUTCD signs, it is recommended that the signage for the two emergency access connections be included in the layout plans.
12. It is not clear as to whether the proponent will create exterior Exclusive Use Areas (EUA), if so it is recommended that areas that the location of any proposed open space should be added to the plan. (Site 3.1-8)

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16. Solid waste storage (dumpster) and a loading area have not been provided at the Clubhouse building. These areas will require screening.(Site 4.4-3) The applicant has indicated that the trash will be removed regularly from the It is recommended that the Board include this as a condition of approval.

**Stormwater:**

25. The site relies on roof drainage being directed to recharge areas or specific SMA, implying that there is a roof drain collection system tied into gutters. No details of the collection system were found in the plan set. It is recommended that the Board include in their decision a requirement for gutters on the buildings.
31. A proposed drainpipe appears to pass through the roof recharge system (RD2) on sheet 16. Based on the elevations provided it appears the pipe will be in conflict with the Stormtech Chambers. Revised plans show a greater spacing but lack detail for the construction of this recharge system to match the drainage calculations.

Additional Comments from the June 2017 revision:

1. The plans do not indicate how the various SMA will be accessed for maintenance which is limited with the steep grades, use of retaining walls and landscaping. Of particular concern is SMA 4, SMA 6 and SMA 8.
2. SMA 7 is shown with an outline which is not reflective of the contours shown on the grading plan. The detail sheet shows this area with chambers which are reflective of the outline. Please clarify which one is correct. If a basin, the outlet structure needs to be detailed.
3. The plan and profile sheets show multiple areas where the structures are very close together, both horizontally and vertically. As the plans use a typical symbol for drainage and other utility structures, it is recommended that the engineer run a check using the outside diameter of all structures to assure there is sufficient separation to allow the construction and particularly a plate compactor for pipe bedding.
  - a. Drive A, Sta 0+95 – cross culvert and water crossing. It is suggested that water purposely be located below the drain or specified that the drainage be installed prior to water to avoid a potential conflict.
  - b. Drive A, DMH 11/SMH 9 and DMH 16/SMH 16 – check separations.
4. The footing drains (FD) are deep in areas. While most of these deep sections are in fill, it is recommended that where in natural material, anti-seep collars be provided to control ground water migration.
5. Test hole 16-38 in SMA 8 shows a loamy sand (firm) from 12-48". Since the design of SMA 8 utilizes the highest recharge rate (8.27) it is recommended that this restrictive layer be removed below the bottom of this basin.
6. There is an inconsistency between the drainage calculations and the outlet details shown on sheet 25:
  - a. Inverts of the outlet pipes for SMA1, SMA2, SMA 3, SMA 4 are not consistent
  - b. Calculations identify a weir at the elevation of the top of the structure. Some indicate an 8' width, others 12' width. We believe that this implies that 2 or 3 sides of the structure are open to the water surface in the basin – please clarify the details and make consistent with grading and calculations.
7. Drywell #2 dimensions on the detail sheet do not match the calculations (see previous comment 31).

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8. The grate capacity analysis in the drainage calcs indicates that 3 catchbasins shall be double grates. We could not find any indication on the plans for a double grate on CTB 14, 15, and 24.
9. Vortsentry sizing is in the calculations and a detail on the plan set but we could not find where the use of them is proposed.

### Landscape Plan Comments:

33. Screening to adjacent properties. The revised plans depict increased screening to the abutters principally in the form of a privacy fence. We identified three significant areas in our original comment. Some still remain:
  - a. The outside play areas to the west of the club house are 20' (bocce court) and 30' (Pickle court) off of the westerly property line. This area has been provided with extensive landscape screening; however, due to the proximity to the abutter and the active nature of the proposed activities (pickle and bocce) we recommend that the privacy fence also be added to this area. No fencing screening or buffering to the immediate neighbor is proposed. The limit of clearing line (clouded tree line) depicts clearing up to the property line in this area.
  - b. To the west of units 8-10 (Private Drive C) the limit of clearing has been moved ~ 20' off the common property line and a six foot tall privacy fence is proposed at the edge of lawn. We agree that this is an improvement to protect the privacy of the abutters; however, no landscape plantings are proposed in the rear of these units to aid in noise reduction. We recommend that some plantings be placed in the rear yards to decrease noise travel and impacts.
  - c. To the south and east of units 36-31, a 6' tall privacy fence has been added in this area and some landscaping placed between the fence and abutters. These plantings should extend behind the proposed unit 35 and continue to the east to the rear of unit 32 to enhance privacy and noise reduction to the abutters in this area.
34. Landscape Trees/Lawn Areas: The number of lawn and landscape trees has been increased; however there are still large areas of the project that are devoid of any trees.
  - a. See the areas behind units 17,16,15 and 18. While much of this area is comprised of drainage basins, there are areas that can support trees without affecting the basins.
  - b. Areas behind 19 to 22 should have some shade producing trees to break up the space and address the large open area created by the drainage systems.
  - c. A large number of trees and shrubs are located behind units 23 to 25 to create screening of the effluent disposal area. Generally these areas are large, level grassed areas that can be used for active recreation. The area behind the effluent disposal area is woods with no abutters nearby making this screening not necessary for abutter protection. They may want to screen this area for the benefit of the unit owners; however, we believe that these plantings can be best used elsewhere on the project.

In addition, it is not appropriate to plant sugar maples (or any large trees) within the potential spread of the roots for the tree, as they may disturb the leaching area. The plan depicts sugar maples and blue spruce within 10' of the edge of the leaching area. As proposed, the likelihood of these trees impacting the leaching area is more than probable.

- d. There are two areas (indicated by cloud lines) that are proposed to be outside the limit of clearing. These are located to the west of unit 41 and in the center of the loop for private drive B. We recommend that the plans be amended to note, "Area of no clearing, woodlands to be preserved". It is our belief that the line type indication is not sufficient to ensure the protection of these areas.
35. Parking Lot Planting. They have modified the parking lot planting to address our comment of the

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use of one type of species and have added "Bowhall Maple" a variety of red maple to the plantings. As noted below, item 37, the new plantings rely on a large number of maples for street trees. The Bowhall Maple is a narrow form of red maple that does not get wider than 15'. The other tree proposed in this area is a "Shademaster Thornless Honey Locust", this tree becomes almost as wide as tall. Our comment is both aesthetic and practical: these shapes are not compatible and they seem to now be over-using maples-site wide.

36. Town Center District (4.4, 5), requires that the use of bituminous concrete be minimized and alternate paving materials be used.
- a. Civil plans (Sheet 26 of 30) indicate that most sidewalks will be bituminous concrete. The sidewalk near to the club house will be cast-in-place concrete with vertical granite curb.
  - b. They have detailed the planted island and entry radius to be granite, as requested.
  - c. No details for crosswalks are provided. Crosswalks are depicted on both the civil and landscape plan but no detail is provided to indicate if they are painted only or if a textured/colored pavement is proposed. We recommend textured/colored pavement as the spacing between the crosswalks is widely spaced. The enhance recognition of a texturized/colored sidewalk by seniors would be of a benefit to drivers and pedestrians alike.
  - d. Belgian Block Curbing: The applicant has noted that they have added a detail to the plans for the use of Belgian Block Curb (which is granite cobbles set on end in a bed of cast-in-place concrete). The roadway cross-section detail note that this type of curbing can be substituted for cape cod curbing. No indications of where these substitutions and use are indicated on the drawings.
  - e. Landscape Plan 4 of 6 indicates a "cobble strip" at both ends of access easement C (leading to Stow Road). No detail on the construction of the cobble strip is provided in the civil or landscape plans.
37. Street trees:
- a. Species:
    1. Our original comment on the landscape included a critique of the species proposed. They have modified the species to include five varieties of maple: Armstrong Red Maple, Bowhall Red Maple, October Glory Red Maple, Redpointe and Sugar Maple. While all are indigenous, they comprise a significant number of the tree species. We recommend reducing the predominance of maples and add other species with similar characteristics species to increase diversity.
    2. Black Gum (*Nyssa sylvatica*) This is an unusual choice for a street tree, though it is both indigenous and hardy in this environment. This tree is not usually used as a street tree due to the fact that the lower branches tend to droop down, creating an impediment if located next to a sidewalk and not pruned. If this plant is to be used, it should be noted that the lower branches should be pruned-off, so they do not extend into walking paths or travelled ways.
  - b. Spacing/Placement:
    1. Our previous comment was that insufficient street trees were provided. Noting a total of 114 trees were proposed. The current number is 124. Again, given that the area of development will essentially require a clear cut of the developed area (with two small exceptions); we believe that a greater number of street trees should be provided. Overall spacing should average accommodate the subdivision standards, Section 5, E.:  
*"Street trees shall generally be spaced at intervals of approximately 50 feet on center, but no closer than 35 feet. If approved by the Board, trees may be clustered to provide a more natural appearance. If clustered, the total number of trees required shall be the equivalent of a 50-foot spacing along the entire roadway."*
    2. We do not believe that the plan addresses the requirements of 4.4 2).
    3. Street Trees depicted to the north of unit 45 raise concerns about interference with the

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roadway sight distances.

40. Boxwood Blight is a fungal issue with the Boxwoods. It is recommended that an alternative plant species be specified as the boxwood is used extensively (80 plants) in this design (*This comment remains*).
42. The applicant should consider the development of walking paths and/or trails. We would anticipate that some of the residents would want to walk to the club house and may make a trail through the woods as opposed to walking on the sidewalks. The development of casual walking paths along the wood line from the easterly portion of the site (drive b) to the clubhouse and Drive A should be considered. (*This comment remains*).

The applicant responded, "The development of walking trails within site typically occur naturally by the residents following development."

It is again our position that walking paths connecting the various clusters created by this development should be connected via walking paths through open space to the clubhouse and other general amenities of the site. This is a senior housing development, not a residential subdivision with children exploring the woods or making short-cuts to bus stops, etc.. The residents of an up-scale development such as this should not be forced to walk through brambles of brush, mud, tick laden vegetation, poison ivy, wetlands etc. to forge casual walking paths. It is very typical for the developer to provide stone dust or wood chip paths through the wooded and open areas. These types of paths encourage outdoor use, birdwatching. The informal paths increases the potential disturbance of wetlands, potential for increase erosion and other unintended/undesirable impacts.

43. We routinely require on our projects that an arborist to review the remaining trees after clearing operations to determine if additional dead, diseased, damaged or leaning trees should be trimmed or removed. We recommend the Board consider such a requirement. (*This comment remains*). We also note that since they are proposing treed areas to remain, these too should be reviewed by the arborist to ensure that they are viable areas and not a grouping of unsuitable trees or habitat areas.
44. We recommended that a Landscape Maintenance Guide be provided to the Homeowner's. They have agreed to this recommendation. We suggest that the Planning Board require that they receive a copy of this document to ensure good practices are recommended and invasive species are not allowed to be planted.
45. An Irrigation system is proposed, see Landscape Note no. 17. Its design is to be developed after the approval of the project. It is our recommendation that this plan be submitted to the Board for the files. It is also noted that it will be supplied from the proposed on-site water supply. This connection should be made with the appropriate backflow preventers and we recommend the use of a rain sensor for water conservation. NABOH may have other comments regarding the relative to the use of a potable water supply for irrigation.

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Additional Landscape Comments from the June 2017 revision:

1. Landscape Plan Graphics: The landscape plan graphics vary from those used industry-wide. The proposed plantings are indicated at the size they will be planted, not at a mature sizing (industry standard). There are a variety of plants that grow to large sizes that are depicted as 10-15' in diameter and the plant spacing accommodates this immature sizing. The result is that many of these plantings will become overgrown from being planted far too close to one another.

By means of example, Landscape Plan 1 of 9, along Massachusetts Avenue depicts two sugar maples to be 12' apart, typical spacing is 30-50' apart. When mature a sugar maple is fully grown they can reach heights of 70'-80' feet with a spread of 30'-60'. Similarly, White Pine is proposed in this planting group. They are depicted as being 10' in diameter and spaced 10' apart. These plants also grow to 60'-80' ht and have spreads of 40'+.

We recommend that the plant depiction and spacing be updated to reflect reasonable spacings.

2. Landscape Plan sheet 4 of 9, depicts landscaping interior to a drainage basin. The location of the landscaping obstructs access to the basin.
3. Landscape Plan sheet 8 of 9, has been modified to include many of our previous comments but no notation as to the amount or depth of loam to be used in seeded, sodded or other non-planting beds has been provided. We recommend a minimum of 4" of loam in low maintenance, non-landscaped areas. We recommend a minimum of 6" of loam in landscaped areas.

**Site Lighting:**

46. A total of six light posts are proposed for the project. The posts are proposed as 10' tall with a shielded lantern configuration fixture. This light will not have an extensive light "throw" and will not illuminate a large area. The Board should review if they believe that amount of lighting is sufficient. (*This comment remains*).

Additional Landscape Comments from the June 2017 revision:

1. The applicant submitted a lighting plan prepared by Phillips Lighting. It demonstrates how little on-site lighting is proposed for this development. Many areas are noted as having no footcandles of light except directly in the area of the proposed fixture.

**Additional Comments:**

1. The sight distance at the curve of Drive B, adjacent to the emergency access to Sherriff's Meadow has a combination of a vertical sag curve (low point) and a relatively sharp (100' radius) horizontal curve. When viewed in combination with the retaining wall proposed by Unit 45 and the proposed street trees, the stopping sight distance is very limited. It is also noted that the Landscape plan indicates that there will be a fence on the wall, to be determined later.

Stopping sight distance is a 3.25' driver's eye height viewing a 6" high object in the roadway. This sight distance will be further limited by snowbanks. We recommend that this area be critically reviewed with the full wall details and the sight distance maximized to the extent practicable. It is recommended that the applicant's traffic engineer review to see if any additional measures are needed to create safe sight distances at this corner.

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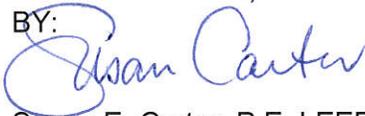
2. Several vertical curves will create very flat areas approaching the low points which create the potential for puddles that miss the drainage structures. (pavers typically will not guarantee no puddles on grades less than 1%). It is recommended that the curve on Drive A 6+25 be shortened or the CB elevations lowered to minimize length with less than 1% and that the vertical curve on Access B 4+80 be eliminated.
3. What is the building by unit 25B? If this is related to the septic system, it is recommended that there is a parking space/pull off area so that the tanks can be serviced without impacting the road access. It is also noted that there is a large tank in close proximity to the drainage system which will require careful coordination during construction.
4. The plans show tree plantings within 10' of the septic system leaching area. This office is very concerned that the roots could impact the septic and that the plantings also will impact the ability to maintain the leaching area. It is recommended that the areas directly adjacent to the septic leaching field remain as a meadow. It is also recommended that any tree plantings be offset a minimum of 5' from any underground sewer or drainage lines for installation.

Please contact this office should you have any questions regarding this review or the project in general.

Thank you.

Very truly yours,  
Places Associates, Inc.

BY:



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