



March 13, 2019
19544

Maureen O'Meara, Town Planner
Town of Cape Elizabeth
320 Ocean House Road
P.O. Box 6260
Cape Elizabeth, Maine 04107

Subject: Ocean House Common, 326 Ocean House Road
Site Plan and Resource Protection Permit Review

Dear Maureen:

We have received and reviewed a submission package dated February 28, 2019 for the subject project. The package included a February 28, 2019 cover letter from John Mitchell of Mitchell & Associates, a sixteen (16) drawing plan set dated February 28, 2019 as prepared by Mitchell & Associates. The package also included supporting documentation which includes a March 1, 2019 Stormwater Management Report as prepared by Ransom Environmental of Portland, Maine and a Traffic Impact Report as prepared by Gorrill Palmer of South Portland, Maine. Based on our review of the submitted material and the project's conformance to the technical requirements of Section 19-9 Site Plan Completeness, Section 19-8-3 and Resource Protection Permit completeness; we offer the following comments:

1. The applicant is requesting a review of a multi-use Village Green-style development on a 4.1-acre entirely wooded parcel within the Town Center. The first phase of the project will consist of a dental office space and two, 2-bedroom residential units in a 3,572 square foot (SF) building with utility and stormwater infrastructure improvements. Proposed parking spaces totaling 19 spaces will be provided along a new access drive looping through the site to connect from Ocean House Drive to the rear parking lot on the adjacent Town Hall property. A 20,000 SF public common area will be established adjacent to Ocean House Road to create a Village Green.

Subsequent phases will include three more buildings with uses that will likely include a restaurant, retail businesses, and additional residential spaces. Utility extensions from the Phase 1 utility infrastructure will be constructed to meet the needs of the future tenants as the buildings are constructed.

2. We understand that the Board will be conducting a completeness review for this project at their upcoming meeting. Many of our following comments should be considered beyond the completeness level and have been provided here to facilitate future submissions and reviews of the project. It should be noted that additional submitted information may result in additional review comments.

3. The proposed development will impact entire 3,565 SF of a wetland pocket near the center of the lot. The boundary of the wetland and the area impacted should be clearly delineated on the project plans. While the Maine Department of Environmental Protection (DEP) typically exempts wetland impacts of less than 4,300 sf, the U.S. Army Corps of Engineers does not have such an exemption. The applicant should contact the U.S. Army Corps of Engineers for information on their permitting process.
4. The new development will require that a letter of sanitary sewer capacity be received by the Town Engineer in order to confirm that the Town's collection and treatment system has capacity to receive and properly treat the additional sanitary sewer flow from this new development. The applicant's designer should provide an estimated daily flow to be generated from the development based on the rates from the Maine Subsurface Wastewater Disposal Rules and request a capacity determination.
5. The Existing Conditions Plan (L1) should be sealed by the appropriate professional.
6. The applicant is proposing a 5-foot wide concrete sidewalk along Ocean House Road. The other constructed concrete walks within the Town Center have been constructed to a 6-foot width. The Planning Board should discuss with the applicant the widening of the walk to a 6-foot width for consistency with other walks in the Town Center. The applicant should also review the potential for painted cross walks across the entrance drive and across Ocean House Road from the site entrance to the Jordan Way intersection.
7. The width of the parking spaces should be added to the Layout and Lighting Plan (L2) with particular attention to the handicap parking spaces.
8. Note #15 on the Grading and Drainage Plan (L4) discusses that the contractor shall coordinate on the condition and the connection to the Town's drainage structure at Jordan Way. This direction would occur during construction and leave the connection essentially up to the contractor and the Public Works Director to design and install in the field. The designer should review this storm drainage structure to determine if the structure can be altered and, if not, be replaced. If the structure is to be altered, a construction detail for the new storm drain pipe connection to the drainage manhole should be added to the plan.
9. Likewise, the plans should include a detail of the sanitary sewer pipe connection to the Town's sanitary manhole in Ocean House Road. Also, the proposed sewer pipe has been called out a pvc pipe as a C900 pipe which is a pressure pipe not commonly used for sanitary gravity sewer pipe. An SDR 35 pvc pipe is commonly used for gravity sanitary sewer pipe. Also, the pipe sizes for the main system of the sewer have been indicated to be 5-inch and 6-inch diameter pipes whereas an 8-inch pipe is often used provided minimum slopes to assure an appropriate scour velocity can be maintained. The main collection pipe sizes and the building service pipe sizes. The designer should also check the size of the extension stub pipes for future flow capacity as well as call out a length for each future stub to be constructed during the first phase.
10. The Erosion and Sediment Control Plan (L6) should include a silt sack detail for insertion in the catch basin in Ocean House Road and a stone check dam to be placed upgradient of the culvert under the drive on the adjacent property to the south.

11. The designer should review the roadway profile depicted on the Road Profile drawing (L7). The vertical curve information does not appear correct on the curve between Station 4+00 and 5+00. There also appears to be confusion on the low point elevation calculations and the grades depicted along the profile.
12. There are several points on details shown on the Site Details drawings (L8 and L9) that should be reviewed. These items include the following points:
 - On the Bituminous Sidewalk detail on drawing L8, the two pavement layers are typically the same pavement material and typically consist of a 9mm mix for a smoother pavement surface.
 - The Concrete Walk detail on drawing L8 shows a welded wire fabric reinforcement which is typically not been used in the Town Center. Fiber mesh has been used in the past to provide strength and protection against shrinkage of the concrete. The Public Works Director should be consulted for the Town's typical concrete sidewalk detail for walks constructed in the Town's right of ways.
 - The Pavement Sawcut Detail on drawing L8 depicts new pavement butt-jointed against existing pavement at transition points. A smoother connection detail would be to mill the surface of the existing pavement to remove the top layer of pavement for a short distance and then install the surface layer over the existing pavement and onto the new base pavement course.
 - The Pipe Bollard detail on drawing L8 should show a crushed stone base layer under the bollard to provide a stable surface and additional frost protection.
 - Likewise, a crushed stone base layer should be shown under the sonotube supports in the Bench Detail on drawing L8. The depth of the sonotubes should also be shown.
 - The Light Pole Base detail and the Flagpole Base detail on drawing L9 should include a crushed stone base layer shown under the bottom of each base.
 - On drawing L9, there is an Underdrained Drip Edge Drain and a Drip Strip Detail which appears to depict the same item, but are very different. The designer should clarify which detail should be used.
13. The Precast Concrete Manhole references an Etheridge frame and cover which are not available. The designer should specify a manhole cover and grate that is readily available.
14. Section 5 in the submission package includes a September 12, 2018 letter from the Portland Water District's (PWD) Robert Bartels confirming adequate water supply and pressure and noting that the current water service should suffice for the expansion needs. This letter includes several conditions of service regarding backflow preventer installation, metering implementation, and service restrictions. A note should be added to the plans regarding these PWD conditions.

Stormwater Comments:

15. The applicant has submitted a Stormwater Management Plan narrative exhibit which outlines the nature of the proposed improvements and the inclusion of stormwater quality treatment methods and water quantity measures before stormwater is discharged to the Town's enclosed drainage system at the intersection of Jordan Way and Ocean House Road. The proposed

stormwater treatment methods include building drip edges, wooded buffers, two under-drained filter swales, and two Focal Points systems which treat runoff prior to discharge into a depressed detention basin area. The outflow from the detention basin would then be controlled by an outlet control structure before being discharged to the Town's public stormwater system. In concept we agree with this approach, however, we do have several comments regarding the stormwater system.

16. The designer appears to rely on the 1995 study completed by Sebago Technics for the Town to determine runoff flows and impervious surface coverage in the off-site area that flows onto the subject parcel. Some of this information as extrapolated does not appear to be accurate. It would seem that a relatively straight-forward analysis could be conducted based on current conditions which would be more accurate in estimating the runoff flow from this area rather than to depend on historical data from a past study of off-site conditions.
17. Stormwater underdrained filtration swales have been proposed to be installed on the south side of the Town's parking lot behind Town Hall. While these swales will provide water quality treatment from the Town's parking lot, in discussions with the Public Works Director there is a question as to which party will maintain these swales and what impact the presence of these swales will have on the snow plow operations of the parking lot. Also, the Town should receive an easement from the applicant to discharge flow onto the adjoining property and into that property's stormwater management system. The Town should also provide the applicant an easement to construct improvements on and access the Town Hall property.
18. The designer has reduced the runoff flow from the site by a series of water quality filter devices, a detention basin, and an outlet control structure to throttle flow into the public stormwater system. These measures result in relatively low estimated peak discharge flows of less than 0.4 cubic feet per second (cfs) for the 2-year storm event and 0.6 cubic feet per second (cfs) for the 25-year storm event.

It appears that the designer has again relied on the 1995 study to determine the Town's capacity instead of using record drawings from the system actual construction or verifying in the field the slope of the Town's receiving culvert. The pipe flow analysis as submitted does also not take into account the flow already being carried in the system or down gradient pipe headwater impacts that a model of the entire receiving system would provide. While we tend to agree that the flow from the developed property would be treated and reduced to modest levels prior to the discharge to the Town's system and that the capacity of the Town's system may likely be able to absorb this additional flow, we are not fully convinced that the evidence provided conclusively proves the system has adequate capacity.

19. There have been some concerns expressed in conversations with Town Staff that an open detention basin is not appropriate to be placed in the Town Center near a Village Green and that the Village Green footprint could be expanded substantially if the detention basin could be somehow replaced or eliminated. One approach would be to replace the dry detention basin with a wet pond, however given that water replenishment would only occur during storm events, there is a high potential that a retention pond would become stagnant and unsightly. Therefore, a retention pond water feature does not appear to be a viable solution.

Another option would be to replicate the detention basin storage capacity underground via a chamber system embedded in crushed stone. It should be recognized, however, that this solution is much more expensive than the open detention basin option.

A third option would be to thoroughly investigate the capacity of the Town's stormwater system to verify that the system could handle the additional flow without requiring on-site detention. Given the benefit to the Village Green to the community, the additional efforts to confirm the capacity may be beyond the responsibility of the applicant.

20. The post-development condition of Subcatchment 3 in the southwest portion of the site indicates that runoff will be directed easterly along the southerly property line to drain into Subcatchment 4 which in turns shows a slight increase in the estimated peak rate of runoff flowing off-site. There may be an opportunity to install a level spreader or a rock berm behind the Phase 1 building at the point where flow from Subcatchment 3 enters into Subcatchment 4. This measure would allow runoff to redistribute into sheet flow and further take advantage of the wooded buffer areas to slow and absorb runoff prior to discharge off-site.
21. The Pre-Development Plan (D1) and the Post-Development Plan (D2) drawings should be sealed by the appropriate professional. Also, it appears that the Analysis Point for Subcatchment 4 on both drawing D2 has been mislabeled as Analysis Point #2 instead of #4.
22. As a minor comment, there is an outlet protection symbol and callout along easterly tree line on drawing L2 near the Town's parking lot that should be removed.

Traffic Impact Plan:

23. Section 7 in the submission package includes a January 2019 Traffic Impact Study by Gorrill-Palmer. This study indicates that ample sight distance to meet the Town and the MDOT sight distance requirements. The measured sight distances and their source should be added to the Layout and Lighting Plan (L2).
24. It appears that the estimate of the traffic generation for full buildout are near the 100-passenger car equivalent threshold that would require a Traffic Movement Permit (TMP) from the Maine Department of Transportation (MDOT). While the first phase of would not trigger a TMP, future development of the project may require a TMP. The designer should request a written confirmation letter from them that a TMP is not needed when the full build out uses have been confirmed.
25. The designer appears to be applying credits to reduce the trip generation to alleviate the determination of a TMP need. Our experience would suggest that while applying traffic credits to reduce traffic generation are allowed in the actual study phase to assess a project's traffic impact, the determination of whether a project meets the TMP threshold to require a permit does not allow for consideration of credits to be used for internal capture or reductions for other modal trips when determining the project's traffic generation.
26. We question the appropriateness of some of the credit levels being considered as part of the study analysis. A 3% reduction for walking or biking would appear to be reasonable, but the

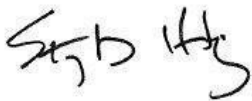
16% reduction for other modes would not appear to be appropriate for a community like Cape Elizabeth with limited opportunities for other modes of transportation to be used. For comparison, a major development in Portland/Westbrook that we are currently involved in is only being allowed at a trip reduction of 3 to 5% for alternate modes of transportation. The designer should also review the census data information they cite as the ITE trip generation rates may already take this data into account.

27. We agree that the effect of the traffic impact from this project after the first phase will be minimal and that the proposed access locations on Ocean House Road and Shore Road are appropriate. Subsequent studies should be updated once the actual uses of the property are defined in future buildout scenarios to ensure that the project does not trigger a TMP from the MDOT and that the current study's conclusion of no significant impacts are still valid.

It should be noted that Sebago Technics has previously completed a survey of the property for a previous landowner and also conducted a stormwater study of the Town Center for the Town. The work product used in both of these past efforts are currently being used as reference material in the current application process. Sebago is currently reviewing this submission under its ongoing engineering review capacity for the Planning Board. We trust that these comments will assist the Board during their deliberations on this project. Should there be any questions or comments regarding our review, please do not hesitate to contact us.

Sincerely,

SEBAGO TECHNICS, INC.



Stephen D. Harding, P.E.
Town Engineer

SDH:sdh

cc: John Mitchell, Mitchell & Associates
Steve Bradstreet, Ransom Environmental
Bob Malley, Public Works Director