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MEMORANDUM

TO: Shane Oates
Coneco Engineers and Scientists
4 First Street
Bridgewater, MA 02324

FROM: Peter O'Cain, P.E., Town Engineer

DATE: November 28, 2017

SUBJECT: Second Review of The Cape Club Townhouses Permitting Plans, rev. 11/09/17

The Town of Sharon Engineering Division of the Department of Public Works has reviewed the revised sheets emailed to the Planning Board on November 9th, 2017, for the "Cape Club Townhouses Permitting Plans" dated 9/15/17 for 25 Tiot Street as per the requirements of the By-Laws and Regulations of the Town of Sharon, Chapter 275 "Zoning", Article IV "Special Regulations", Section 4390 "Recreation and Residential Overlay District (RROD)". The items listed below do not meet the by-law requirements or need further clarification. Until such time that all required items outlined in the zoning by-laws are adequately addressed by plan changes or by an approved waiver request, the site plan review package shall be considered incomplete.

- 1) As per Section 4391 (e), "... *Each application for site plan approval for a Recreation and Residential Overlay District project must provide a golf course that includes at least 18 holes having an average length exceeding 250 yards.*"

TOWN ENGINEER (10/26/17): The new configuration of the golf course has not been adequately provided on Sheet 26. Additional plan sheets may be required to display the full extent of course alterations, including the proposed area of disturbance for the wastewater treatment plant.

CONECO (11/09/17): All golf course modifications proposed for the development were shown on the plans. See Layout Sheets and Golf Course Modification Plan.

TOWN ENGINEER (11/28/17): With the plans currently provided, it is very difficult to determine if the average hole length exceeds 250 yards as required in the zoning. We request that you update Sheet 26, Golf Course Modifications, to the scale of Sheet 3 which encompasses the entire site. Then highlight the proposed tee

and green areas for each hole (i.e. Hole 8 – Tee, Hole 8 – Green, etc.) even for those holes which are not being changed. Also, on the same sheet, include a table which displays the final length of all holes after construction (i.e. Hole 18 – 200 feet, etc.).

- 2) As per Section 4391 (g), *“Phasing. Recreation and Residential Overlay District projects may be developed in two or more phases, provided that each phase is independent and self-sufficient, providing adequate access and utility service for all buildings and uses included in the phase and in any prior phases. Plans for phasing shall be shown on the site plan.”*

TOWN ENGINEER (10/26/17): It is questionable that the proposed three part phasing could be considered independent or self-sufficient. Phase 1 of construction indicates simultaneous work at the Tiot Street entryway and north of the far tennis courts for the wastewater treatment plant. The Phase 2 construction area is located and on the existing parking lot which would require the construction of the new parking lot in the Phase 3 area to be completed before it could begin. The simplest approach would appear to be reversing the proposed construction phasing and starting with Phase 3 and the wastewater treatment plant. The country club will be open during all roadway and utility work. How do they intend to address traffic flow during that process? Further information is required.

CONECO (11/09/17): A revised Phasing Plan has been provided.

TOWN ENGINEER (11/28/17): The treatment works will require sewer, water, electricity and phone lines, in order to operate properly, yet the plan only clearly indicates a sewer connection in phase II (legend states “Subsurface infrastructure” in the table). Please note all utilities proposed for Phase II in the table. The Engineering Division believes that all utilities should be part of phase II, since everything but gas will be required to construct the sewer treatment works and interruption of the roadway access will be limited to one full construction season. The applicants desire to perform all site work outside of the golf season does not seem to be a reasonable expectation for the amount of work involved to construct the infrastructure proposed for the site. It must be noted that backfilling frozen soil for utility work is unacceptable and will not be allowed by the DPW. Work with frozen ground will require a full-time inspector at the site, which will be paid at the applicant’s cost. The installation of footings, slabs and foundations can be done in cold weather but the process is much more difficult because temperature control of the concrete with blankets and heaters is often required by the Building Inspector. The applicant’s window for construction should be discussed and a realistic, detailed, timetable for construction is needed in order to create a usable phasing plan. The Engineering Division believes that even a May to November construction schedule for the work proposed will probably not be sufficient to install all electric/phone conduits, sewer, drainage and gas. A construction schedule calculating the amount of time needed to install the infrastructure is required before proceeding with submission of a new phasing plan. Otherwise, there will undoubtedly be construction issues and conflicts with the Town staff regarding when work will be allowed and what standards will be upheld. Winter

infrastructure installation is not advisable and not practical from a construction standpoint. More detailed discussion on this issue is required.

- 3) As per Section 4931 (h), “*Sureties. The property owner shall post lot covenants, instruments of surety, insurance policies, letters of credit or similar securities as provided in the Town's subdivision regulations (hereinafter "instruments") to be provided prior to the issuance of any building permits for each phase of the project, if applicable, to the benefit of the Town of Sharon in a form acceptable to Town Counsel in amounts to be reasonably established by the Planning Board shall be posted in order to secure incomplete site infrastructure improvements. Release mechanisms for building permits shall be as provided in the Planning Board's subdivision regulations for release of lots.*”

TOWN ENGINEER (10/26/17): The Sharon DPW Engineering Division will determine a bond amount once the site plan approval process is nearing completion and will be included in the decision. Bonding may be avoided until unit sales have commenced and/or a building permit is requested. Once a unit is sold or a permit is requested, a bond will be required.

CONECO (11/09/17): The Applicant looks forward to discussing this matter with the Board.

TOWN ENGINEER (11/28/17): Pending as previously stated.

- 4) As per Section 4391(k), “*...Site plan review shall establish the organizational structure, funding mechanisms, and responsibilities of organizations which may include one or more homeowners' organizations responsible for infrastructure on the two-family lots, one or more business owners' organizations, if applicable, responsible for infrastructure on the golf course and multiuse clubhouse lots, and an overall property owners' organization responsible for infrastructure shared among the two-family, golf course, and multiuse clubhouse lots.*”

TOWN ENGINEER (10/26/17): We have not received any documentation regarding this matter.

CONECO (11/09/17): The Applicant looks forward to discussing this matter with the Board.

TOWN ENGINEER (11/28/17): Still awaiting documentation. Further discussion with the Planning Board is required.

- 5) As per Section 4393 (a) (1), “*Permitted uses: Two-family dwellings (located in one or more buildings on a lot)*”

TOWN ENGINEER (10/26/17): There are two single family homes (#17 and #28) within the Phase 2 area. Single family homes are not a permitted use within the RROD. Use variances are not allowed in Sharon. No relief is available.

CONECO (11/9/17): The separation of the Townhouses has been removed. There are no single family buildings in the proposed Townhouse layout.

TOWN ENGINEER (11/28/17): RESOLVED. Single family units have been removed, but the newly placed townhouse is now located partially within the shown wetland buffer.

- 6) As per Section 4394 (d), *“Irrigation on any lot containing two-family dwellings or the multiuse clubhouse (but not including the golf course) shall be allowed if potable water from the Sharon municipal water distribution system is not used for irrigation and if irrigation is subject to an irrigation management plan that incorporates staged drought management provisions and incorporates use of non-municipal water and treated effluent application to turf to the extent allowed by regulatory agencies. On-site well water may be used if authorized by agencies having jurisdiction, but drawdown (excluding drawdown by wells serving the golf course) affecting adjacent water supply wells shall be minimized.*

TOWN ENGINEER (10/26/17): We have not received an irrigation management plan.

CONECO (11/09/17): An irrigation management plan will be provided by the golf course at a later date.

TOWN ENGINEER: Still awaiting documentation.

- 7) As per Section 4394 (g), *“Traffic mitigation. Off-site intersection upgrades shall be provided that minimize the negative impact of project-generated traffic on operations at intersections in the traffic study area.”*

TOWN ENGINEER (10/26/17): Despite the indication from the Transportation Impact Assessment report prepared by the applicant’s engineer that *“...project-related traffic increases will not result in significant increase to overall traffic volumes or delays..”*, we recommend the applicant determine whether the warrants set forth in the Manual on Uniform Traffic Control Devices (MUTCD) are met, or will be subsequently met, to install additional stop signs at the intersections of Dedham Street at Edge Hill Road and Tiot Street at Edgehill Road in the interest of improving service levels for the surrounding community. As stated in the “Transportation Impact Assessment”, in Table 9, there is a level of service D at this time and a projected level of service E by 2024 at the Tiot/Edge Hill intersection on weekday evenings. A three-way STOP there may improve the level of service there, while reducing vehicle speed on Edge Hill Road. Of course, this configuration cannot be added unless warrants are met.

CONECO (11/09/17): We are currently performing additional traffic counting and will provide the analysis for this matter when that is complete.

TOWN ENGINEER (11/28/17): Still awaiting results. The DPW appreciates the fact that the applicant is addressing this request.

- 8) As per Section 4397 (c), “*Site plans shall show ... all proposed phases of development within the Recreation and Residential Overlay District project...*”

TOWN ENGINEER (10/26/17): As previously stated in Item 2, further information on phasing is required. Phasing is not indicated on the plans, except that it was stated at the October 12, 2017 Public Hearing that the phasing is coincident with the sheet numbers indicated on Sheet 19 of the plan. Phasing plans must include phasing for utilities, buildings and roadway and/or parking lot work.

CONECO (11/09/17): A more detailed phasing plan has been added to the set.

TOWN ENGINEER (11/28/17): Newly submitted phasing plan, Sheet 49 of 49, has made the developer’s intention for phasing at the site much clearer. Concerns still exist regarding the intended periodic, multi-year expansion and capping of utilities which will be disruptive for future homeowners, golf course members and require increased oversight demands on the Town. Unlike a traditional subdivision, this site is an actively used recreational area. We believe that, at a minimum, the utilities within the primary access roadway should be completed within the second phase, as described on the phasing chart. Please refer to all comments regarding phasing in item 2 as well

- 9) As per Section 4937 (e), “*Existing conditions survey shall be based upon on-the-ground fieldwork. Layout shall be tied to the Mass State Coordinate System, and elevations shall be on North American Vertical Datum (NAVD 88).*”

TOWN ENGINEER (10/26/17): It is unclear whether these requirements have been satisfied.

CONECO (11/09/17): The project is on NAVD 88. The information is provided on the Notes & Legend (sheet 2), under the Existing Conditions Information.

TOWN ENGINEER (11/28/17): RESOLVED. No further comments.

- 10) As per Section 4937 (f), “*Site plans shall include...a traffic control sheet, a lighting sheet, and a construction phasing sheet...*”

TOWN ENGINEER (10/26/17): These three sheets have not been included.

CONECO (11/09/17): There is no traffic control for construction at this time, during the construction of Phase III vehicle traffic will be routed through the existing parking lot. Traffic signage for the final development is shown on the Layout Sheets. There is no proposed street lighting for the townhouses, there will be driveway light posts which are shown on the Utility plans. A lighting plan for the parking areas will be provided at later date. A more detailed construction phasing plan has been provided. Also, the majority of the construction is expected to be performed during the offseason.

TOWN ENGINEER (11/28/17): Phasing sheet has been received. Still awaiting traffic control sheet and lighting sheet. If the applicant is seeking a waiver on this

item or other items, please place waivers requested on the Title Sheet. If a waiver is sought, please note reasons in a memorandum to the Planning Board.

- 11) As Section 4937 (h), *“Site plans shall show all on-site local, state, and federal regulatory resource boundaries, and buffer zones shall be clearly identified, and all wetland flag locations shall be numbered and placed upon the site plan.”*

TOWN ENGINEER (10/26/17): Plans do not include the Sharon wetland setback for sanitary systems at 125 feet. Wetland flagging, which determine buffer locations are being reviewed and updated by the Conservation Commission Administrator and should be updated in the next plan submission. The current plan also indicates proposed structures and cart path within the 100-foot no-build build buffer.

CONECO (11/09/17): The 125’ buffer has been provided in the vicinity of the WWTP.

TOWN ENGINEER (11/28/17): Approval of the wetland line is scheduled for the upcoming December 7, 2017 meeting of the Conservation Commission. A Notice of Intent has not yet been filed with Conservation Commission. A report from the Conservation Commission will be submitted to the Planning Board once all wetland and drainage related issues have been resolved and/or waivers granted. The Planning Board will need the Conservation issues resolved, an updated wetland line with buffers on the plan, and Conservation approval of drainage and the Stormwater Plan prior to approving the project. Board of Health approval or comments should be received prior to Planning Board approval as well.

- 12) As per Section 4937 (i), *“Site plans shall show sanitary sewer collection systems and wastewater treatment systems, including septic systems in compliance with Massachusetts Department of Environmental Protection and Sharon Board of Health regulations, if and as applicable; stormwater management systems; water distribution systems; and cable utility systems.”*

TOWN ENGINEER (10/26/17): The plan should, at a minimum, delineate the proposed area of disturbance for a wastewater treatment plant until the DEP gives final approval. This will also impact the new layout of the golf course.

CONECO (11/09/17): An additional sheet has been provided showing the location of the approximate location of the WWTP. This location will not impact the layout of the golf course.

TOWN ENGINEER (11/28/17): Satisfactory documentation of Board of Health (BOH) comments should be submitted to the Planning Board, as per the zoning by-law requirements. Systems over 10,000 gallons per day require DEP approval, so BOH comments may be minimal, but still sought. The Engineering Division is working with the BOH and has asked for their comments, if any, on the project. The applicant should provide a spreadsheet indicating projected flows, so a proper review of the project plans can be made.

- 13) As per Section 4937 (j), “A stormwater management report shall be submitted that includes a narrative, a stormwater checklist signed and sealed by a civil professional engineer (PE), TR-55/TR-20 based hydrologic analysis, rational formula pipe sizing calculations, a long-term pollution prevention plan (Standards 4-6), a construction period pollution prevention and erosion and sedimentation control plan (Standard 8), and an operation and maintenance plan (Standard 9).”

TOWN ENGINEER (10/26/17): The stormwater management report has been submitted and is being reviewed by a consultant, Professional Services Corporation, as permitted in Section 4398 and in coordination with the Conservation Commission Administrator.

CONECO (11/09/17): We will work with the reviewer to answer any questions that they have regarding the drainage design.

TOWN ENGINEER (11/28/17): Professional Services Corporation (PSC) has been hired to review the drainage and stormwater plan for the project. The Conservation Commission will review the results of PSC’s review in conjunction with the Engineering Division. The Engineering Division and Conservation Commission review is ongoing, since PSC has not completed its review.

- 14) As per Section 4397 (k), “Site plans shall show, ... loading and service areas, pedestrian and bicycle facilities, waste disposal facilities and dumpsters...”

TOWN ENGINEER (10/26/17): Please identify these locations.

CONECO (11/09/17): The existing conditions plan will be updated to show these. There are no existing sidewalks on the site. Sidewalks are proposed on the layout plan for pedestrian access and there will be no bicycle facilities on the site.

TOWN ENGINEER (11/28/17): Still awaiting plan revisions.

- 15) As per Section 4397 (m), “Site plans shall show a detailed plan of all golf course elements to be established or existing elements to be disturbed or changed, including fairways, tees, greens, rough areas and hazards, cart paths, golf driving range and practice facilities, irrigation system, irrigation wells, maintenance facilities; parking and loading areas; and shall show a detailed plan of open space, including natural vegetation areas.”

TOWN ENGINEER (10/26/17): As was stated in Item 1, we recommend additional sheets be added to adequately display the new golf course layout and the items identified in Section 4397 (m).

CONECO (11/09/17): The golf course modifications are shown on the Layout Sheets and the Golf Course Modification Plan.

TOWN ENGINEER (11/28/17): See comments on Item 1.

- 16) As per Section 4397 (n), *“Site plans shall show all components of the multiuse clubhouse, including means of building egress, parking and loading areas, pedestrian and bicycle facilities, refuse and other waste disposal facilities, and dumpsters.”*

TOWN ENGINEER (10/26/17): Not shown.

CONECO (11/09/17): The existing conditions plan will be updated to show these. There are no existing sidewalks on the site. Sidewalks are proposed on the layout plan for pedestrian access and there will be no bicycle facilities on the site.

TOWN ENGINEER (11/28/17): Still awaiting plan revisions.

- 17) As per Section 4397 (o), *“Earthwork quantities shall be provided.”*

TOWN ENGINEER (10/26/17): Not provided. Include calculations or AutoCAD files sufficient for verification.

CONECO (11/09/17): A preliminary earthwork calculation was performed on the site comparing the proposed finished grade elevations to the existing elevations. The site development results in approximately a 12,000 cubic yard import (see attached calculation).

TOWN ENGINEER (11/28/17): Still awaiting calculations for verification. Be advised, as per the by-laws and regulations of the Town of Sharon, Chapter 141: Earth Removal, if more than 25 yards of material is removed from the site a special permit must be requested from the Board of Selectmen.

- 18) As per Section 4397 (p), *“Site plans shall show all hydrants, fire protection systems, site lighting, and lighting fixture and pole details. All lighting fixtures shall be designed based upon dark skies principles by minimizing the upward projection of light.”*

TOWN ENGINEER (10/26/17): There is currently no street lighting indicated on the plans. Update plan to include street light locations and details in compliance with dark skies principles. We recommend the Planning Board defer review of internal fire protection systems to the Sharon Fire Department and Building Division during the Building Permit process.

CONECO (11/09/17): The utility sheets show the proposed driveway light posts. The fixtures will be dark sky compliant.

TOWN ENGINEER (11/28/17): Awaiting submission of dark skies compliant driveway lighting details and lighting plan, unless being requested to be waived by the applicant.

- 19) As per Section 4397 (q), *“Site plans shall include landscape plantings and planting details, and all hardscape elements. Site lighting fixture locations shall be shown for coordination purposes. The drawings shall show the quantity, location, species, and height or caliper of all trees and shrubs and the species, size, and quantity of all*

groundcovers. Details shall be provided for all structures and hardscape elements, and planting details shall be provided for coniferous and deciduous trees and shrubs of each size.”

TOWN ENGINEER (10/26/17): As previously stated in Item 18, plans must be updated to include lighting location and details. The landscape plans on Sheets 38-41 have been reviewed by the Forestry & Grounds Division Supervisor. He has indicated that the branches of the *Quercus palustris*, “Pin Oak”, tend to project downward as they grow and, if placed near a walkway, the lower branches would have to be cut; resulting in both an unattractive look and maintenance issue.

CONECO (11/09/17): The Pin Oaks have been replaced with *Liquidambar styraciflua* ‘Ward’, “Cherokee Sweetgum” and are shown on the revised landscaping plans.

TOWN ENGINEER (11/28/17): RESOLVED. No further comments.

- 20) As per Section 4397 (r), *“A report shall be submitted evaluating the LEED for Neighborhood Development: Plan points for which the site improvements within the Recreation and Residential Overlay District are eligible. However, formal LEED ND certification, evaluation of building design, and inclusion of at least one certified green building shall not be required.”*

TOWN ENGINEER (10/26/17): LEED ND report has not been received.

CONECO (11/09/17): A report meeting this requirement will be provided at a later date.

TOWN ENGINEER (11/28/17): Still awaiting report.

- 21) As per Section 4397 (s), *“Typical architectural plans and elevations and colors and materials shall be submitted for each typical two-family dwelling type. Specific architectural plans and elevations and colors and materials shall be submitted for all principal nonresidential buildings.”*

TOWN ENGINEER (10/26/17): Specific architectural plans have not yet been received for principal nonresidential buildings. Submission of architectural design information is required for the multi-use clubhouse, but may be phased later for a separate, future review of the Planning Board. The Board must also determine if the wastewater treatment facility building is a “principal” building or an “accessory” building.

CONECO (11/09/17): The multi-use clubhouse is an existing structure and the only modification that will be made is an addition of a restaurant. The architectural plans of this modification will be provided at a later date.

TOWN ENGINEER (11/28/17): Whether a part of this filing or not, any modification to the multi-use clubhouse is subject to review by the Planning Board. Is your intention to file these changes separately?

22) As per Section 4397 (t), *“A complete sign package shall be submitted, including all informational and directional signage. All wall signs and freestanding signs shall be shown. Sign plans and details shall show locations, dimensions, colors, materials, finishes, methods of illumination and illumination levels, and methods of structural support.”*

TOWN ENGINEER (10/26/17): Sign package has not been received.

CONECO (11/09/17): The sign package will be submitted at a later date.

TOWN ENGINEER (11/28/17): Still awaiting submission.

23) TOWN ENGINEER (10/26/17): The Sharon Department of Public Works is seeking an easement or land conveyance of 60' x 40' for the construction of a drinking water pump as part of the approval process. The pumping station is absolutely necessary for the Town to connect to the Town of Norwood/MWRA for an emergency water supply source.

CONECO (11/09/17): The Applicant is still coordinating with the DPW regarding this matter.

TOWN ENGINEER (11/28/17): Discussion ongoing.

24) TOWN ENGINEER (10/26/17): Please submit two (2) Mylar copies and three paper copies of the plan on your next submittal. A “Form A” signed by both owners must be filed with the Town Clerk and a check for **\$300** must be submitted to the DPW. Two Mylar plan copies must be submitted to the DPW and an electronic format plan must also be submitted. 3 paper copies of the plan should be submitted to the Town Clerk with two copies of the “Form A” for distribution to the Planning Board.

CONECO (11/09/17): Paper copies of the ANR have been provided. Mylars will be provided once the layout is finalized.

TOWN ENGINEER (11/28/17): Once your office is ready to formally file for an Approval Not Required (ANR) endorsement application, please review Chapter 340, Article 3.1 of the Town By-Laws and file at a meeting of the Planning Board as described. Any plan determined to not completely satisfy Subsection B, Contents, shall be deemed not to have been submitted.

25) TOWN ENGINEER ADDED COMMENT (11/27/17): No future submission of individually revised sheets shall be accepted for review. All future plan revisions shall be submitted as complete sets with all indicated sheets and all revisions carried throughout. For example, all sheet numbers and revisions dates shall be updated with each new submission to allow for the tracking of changes as plans develop. The Engineering Division requires at least two full size prints and PDF copy for review purposes. Additional physical copies may also be requested for the members of the Planning Board. It is the responsibility of the applicant to disseminate new

plan iterations to other pertinent boards and committees, i.e. Conservation Commission, Board of Health, etc.