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January 4, 2021

Mr. Nazih Elkallassi, Chairman
Wareham Zoning Board of Appeals
Wareham Memorial Town Hall
54 Marion Road
Wareham, Massachusetts 02571

RE: Peer Review
Comprehensive Permit Application by Pennrose, LLC
4 Littleton Drive
Wareham, Massachusetts

Dear Chairman Elkallassi and Board Members:

Green Seal Environmental, Inc. (GSE) is pleased to provide the Town of Wareham, acting through their Zoning Board of Appeals, the following peer review of application materials submitted by Pennrose, LLC (the Applicant) for a Comprehensive Permit to construct 93 mixed-income housing units on land owned by the Wareham Redevelopment Authority (the "Project").

GSE's review is limited to the Civil/Site aspects of the Applicant's filing and does not represent a review of legal requirements nor does it offer a legal opinion. GSE understands that the Town of Wareham does not have any Comprehensive Permit bylaws or regulations that include technical standards that may apply to this project. The documents reviewed include:

- Project Eligibility Letter
- Application for a Public Hearing Form
- Applicant Information Sheet
- Application Materials
 - Appendix 1 – Site Survey Plan
 - Appendix 2 – Drawing & Floor Plans
 - Appendix 3 – Renderings
 - Appendix 4 – Site Control
 - Appendix 5 – Certified Abutter's List
- Departmental Review Letters
 - Police
 - Fire District
 - Town Engineer
 - Conservation Commission
 - Sewer

Transportation Impact Assessment

Based on our review of the submittal documents, we offer the following comments:

Project Eligibility Letter – An eligibility letter was issued by the Department of Housing & Community Development on December 9, 2020. The eligibility letter identifies 49 units of mixed-income non-age restricted in ten townhouse style structures and 44 age-restricted units in a single structure. The letter appears to be in order and the housing unit quantities coincide with the other application materials.

Application for Public Hearing Form- The form lists the subject property parcel as Assessors Map 56 Lot 1. Review of on-line Assessor Maps show Lots 1 through 47 with associated roads. It is our understanding that this was a definitive subdivision formerly known as Hampton Acres. This subdivision was abandoned and sold to the Town of Wareham in 1981 (see deed Book 4943 Page 86). Lots 6, 7, 44 and 45 were developed with single-family homes and were excluded from the sale. Please note the Assessors Field Card does list the property as Map 56 Lot 1.

Applicant Information Sheet- The Applicant is Pennrose, LLC. According to the Massachusetts Secretary of State (SOS) office, Pennrose was registered on May 30, 2018 under ID# 001330088. The Information Sheet states an address of 50 Milk Street, 16th floor, Boston, MA. The company's website indicates the main company address as 1301 North 31st Street in Philadelphia, PA. GSE assumes the Boston address is a regional satellite office.

Application Materials- The application narrative calls for "wet stamped" survey plans to be submitted separately. These plans were not included in GSE's review package and as such, we offer no comment. As the submitted plans associated with this filing are conceptual in nature, GSE only provides comments on the general appropriateness and functionality of the design. GSE reserves comment on the specific conformance of the design to regulatory requirements and to good engineering practice until a final design is submitted.

Appendix 1- Site Survey Plan

Water: The plan shows approximately 1800 linear feet of new water main. Pipe type and diameter is not called out. Discussion with the Wareham Fire District (WFD) indicate that there is an existing 8-inch transite water main that loops through the property and connects to Dennis Lane. The exact location of this line is not known but they believe it generally follows the former Hampton Acres right of way circling counter clockwise around the site. At a minimum, all water system components and design should conform with WFD rules and regulations.

Sewer: The concept plan calls for a gravity sewer to service the Project. The sewer would discharge to an existing manhole on the north side of the property near #15 Littleton Drive. Applying a minimum slope of 0.004 ft/ft for an 8" PVC gravity sewer would result in an invert elevation of approximately 14.0 at the outermost proposed manhole. This calculated elevation is at/or around the existing natural grade requiring portions of the site to be filled to achieve adequate pipe cover.

The Wareham Sewer Department requires developers to manage non-flushable objects

prior to discharging into Town's system. This is typically done with a macerating pump(s). The Applicant could either have individual grinder pumps at each structure or a centralized pump system. Operation and maintenance of these pumps would be by the developer. It is unclear from the concept site plan how the non-flushable items will be handled.

Drainage & Stormwater Management: The plans are not sufficiently detailed and review of the drainage design is premature. The stormwater collection system appears to be via paved inlet flumes which transport runoff to bioretention areas. The bioretention areas are connected to subsurface infiltration galleys, which show point source discharges to Flax Pond. Without soil data and hydrology, we cannot evaluate the proposed conceptual system except to note that the infiltration practices shown appear small relative to the amount of impervious surface proposed. Also note sediment removal prior to bioretention treatment is critical to the system's longevity and effectiveness. The Applicant should identify their sediment pre-treatment strategy. All stormwater treatment systems must comply with MassDEP Stormwater Policy standards as detailed Handbooks Vol 1 and Vol. 2. GSE understands that the Town of Wareham does not have specific stormwater design standards except those for subdivision roadways.

Review of NRCS soil maps and the original test pit from 1971 indicate the site is underlain by a Deerfield loamy fine sand. Deerfield soils are considered hydrologic Class A. The Applicant should perform test pits at each of the infiltration locations to confirm soils and seasonal high groundwater elevations in order to adequately design these systems. GSE also recommends that the Applicant install observation wells and make periodic groundwater depth measurements during the typical wet season (November – May). Deerfield soils frequently have short-lived seasonal water tables that may not be recognized during a soil evaluation.

GSE has reviewed MassGIS mapping and other sources for restrictions that may apply to stormwater design. Based on the traffic study submitted (see below), the traffic generated will not qualify the project as a Land Use with Higher Potential Pollutant Loads. GSE notes that Flax Pond is mapped by MassGIS as a potential vernal pool (see discussion below). Should Flax Pond be certified as a vernal pool, then a number of restrictions will apply to stormwater management at the site. Surface Water Protection regulations [314 CMR 4.06 (2)] classifies certified vernal pools as Class B Outstanding Resource Waters. 314 CMR 4.06 (1)(d)(12) requires that "no point source discharge shall be allowed to a [certified] vernal pool ..." The Wetlands Protection Act regulations appear to conflict with this requirement, allowing for point source discharges to Outstanding Resource Waters "...be set back from the receiving water or wetland and receive the highest and best practical method of treatment." Should the vernal pool become certified, GSE recommends that the applicant contact the DEP to resolve this conflict prior to initiating final design.

The function of the two proposed drain manholes at the entrance of the project is unclear. Additional information is required to provide specific review comments pertaining to the proposed drainage system.

Conservation/Environmental: Flax Pond is located in the southeast corner of the Property. The pond has a delineated bordering vegetated wetland (BVW) and associated state and local buffer zone of 100-feet. The date of the delineation and the name and qualifications of the delineator were not shown. The Wareham Wetland Protective By-law (Bylaw Division VI, Article I, Section III Definitions and Section XVII, Buffer Zone) requires a 50-foot “no activity” zone for multi-family developments over 4 units.

Additionally, Mass GIS data lists Flax Pond as a potential vernal pool not certified by the Massachusetts Division of Fisheries and Wildlife (DFW). Review of historical aerial photographs do show the pond dries out seasonally, meeting one of the DFW criteria for certification. The State Wetland Regulations (WPA, 310 CMR 10.00) provide a definition of vernal pool habitat that includes areas within 100 feet of mean annual high water, provided it is also within another resource area.

The Wareham Wetland Protective By-law (Bylaw Division VI, Article I) protects vernal pools regardless of whether they have been certified by DFW, and defines habitat as areas within 100 feet of mean annual high water regardless of whether it is within another resource area. In addition, the 100-foot buffer and the 50-foot No Activity Zone would be measured from the habitat area boundary.

GSE recommends that the Applicant submit a Notice of Resource Area Delineation to the Wareham Conservation Commission with information on the BVW delineation, and an assessment of the status of Flax Pond as a potential vernal pool. Since this determination may have significant effects on the project design, GSE further recommends that no final design be prepared until the Commission issues an Order of Resource Area Delineation with a determination on vernal pool status and boundary.

The concept plans indicate two stormwater outfalls within 10 feet of the BVW, a building and parking within 100 feet of the BVW, and a substantial portion of the Project within 200 feet of the BVW, which may approximate mean annual high water. The Wareham Wetland Protective Bylaw does allow for waivers for work in the “no activity zone”. It is GSE’s understanding that such waivers cannot be granted as part of a Comprehensive Permit but must be issued separately by the Conservation Commission.

The plans were devoid of erosion control measures which will be a requirement in a complete plan set.

Appendix 2 – Drawing & Floor Plans

Ground cover and building tabulations presented in the conceptual site plans coincide with the values presented in the narrative. Sheet C-1 in this plan set expands on the Appendix 1 Plan and shows potential landscaping and tree locations. A planting schedule with detailed plant material type, quantity and size is not provided.

The second site plan, Sheet A000, appears to diagrammatically call out some handicap parking stalls and aisles. The exact location, number of handicap spaces, and dimensions are not clear.

Appendix 3 - Renderings

The renderings presented appear to be accurate representation of the proposed structures. Slide 3 illustrates a playground area and an open field passive recreation area. These are shown on the site plans in Appendix 2 but are not called out or detailed.

Appendix 4 – Site Control

The Land Disposition Agreement in Appendix 4 is a legal document. As such, we defer opinion to the Town’s legal counsel.

Appendix 5 – Certified Abutter List

The abutter’s list was certified on October 30, 2020 by Renee Akins in the Wareham Assessor’s office. The Zoning Board application is dated November 11, 2020.

Departmental Comments

- Police: Chief Walcek expressed concern over staffing levels. GSE has no comment on police staff levels.
- Fire: Correspondence from Fire Prevention deferred review until design plans are submitted.
- Engineering: Mr. Rowley echoed the need for more detailed design plans prior to review and cautioned of potentially high groundwater. Test pits from 1971 showed groundwater at 56-inches below grade in TP#3. It is unclear at what time of year this determination was made and/or whether the reported elevation was of seasonal high water marking or observed groundwater. We concur with Mr. Rowley’s comment and recommend test pits and observation wells.
- Conservation: Mr. Pichette indicated that based on the plans he reviewed, a Notice of Intent would be required for work within the buffer zone. GSE concurs with his assessment.
- Sewer: Mr. Campinha noted the need for grinder pumps and requested information on flow rates as well as phasing.

Traffic Impact Assessment/Pedestrian Movement

We have reviewed the Traffic Impact Assessment prepared by Vanesse & Associates, Inc. (VAI) for the Project. VAI assessed impacts on the intersection of Littleton Drive and Swift’s Beach Road, and to the intersection of Swift’s Beach Road and Cranberry Highway (Route 6). No potential developments were identified in the study area, and a typical background traffic growth value was used in the assessment. Noting that the data was collected during the COVID-

19 pandemic response, VAI adjusted the counts upwards using a year-to-year comparison of MassDOT data from a nearby continuous count station. The report indicates that during peak travel times the Level of Service does not drop below LOS C. According to standard engineering practice an LOS C is “*stable flow, at or near free flow. Ability to maneuver through lanes is noticeably restricted and lane changes require more driver awareness*”. Please note Swift’s Beach Road is a two-lane road and vehicle passing is prohibited. We concur that a LOS C is acceptable for this Project.

VAI measured the stopping sight distances on Swift’s Beach Road at Littleton Drive and found that they exceed the required minimums. Intersection sight distance at this intersection was adequate looking southeast. Looking northwest, intersection sight distance was found to be inadequate. VAI recommended that vegetation be trimmed or removed and noted to improve the condition to the desirable sight distance.

The conceptual plan illustrates a 24-foot-wide access drive in a kidney-shaped loop with unit parking along the periphery. Parking stalls are called out as standard 9’x18’. By-law Section 933.1 requires parking stalls to be 9.5’ wide by 19’ long. The Applicant should revise or request a waiver.

Parking: Section 921 of the Wareham Zoning By-law requires 1.5 parking spaces per unit for 1- unit bedroom and 2 spaces for 2- and 3-bedroom units. Based on the Applicant’s concept plan, this equates to 80 spaces for the townhomes and 44 for the age-restricted building, or a total of 124 spaces. The Concept Civil Site Plan shows a total of 132 of which, 75 appear to be allocated to the townhomes (1.53 spaces per unit); 44 allocated to the age-restricted units (1.0 spaces per unit); 6 to the Community Building; and, 3 to the Maintenance Building (a total of 128). The VAI report identifies a total of 125 off-street parking spaces. The plans have a typographical error on the parking count and the numbers appear to be inconsistent between the various documents. The Applicant should correct the plans and resolve the inconsistencies if present. The Applicant should consider assigning parking spaces by unit and adding visitor parking.

The parking plan must accommodate handicap accessible spaces which are not shown. The application materials do not identify the number or location of handicap accessible housing units. All accessible parking spaces, signage and routes must conform to the Massachusetts Architectural Access Board requirements (MAAB).

Pedestrian Access: The concept plan portrays sidewalk on the east side of the entrance drive which terminates at Littleton Drive. Pedestrian walks must comply with MAAB requirements and should be separated from traffic flow by either a sloped curb with a grass strip or a vertical curb. The plans lack detail and further review is not possible at this time. We concur with the V&A’s report recommendation to extend the sidewalk along the side of the Littleton Drive to Swift’s Beach Road.

Additional Comments/recommendations

- The sidewalk on Swift's Beach Road is on the northern side. The walk is separated from traffic lane by a vertical granite curb. We would recommend 12" wide thermoplastic crosswalk striping on Swift's Beach Road with appropriate "Crosswalk Ahead" signage in both directions. This will allow pedestrian to cross from the Project site to the existing sidewalk network.
- We would recommend installation of a stop sign and stop line at the Littleton Drive/Swift's Beach Road intersection.
- The Applicant may wish to evaluate installation of solar panels on southward facing roofs as a means of offsetting the carbon footprint of the Project.
- A mailbox kiosk on the traffic island in front of the Community Building is recommended to prevent parking in travel lanes.
- The plans should show adequate areas for trash dumpsters and/or recycling collection areas. Dumpsters should be placed on a concrete pad and screened from view. Dumpsters should not be placed in wetland buffer zones.
- Section 824.6 of Zoning By-law requires outdoor recreation areas for multi-family dwellings in a MR-30 zone. Calculating the required square footage of recreation area using the proposed number of non-age restricted 2- and 3-bedroom units equates to 18,500 square feet. Site plans in Appendix 2 show a playground area but it is unclear if this proposal has adequate recreational area or if a waiver is requested.
- The conceptual plan also shows encroachment of three (3) sheds onto the project site along the southern border. The Board may wish to have the encroachment resolved.
- The plan depicts a walking trail circumventing the Project. We would recommend this path be within previously cleared roadway areas where possible to minimize overall project impact specifically behind Buildings 5 through 9 and again near Flax Pond.

Additional documents the Board may wish the Applicant to file include:

- List of Requested Waivers from Local By-laws
- Certificate of Good Standing from the Secretary of State's office (SOS)
- Design Plans & Profiles
- Stormwater Report and Calculations
- Erosion Control Plans
- Landscape & Lighting Plans

Please do not hesitate to contact the undersigned at 508-888-6034 or 508-813-9037 if you have any questions or require additional information.

Sincerely,

GREEN SEAL ENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read 'SC', is positioned below the company name.

Stuart Clark, P.E.
Vice President Engineering Services