



June 2, 2020

Mr. Mark Gallagher
307 Harwood Ave.
Littleton, MA 01460

Re: Healy Corner revised Plans

Dear Mark:

As requested, I briefly reviewed the newest version of the Density Yield Plan dated 3-16-2020 with highlights and soil testing.

Key to this review are the requirements for the Density Yield plan:

A "Density Yield Plan" sketch (at a scale of no less than one inches equals 100 feet) showing how development of the parcel would be achieved by a conventional subdivision plan, in accordance with all applicable land use regulations, to determine the maximum allowable density under this Special Permit.

§ 173-104 Density calculation.

A. *Except as modified by Subsection B below, the maximum number of dwelling units in an Open Space Development shall be calculated via a Density Yield Plan. A Density Yield Plan shall show the number of building lots that can be **developed by right in a conventional subdivision** under the zoning requirements of the Zoning By-Law (other than the Special Permit provisions under this Article XIX, Open Space Development) and **all applicable land use regulations in the district (including wetlands protection)**, and complying with the Subdivision Rules and Regulations, as demonstrated by a preliminary subdivision density yield plan. The applicant must further certify that **each lot** identified on the Density Yield Plan **can support the placement of an on-lot septic system for a four bedroom residential dwelling, as evidenced by a soils and percolation tests, consistent with Title 5.***

(emphasis added)

My comments are as follows:

1. Lots 13 and 14 have multiple issues
 - a. Riverfront Area: Lot 13 house and septic are entirely within the riverfront area as well as portions of the driveway serving both lots 13 and 14 and the entire Lot 14 septic system. Under the Riverfront, an alternatives analysis is required which includes a no build option. Given the other development potential for this site and other sites in town, these lots may not meet the alternatives analysis.

The Riverfront regulations allow an alteration of 10% of the lot in the Riverfront area or 5,000 s.f., whichever is greater of alterations. This site has approximately 87,000 s.f. in the outer riparian zone, allowing 8700 s.f. of alterations. It is recommended that these lot be proven to meet this criterion with grading before they are considered "buildable".

- b. The proposed common driveway serving lots 13 and 14 is within feet of the driveway serving the abutting property which crosses the frontage of Lot 14 and a small portion of 13. The intersections with Harwood Ave would require radii at the intersection to allow vehicular access onto the driveway which would appear to overlap (difficult to access due to the scale of the plans). If these two driveways overlap at the road intersection, they should be considered a Shared Driveway which is a special permit and should meet the design criteria for a Shared Driveway as defined in the bylaws. If they are independent driveways, there should be a greater separation for safety and snow removal operations.
- c. Both Lot 13 and 14 require grading in the 50' No Disturbance area and do not meet the Littleton Wetlands By-law.

2. Septic System issues/concerns

- a. Lots 7,8 and 13 do not have the required soil testing. Updated plans show only one deep hole. Title 5 requires a minimum of 4 deep test holes and 2 percolation tests within the primary and reserve areas for new construction. Title 5 does **not** allow the use of sieve analysis for new construction. It is our understanding that testing has been performed but no new information is available on the Planning Board website as of the date of this letter.
- b. Septic systems shown do not show expansion areas. Lots 3,4,7,8,10,11 and 13 do not appear to have sufficient area, outside of setbacks for an expansion area.
- c. Many of the septic systems are close to the 50' wetlands setback required by Title 5. Due to the high groundwater present in testing across the site, it is very likely that grading will extend into the 50' no disturbance offset to the wetlands as required by the Littleton Wetland Bylaw Regulations. This directly impacts Lots 7, 10, 13, 14.
- d. Section 173-104 A. "The applicant must further certify that each lot identified on the Density Yield Plan can support the placement of an on-lot septic system for a four bedroom residential dwelling, as evidenced by a soils and percolation tests, consistent with Title 5." This statement should be from a professional licensed to design septic systems such as a Professional Civil Engineer or Registered Sanitarian.

3. Vernal Pool issues:

- a. It would be our recommendation that you request that the Vernal Pool be evaluated (as we are in peak breeding season for vernal pools). This should be confirmed that it meets the criteria for a vernal pool and it should be confirmed that it does not contain any species which are state listed which could require different considerations in the design to avoid a "taking" or impact on an endangered species.
- b. The driveway serving lots 9 and 10 and basin are within 100' of the vernal pool and within 50' of the wetlands adjacent to the vernal pool. Per the DEP Stormwater Handbook, "*Stormwater BMPs must be set back 100' from a certified vernal pool and comply with 310 CMR 10.60. Proponents must perform a habitat evaluation and demonstrate that the stormwater BMPs meet the performance standard of having no adverse impact on the habitat functions of a certified vernal pool.*"

Open Space Development Plan Comments:

1. There have been no updated OSD plans showing complete lot lines, and areas of lots, parcels and Conservation Restriction areas. Until a complete set of revised plans have been submitted and reviewed by the Board's Engineer, the public hearing should not be closed. No new information can be received after the close of the public hearing and to accept such significant plan revisions

as a condition of approval will limit the public's ability to review the plans and comment without formally appealing the Board's decision.

2. The applicant is seeking the bonus lots for the ANR lots 13 and 14 under the Lot Density Plan. The Open Space Development, 173-104 B states "*The number of dwelling units to be added to the calculation in Subsection A shall not exceed two times the number of ANR lots that could have been developed prior to the submittal of the Open Space Development but that are instead included in the protected open space.*" The perimeter of Open Space Parcel A is not concurrent with the perimeter of Lots 13 and 14 and therefore does not meet this criteria.
3. The applicant has stated that the Conservation Restriction (CR) will meet the intent of the Open Space while creating large estate lots. The two proposed trails, John's Trail and Nelly's Trails do not provide any access to the Conservation Restriction easement located on Lots 15 and 16. Furthermore, both proposed trails end at the first encounter of wetlands and do not provide public access to the majority of the Open Space and land within the CR. It is not clear as to whether these trails are consistent with earlier presentations regarding the significance of the CR and connectivity between the Town Forest and the Littleton Conservation Trust lands.
4. Lot development will still result in alterations to the 50' no disturbance zone to wetlands with the development of lots 15 and 16. The limit of disturbance, particularly for lot 15 will likely intrude on this no disturbance buffer zone.
5. The driveway for Lots 15 and 16 will require a wetlands crossing and replication. As the Lot Density Plan did not include a wetland crossing, it is questionable as to whether this crossing would be considered a limited project under the Wetlands Protection Act and could be approved. Lot 16 has a buildable upland area which does not require a wetlands crossing and alteration.
6. The driveway serving Lots 15 and 16 does not indicate any stormwater management BMPs which are required.
7. The proposed leaching area appears to have a 3:1 side slope directly adjacent to the trenches. Title 5 requires a 15' setback to the 3:1 slope.
8. The mound will be 4-6' above existing grade and it is unknown as to whether this design is preliminary or if it is the result of a groundwater mounding analysis required for systems over 2,000 gpd. There is insufficient topography to assess the impact on the drainage patterns, particularly on the abutting property.
9. The common septic field is approximately 40' to the proposed infiltration basin. Both Title 5 and Stormwater Regulations require a 50' setback. It is unclear as to whether there will be groundwater interaction between the two recharge areas.
10. It is unclear as to whether the issues regarding the use of a common septic system, raised in the October 30, 2019 memo from James Garreffa at NABOH have been addressed.

"8.) If the proposed development is to be served by a shared septic system the applicant must prove they could construct the same septic design flow, in compliance with Title 5, without the use of a shared system unless the shared system is serving a cluster development as defined by 310CMR15.002. Could the Planning Board please confirm whether this development will meet the definition of a cluster development (the Title 5 definition is provided below)

15.002: Definitions Cluster Development – A cluster development as allowed by local zoning ordinances or by-laws in accordance with M.G.L. c. 40 A § 9. Where no local cluster development zoning ordinances or by-laws have been enacted in accordance with M.G.L. c. 40 A, § 9, a cluster development means a residential development design that preserves a minimum of 50% open space which may include wetlands. For these latter developments, the percentage of open space that can be wetland shall not exceed the percentage of wetland for the entire site under existing conditions as shown on a plan, but in no case may the wetland portion of the required open space exceed 50% of the open space. The open space shall be subject to a deed restriction that provides for a common area and limits its use to passive recreation."
(emphasis added)

It appears that the current OSD plan does not meet this criterion but without lot areas of the Open Space parcels (see Open Space comment 1) it cannot be confirmed.

Please let me know if you have any questions or if you get another revised plan.

Places Associates, Inc.
BY:

Susan E. Carter, P.E., LEED AP
President, Director of Engineering

Lot No.	Issue Based on 5-11-2020 Revised Density Yield Plan	Viability Y/N	Comments
1	None	Y	None
2	None	Y	None
3	Limited area for septic reserve will not meet title 5 requirements	Y	None
4	Limited area for septic reserve area will not meet title 5 requirements	Y	None
5	Septic grading in 100' Buffer Zone, Storm-water basin within to 50' No Disturbance	Y/N	Requires special permit; NOI
6	Insufficient Soil testing, Septic grading possibly in Buffer Zone as shown	Y/N	Requires special permit; NOI Additional testing
7	Insufficient soil testing, house, driveway and septic grading in Buffer Zone, Area for reserve septic questionable, No apparent storm-water treatment for driveway as required	N	Requires special permit and waivers from wetlands bylaw. Additional testing
8	Insufficient soil testing, House & grading in Buffer Zone, Septic reserve area questionable	N	Requires special permit and waiver's from wetlands bylaw
9	Extensive Buffer Zone work, grading in 50' No Disturb, driveway on Lot 11 in 50"No Disturb, driveway to 10 goes across septic system	N	Requires special permit and waiver's from wetlands bylaw & NHESP for driveway on lot 11
10	Driveway and house in Buffer Zone, Portion driveway and grading septic likely in 50' No Disturb , Driveway on Lot 11 in 50' No Disturb; limited area for septic reserve, driveway crosses lot 9 septic system	N	Requires special permit and waiver's from wetlands bylaw & NHESP for driveway on lot 11
11	Area for septic reserve questionable, potentially grading in 100' Buffer Zone	Y	Requires special permit; NOI
12	None	Y	
13	Questions on driveway access; driveway, house and septic in Riverfront area; house and septic grading likely in 50'No Disturb; limited area for septic reserve	N	Many Special Permits; Riverfront alternatives analysis needed, waiver wetlands by-law required, No bonus lot if not viable
14	Questions on driveway access; driveway in Riverfront area; driveway and grading likely in 50'No Disturb, potential issues with VP – House grading likely within 100'Buffer Zone	N	Riverfront alternatives analysis needed, Waiver wetlands by-law required, Potential NHESP restrictions, No bonus lot if not viable
Roadway	Appears to be minimal stormwater treatment, Potential grading in 50' No Disturb at first cul-de-sac, extensive work in 50'No Disturb on lots 9/10/11 for drain lines and potentially within 100' of Vernal Pool,	Y	Requires special permits and waivers from wetlands bylaw.

Potential Total Lots

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BZ= 100' Wetlands Buffer Zone

ND= 50' No Disturbance Zone in Littleton Wetlands By-laws

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