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December 21, 2023

Town of Barrington
Planning Office
Attn: Vanessa Price, Town Planner
4 Signature Drive
Barrington, NH 03825

Re: Residential Subdivision Plan Review
Berry Surveying & Engineering
Paul Thibodeau
Young Road
Tax Map 240, Lot 8

Based on comments from CMA Engineers, Inc. dated November 29, 2023, we respectfully submit the following comments and revisions. Our comments are in **bold**. It is important to note that the CMA review letter is entitled "Site Plan Review". This project is a Subdivision with no specified housing stock proposed.

COMMENTS
Subdivision Regulations:
Article 7 Additional Information and Studies

7.3 Stormwater Management Plan
A Stormwater Management Plan is required for projects disturbing more than 20,000 square feet and in the construction of roads and driveways. The Applicant should submit a Stormwater Management Plan or request a waiver from this requirement.
The prior submission included a Stormwater Analysis of the project site and the plans now include site specific stormwater management features for consideration during construction. Being that this is a frontage subdivision with no site-specific lot designs, a note has been added to Sheets 2, 11, 12, 13, 21 of 64 alerting the future users that a site-specific stormwater management plan will be required for a building permit on the proposed lots.

7.6 Environmental Impact Assessment
The lot being developed includes a Prime Wetland, and a large portion of it includes wetlands with proposed building lots up to the Prime Wetland and Wetland buffers. Since these are environmentally sensitive areas, the Planning Board should consider requiring an Environmental Impact Assessment to be completed and submitted to the Planning Board for review.
An Environmental Impact Assessment was previously submitted to the Barrington Planning Board for review.

Article 10 Conservation Subdivision
10.4 Lot Layout
The proposed conservation subdivision layout has all the lots being accessed from Young Road and not from a dedicated development road as is typical. Additionally, with the proposed lots being accessed from Young Road, the proposed subdivision does not follow the provided concepts shown in Figures 2B, 2C, and 2D, so the Planning Board should determine whether this alternative layout is acceptable and whether the Applicant should submit a variance from this regulation.
The section quoted concerns suggestions and recommendations the subdivision regulations provide to applicant when choosing a design for specific projects and are not specific regulations which require waivers. The subdivision has received the required variances from the Zoning Ordinance by the Barrington Zoning Board to permit the project as designed.

Article 11 Design and Construction Standards
11.2 Lot Shape and Site Layout
11.2.2 Lot Shape
11.2.2(2) To the maximum extent possible, all new lots shall be rectangular in nature; however, the nine proposed backlots do not meet this requirement.
Article 11 are design considerations for standard subdivisions and is not applicable to a Conservation Subdivision found in Article 10 which permits creativity in design.

11.2.2(3) No portion of a lot created under these regulations shall be less than 75 feet in width, except as provided for in Subsection 11.2.4. This Subsection limits a subdivision to two backlots; however, the Applicant is proposing nine backlots, so seven of the proposed backlots do not meet the lot shape requirement.
Article 11 are design standards for standard subdivisions and is not applicable to Conservation Subdivisions. Conservation subdivisions area authorized in the Zoning Ordinance in Article 6, which permit lots to have lot widths of 75' at the front building setback. All lots in the subdivision meet the stated requirements of the Zoning Ordinance and Subdivision Regulations applicable to Conservation Subdivisions.

11.2.2(4) The lot length-to-width ratio should generally not exceed three-to-one (3:1); however, the nine proposed backlots do not meet this requirement.
Article 11 does not apply to Conservation subdivisions.

11.2.4 Backlots Permitted
Backlots are permitted as part of a conventional subdivision, but the Applicant should confirm with the Town that backlots are permitted in an open space conservation subdivision.
These are not back lots; they are compliant with the Conservation Subdivision Ordinance and Subdivision Regulation requirement of 75' lot width at the front setback line and further does not require the lot to have any frontage as is permitted in the Zoning Ordinance Article 6.

11.2.4(6) Only one backlot subdivision shall be permitted regardless of the number of separate yet contiguous lots under the same ownership. The Applicant is proposing nine backlot properties.
These are not back lots; they are compliant with the Conservation Subdivision Ordinance requirement of 75' lot width at the front setback line as is permitted in Zoning Ordinance Article 6.

Article 12 Road Design & Construction Standards
12.8 Road Construction Standards
12.8.3 Pavement
Include all pavement material, joint adhesive, and tack coat requirements to ensure conformance with Town regulations.
This has been added to sheet E-103, detail E26. Paved aprons are now callout out on the Grading & Drainage Plans and the Sight Distance Plans.

Article 15 Subsurface Sewage System Design Standards
15.4 Design Requirements.
Some of the proposed leaching areas are oddly shaped. Can the subsurface disposal systems be constructed to fit within these areas, and is all of the area available for the system's installation?
In general, the depth to the seasonal highwater table (SHWT) is shallow and most of the site is sloped. Can a leach field be constructed meeting the State's separation requirements and graded to meet site constraints?
Does the State allow for portions of the subsurface disposal system to be under driveways?

The shown 4,000 Sq. Ft. (4k) leaching areas have been revised on the Topographic Subdivision Plans to remove some irregular shapes however it is acceptable to the state to have portions of the 4k as narrow as 10' whereas it is typical for modern systems to be this narrow. The intent of the 4k area is to prove to the NHDES Subsurface that 4,000 sq. ft. of leaching area is

available on the subject parcel, with two test pits located no closer than 50' apart within this area. This can be done under driveways and therefore it is acceptable to them to be shown in this fashion. A typical leachfield for a 3-4 bedroom single-family home is approximately 30' long and 14.5' wide with the sites soils considered. As the lots are sold and individual homeowners have the choice of where to place the home and leachfield on the lot, a state approved septic design will be required for each lot, and the fields may or may not be located where the 4,000 Sq. Ft. leaching area is shown on the Topographic Subdivision Plans. Furthermore, the project is required to obtain an NHDES Subsurface (State Subdivision) approval where the dedicated authority will review the lots in the subdivision for compliance with Env.Wq 1000.

Drainage Calculation Review:

1. 4.0 Erosion and Sediment Control Plan & BMPs section does not appear to be tailored to the project. Reference is made to a Grading Plan and an Erosion & Sediment Control Plan, neither of which appear in the plan set. Further, the Perimeter Control section references a rain garden and says the location of perimeter sediment control is demonstrated on the plan. Please ensure the drainage report accurately reflects what is proposed.

Please find revised Drainage Narrative which provides site specific requirements for sediment and erosion controls expected to be found onsite during construction. These controls are provided on the Sheets 21 through 41 of 64. The intent of the plan is to provide the required controls for the known driveway construction and suggested controls for the home construction. As noted above, site specific designs will be provided to the building inspector at the time of building permit for conformance with Subdivision Regulation 7.3.1(1)

2. The pre/post-watershed analyses should be limited to the area being impacted by the project, and not be expanded to include the entire watershed flowing to Richardson Pond. With this change, there will be multiple discharge analysis points from the development. Also, with the proposed change in land use (i.e. buildings, driveways, and clearing), it is unlikely the pre/post-watershed analyses will show no increase in runoff without some form of detention/treatment.

The purpose of stormwater analysis and potential mitigation design is to determine the effects on downstream drainage facilities (Section 7.3.4(2)) and effects on analysis points that are abutting the site downstream. (Section (7.3.3)) To accurately do this, the totality of the contributing area is

required to be reviewed and analyzed. Section (7.3.4(4)) A global analysis was conducted to determine the effect of the land cover changes on Richardson Pond and points below that. The analysis found that the change in cover type did not change the peak rate of runoff to Richardson Pond and therefore meets the requirement of Section 7.3.4(7)

3. Runoff generated by the development shall be collected/treated before it flows offsite.
Neither Section 7.2 nor Section 7.3 has this requirement. Section 7.3 discusses the need for facilities in the event mitigation is needed to be compliant with Section 7.3.4(7).

Traffic Impact Analysis Review:
1. Confirm that all proposed driveways meet the sight distance requirements for the required length. I.e., For Lot 8-22, it appears there is a depression along the sight distance that would not meet object height requirement.

The driveway for Lot 8-22 has been reconfigured to branch off of the driveway for Lots 8-20 & 8-21. Please find sheet #40.

2. Are there any high accident locations in the study area?
BS&E has reached out to the Barrington Police Department for accident information.
BS&E has coordinated with Barrington Police Department. Accident data was provided from 2020 to current. Five (5) accidents have occurred and were all at the intersection of NH Route 9.

Plan Set:
1. General

a. Provide proposed grading plans for driveways to ensure compliance with Town of Barrington driveway regulations.

Grading and Drainage Plans have been added into the plan set as sheets #21-#41. Driveways were graded to the front setback lines of each lot. When the lots are developed by various builders and home owners lot development plans will be required to ensure compliance beyond what is shown.

b. Sections of existing stone wall that are to be removed should be noted as such on the plans.

Sections of stonewall to be removed and remain are now called out on the Grading Plans, sheets #21-#41.

c. Erosion and sediment controls should be shown on the plans.

E&SC measures are now shown on the Grading and Drainage Plans have been added into the plan set as sheets #21-#41 as they relate to the known driveway construction. Suggestions on the lots are provided for future builders / lot owners.

d. There is dark hatching throughout the existing contours – add to the legend with description.

The hatch for slopes of greater than 35% has been added to the legend on all relevant sheets.

e. In a standard conservation subdivision, the lots are accessed off the development road, generally a cul-de-sac, so traffic volumes are low and driveway density from the reduced lot frontage isn't an issue. However, all the proposed lots are accessed from Young Road which is a heavily trafficked Town road, so the proposed reduced lot frontage increases the driveway density creating a safety and aesthetic issue. With minor changes to the driveway layout, the number of curb cuts onto Young Road can be reduced from the proposed thirteen to at least ten.
As suggested, the number of driveway cuts along Young Road has been reduced from 13 to 10. Please find revised plans and specifically sight distance plans, Sheets #42-#61 of 64

2. Existing Conditions Plans (Sheets 5-8)
a. Call out existing trail. Is there an easement associated with the trail?
The existing trail is called out on Sheets #5-8 of 64. There is no existing easement associated with the trail.

3. Overview Subdivision Plan (Sheets 10)
a. On the plan, include site topography with hatching on slopes greater than 35%, and provide yield calculations, so the proposed number of lots can be confirmed.
The Barrington Planning Board previously approved the Yield Plan and asked that the provided plan be included in the plan set to memorialize the approval.

4. Easement Plans (Sheets 14-16)
a. Some sections of stone wall appear to be faded back. Are these sections to be removed? Add to the legend with description.

The color has been made consistent. The previously submitted legend is applicable. Please find Sheets #14-16 of 64

5. Topography Plans (Sheets 17-20)
a. Include proposed building footprints and contours, so they can be seen in relation to the driveways, well protection radii, and leaching areas.
This information has been added to the Topographic Subdivision Plans. Please find Sheets #17-20 of 64

b. Provide existing and proposed tree lines on topography plans.
This information has been added to the Topographic Subdivision Plans. Please find Sheets #17-20 of 64

c. Several driveways have higher proposed elevations than the existing ground, but no culverts are proposed. Confirm that proposed driveways will not impede the path of stormwater runoff.
Please find Grading & Drainage Plans, Sheets #21-#41 of 64. Culverts have been added where applicable.

d. Considering the existing site topography, can leach fields, and their necessary grading, be constructed without impacting buffers, natural features, etc.
Please find Grading and Drainage Plans for design clarity, Sheets #21-#41 of 64. As noted above the effluent disposal fields are slightly less than 500 square feet in size which represents an area 8 times smaller than the required 4K area for NHDES State Subdivision. There will be no need for impacts to buffers on the lots when constructed in the future.

6. Sight Distance Plan, Sheet 33
a. There is an existing cross-road culvert that drains onto proposed Lot 8-12. It is unclear how proposed construction would affect flow from this culvert. Consider if a drainage easement should be added to the lot to ensure flow from the culvert is not interrupted.
A Drainage Easement is now proposed at this location. Please find Sheet #15 of 64.

7. Details (Sheets 47-49)
a. There are several details provided for features that do not appear in the plan set (e.g. masonry endwall, flared end section, typical pipe trenches, riprap lined swale, outlet protection, etc.). Details should be tailored to the project.

Several of these details are applicable with the now provided Grading and Drainage Plans. Details have been revised accordingly on Sheets #62-64 of 64

b. Include a Private Drive and a Driveway Typical Sections.
Typical driveway sections are now included as detail E25, sheet E-103.

c. The construction sequence should be project specific.
Please find revised construction sequence detail E16, sheet E102.

Respectfully,
BERRY SURVEYING & ENGINEERING

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