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November 20, 2020

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Grafton Planning Board
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Planning Board
Grafton, MA

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**Subject: The Ridings, 88 Adams Road
Definitive Plan Review**

Exhibit 14

Dear Planning Board Members:

We received the following documents on November 2, 2020:

- Correspondence from Thompson-Liston Associates, Inc. to the Grafton Town Planner dated November 2, 2020 re: Definitive Subdivision filing for The Ridings Adams Road, Grafton, Massachusetts.
- Plans entitled The Ridings, Flexible Plan Definitive Subdivision in Grafton, Massachusetts dated October 9, 2018 and last revised October 30, 2020, prepared by Thompson-Liston Associates, Inc. for Steven Venincasa. (41 sheets)

Graves Engineering, Inc. (GEI) has been requested to review and comment on the plans' and supporting documents' conformance with applicable "Grafton Zoning By-Law" amended through October 19, 2015; "Rules and Regulations Governing the Subdivision of Land, Grafton, Massachusetts" revised through April 27, 2009; Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Handbook and standard engineering practices.

This letter is a follow-up to our previous review letters dated March 8, 2019 and October 19, 2020. For clarity, comments from our previous letters are *italicized* and our latest comments to the design engineer's responses are depicted in **bold**. For brevity, comments previously addressed by the design engineer and acknowledged by GEI have been omitted. Previous comment numbering has been maintained.

Our comments follow:

Subdivision Rules & Regulations

2. *Bounds were only proposed along the rights-of-way. The plans must be revised to also include bounds at all angle points along the easements, access routes and open space areas and at points where easement lines and property lines intersect. These bounds must be granite and a construction detail should also be added. (§3.3.3.10 & §4.8.1)*

October 19, 2020:

Per Sheet 1 of the plans, the applicant is requesting a waiver to allow iron rods instead of granite monuments at all property line bends (where the proposed lots meet the open space) of the open space parcels, and the plans were revised to show iron rods at these locations. The plans do not propose bounds or iron rods to mark the open space at the perimeter of the subdivision; the plans do show existing drill holes at some perimeter locations, which are (appropriately) to be retained. GEI defers to the Planning Board whether the perimeter points

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also need to have bounds or iron rods installed where drill holes are not present, and GEI understands that the Planning Board will address the waiver request.

A construction detail for the granite bounds was provided on Sheet D2; the construction detail shows the top of the bounds to be six inches above the ground surface, which is acceptable for wooded areas. However, the top of the bounds need to be installed flush with the ground surface at grassed areas and the construction detail needs to be revised accordingly.

Sheet D2 was revised to require right-of-way bounds to be flush with the ground surface, which is reasonable. GEI defers to the Planning Board whether the perimeter points also need to have bounds or iron rods (or drill holes if a stone wall or a boulder is present) where drill holes are not present, and GEI understands that the Planning Board will address the waiver request.

5. *GEI understands the Planning Board will address waiver requests. Nevertheless, relative to the waiver request to allow sloped granite edging, the town typically requires vertical granite curb at intersection radii. (§4.2.1)*

October 19, 2020:

The design engineer's response indicated that "the subdivision rules would allow vertical granite curbing at the intersection radii and cape cod berm otherwise." This statement is inconsistent with the Subdivision Rules and Regulations (SR&R). The SR&R require vertical granite curb at intersections, along roads where the grade exceeds 2% and at curves with a radius of less than 250 feet (§4.2.1.2a, b & c). Cape Cod berm is allowed wherever vertical granite curb is not required; only Liberty Circle, which will have a 2% grade, would qualify for Cape Cod Berm.

In his latest response letter, the design engineer incorrectly asserted that two intersections would qualify for the use of Cape Cod berm. Again, the Town typically requires vertical granite curb at intersection radii. GEI understands that the Planning Board will address the waiver request.

6. *Except for the hydrology calculations, no documentation was submitted to demonstrate compliance with the MassDEP Stormwater Handbook and Stormwater Standards. (§4.7.8)*

October 19, 2020:

GEI reviewed the stormwater management documents that were provided with the Conservation Commission application. GEI is addressing stormwater management review in its letter to the Commission, which is being copied to the Planning Board.

Acknowledged. GEI's last review letter to the Conservation Commission was dated October 19, 2020. Compliance with MassDEP Stormwater Handbook is reasonable and GEI understands that the Conservation Commission has issued an order of conditions.

8. *The plans need to be revised such that catch basins (granite inlet stones are required) are not located at or adjacent to driveway openings. For example, catch basins conflict with the driveways of Lot 9 and Lot 25. (§4.7.8.3)*

October 19, 2020:

The plans have been revised to relocate catch basins outside of driveway openings. However, the catch basin adjacent to the Lot EC8 driveway will be too close to the driveway to allow for a granite inlet stone and end treatment on the curb. The catch basin and driveway need to be separated more.

Acknowledged. The driveway on Lot EC8 was moved away from the catch basin.

Zoning By-Law

12. *GEI has no issues relative to compliance with Grafton Zoning By-Laws except as noted below in the following comment.*

No further comment.

13. *Grading for the development of Lots 23 and 24 extends into the Common Land adjacent to Lots 23 and 24. GEI defers to the Planning Board whether grading for lot development can occur on adjacent Common Land. (§5.3.11.b)*

The engineer responded that if needed, the applicant will just extend the lots to encompass the grading as they exceed the open space requirement. Again, GEI defers to the Planning Board whether the grading for lot development can occur on adjacent Common Land. Please refer to Sheets 24 and 25 to see the grading of the lots, now labeled “EC11”, “EC13” and “EC15”.

14. *The site is listed on Sheet E1 as being located in the R4 zoning district, this is assumed to be a typographical error and should be corrected to R40.*

October 19, 2020:

No revisions were made.

Acknowledged. The plans have been revised to show that the site is located within the R40 zoning district.

Hydrology & MassDEP Stormwater Management

15. *GEI reviewed the hydrology computations and found them to be in order except as noted in the following three comments.*

GEI reviewed the hydrology computations and found them to be in order.

19. *As noted in Comment #6, except for the hydrology calculations, no documentation was submitted to demonstrate compliance with the MassDEP Stormwater Handbook and Stormwater Standards.*

October 19, 2020:

GEI reviewed the stormwater management documents that were provided with the Conservation Commission application. GEI is addressing stormwater management review in its letter to the Commission, which is being copied to the Planning Board.

Acknowledged. GEI’s last review letter to the Conservation Commission was dated October 19, 2020. Compliance with MassDEP Stormwater Handbook is reasonable and GEI understands that the Conservation Commission has issued an order of conditions.

General Engineering

22. *To better channelize passenger vehicle movements and to minimize the potential for drivers to encroach into the opposing lane during turning maneuvers, the intersection curb radii within the project should be no greater than 30 feet. Curb radii of approximately 45 feet were proposed.*

October 19, 2020:

The engineer responded that this curb radii is to accommodate the Fire Department vehicles. Other subdivisions in Grafton typically have a curb radius of 25 to 30 feet. GEI still stands by

its original comment and recommends that the plans be revised unless the Fire Department specifically requests a 45-foot radius.

The engineer responded “the push for the larger curb radii is actually coming from the State Fire Marshall’s office...”. GEI stands by its original recommendation unless the Grafton Fire Department desires one or more of the three project intersections to have curb radii greater than 30 feet. In GEI’s opinion, only the intersection of Adams Road and Libbey Lane would warrant consideration of curb radii greater than 30 feet. Such consideration would have to be given to minimizing daily passenger vehicle turning movement conflicts as well as fire apparatus turning movements.

General Comments

30. *Whereas a Notice of Intent has not been filed yet with the Conservation Commission, GEI has not reviewed the project for compliance with the Grafton Stormwater Regulations or the Grafton Wetland Regulations.*

October 19, 2020:

*GEI has reviewed the project for compliance with the Grafton Stormwater Regulations and the Grafton Wetland Regulations. Comments regarding these topics can be found under separate cover to the Conservation Commission, which is being copied to the Planning Board. **Acknowledged.** GEI’s last review letter to the Conservation Commission was dated October 19, 2020. Compliance with MassDEP Stormwater Handbook is reasonable and GEI understands that the Conservation Commission has issued an order of conditions.*

Additional Comments, October 19, 2020

31. *The plans now show fences to be located around the perimeter of the stormwater basins. The plans need to identify the locations and size of the gates. For example, on Sheet G5, a gate needs to be provided along the access easement for the stormwater basin off Empire Circle. **Acknowledged.** The plans have been revised to include a leader stating “Provide 12’ Wide 2 Leaf Gate” on the grading sheets (Sheets 23-29),*

32. *The scale labels (1” = 40’) and scale bars on Sheets 17 and 18 need to be revised to 1” = 60’ scale label (1” = 40’) and scale bar on Sheet 21 needs to be revised to 1” = 50’. **Acknowledged.** The plans have been revised to label the aforementioned plan sheets with the proper scale bars.*

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,
Graves Engineering, Inc.



Jeffrey M. Walsh, P.E.
Principal

cc: Grafton Conservation Commission; James Tetreault, P.E., Thompson-Liston Associates, Inc.