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February 3, 2021

Grafton Planning Board  
30 Providence Road  
Grafton, MA 01519

# Exhibit 25

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**Subject: 11 Wheeler Road  
Definitive Plan Review**

Dear Planning Board Members:

We received the following documents on January 25, 2021:

- Correspondence from Andrews Survey & Engineering, Inc. to Grafton Planning Board dated January 22, 2021, re: Peer Review, Flexible Development – Definitive Subdivision, Stanley & Lisa McGriff – 11 Wheeler Road.
- Plans entitled Flexible Development – Definitive Plan, 11 Wheeler Road, Grafton, Massachusetts dated August 20, 2020 and revised January 22, 2021, prepared by Andrews Survey & Engineering, Inc. for Stanley & Lisa McGriff. (15 sheets)
- Document entitled Recharge Calculations Standard #3 dated August 20, 2020 and revised January 22, 2021, prepared by Andrews Survey & Engineering, Inc. for Stanley & Lisa McGriff.
- Document entitled TSS Removal Calculation Worksheet dated January 22, 2021. (2 worksheets)

Graves Engineering, Inc. (GEI) has been requested to review and comment on the plans' and supporting documents' conformance with the "Rules and Regulations Governing the Subdivision of Land, Grafton, Massachusetts" revised through April 27, 2009; applicable "Grafton Zoning By-Law" amended through October 15, 2018; Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Handbook and standard engineering practices. As part of our preliminary plan review GEI visited the site on July 5, 2019.

This letter is a follow-up to our previous review letter dated November 20, 2020. For clarity, comments from our previous letter are *italicized* and our comments to the applicant's responses are depicted in **bold**. Previous comment numbering has been maintained.

**Our comments follow:**

### Subdivision Rules & Regulations

1. *Each plan sheet must be sequentially numbered (i.e. 1 of 35, 2 of 35, etc.). (§3.3.3.3)*  
**Acknowledged. The plans have been revised to show sequential numbering.**
2. *For the horizontal layout, the plans need to cite the bearing system from a referenced plan, true north or magnetic north. (§3.3.3.6)*  
**Acknowledged. A reference to MA State Plane NAD 1983 has been added to each north arrow.**

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3. *On Sheet C4, there is an inconsistency between the plan sheet and an inset for the northwestern corner of the common land. It appears that the bearing system on the definitive plans was revised after the preliminary plans were prepared. The inset utilizes the same bearing that was shown on the preliminary plans that were last revised July 29, 2020. The information in the inset needs to be consistent with the rest of the definitive plans. (§3.3.3.9)*  
**Acknowledged. The bearings have been revised so that they are consistent.**
4. *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. (§3.3.3.10 & §4.8.1)*  
**Acknowledged. Bounds have been added at the locations listed above.**
5. *On Sheet C8, additional (every twenty-five feet) existing and proposed elevations need to be provided for the vertical curve between stations 0+73.76 and 2+28.18. (§3.3.3.16(b))*  
**Acknowledged. Proposed and existing elevations were added every 25' between the beginning and end of the vertical curve on Sheet C8.**
6. *There are two benchmarks shown on the post-development drainage map that need to be included on the Definitive Plans. (§3.3.3.16(d))*  
**Acknowledged. The benchmarks shown on the post-development drainage map have been added to the plans.**
7. *GEI defers to the Planning Board whether the Landscape Plan (Tree Plan) needs to be prepared by a certified arborist. (§3.3.3.20)*  
**No further comment necessary.**
8. *On Sheet C8, the K-value used for the sag vertical curve needs to be no less than 35. (§4.1.5.3)*  
**Acknowledged. The K-value for the sag vertical curve on Sheet C8 has been revised to 35.**
9. *The electrical/cable/television utility lines cross underneath the sidewalk at station 3+80+/- and then extend under the road. These utility lines need to be two feet outside the back edge of the sidewalk. (§4.7.1.3)*  
**Acknowledged. The electrical/cable/television utility lines have been revised to be two feet outside the back edge of the sidewalk.**
10. *On Sheet C11.1, the "Concrete Sidewalk" and the "Proposed Road Cross-Section" construction details need to be revised to propose a four-inch-thick concrete sidewalk per MHD Section 701. (§5.5)*  
**Acknowledged. The construction details have been revised to propose a four-inch thick concrete sidewalk.**
11. *On Sheet C11.1, the "Concrete Bound Detail" needs to be revised to require granite bounds. Also, per current practice in Grafton, bounds in wooded areas (e.g. open space bounds) only need to extend 6" to 9" above the ground surface instead of 3'-6" as cited in Note 2 of the construction detail. (§5.11.3)*  
**Acknowledged. The construction detail has been revised to require granite bounds and Note 2 has been revised to require open space bounds to extend 6"-9" above the ground.**

12. *The design engineer will need to consult with Grafton DPW relative to the type of street light luminaire, mast arm and pole. The "Pole Light" construction detail on Sheet C11.4 does not appear to be consistent GEI's understanding of street light requirements. (§5.13)*

**The design engineer states that they have tried to contact the Grafton Department of Public Works (DPW) to verify the "Pole Light" construction detail and are currently waiting for a response. The detail will need to be revised based on the DPW's comments, if any. A note has also been added to the construction detail instructing the Contractor to coordinate with the DPW regarding construction materials to be used; GEI has no issue with the note.**

13. *Per the dimensions on the standard cross section and GEI's understanding of Grafton Water District requirements, the water main must be under the shoulder of the road instead of under the pavement. (Standard Cross Section, Minor Street C)*

**Acknowledged. The construction detail on Sheet C11.1 and the water main layout on Sheet C6 have been revised to show the water main under the shoulder of the road (except at the cul-de-sac, which is customary).**

### Zoning By-Law

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

**No further comment necessary.**

15. *The site is located in the Water Supply Protection Overlay District. The plans propose only an infiltration basin for groundwater recharge. Greater groundwater recharge could be achieved by capturing and recharging roof runoff where site conditions allow. (§7.5.D)*

**Acknowledged. Revised recharge calculations have been provided. The design engineer responded that the required recharge calculations have been met, and GEI concurs that MassDEP Stormwater Standard #3 has been satisfied. Relative to compliance with §7.5.D of the Zoning By-Law, upon further review, the hydrology calculations show a reduction in runoff volume of 20 to 26% (hence an increase in groundwater infiltration) for the three storm events analyzed. GEI does not recommend any further action by the design engineer to provide additional groundwater recharge.**

### Hydrology & MassDEP Stormwater Management

16. *GEI reviewed the hydrology computations and found them to be in order except as noted in the following comment.*

**No further comment necessary.**

17. *In the post-development HydroCAD computations, Subcatchment SC11 needs to include the paved driveways for Lots 5 and 6.*

**Acknowledged. The design engineer responded that the paved driveways for Lots 5 and 6 were added to Subcatchment SC11 and the proposed outflow runoff remained the same. GEI did not receive any revised HydroCAD computations. Nevertheless, we computed the change to the runoff curve number for Subcatchment SC11 if the driveways were included and found an insignificant change.**

18. *Compliance with the MassDEP Stormwater Standards and Handbook is reasonable except as noted in the following two comments.*

**No further comment necessary.**

19. *Access to the stormwater basin is proposed down a 3H:1V (33%) slope. For access to a stormwater basin, the slope must not exceed 20%.*

**Acknowledged. The size of the drainage easement has been increased and the slope of the stormwater basin has been regraded to provide a 10-foot wide access with a slope not exceeding 20%.**

20. *For Standard #3, the recharge calculations incorrectly compare the required infiltration volume to the volume of water that could be impounded in the stormwater basin. The required infiltration volume must be compared with the volume of water impounded below the lowest outlet orifice (Static Method) or compliance must be demonstrated by one of the two Dynamic Methods.*

**Acknowledged. Revised recharge calculations have been provided. Although the revised calculations incorrectly compared the required infiltration volume to the volume of water impounded by the proposed sediment forebay, the “discarded” volume (recharge volume) in the hydrology computations for the infiltration basin and the net reduction of site-wide runoff volume substantiate that the required recharge volume of 705 cubic feet has been satisfied.**

21. *For Standard #4, the total suspended solids (TSS) calculations took credit for 25% TSS removal at the catch basins and another 25% credit at the sediment forebay. The 80% removal rate for the infiltration basin requires “adequate pre-treatment”, which is provided at the catch basins or the forebay. For the record, the credit for TSS removal at either the catch basins or the forebay needs to be deleted. Nevertheless, the overall system will achieve 80% TSS removal as required by MassDEP.*

**Acknowledged. Revised TSS calculations were provided.**

### **General Engineering**

22. *On Sheet C6, the sidewalk ends at Lot 4’s driveway. Terminal ends of a sidewalk must be located outside of a driveway and must consist of a handicap accessible ramp.*

**Acknowledged. The concrete sidewalk has been revised so that it no longer terminates at a driveway and an “Accessible Curb Ramp” construction detail has been added to Sheet C11.3.**

### **General Comments**

23. *For the benefit of the contractor, there should be a note on the plans stating that the vertical granite curb inlets need to be placed at all catch basins, perhaps the note could be on Sheet C11.1.*

**Acknowledged. The construction detail on Sheet C11.1 has been revised to read “Vertical Granite Curb Inlet at Catch Basins.”**

24. *GEI did not review for compliance with the Grafton Wetland Regulations nor the Grafton Stormwater Regulations. The design engineer should be cognizant of these local regulations (e.g. rainfall amounts, TSS removal prior to discharging to an infiltration BMP).*

**No further comment necessary.**

25. *GEI understands that the sewer infrastructure will be reviewed by the Grafton Sewer Department and the water infrastructure will be reviewed by the Grafton Water District.*

No further comment necessary.

**Additional Comments, February 3, 2021**

26. On Sheet C6, the access to the stormwater basin is called out as a “12’ Wide Basin Access” but the width of the access actually scales out to be only ten feet wide. The information needs to be consistent. The design engineer should confirm the width of the access and revise the plans as needed. In GEI’s opinion, this minor revision could be made prior to endorsement of the plans, if that is acceptable to the Planning Board.

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: Kristen LaBrie; Andrews Survey & Engineering, Inc.  
Jude Gauvin; Andrews Survey & Engineering, Inc.  
Stanley McGriff