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Emilie Cademartori
Director of Planning and Conservation
Town Hall, 55 Summer Street
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February 16, 2022

Please accept the following correspondence as final comments from the Lynnfield Center Water District (LCWD) regarding the proposed development at 109 Lowell Street, the project referred to as Vallis Way. We thank you and the members of the Planning Board for the opportunity to provide comment.

After initial review, meeting with the project engineer and attorney of record to address documented LCWD concerns, and analyzing the study prepared by our consultants CDM/Smith, LCWD has no issue with this project moving forward so long as the conditions below are satisfied.

- 1. We respectfully request that the Developer present calculations regarding water distribution and fire suppression system impacts from this proposed development on the existing LCWD system. The developer should analyze potential fire suppression demands, average daily flows and peak demands that may exist under built out conditions of the project. LCWD reserves the right to have a third-party engineering firm review said calculations at the Developer's expense. Although part of our last request in November of 2020, this information has yet to be provided to the District for review.*

The applicant for the proposed development met with the District and provided the information requested that allowed for our consultants to evaluate impacts. We conformed that there proposed average and max day peak demands being imposed by the full development we correct and acceptable. As such, those were used to conduct scenarios of potential impact to the existing system. The attached memorandum from CDM/Smith summarizes the Hydraulic Modeling Evaluation for the proposed tie-in at 109 Lowell Street. The model was executed and reviewed under two scenarios. The first of which was a dead-end extension of the system into the proposed development; and the second which includes a layout that is "looped" into Smith Farm Trail through an easement as proposed on the plans date December 2021 by Hayes Engineering. Both scenarios are hydraulically favorable and meet adequate fire flow and pressure requirements. Naturally, the LCWD preference would be to move forward with the option that "loops" the proposed Vallis Way system with a connection to the existing system on Smith Farm, a proposal which would not only be slightly more hydraulically favorable to Vallis Way, but one that would

also benefit existing residents on Smith Farm. The second scenario also creates redundancy and presents the added benefit of increased water quality, both of which are measurable benefits. Please see the attached CDM/Smith report dated 2-7-22 for additional information.

2. *LCWD is appreciative that the proposed water main extension is designed to be constructed in a manner so that it is looped into an existing water main on Smith Farm Trail. However, we have some concerns over the hydraulics and long-term sustainability of the various bends and angles being proposed to construct the main in the proposed easement of homes on Vallis and Smith Farm Trail. We would prefer a more direct, “softer” layout of the water system through this easement. LCWD will also require review of the easement language being proposed that provides LCWD with the right to access, maintain and repair said water main if required in the future. This will require follow up between the proposed Developer, Contractor and LCWD.*

LCWD has been informed by the proposed Developer’s team that the easement as shown in the plan set dated December 2021 is in place and “ready to be recorded” between the Town of Lynnfield and LCWD. They also made mention that Town of Lynnfield legal counsel has agreed with this position and provided narrative outlining the history of said easement to support this. We are happy that this is the case and are open to assist as needed to properly record said easement. The design engineer also has adjusted the proposed layout and construction of the system through the easement. LCWD will be provided with a final plan that we can comment on in this regard prior to construction when the applicant applies for a LCWD permit.

3. *Other water main installation, construction, and testing requirements must meet the attached LCWD specifications. Shop drawings must be submitted prior to construction for review and acceptance by LCWD. LCWD reserves the right to reject any/all material that does not meet the attached specifications. Additionally,*

- a. *A fire hydrant with associated gate valve and piping needs to be added to the plans approximately 500’ from the Lowell Street end. We estimate that this would place it within the frontage of the proposed “Lot 1”. Based on the final location and layout, said fire hydrant may require a 10’ x 10’ foot easement for future repair/replacement.*

Location and Spacing - Hydrants should be provided at each street intersection and at intermediate points between intersections as recommended by the National Fire Protection Association (NFPA), Insurance Services Office, Inc. (ISO) or other similar agency on fire flows required or recommended in the service area involved. Generally, hydrant spacing may range from 350 to 600 feet depending on the area being served. This is taken directly from the Massachusetts Guidelines for Public Water Systems Distribution System Piping Appurtenances. <https://www.mass.gov/doc/guidelines-for-public-water-systems-chapter-9-distribution-system-piping-appurtenances/download#:~:text=9.5%20Hydrants,-1.&text=Generally%2C%20hydrant%20spacing%20may%20range,%2D1%2F2%20inch%20nozzles.>

- b. *Approximately in the same area as the fire hydrant above (along the frontage of proposed Lot 1), LCWD is requesting that an inline gate valve be added in the public way to facilitate shutting down of about half of the street in the event of an emergency. Again, it would be about 500’ into the proposed development from Lowell Street. Please refer to link above for reference on valve spacing.*

- c. *As proposed, the hydrant at the end of the street will require a 10' x 10' easement for future repair/replacement. Historically, the District has required such easements to accommodate future repairs.*
- d. *The tapping sleeve in the project specifications will need to be stainless steel. Please reference the water main specifications attached.*

The applicant has committed to making all the adjustments in design outlined above in items 3a and 3b and will submit a plan indicating those changes. Easements will not be needed for the hydrants as indicated in item 3c because they will be installed within the Right of Way. LCWD will be provided with a final plan that we can comment on in this regard prior to construction when the applicant applies for a LCWD permit. The contractor will construct all aspects of the system in accordance with LCWD water service and water main specifications. Both were provided to the design engineer at our meeting.

- 4. *LCWD requires that water services to single family homes be constructed in one-inch (1") diameter piping. The piping from the water main to the curb stop shall be copper, from the curb stop to the house meter shall be plastic. Please see the attached specifications for additional information which must be followed.*

Applicant agrees

- 5. *LCWD is requesting that the end of the proposed water main on Vallis Way be designed, constructed and installed for the future extension of the water system into the Sagamore property. We feel this would require the addition of an 8" x 6" hydrant tee with a valve, short length of 8" pipe and a mechanical cap to the proposed design. The last hydrant should come off the 6" branch of the tee with a hydrant valve and the run of the tee should have a valve and small stub of 8" pipe with a cap so further extension of the system would not require a shutdown or tap.*

Applicant agrees and has adjusted the plan to comply

- 6. *The Developer will be required to perform and pay for all material, labor, engineering and other indirect associated costs to perform the work proposed. Additionally,*
 - a. *The proposed new domestic water services to each home will be subject to a permit connection fee and account initiation fee as outlined in our permit process. Additional information in regards to the fees and the permit process, including information on the required Certificate of Insurance and Performance Bond, can be found on our website at www.LCWD.US.*
 - b. *While 109 Lowell Street is currently in the District as one parcel, the proposed subdivided new properties must also be accepted into the Lynnfield Center Water District and will be applicable to all tax levy payments through their respective real estate bill. This will require coordination between the Developer and the LCWD Board of Commissioners.*
 - c. *There will also be \$10,000 fee assessed by LCWD for connecting the water main of this proposed Development into the existing system on Lowell Street and Smith Farm Lane.*

This fee is to offset costs associated with inspecting construction, testing of the proposed system.

The applicant agreed that the requests above are acceptable. Payments will be made at the time of construction and this arrangement will be finalized and memorialized with the contractor at the time permits are requested.

Thanks,

John Scenna

John Scenna, Superintendent, LCWD

cc. Robert Dolan, Town Administrator
Patrick McAlpine, P.E., Town Engineer, Lynnfield
Joseph Maney, Chairman, LCWD Board of Commissioners
Brian Charville, Chairman, Planning Board
Peter Ogren, P.E.; Jay Kimball, Esq., for Developer