April 26, 2024

Chip Stephens
Code Enforcement Officer
Town or Readfield, Maine
8 Old Kents Hill Road
Readfield, ME 04355

RE: Menatoma Woodlands Subdivision Application by Lovejoy Ventures, LLC

Mr. Stephens,

As a member of the adjoining subdivision, I have been reviewing Lovejoy Ventures, LLC application for a major subdivision and have noticed some deviations from the Town Ordinances, State of Maine Subsurface Wastewater Disposal Rules, and Maine Department of Environmental Protection Stormwater rules. At this point, it doesn't appear the applicant's submittal complies with the applicable provisions of the Town's Land Use Ordinance or the state's above-mentioned rules. Also, there are several questions I have as a concerned citizen that I believe the engineers should address or provide relevant information to achieve my confidence and the confidence of the Planning Board.

I will break my observations and concerns into categories for ease of discussion and reference.

Some of my observations and concerns might be addressed on plan sheets and calculations that have not been submitted with the application and to which I have not seen, but should have been submitted for completeness and conformance to regulations and ordinances.

SIGNAGE

According to Article 6, Section 3, subsection F, part i. subpart 8), the location and dimensions of all existing and proposed signs shall be shown. I don't know if there is going to be a subdivision entrance sign or street signs placed. I am also confused as to whether the new portion extending from Menatoma Camp Road on the abandoned North Wayne Road is going to be North Wayne Road or Menatoma Woodland Road as both are mentioned in the application. Then within the subdivision he has Birch Lane. It doesn't appear to be in the Town's best interest to have the road being built within the abandoned North Lane Road corridor named North Wayne Road and would be better suited to have a new name at the connection to Menatoma Camp Road.

CONSTRUCTION SCHEDULE

According to Article 6 Section 3, subsection F, part m, a schedule of construction, including anticipated beginning and completion dates is to be provided. I did not see that within the application.

VERNAL POOLS & TREE STANDS

According to Article 6, Section 3, subsection F., part i. subpart 5) – the location of existing and proposed open drainage courses, wetlands, vernal pools, water bodies,

streams, flood plains, stand of trees, vegetative cover type, and other important natural features, with a description of such features to be retained shall be shown on the site plan. I didn't see anything pertaining to vernal pools and stands of trees or lack thereof on the site sketches. That whole area is swampy and wet. I am very surprised that there aren't any vernal pools. Especially given the soil having low infiltration qualities and high water table characteristics.

WATER SUPPLY

Not all wells in Menatoma are depicted on the applicants well data map (application page 76). Most importantly our community well serving 21 residents along with the first 2 landowners along Menatoma Camp Road (tax map 118-004, and 118-003) and 4 other residents (tax map 111-019, 111-029, 111-023, and 111-024) are not being shown. Furthermore, the wells for the adjoining properties (tax map 118-005, 118-007, and 118-008) are not shown either. There is some concern that 9 additional wells in this area will impact current water availability. The owners of 111-029 experienced a dry well this past summer and low water the summer before. What happened if the additional wells reduce the water availability to the surrounding properties? According to Stormwater rules, there is to be no unreasonable adverse effect on ground water quantity and relevant evidence to show the quantity of water to be taken from ground water sources will not substantially lower the found water table, cause salt water intrusion, cause undesirable changes in ground water flow patterns or cause unacceptable ground subsidence. Estimates of the quantity of ground water to used by the proposed development is to be submitted and were not. Also, the plans do not depict the well locations for each lot.

SOILS

The soils identified using the USDA information indicate soils with a hydrologic soil group (HSG) of C/D. The engineers even assumed that in their narrative and leaned more towards the D side of the spectrum. This is the worst type of soil for infiltration (sewage) and surface run-off (stormwater). This is further exemplified with 98.3% of the site having poorly drained soil. This makes it very difficult to put in a conventional sewage disposal system and could be problematic for rain gardens. All of the soils have very low and slow infiltration rate and high runoff potential when thoroughly wet along with a slow rate of water transmission. Furthermore, there isn't a statement whether or not this is suitable for septic.

Look at the soil boring logs (summary sheet page 77) of the application. Under the column labeled "Redoximorphic Features", the majority of the measurements between 10 and 13" with one lot at 19" and one at 20". This means that at this depth from surface, the soil is wet more than 6 months out of the year. It is a limiting factor on where to put the bottom of the septic trenches or any other object like a rain garden or bio-retention systems. This means that more than likely rain gardens might remain as ponds as they need at least 6" of storage/ponding depth leaving only 4-7 inches of available infiltration beneath that at a very slow rate and might overflow with back-to-back rain events. It also means that septic drainfields will probably have to be mounded or built up with possible treatment. This raises the question to available area for the house on lots 1, 2, 3, 5, and possibly 6 as these features take up 2 to 3 times the area of conventional systems. This does not take into account any clearing and grubbing and site grading

during clearing operations for the house site, drainfield or rain gardens. Some thickness or depth to limiting factors might be decreased because of these activities.

According to the USDA Web Soil Survey, (https://wesoilsurvey.nrcs.usda.gov) all the soil types indicated on this site are rated very limited for absorption fields embankments, dikes, or levees due to the depth to saturated zone and slow water movement through the soil. So this soil isn't good for septic system or ideal for rain gardens because of the high water and low infiltration rates.

STORMWATER

Article 6, Section 3, subsection G. part 15. States, in part, the proposed activity shall: a. provide for stormwater management, and b. comply with the best management practices.

Article 6, Section 3, subsection K, part 2, subpart a states a stormwater management plan for the disposal of surface drainage waters shall be prepared by a Registered Professional Engineer and approved by the Cobbossee Watershed District.

Article 8, Section 10. Subsection A states All new construction and development shall be designed to minimize stormwater runoff from the site in excess of the natural pre-development condition. Stormwater shall not be channeled to discharge directly into any waterbody or tributary stream, or abutting properties.

According to Maine DEP stormwater rules, no unreasonable effect on runoff/infiltration relationships is to occur and shall make available for review the hydraulic computations. Evidence that the stormwater management system will take into consideration the upstream runoff which must pass over or through the development site. Furthermore, when the construction of a development is to occur in phases, the planning of the stormwater management system should encompass the entire site which may ultimately be developed and not limited to an initial or limited phases of the development.

I did not see any approval from the Cobbossee Watershed District.

The plans Sheet C5.2 indicate the stormwater treatment measure of a level spreader and wooded buffer to be outside of the subdivision on an abutting property (tax map 111-016). The narrative fails to mention this fact. This is in direct conflict of the Ordinance and Stormwater regulations, even though Mr. Lawrence, a member of Lovejoy Ventures, LLC owns said lot. Furthermore, there are no design details for the level spreader and wooded buffer, just a design length with no width or depth. This might be on plan sheets not submitted with the application.

DEP Stormwater rules state Chapter 500 "applies to a project that disturbs one acre or more of land area and requires a stormwater permit pursuant to the Stormwater Management Law 38 M.R.S §420-D; a development that may substantially affect the environment and requires a site location of development (Site Law) permit pursuant to 38 M.R.S. §§ 481-490". A project that requires a Stormwater Management Law permit,

other than a stormwater permit by rule (PBR) must follow the stormwater standards set out in Chapter 500. A project qualifies for a stormwater PBR when there is less than 1 acre of impervious area and less than 5 acres of developed area in any other watershed. Developed area, by rule definition, means an impervious area, landscaped area, or unrevegetated area. Developed area includes all disturbed areas except an area that is returned to a condition that existed prior to the disturbance and is revegetated within one calendar year of being disturbed, provided the area is not mowed more than twice per year. While the developer appears to be only disturbing the road and is considering this the disturbed area, this is just a phase of the disturbed area and according to the rules, the planning of the stormwater management system should encompass the entire site which may ultimately be developed and not limited to an initial or limited phases of the development. The developed area for the house sites, sewage disposal system, lawns, and rain gardens need to be accounted for in the overall developed area even if those are in different phases. This will push the developed area above 5 acres and out of a PBR condition.

In the engineer's design calculations, they did not account for the imperviousness of the gravel shoulders, which, when accounted for, increases the impervious created area above 1 acre. They assume that they will only be developing the road and not building any houses or developing any lots at the same time in order to be under 5 acres of developed area. However, the entire project encompasses over 20 acres and when you include 9 house sites and septic, rain gardens, and lawns you are over 5 acres of developed area.

The engineer, as part of the overall subdivision stormwater comprehensive plan, should site the assumed footprint location of each house and driveway location along with the location and size of the septic field and location and size of the rain gardens. Without doing such, the risk is too great that individual property owners will circumvent the appropriate design and location of the rain garden and subsequently blow the whole stormwater management plan.

Rain gardens are to accommodate the first ½" of runoff volume from impervious areas and ¼" runoff volume from disturbed pervious areas (lawn) which is different from the 10-year and 25-year events. The engineers do not show any designs or footprint size for the rain gardens. These rain gardens need to be designed to effectively handle the 10-year and 25-year rain event if they are included in bringing the post-development flow below pre-development conditions. Reviewing their calculations would give comfort in knowing they appropriately designed the stormwater measures to achieve their stated results.

No drainage plans with flow arrows and drainage zones were submitted. From the existing contours, there appears to be 3 pre-development drainage zone(s) with the main drainage zone defined primarily all flowing in a westwardly direction. The other 2 drainage zones have a portion going south to the southern stream and a portion going north to the northern stream. There is a significant upslope area that also drains through this property. I cannot tell from the submittal if this upslope drainage was taken into consideration. The construction of the road and the inclusion of rain gardens will significantly change the drainage zones areas, flow patters, locations, and flows. The

construction of the road and subsequent conveyance channels also redirects the majority of the runoff from the site to the level spreader and wooded buffer outside of the subdivision on tax map 111-016. This is a significant change in drainage zone acreage, volume and deposit location. Unless the designers removed the drainage zones areas corresponding to the individual rain gardens from their calculations and appropriately sized the rain gardens to handle the 2-year, 10-year and 25-year storms, the runoff volume will increase at least 3 fold onto tax map 111-016 which will significantly affect downstream property owners such as me as tax map 111-016 is directly above my property. While they might be able to achieve pre-development flow rates, surface runoff duration will increase to accommodate for the increase in volume being withheld by the level spreader. This poses a significant adverse downstream impact, which is contrary to the overall goal of stormwater management.

A portion of the new road will also permit untreated stormwater to enter directly into the tributary stream which is conveyed under the road by the large pipe arch culvert. This is in direct conflict with the Ordinance.

There are no calculations showing how the post-development condition is lower than the pre-development condition as they are going from forested (the lowest amount of runoff) to impervious with the road, driveways, and structures as well as significantly changing the drainage zone areas. The applicant only presents a summary table – no backup documentation. The post-development flow volumes will increase simply because of the amount of impervious road and roof and changing the cover from woodland to grass. I would like to see the stormwater calculations and corresponding drainage zones and time of concentration calculations to see how they arrived at the post-development flow being less than pre-development flows and to compare volumes along with the calculations for designing the level spreader and woodland buffer. The engineers are to submit calculations for public review. If I can get a copy of the calculations and maps of post-development drainage zones, I will be able to decipher if their logic and calculations are appropriate.

There is no maintenance plan for infiltration structures (i.e. rain gardens), stormwater buffers, ditches, culverts, storm drains, and level spreaders.

EROSION & SEDIMENT CONTROL

Article 6, Section 3, subsection G. part 3. states the best management practices as set forth in the Maine Erosion and Sediment Control Handbook for Construction Practices are to be utilized. While the engineers show details of the various types of controls and even mention them in the Erosion & Control Narrative, the plan sheets depicting where the measures are to be placed and utilized were not provided nor were calculations depicting the size, locations, or spacing. Chances are they are shown on a plan sheet which wasn't submitted.

WASTEWATER DISPOSAL SYSTEMS

According to Article 6, Section 3, subsection F., part i. subpart 7) – the application shall include the location and dimensions of all existing and proposed provisions for water

supply and wastewater disposal systems, including a design copy or letter of soils suitability for any proposed new or replacement wastewater disposal system.

According to Article 6, Section 3, subsection G. part 14. for proposed subdivisions, each lot must provide within that lot's proposed developed area at least 2 suitable subsurface disposal system sites meeting first-time system requirements.

According to Article 6, Section 3, subsection K Application Procedure for Major Subdivisions, the Preliminary Plan application procedures shall follow subsection J part 2 and 4 which includes test pit analysis prepared by a licensed Site Evaluator and a map showing the location of all test pits dug on site. Form HHE 200 or its equivalent shall be supplied for the primary disposal site for each lot.

According to Article 8, Section 20, subsection F, part 3. Evidence of soil suitability for subsurface wastewater disposal prepared by a Mine Licensed Site Evaluator in full compliance with requirements of the State of Maine Subsurface Wastewater Disposal Rules is to be submitted.

Only soil boring logs were supplied in the application. Form HHE-200 (Subsurface Wastewater Disposal System Application) was not submitted for any of the lots. Information on this form includes the design details indicating design flow, type, size, and staked disposal field location, disposal field cross-section diagrams, and other system considerations. No dimensions of disposal system or letter of soil suitability was provided either. Furthermore only 1 soil boring location per lot was provided, not 2. According to the regulations, observation holes are to be located at representative points clearly within the footprints of the proposed disposal field.

Based on the new mounded septic system installed on tax map 118-005 in 2023, I'm concerned that these septic systems are going to be rather large and that will be limiting where the house can go, if at all, on Lots 1, 3, 5, and 6 given the wetland locations and stream as well as being aesthetically disruptive and in conflict with the proposed rain garden and well locations and setback requirements.

Based on Subsurface Wastewater Disposal Rules, disposal fields with less than 1000 pgd are to be setback 100 feet from a potable water supply (well), 25 feet from drainage ditches, 15 feet or 20 feet from the house with no basement or basement, 10 feet form property lines, and 100 feet from stormwater infiltration systems. Since the submitted site plans do not have the disposal field or well locations identified, one can't tell if they meet setback requirements.

UTILITIES

According to Article 8, Section 20, subsection E, utilities are to be underground when required by the Planning Board. Will the Planning Board be requiring the utilities (electric, phone, cable, etc.) be buried?

LOT SIZE

No plan sheets were submitted with measured dimensions for lot lines and setbacks to check the setbacks, frontage, lot depth, and depth to frontage ratios as outlined in Article 7, Section 6, Table 2. While it appears the lots to be above minimum land area, you can't easily and precisely calculate or measure the remaining items with the sheets submitted.

ROAD

The typical gravel road section outlined on Sheet C9.1 does not conform to Appendix A. The travelway, being unpaved, shall have a crown of 3/4 inch per foot (5%). They are depicting 1/4 inch per foot (2%). The gravel shoulder shall have a slope between 1 and 1.5 inches per foot (8%-12.5%). They are depicting 1/2 inch per foot slope (4%). The Town's Appendix does not stipulate the size or type of gravel to be used in the gravel base dept nor the surface gravel. While the typical cross section detail shows the appropriate thicknesses of each stone layers 16" base and 4" surface, the estimate provided by D.S Excavation & Trucking indicates 18" deep base and 3" deep surface. Furthermore, the size of the base material called out in the contractor's estimate is large enough that the surface material will fall through and fill the voids between the larger aggregate. I'm afraid, over time, the 4" thickness will become 0" as the smaller stone will be pushed down and into the base course eliminating the surface layer altogether. A layer of stone choaking the larger openings should be placed between the base and surface layer so that the surface layer remains intact at 4" thick. Also, I didn't see anything in the Contractor's estimate where fill is going to be brought in to bring the road to design grade and profile.

There is no mention as to upgrading or improving the first 400' of Menatoma Camp Road to meet current Private Road Standards. This first 400' is technically a seasonal road and used only by 3 dwellings during the winter and does not meet current Private Road Standards. It barely survives mud season by these 3 users. The developers indicate they plan to upgrade the driveway installed in 2023 by owner of tax map 18-005 to Private Road Standards. They should also be required to upgrade the first 400' of Menatoma Camp Road to Private Road Standards to accommodate more all-season traffic from these 9 lots. Adding 9 lots that would use this section of the road, quadruples the amount of traffic during the winter months. Furthermore, there is no mention as to repairing damage caused to this section of road by the construction equipment/traffic or the use of the residents once lots are sold. Menatoma Association has been maintaining and improving this section of the road for 43 years. Additional usage by downstreet users should be required to pay a proportionate amount of funds to keep maintaining the road for their use. To date, Lovejoy Ventures has not approached the association regarding this topic and they are aware that I am available to discuss and work out an arrangement.

Furthermore, the application shows the upgraded portion of the road extending beyond the first 400' of Menatoma Camp Road as tying into the curve. This appears to be acceptable for a driveway entrance, but for a private road, I would think the Town would like to see this become a "T" intersection. This would provide better traffic flow and traffic movements than going into a curve with a tight radius and turning right.

HARVESTING OPERATIONS

According to Article 6, Section 3, subsection K, if any timber harvesting operations within the preceding 5 years occurred, a copy of the Forest Operations Notification and a written determination of the harvest's compliance with the Maine Forest Service's Timber Harvesting Standards to Substantially Eliminate Liquidation Harvesting certified by a licensed forester shall be submitted. I believe Mr. Lawrence, a member of Lovejoy Ventures, LLC or the LLC themselves harvested the property within the last 5 years.

DEED COVENANTS & HOMEOWNERS ASSOCIATION BY-LAWS

The Homeowners Association By-Laws specifically call out the formation for the sole purpose of road maintenance and the property. Not exactly sure what the property includes or entails. Road Maintenance is understandable. However, there is no mention of maintaining stormwater management structures (pipes, culverts, ditches, etc.) including the whole subdivision stormwater measure (located on a lot outside of this subdivision) or individual rain gardens or explaining the significance of the rain gardens and the importance of keeping them maintained and how to maintain them. The rain gardens are an important and integral part of the stormwater management system. Yet very little mention or attention is paid to these measures.

"The Developer is the sole member of the association until "X" lots have been sold or 2 years has elapsed since the sale of the first lot." Then it reverts to each owner of each lot. Does this mean that the developer is the owner of the unsold lots and would therefore be responsible for each lot assessment until such time it is sold? What happens if a landowner doesn't pay their share? This should be clarified especially if it will pertain to a greater road maintenance association to encompass the first 400' of Menatoma Camp Road.

There is no provision for maintenance or contributing to the maintenance of the first 400' of Menatoma Camp Road, which they will be using. While the public has right of use on this section, those who live and use this section to get to their property, should contribute to its maintenance.

I understand this is a lot to absorb and understand. Should you have any questions. Feel free to reach out to me and I can explain. I plan to be up for the season by May 12.

Respectfully,

Mark Boenke
168 Menatoma Camp Road
Readfield, ME 04355
276.620.9616
mboenke@pillaroma.com