

October 31, 2025

Chrissy Almanzar
Warner Planning Board
5 East Main Street
Warner, NH 03278

RE: Jennesstown Manor Site Plan Application
Tax Map 7, Lots 39 & 39-1 – Warner

Dear Ms. Almanzar:

Our office is in receipt of the Aries Engineering review comments dated Oct. 20, 2025, and the Fire Department comments dated July 6, 2025. Based on the comments, we have made the required modifications and attached revised plans for review. A response to each comment has been provided below.

Aries Engineering Review Comments, dated October 20, 2025

Soils

1. Aries' review of the U.S. Department of Agriculture (USDA) Web Soil Survey indicated site soils are generally moderately to excessively well-drained soil, with the exception of an approximate 8,200-square-foot (sf) area of poorly drained soils along the southwestern property boundary of Lot 39-1. It is unclear if this area was excluded from the "buildable area" calculation for Lot 39-1, but due to the limited area, this area of poorly-drained soils should not reduce the number of permitted dwelling units on the lot. The Web Soil Survey report is attached.

The project wetland consultant has flagged all wetlands on the property, and the project surveyor has located all the flags and depicted the location on the plan. All poorly drained soils have been accounted for in the lot sizing calculations.

Site Access

2. Site access is proposed via a 20-foot-wide single access road to the proposed site facilities with steep grades of up ~ 15%. Section III (E.) of the Town Site Plan Review Regulations require, "...suitably located streets of sufficient width to accommodate existing and prospective traffic and to afford adequate light, air, and access for firefighting apparatus and equipment to buildings". Further, Section XXIII (A.)(6) state that, "...adequate provisions must be made for fire safety, prevention, and control". Aries recommends that the proposed site access be reviewed and approved by both the Town fire and police department to ensure that site access for life-safety responses can be met by the Town.

The common driveway has been reviewed by the Fire Department, and their comments are outlined below. No comments have been received from the Police Department.

3. Available Town Driveway Regulations allow for driveway grades of up to 15%. However,

consideration should be given to the fact that the proposed driveway provides access to eight dwelling units that will require a greater level of life-safety support than a single-family residence.

The design has been reviewed by the Fire Department and the 15% grade will be maintained in accordance with the Town of Warner Driveway Regulations.

4. Site plans show a 20-foot-wide access road with 2-foot-wide shoulders. Aries recommends that the proposed access road meet the Town road construction standards provided in the Town Subdivision Regulations, Appendix B1, including 24-foot-wide paved roadway, with 3-foot minimum width shoulders.

The Town of Warner Subdivision Regulations define street as “means, relates to and includes any street, right-of-way, avenue, road, boulevard, lane, alley, viaduct, highway, freeway, and other public ways. Street shall include the entire right-of-way.” The proposed driveway is intended on being a common driveway and not a publicly owned and maintained right-of-way.

The Town of Warner Site Plan Regulations define a common driveway as “Joint / Shared Access: a driveway connecting two or more contiguous sites to the public street system.”

The Town of Warner Driveway Regulations require “Driveways shall be a minimum of fifteen (15) feet wide”

National Fire Protection Association access requirements states that an unobstructed width of at least 20 feet and a vertical clearance of at least 13 feet 6 inches be provided. A 16 foot wide paved section flanked on both sides with a 2 foot gravel should fulfill this requirement. Due to the grade we, as the Engineer of Record, have proposed a 20 foot wide pave section with 2 foot gravel shoulders, to maintain pavement under emergency vehicle tires.

Based on compliance with the above mentioned requirements no modifications have been made to the design.

5. The site plans depict a fire truck turnaround and enclosed dumpster located approximately halfway down the proposed steep access road. Based on this location, it is presumed that fire trucks would need to back halfway down the steep access road to turn around. Aries recommends relocating the turnaround and dumpster area adjacent to and at the same level of the dwelling units where both fire apparatus will need to reverse direction and where refuse will be generated. This would provide a second fire truck turnaround.

The Site Plan currently places a fire truck turn-around between the two buildings, as seen on Sheet 3. The location mentioned in this comment is a second location. This location is also shared with the common dumpster location. The Owner/Developer desires to maintain the dumpster in the current location

6. The site plans indicated an approximate access road starting elevation of 433 feet and a high point elevation of approximately 478 feet for the site access road, which is approximately 420 feet in length. The average grade is approximately 10.7%, while the majority of the access road is at a grade of 14.26%. Aries recommends that the proposed site access road be lengthened to meet the Section VII Design Standards grade of 10% for a local street for all portions of the access

road.

We understand the concept of obtaining lower slope based on averaging the number but offer the following. The driveway is located on a state road under the jurisdiction of NHDOT. The edge of road is a fixed elevation. The NHDOT Driveway Policy requires the driveway to slope away from the road for drainage purposes. We also need to maintain a “flat” area for the vehicle to stop and assess approaching vehicles prior to entering the roadway. Due to the slope of the existing property the abrupt change in angle from a negative grade to a positive grade needs to be assessed. This angle needs to be analyzed for a proper vertical curve to transition for drivers comfort and physical limitation of vehicles with long bumper overhangs like fire trucks.

As can be seen on Sheet 11, the centerline profile of the driveway transitions from a -2% grade, to a +8% grade to a +15% grade. Between each change in slope a transition vertical curve has been added. This permits the appropriate platform adjacent to the roadway. To reduce the grade from 15% to the suggested 10.7% grade the point of vertical curve at the top of the “hill” would result in an additional 12 foot cut into the slope. This would also cause the structures to be about 10 lower. We have chosen to hold the 15% grade outlined in the driveway regulations to minimize the cuts and constructability of the project. No modification has been made.

Water System

7. Section XXIII (A.) of the Town Site Plan Review Regulations require, “...the applicant to provide adequate information to prove that the area of the lot is adequate to permit the installation and operation of water and sewage systems...in areas not currently served by public water and sewer”.

This office and the owner are aware of the requirement for a Construction Approval from the NHDES Subsurface System Bureau. Upon conditional approval the Owner will complete the required design and application to obtain approval.

8. The site plans depict four bedrooms per dwelling unit, which results in a total of 32 bedrooms at the proposed development. Although the two four-unit buildings are situated on separate parcels, the buildings share a common access road and other facilities and should be considered one project. NHDES community water system rules, part Env-Dw 405.02, apply to water systems that supply water to 25 or more people, at least 60 days each year. According to Douglas Sayer, NHDES Drinking-Water-and-Groundwater Bureau Design Specialist, the proposed 8-unit development does not qualify as a community water system.

We concur with this assessment, the project does not qualify as a community water system.

9. The well radius proposed for the two wells (one on each lot) is 125', as depicted on the site plans. Using NHDES Water Supply Rules as best management guidance, including Env-Dw 405.10 - Design Flow regulations, a four-bedroom design requires 150 gallons per day (gpd) per bedroom for residential uses. As such, the design flow for each 4-unit building is:
$$150 \text{ gpd/ Bedroom} = 600 \text{ gpd} * 4 \text{ units} = 2,400 \text{ gpd}$$

Part Env-Dw 405 are the Design Standards for Small Community Water Systems. As determined in the prior comment Env-Dw 100 – 1507 do not apply to this project, as it is not a community water system.

The governing Code of Administration Rules is found in Env-Wq 1008.06 Protective Well Radii – Distances.

Each building will be served by it's own well. We agree with the flow calculation of 2,400 gpd per building. Table 1008-4 outlines a well radius of 125' for flows between 1,441 gpd and 4,320 gpd. Therefore, the project complies with the regulations as proposed, no modification has been made.

10. NHDES community water system rules (Env-Dw 405.12) require a source capacity that is two time the required design flow, which is 4,800 gpd, or approximately 3.3 gallons per minute (gpm) on average for each building's water supply system. This accounts for domestic water use but does not account for fire suppression or irrigation. Aries considers this to be a recommended best management practice. Based on a required minimum source capacity of 4,800 gpd per building, a Sanitary Protective Radius of 150' will be required. The current site plans depict 125' well radius.

As outlined above the referenced rules do not apply to this project. The 125' well radius has been maintained.

11. Based on this guidance, the minimum sustainable well yield needs to be greater than 3.3 gpm for each building.

Well yield is addressed by the Licensed Well Contractor at the time of occupancy permit.

12. Because an adequate water supply is a requirement for Site Plan approval, Aries recommends that certification of sustainable well yield for the proposed development be provided to the Town as a pre-condition of approval of the site plan.

This request is not outlined as a requirement in the Site Plan Regulations. As with any residential well there is a certain level of risk with well production. It is the responsibility of the Developer to ensure that well depth or diameter is increased, or storage capacity is provided, if needed, to meet the minimum requirements to obtain an occupancy permit. Simply, no water, no occupancy permit.

Alteration of Terrain Permit Application #250327-055

13. The site plans depict a cut of approximately 20 feet in Pocket Pond #41, where a proposed base elevation of 434 feet is located in the vicinity an existing ground surface elevation of 454.

No response required.

14. Test Pit #9 is shown to be located within the proposed pocket pond. The excavation log for Test Pit #9 indicated the ground surface at the test pit was approximately 450 feet, and that the test pit was extended to a depth of approximately 20 feet below ground surface (bgs), or to an elevation of approximately 430 feet. Estimated Seasonal High-Water Table (ESHWT) was present at approximately 15 inches (1.25 feet) bgs, at an estimated elevation of approximately 448.75 feet, with observed water at a depth of 60 inches (5 feet) bgs, or at an elevation of approximately 445 feet. Based on these observations, the pocket pond will constantly discharge groundwater out of the Outlet Control Structure (OCS) #41, which has a proposed outlet invert elevation of 440.1 feet.

No response required.

15. Based on this configuration, the proposed stormwater management system will unnecessarily cause groundwater levels in this area to decline due to the anticipated constant discharge from OCS #41.

We agree that this will cause a decline in the groundwater level, but disagree with the statement “unnecessarily”. Altering the groundwater level in construction projects is a common occupancy. This is like the function of a foundation drain, underdrains installed along roadways, and drainage installed behind retaining walls. In accordance with the NHDES Alteration of Terrain requirements wet ponds and pocket ponds are required to have a large enough area to maintain a permanent pool of water or prove the pool will be maintained by groundwater. The biggest concern with groundwater movement into the pond will be slope stability and “sluffing” of the sidewall. As with any construction project, groundwater management needs to be addressed and controlled. If the contractor determines that the groundwater needs to be reduced in the work zone or on the pond slopes our recommendation would be for the installation of a french drain system surrounding the upslope side of the pond.

16. The presence of standing water within Pocket Pond #41 will reduce the intended storage capacity, which is not likely accounted for in the stormwater model flows.

Env-Wq 1508.03 Stormwater Treatment Practices: Stormwater Ponds. Stormwater ponds, including but not limited to micropool extended detention ponds, wet ponds, wet extended detention ponds, multiple pond systems, and pocket ponds, shall comply with the following:

(b) Stormwater ponds shall have a permanent pool, or combination of permanent pool and extended detention, greater than or equal to the WQV;

(g) The permanent pool depth shall be:

(1) Not less than 3 feet; and

(2) Demonstrated by providing:

a. A stormwater pond having a pond floor at least 5 feet below the SHWT or the lowest elevation pond outlet, whichever is lower; or

b. A hydrologic budget that accounts for the inflow to, outflow from, and storage in the stormwater pond, showing that sufficient water is available to maintain the water depth in the permanent pool;

(h) The permanent pool depth shall not be greater than 8 feet;

Based on the administrative rules a pocket pond is required to maintain the standing water.

Below is a snapshot of Node 41P of the HydroCAD analysis. Storage capacity is adjusted by the use of a starting elevation. In the case of this pond the starting elevation is set at 440.10 to match the elevation of the lowest outlet (device 2). The total cumulative storage of the pond is 10,747 cf, but the flood elevation lists 5,215 cf above start.

The calculations properly address the storage capacity.

Post Type III 24-hr 100 yr Rainfall=6.94"
Prepared by Keach-Nordstrom Associates, Inc Printed 10/30/2025
HydroCAD® 10.20-6a s/n 01045 © 2024 HydroCAD Software Solutions LLC

Summary for Pond 41P: Pocket Pond 41P

Inflow Area = 1.681 ac, 8.55% Impervious, Inflow Depth > 2.52" for 100 yr event
Inflow = 4.02 cfs @ 12.12 hrs, Volume= 0.354 af
Outflow = 2.47 cfs @ 12.29 hrs, Volume= 0.331 af, Atten= 39%, Lag= 10.6 min
Primary = 2.47 cfs @ 12.29 hrs, Volume= 0.331 af
Routed to Pond 40P : Existing CB

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 3
Starting Elev= 440.10' Surf.Area= 2,197 sf Storage= 5,532 cf
Peak Elev= 441.75' @ 12.29 hrs Surf.Area= 3,123 sf Storage= 9,941 cf (4,410 cf above start)
Flood Elev= 442.00' Surf.Area= 3,207 sf Storage= 10,747 cf (5,215 cf above start)

Plug-Flow detention time= 355.2 min calculated for 0.204 af (58% of inflow)
Center-of-Mass det. time= 109.2 min (947.0 - 837.9)

Volume	Invert	Avail.Storage	Storage Description		
#1	434.00'	10,747 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
434.00	64	44.5	0	0	64
436.00	472	91.7	473	473	593
438.00	1,164	139.2	1,585	2,058	1,496
440.00	2,142	186.2	3,257	5,315	2,756
441.50	3,044	214.5	3,870	9,184	3,707
442.00	3,207	219.2	1,563	10,747	3,902

Device	Routing	Invert	Outlet Devices
#1	Primary	437.00'	18.0" Round Culvert L= 24.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 437.00' / 435.00' S= 0.0833 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf #2 Device 1 440.10' 3.0" Vert. 3" Orifice C= 0.600 Limited to weir flow at low heads #3 Device 1 441.60' 2.0" x 2.0" Horiz. Grate X 10.00 columns X 10 rows C= 0.600 in 36.0" x 36.0" Grate (31% open area) Limited to weir flow at low heads

Primary OutFlow Max=2.46 cfs @ 12.29 hrs HW=441.75' TW=0.00' (Dynamic Tailwater)
1=Culvert (Passes 2.46 cfs of 17.01 cfs potential flow)
2=3" Orifice (Orifice Controls 0.29 cfs @ 5.94 fps)
3=Grate (Weir Controls 2.17 cfs @ 1.25 fps)

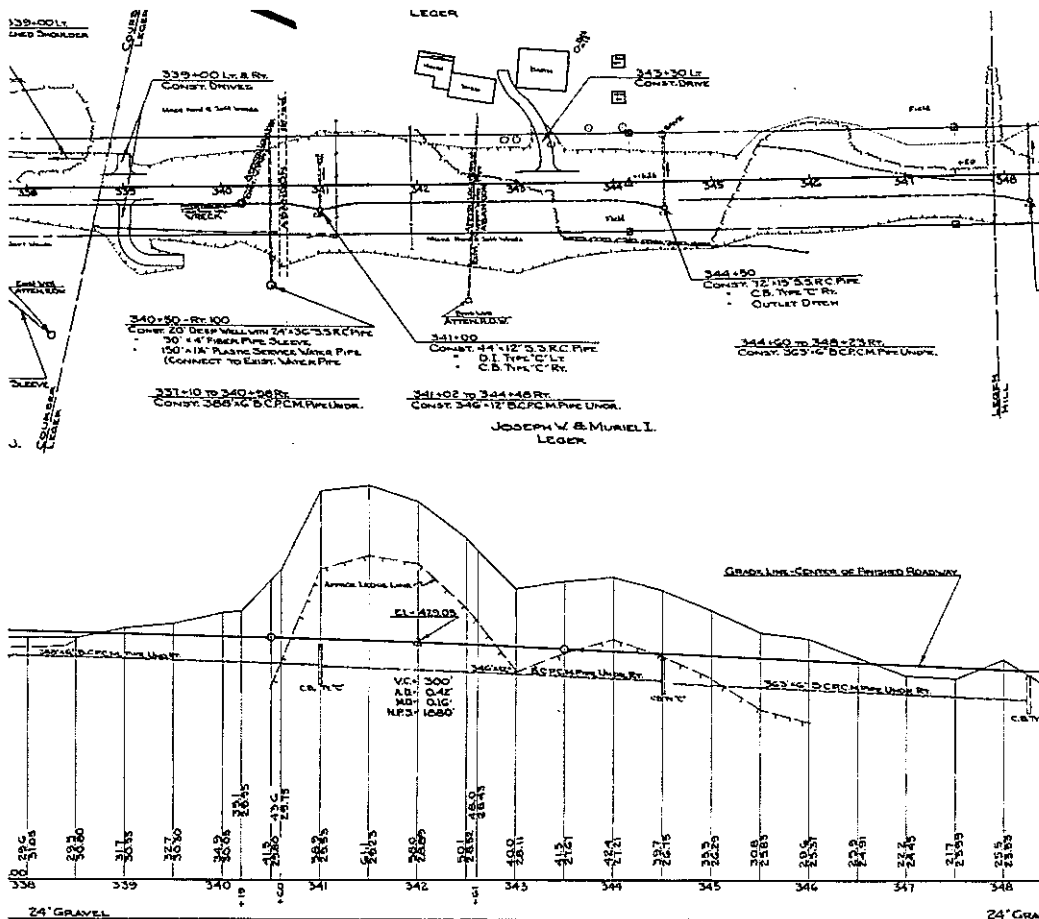
17. Lastly, the groundwater discharge from OCS#41 will increase the volume of water discharge to the State Right-of-Way (ROW), where it will flow to catch basing CB#4 and be directed beneath Route 103 through an existing 15-inch reinforce concrete pipe (RCP) culvert. This additional contribution of groundwater is not accounted for in the KNA drainage model and report. However, this additional discharge should not affect the northwesterly abutting property.

Groundwater discharge is a valid point. Groundwater will be dependent on subsurface water levels and seasonal conditions. Groundwater flow is factor separate from the storm event evaluated by the analysis. Groundwater is potentially flowing while it is not raining.

Based on an educated assumption about our design and the construction of Route 103, it can be suggested that the current subsurface groundwater flows toward Route 103. In 1953 Route 103 was constructed with underdrains on the south side of the highway that outlet into the subject catch basin, as shown in the NHDOT design plan below. Some of the groundwater flow will be intercepted by the underdrains, directed to the catch basin, and then outlet to the

surface through the 15" RCP. Based on the current design groundwater intercepted by the pond will flow to the same catch basin. We suggest that this should reduce the subface flow intercepted by the underdrain system.

What we know is groundwater outlets the pipe in the predevelopment conditions and will outlet in the post development condition. Again, groundwater flow is factor separate from the storm event evaluated by the analysis. But, based on the explanation above we know the Administrative Rules require the introduction of groundwater into the stormwater pond for proper function.



18. Aries recommends that the stormwater storage in Pocket Pond #41 be evaluated and redesigned to provide adequate stormwater storage and to mitigate groundwater discharge.

As previously outlined above, the design complies with the design requirements of NHDES Env-Wq 1500. Further the design has been reviewed by NHDES Alteration of Terrain and did not receive comments to revise the design. No modifications have been made.

Parking

19. Section IX - Site Plan Application Requirements require provision of off-street parking and loading spaces with a layout of the parking indicated snow storage locations. The site plans

appear to provide adequate parking and snow storage.

No response required.

20. Section XVII - Landscaping Standards require a minimum of one 2-1/2" caliper deciduous tree for every 20 parking spaces and every 60 feet of access roads. Available Landscape Plan details list only three deciduous trees to be planted, which does not meet the Town's Landscaping Standards.

The landscape calculations for the deciduous trees have been added to Sheet 7. Twelve additional trees have been added to the plan.

21. Handicapped parking is required under the Town Site Plan Regulations and shall conform to the most current State and Federal law in place at the time of the application. Adequate provisions shall be made for handicapped parking and safe accessibility for the handicapped from the parking spaces to the proposed building(s)/use(s). Handicap parking areas should be shown on the Site Plan and should follow the 2010 Americans with Disabilities Act of 1990 (ADA) Standards for Accessible Design.

Each unit provides 3 exterior parking spaces and 1 garage space. A total of 32 spaces have been provided. 2% of the parking spaces are required to be ADA accessible, which rounds up to one space. The ADA space can be one of the garage spaces. Should a owner request additional accommodations the developer will address on a case by case basis.

Refuse

22. Section IX - Site Plan Application Requirements require exterior solid waste disposal or recycling facilities be screened on each side. The site plans provide adequate details for the proposed solid waste disposal infrastructure.

No response required.

Minimum Buildable Area

23. The 8 residential units are located within the Medium Density Residential (R2) Zoning District, which requires a buildable area of 2 acres per dwelling unit.

No response required.

24. Note 2 of the Existing Conditions Plan indicates that Lot 39 has a buildable area of 8.774 acres, while Lot 39-1 has a buildable area of 11.05 acres. Both Lots meet the minimum buildable area.

No response required.

Drainage

25. The site plans depict four proposed stormwater discharge structures that direct stormwater to level spreaders, all of which terminate on steeply sloping land. Aries anticipates that these level spreaders will not adequately distribute the runoff and that rills and channelization will develop over time causing erosion. Aries recommends that riprap armoring be installed downslope of the outlets to a point where slopes moderate. Check dams should be installed along the anticipate flow path.

The four level spreaders as shown were added to the plan per request of the NH AoT review agent.

26. A level spreader is depicted on Lot 39 at an approximate elevation of 498 feet located along the northerly property line. The site plans depict a drainage swale at an approximate elevation starting at 506 feet that captures surface water from the upper portion of Lot 39 and directs this stormwater to the aforementioned level spreader that is located near the northerly boundary of Lot 39. As previously noted, Aries anticipates that the level spreader will not adequately distribute the runoff and that rills and channelization will develop over time causing erosion. Further, this drainage swale concentrates stormwater flows from the upland areas of Lot 39 and directs it without adequate treatment toward the northerly abutting property. It is anticipated that stormwater flows from the swale will cause increased stormwater runoff onto the northerly abutting property. Aries recommends drainage from this outfall be directed to a stormwater infiltration practice located at distance from the northerly site property boundary to limit concentrated stormwater flows toward the northerly abutting property.

The intent of the swale flowing to the level spreader is to divert “clean” runoff around the area of development. By utilizing this recommended diversion practice, runoff that passes through the construction zone will be limited and the transport of sediment will be minimized. The level spreader meets the design requirements and the drainage analysis documents that the peak rate of runoff in subcatchment 40S will be equal to or less than the predevelopment conditions. The design meets the requirements.

Erosion and Sediment Control

27. Erosion Control notes are provided in the site plan construction details. Aries recommends that the Town conduct periodic inspections to ensure that specified erosion control procedures are followed.

Note 10 on Sheet 6 provides the Town oversight on the placement and function of the erosion control.

Jennestown Manor, Map 7 Lots 39 & 39-1- FD Comments, email dated July 6, 2025

1. The State Fire Code (NFPA 1, 2021 edition, Chapter 18) requires fire department access. Please clarify the following:

- a. Show turning template for FD access on site plan. We use the 40' bus template.

A Fire Access Plan has been attached to show the turning template.

- b. Confirm the dead-end distance from the FD turnaround between the buildings. NFPA 1 18.2.3.5.4 requires a turnaround for dead-ends over 150'.

A permanent paved turnaround has been provided between the two buildings.

- c. Confirm the approach angle coming off Route 103. See attached fire engine details. (NFPA 1 18.2.3.5.6.2 The angle of approach and departure for any means of fire apparatus access road shall not exceed 1 ft drop in 20 ft or the design limitations of the fire apparatus of the fire department).

The vertical approach angle is demonstrated in the profile view on the Fire Access Plan.

2. Buildings will require automatic sprinkler protection in accordance with the State Building Code and State Fire Code. Submit plans for review prior to construction.

Note 21 has been added to Sheet 3.

I trust the content of this response letter and its attachments will address each of the comments, as noted. Should you have further questions or require additional information, please do not hesitate to contact our office.

Respectfully,

A handwritten signature in blue ink, appearing to read "Jason Lopez", with a long, sweeping horizontal line extending to the right.

Jason Lopez
Senior Project Manager
Keach-Nordstrom Associates, Inc.