



A C O R N

ENGINEERING, INC.

Director of Planning & Development
Yvette Meunier
13 School Street
Bowdoinham, ME 04008

March 31, 2026

Re: Due Diligence Report
Map U01 Lot 001, 8 River Road, Bowdoinham, Maine

Dear Ms. Meunier:

The purpose of this document is to outline the due diligence and preliminary utility evaluation efforts with a focus on the potential limitations and key site zoning relating to the development of the property located at identified as Lot 001 on Tax Map U01 within the Village I Zoning District and General Development I (GD-1) Shoreland Zoning District in Bowdoinham, Maine.

Based upon record surveys and tax map information, the parcel area is approximately 20.1 acres and is bounded by River Road (Route 24) to the east, an existing railroad system to the north, Cathance River to the south. The parcel is currently occupied by a single story wood frame house as well as various paved parking lots, grass fields and walking trails available for recreational use. The property provides recreational access to Cathance River via an existing non-motorized boat launch.

Site Overview:

- Natural Resources:
 - The majority of the parcel, including the existing structure, is located within the existing shoreland zone. Due to the projects proximity to the Cathance River, it is recommended that the site be evaluated by a Certified Flood Plain Manager (CFM) to re-delineate the existing 100-yr floodplain elevation and ultimately remove the existing structure from the 100-yr flood zone (Zone AE). Acorn has a CFM on staff that can help coordinate these efforts.
 - A Wetland and Watercourse Delineation and Ecological Assessment Report prepared by Stantec on June 27th 2019 identified various wetland areas within the site, one of which appears to be located within 75' of the existing structure. See below for more information.
 - Maine Department of Inland Fisheries and Wildlife (MDIFW) "Beginning with Habitat" GIS has been reviewed for the project site. The map viewer shows Inland Waterfowl habitat on the project site.

- Streets:
 - River Road, also identified as Maine State Route 24, is classified as an Arterial Street. Access to the site is provided directly off of River Road via an existing paved driveway.

- Flood Zone:
 - The effective FEMA FIRM Panel (Map Number 23023C0094F), adopted July 16, 2015, shows portions of the subject parcel are within the Zone AE (1% annual flood chance) Special Flood Hazard Area (SFHA) with an associated base flood elevation (BFE) of 8' (NAVD 88). A section of the existing structure's foundation directly abuts the flood zone mentioned above.

Zoning Overview (Village – I):

- Allowed uses in Village-I Zoning District (As related to proposed development)
 - Institutional:
 - Civic, Convention Center (SPR)
 - Community Center (SPR)
 - Governmental Facilities (SPR)
 - Outdoor recreation (Parks, playgrounds, etc.) (SPR)
 - Public Facility Utility (SPR)
 - The construction, alteration, relocation, demolition or replacement of any building or part thereof. (CEO)
 - Accessory structures, uses or services (for institutional uses) (SPR)
 - Commercial Uses
 - Boat building/repair (SPR)
 - Gym / Fitness club (SPR)
 - Retail business (SPR)

SPR = Site Plan Review approval from Planning Board
 CEO = Permitted with permit from Code Enforcement Officer

Refer to Bowdoinham Zoning Ordinance, Table 5.1 – Land use Permitted in Zoning Districts for the complete list of permitted uses & further information.

Table 1: Village I Dimensional Requirements (per Article 5 Section E)			
Min. Lot Size*	20,000 square feet	Max. Residential Density	1 DU/20,000 square feet
Min. Front Setback	20 feet	Min. Road Frontage	75 feet
Min. Rear Setback	10 feet	Min. Side Setback	10 feet
Max. Building Height	35 feet	Max. Lot Coverage (For Structures)	30%**
* 10,000 square foot minimum lot size for subdivision with community subsurface wastewater system.			
**Lots legally non-conforming due to lot size may have up to 50% structure coverage.			

Shoreland Zoning Overview (General Development I District):

- Allowed uses in General Development I Zoning District (As related to proposed development)
 - Principal Structures and Uses:
 - Commercial (PB)
 - Industrial (PB)
 - Governmental and Institutional (PB)
 - Small non-residential facilities for educational, scientific, or nature interpretation purposes (CEO)
 - Structures accessory to allowed uses (Yes)
 - Public and Private recreational areas involving minimal structural development (CEO)
 - Uses similar to allowed uses (CEO)
 - Uses similar to uses required a CEO permit (CEO)
 - Uses similar to uses requiring a PB permit (PB)

PB = Allowed with permit issued by the Planning Board

CEO = Allowed with permit issued by the Code Enforcement Officer

Yes = Allowed (No permit required by the use must comply with all applicable land use standards)

Refer to Bowdoinham Zoning Ordinance, Table 6.1 – Land Uses in the Shoreland Zone for the complete list of permitted uses & further information.

Table 2: Shoreland Zone Dimensional Requirements (per Article 7 Section D) Governmental, Institutional, Commercial or Industrial per principal structure			
Within the Shoreland Zone Adjacent to Tidal Areas			
Min. Lot Size	40,000 square feet	Min. Shore Frontage	200
Min. Setback from Normal High-Water Line	25 feet*	Max. Impervious Coverage	70%**

Table 3: Shoreland Zone Dimensional Requirements (per Article 7 Section D) Public and Private Recreational Facilities			
Within the Shoreland Zone Adjacent to Tidal and Non-Tidal Areas			
Min. Lot Size	40,000 square feet	Min. Shore Frontage	200
Min. Setback from Normal High-Water Line	25 feet*	Max. Impervious Coverage	70%**
*100 feet except developments within the General Development I District			
** 20% except developments within the General Development I District			

Site and Permitting Overview:

- **Town of Bowdoinham Permitting:**
 - *Site Plan Review:* It is our understanding that the construction of a new building utilized for recreational development will be subject to Site Plan Review and public hearing with the Town of Bowdoinham Planning Board per the Bowdoinham Zoning Ordinance Land Use Tables. The development will be required to meet the Performance Standards (Article 4) & General Requirements (Article 10 Sec. D) of the



Bowdoinham Zoning Ordinance. Based on the decided use of the structure, the project may be subject to Use-Specific Performance Standards (Article 10 Sec. E)

The development will likely be classified as a Tier II project (Projects involving the construction or addition of fewer than five thousand (5,000) square feet of gross non-residential floor area.), which will require Preapplication conference and a Site Plan Application review of the Planning Board. It should be noted that the Town Planner shall ultimately classify each proposed project as Tier I, II, II or Amendment per Article 10 Sec. B – 2.A.

- Floodplain Management

Flood Hazard Development Permit: A portion of the property and existing building is within a FEMA SFHA and as such the project may be subject to a Flood Hazard Development Permit based on the final design direction of the project. Prior to any construction or other development within a SFHA, a Flood Hazard Development Permit shall be obtained from the Code Enforcement Officer. A Flood Hazard Development Permit would follow the Floodplain Application & Review Procedures (Article 8 Sec. B) and be subject to any applicable Development Standards (Article 8 Sec. C)

Renovation Option:

Please note the following sections assume the proposed use of the Riverview structure would be classified as a non-residential use. Additionally, Acorn recommends consulting with the Town's insurance agent for any specifics regarding premium rating with flood insurance and the mandatory purchase requirement rule.

If the existing Riverview structure is to remain and be renovated, the project would likely be considered a “substantial improvement” based on the Town’s definition. Per Article 8 Sec. C of the Town’s Floodplain Ordinance, a substantial improvement of the existing structure would require the lowest floor (including basement) to be elevated to at least three feet above the BFE or meet the requirements of Article 8 Sec. C.6.a.(i)-(iii). It should be noted that the existing finish floor elevation of the basement of the Riverview is approximately 0.37’ (NAVD 88) and as such elevating the existing structure to 3’ above the BFE is not feasible given both the cost and design constraints of elevating an existing structure over 10’. As such it’s assumed the dry floodproofing standards of Article 8 Sec. C.6.a.(i)-(iii) would need to be met and certified by a licensed engineer or architect, this would entail the following considerations to be incorporated into the building renovation design:

- Reinforcement of the existing foundation to resist hydrostatic and dynamic pressures and floating debris impacts.
- Specialized windows and doors to be water tight when closed.
- Design of sump pumps in the basement.
- Backflow valves on sanitary sewer and storm drains.
- Mechanical equipment and circuits protected to above the BFE.
- Backup power for sump pumps.



This option would rely on mechanical systems to protect the building for flood protection which presents ongoing maintenance costs and concerns, in addition to higher insurance premiums with the structure being located within the SFHA.

New Construction Option:

If the existing Riverview Structure is selected to be demolished and replaced, and siting the new building outside of the SFHA is not feasible, the new building would be subject to the applicable Development Standards of Article 8 Sec. C. Key considerations include the 3' of freeboard for the lowest floor elevation above the BFE described in the previous description (or the dry floodproofing option). The project would be subject to the mandatory flood insurance purchase requirement for federally backed loans, and it would be expected that floodwaters would touch the perimeter of the building during the 1% annual exceedance probability flood event.

Alternatively, a Letter of Map Revision based on Fill (LOMR-F) through FEMA could be pursued that would remove a portion of the property from the SFHA. This would require fill be placed (in accordance with the attached guidelines) above the BFE and the new structure be located within the fill envelope. A LOMR-F is only approved by FEMA after the fill has been placed and the elevation certified by a licensed surveyor or engineer, as such the new structure would be subject to the Town's Floodplain Standards during the Site Plan and Building Permit Review process unless it was deemed acceptable by the Town's Floodplain Administrator to use evidence of a CLOMR-F (Conditional Letter of Map Revision based on Fill) approval by FEMA as sufficient evidence to exclude the project from the Town's Floodplain Ordinance. Moving forward with a map revision would remove the mandatory flood insurance purchase requirement for federally backed loans, additionally during a 1% annual exceedance probability flood event the building would be expected to be isolated from floodwaters.

Overall, Acorn would recommend a site design that locates a new structure outside of the SFHA without requiring earthwork within the SFHA. This option is the most resilient as the existing floodplain storage is preserved and the structure is expected to be located outside of the 1% annual exceedance probability flood event entirely. Additionally the new structure would not be subject to the mandatory flood insurance requirement that is mandatory for all federally backed loans for structures within a SFHA, more favorable insurance premiums would be offered if elected, and additional project efficiencies with the building not being subject to the Town's Floodplain Management Ordinance would be available. Absent of the Town's Floodplain Management Standards, the new building would require the lowest floor elevation to be elevated at least one foot above the BFE at a minimum (Article 7.D.2.a).

- **Maine Department of Environmental Protection (MDEP) Permitting:**
 - *Stormwater Management Law Amendment (Existing Permit L-23928-NJ-E-N):* The Project will be required to meet basic and general stormwater standards. The previous project used MDEP redevelopment pollutant rankings to determine the stormwater treatment required for the parcel. The proposed pollutant rankings will need to be updated to reflect the as-built condition of the site and include the modifications proposed as part of this project.



- *Natural Resource Protection Act Permit:* Any work that may impact a natural resource (stream, wetland, river, etc.) will require a Natural Resource Protection Act (NRPA) Permit from MDEP. Certain activities within the proximity of natural resources require a Permit-by-Rule, which is a streamlined notification process which typically grants permits in 14 days. These types of activities include stormwater outfalls to a natural resource, some stream crossings, and activities within 75 feet of a natural resource. It is assumed that a new structure would be located outside the 75' setback.

Projects with direct wetland impacts that do not qualify for Permit-by-Rule require an NRPA Individual Permit. The Individual Permit for wetland impacts is tiered based on impacted area: Tier 1 (0-14,999 sf), Tier 2 (15,000-43,560 sf) and Tier 3 (>43,560 sf).

Utility Investigation:

- Bowdoinham Water District:
 - The site is located within the jurisdiction of the Bowdoinham Water District. It is our understanding the structure onsite is currently served by a ¾" water service that increases to a 6" ACP water service and connects to the existing 8" water main in River Road. Based on the Plans provided by Pine Tree Engineering, it appears that 2" water service stubs were installed from the existing structure onsite to serve the park dry hydrants. Further coordination with Bowdoinham Water District will be required to confirm their capacity to serve the project once future demand is known.
- Bowdoinham Water District (for sewer services) & Richmond Utility District:
 - It is our understanding there is no sewer main located within River Road along the project's frontage and the existing structure onsite utilizes an existing subsurface wastewater disposal system. Once future use and demand are determined, a new pre-treatment device and pump station design will be provided, along with a new HHE-200 permit.
 - The current system flow was designed for 1,600 gallons per day (gpd) with 1,000 gallons of capacity built in for future use. If the capacity was doubled with a pretreatment unit, the system could handle up to 3,200 gpd minus 600 gpd for the existing bathroom facilities, which equates to **2,600 gpd of capacity**.
 - A restaurant use would need a multiplier of 1.3x due to wastewater strength resulting in **2,000 gpd for a design flow for restaurant use**.
 - Conservatively assuming 10 employees (cooks, servers, and dishwashers) at 12 gpd each (120 gpd total), 1,880 gpd remain for seating capacity, which would equate to:
 - **94 seats for 2 meals a day (20gpd per seat) or**
 - **62 seats for 3 meals a day (30 gpd per seat).**
 - Based on conversations with New England Septic Solutions, the proposed redevelopment could utilize a FujiClean USA CE-30 (see attached cut sheet) pretreatment system to provide pretreatment of the sanitary sewage flows prior to discharge into the future subsurface wastewater field to maximize use. Final designs, along with amending the existing HHE-200 will be required based on actual intended usage and flows.



- Central Maine Power (CMP):
 - Three phase overhead power is located along River Road. It is our understanding that the existing structure onsite is served overhead by an existing pole mounted transformer.

- Stormwater Infrastructure
 - There is an existing stormwater drainage network located on site. The drainage network outlets to riprap outlet protection prior to the Cathance River. Additionally, there is an existing 15" culvert that crosses the access driveway to the site and discharges to the Cathance River.
 - The Town of Bowdoinham Zoning Ordinance General Performance Standards Article 10 Sec. D-28 requires stormwater runoff be minimized and detained on site if possible.
 - The project will be subject to stormwater requirements as outlined in the Maine Department of Environmental Protection (MDEP) Permitting section above.
 - The proposed redevelopment could utilize a Roof Dripline Filtration BMP to meet Maine DEP water quality treatment requirements associated with the redevelopment of the structure.

Thank you for giving us the opportunity to assist you on this project. Please do not hesitate to contact me if you have any comments or questions.

Sincerely,



Peter Heil, P.E.
Senior Project Manager
Acorn Engineering, Inc.