



Town of Esopus Environmental Board



Town of Esopus
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Our Mission:

To promote the conservation, protection, and enhancement of the Town of Esopus' natural resources, and ecosystems through education, and collaborative action.

January 17, 2024

To: Ms. Roxanne Pecora, Chair and Planning Board Members
CC: Ms. Danielle Freer, Supervisor and TOE Board Members
RE: Castlemore Holdings MIMA, LLC (Yan Project)
SBL: 64.3-5.2.320
Case # 2023-3

On December 22, 2023, the Town of Esopus Environmental Board (EB) received the latest documents submitted by the above referenced applicant. Applicant is proposing to construct thirty-nine (39) "seasonal" cabins on the subject site, hereafter referenced as Yan Project. The Town of Esopus Planning Board (PB) requested the EB perform a review of the documents and the proposed project. The following is a summary of our findings, arranged by topic:

1) Central Sewer System

- The data presented concerning the onsite sewage treatment system lacks sufficient detail. It states that there will be a series of septic tanks that are tied in together. Without a comprehensive understanding of the system's design and capacity, it becomes challenging to assess a) its adequacy for servicing the 39 cabins and b) the potential environmental impacts it may pose.
- The proposed plan indicates that each of the 39 cabins will feature an individual hot tub. It is essential to note that the water in these hot tubs will require chemical treatment to prevent illness. Given the need for periodic water changes, it's crucial to acknowledge that discharging chemically treated water into a sewage treatment system can have deleterious effects on the bacteria within the activated sludge, potentially leading to system failure. Careful consideration must be given to mitigate these impacts on the sewage treatment process.

- The designed central sewer system comprises a sophisticated network of pump stations and forced mains. However, the application lacks the necessary construction details for this intricate system. It's essential to recognize that forced main systems are challenging to install and demand meticulous maintenance to prevent leaks and failures. The potential consequences of a central sewer system failure are significant, with the risk of contaminating the aquifer, the Hudson River, and its tributaries. Therefore, comprehensive construction details and robust maintenance plans are imperative to safeguard against such environmental risks and should be provided for review prior to construction.

2) Water System

- The proposal outlines the construction of 39 cabins serviced by a single potable well. Considering the geological characteristics of the aquifer, which is characterized by fractured bedrock, the feasibility of adequately meeting the water demands of 39 cabins, each equipped with hot tubs, may raise concerns. The nature of the aquifer suggests potential limitations in the practicality of relying on a sole well to fulfill the substantial water requirements of the proposed development. Further evaluation and consideration of the water supply adequacy in relation to the proposed scale of development are recommended.
- The submitted plans feature grassy areas that, as indicated in the plan notes, require watering during dry periods to maintain their effectiveness. This introduces a substantial additional burden on the water system, further highlighting the potential impracticality of relying on a single well. It is essential to carefully consider the cumulative water demand, encompassing both residential and landscaping requirements, to ensure the viability and adequacy of the proposed water supply system for the entire development.
- The probable necessity of constructing a well field with multiple wells is a key consideration. Regardless of the chosen approach, it is crucial to recognize that the pumping capacity of the supply well(s) will likely create a significant cone of depression on the water table, with a substantial radius of hydrogeologic influence. This aspect gains heightened importance due to the concurrent presence of an on-site sewage treatment system on the site. The coexistence of a sewage treatment system amplifies the potential risk of contamination to the supply well(s) with septic waste, surpassing the concerns associated with a typical well/septic configuration. A thorough assessment of the hydrogeological impact and effective mitigation strategies is imperative to ensure the integrity of both the water supply and sewage treatment systems.
- We recommend the installation of the potable well and the performance of a pump test before the issuance of a Special Use Permit (SUP). The viability of the entire project hinges on having a sufficient water supply. The issuance of an SUP by the town is a prerequisite for the project to advance, and the town is not obligated to grant such a permit if the proposed project is deemed unfeasible due to inadequate water availability. Conducting a pump test will provide critical data to assess the well's capacity and ensure that the project, as

envisioned, is both technically and practically viable. This proactive approach aligns with the town's interests in approving a project that can be sustainably supported by the available water resources.

- The application shows a nearly 300 square foot laundry facility in the maintenance building. The inclusion of on-site laundry adds an additional stressor to the already seemingly overtaxed central water and sewer infrastructure.
- An additional aspect in the evaluation of the potable water supply involves assessing the potential for a negative impact on neighboring wells. The scale of the proposed water system, catering to the needs of 39 cabins with hot tubs, as well as addressing the requirements for watering grass and landscaping, raises the concern of potentially significant depression of the water table. This scenario could result in neighboring wells with insufficient depth experiencing dry conditions. It is essential to conduct a thorough hydrogeological analysis to understand and mitigate any adverse impacts on nearby wells, ensuring that the development's water usage does not compromise the water availability for adjacent properties. This consideration is vital to maintaining the integrity of the local aquifer system and uphold the welfare of the broader community.

3) Steep Slopes

- Acknowledging the presence of steep slopes and ridgelines on the subject site, as detailed in the application with regulatory considerations, Sheet SL provides a Slopes Map illustrating these conditions and the planned location of stormwater retention structures. It is important that the applicant furnishes the calculations employed to determine the volume and effectiveness of these drainage structures. Given the regional susceptibility to significant storms depositing 1-3 inches of rain, there is a pressing need to enhance stormwater planning tools in our area. Real environmental and human safety concerns arise regarding flooding and erosion, particularly when proposing the construction of 39 cabins in a terrain characterized by steep slopes and fragility. Robust calculations and upgraded stormwater management strategies are essential to comprehensively address these concerns.
- The statement in the applicant's comments that disturbance of steep slopes will be avoided "to the greatest extent practicable" may raise concerns regarding compliance with Section 123-22.1A of the Town of Esopus Zoning Code, which regulates the development of steep slopes. The use of the term "practicable" introduces an element of discretion that may need clarification. To align with zoning regulations, it is advisable for the applicant to provide more specific details and assurances regarding adherence to the stipulations outlined in Section 123-22.1A, ensuring a clear commitment to the protection and preservation of steep slopes as mandated by the local zoning code. Clarity on how the proposed development will specifically comply with the relevant regulations is essential for a comprehensive and transparent evaluation of the project.

4) Fire and Smoke

- The current plan outlines 39 cabins, each equipped with wood-fired hot tubs, wood stoves (in the architectural rendering), and outdoor fire pits. Considering the typical goal of achieving 100% occupancy in a hospitality facility, it is reasonable to anticipate that, at any given time, each cabin might have three fires burning – one in the wood stove, one in the firepit, and one in the hot tub. This theoretical scenario raises the possibility of up to 117 wood fires simultaneously burning on the site, which may be deemed an unreasonable assumption due to the associated environmental and safety concerns. To address this, an alternative hypothesis could consider a more conservative estimate, such as 50% of the cabins having fires burning simultaneously. Even with this adjustment, the potential for nearly 60 wood fires and the accompanying smoke persists. It is important and necessary to thoroughly assess the environmental implications, air quality, and safety considerations associated with such a concentration of wood fires on the site. Mitigation measures and a detailed plan for managing potential air quality impacts should be incorporated to ensure responsible and sustainable operation, especially in consideration of the goal of maintaining a welcoming and environmentally conscious hospitality facility.
- The substantial number of wood fires proposed in the plan raises concerns regarding the generation of a significant quantity of ash. It is essential for the applicant to provide a detailed plan for the proper disposal of this ash, considering the potential adverse effects on local fauna and wildlife. Additionally, improper on-site disposal poses a threat to the aquifer, particularly if leaching occurs. Given the existing burden on the site aquifer, it is imperative for the applicant to explicitly address how this threat will be mitigated. A comprehensive strategy for ash disposal that minimizes environmental impact, safeguards local ecosystems, and prevents any potential contamination of the aquifer should be an integral part of the overall plan. This proactive approach aligns with environmental stewardship principles and ensures the sustainable and responsible management of the proposed hospitality facility.
- The considerable number of wood fires proposed raises concerns about the potential profound impact on site and community air quality. It is crucial to recognize that low-level wood smoke can have significant implications for air quality, a concern reflected in the town's existing ordinance prohibiting wood-fired outdoor boilers. The applicant should thoroughly address the anticipated effects of the proposed wood fires on air quality, taking into account the local regulatory framework and community standards. Proactive steps to mitigate air quality concerns will contribute to the project's compatibility with local regulations and environmental standards.
- In adherence to the New York State Firewood Regulation established by the New York State Department of Environmental Conservation (DEC), inhabitants at the proposed site will be mandated to burn locally sourced (within a 50-mile radius) or heat-treated firewood. This regulation aims to prevent the spread of invasive species, such as the emerald ash borer and

the northern longhorn beetle, which pose a threat to New York's forests. Given the significant volume of firewood anticipated for consumption on the site and the potential for opportunistic violations, the applicant must provide a detailed plan outlining how they intend to ensure 100% compliance with this crucial regulation. The plan should encompass robust measures for sourcing and verifying the origin of firewood, along with effective communication and education strategies for inhabitants and visitors to promote awareness and adherence to the New York State Firewood Regulation. A comprehensive approach to compliance will contribute to preserving the ecological integrity of New York's forests and align with the site's environmental responsibility objectives.

5) Site Chemicals

- The application references the use of various chemicals for maintaining the grassy areas, retention ponds, hot tubs, and the sewage treatment system on the site. Considering the fragility of the local ecosystem, it is important for the applicant to furnish a comprehensive listing of the chemicals to be used, specifying their concentrations, and including Safety Data Sheets (SDS) for each. This detailed information is crucial for a thorough evaluation of the potential environmental impact and human safety considerations associated with the use of these chemicals. Providing SDS ensures transparency and enables the assessment of proper handling, storage, and disposal practices, aligning with best practices for environmental stewardship and safety in the proposed development.

6) Lighting

- The site plan asserts compliance with the dark skies initiative for illuminating the 39 cabins, maintenance structures, roadways, and parking areas; however, the considerable number of outdoor lights raises concerns. The plan indicates around 40 lights along the driveways, and with an estimated two exterior light fixtures on each of the 40 buildings, along with an additional 10 for parking, the total reaches approximately 128 exterior light fixtures. This significant number of lights has the potential to contribute to light pollution, negatively impacting wildlife by disrupting natural behaviors and ecological processes. The consequences may include interference with foraging, hunting, and mating activities, alterations in species distribution and behaviors, attraction and disorientation of certain wildlife, and potential impacts on the reproductive patterns and migratory journeys of species such as birds and turtles. Indeed, the substantial number of outdoor lights proposed in the site plan, estimated at approximately 128 exterior light fixtures, poses an additional concern for potential negative environmental impacts.

7) Pets

- Having the potential for 39 dogs staying in one resort facility can give rise to negative impacts. The collective presence of a large number of dogs may contribute to increased noise levels, with barking potentially causing disturbances to both other guests and the surrounding environment. Managing and controlling the waste generated by these dogs becomes a

significant challenge, potentially leading to sanitation issues if not properly addressed. Moreover, the cumulative effect of so many dogs in a confined area can have negative implications for local wildlife. Wildlife may be disrupted or stressed by the presence of numerous dogs, impacting their natural behaviors. Additionally, waste from the dogs can introduce pollutants to the environment, affecting soil and water quality. The presence of multiple dogs at the site can preclude the harmonious coexistence of the resort facility with both its natural surroundings, and the local community.

8) Trees

- The applicant states that 0.7 acres of trees will be removed during the construction process, and only for construction of the drainage structures. In looking at the site maps, we disagree with this estimate. The applicant should explain how the following elements will be constructed without removing a single additional tree:
 - 2 Main driveways
 - 39 Cabins + 1 Maintenance Building
 - 40 Building Driveways/Parking
 - Multiple septic tanks
 - Many hundreds of feet of water, sewer & electrical utilities
 - Wastewater treatment system
- The site plan implies the cabins are going to be modular in construction. Large flatbed trailers with extra low ground clearance and large cranes weighing as much 30-50,000 pounds will be required to unload and set these modular structures. A tremendous amount of grading, site clearing and deep roadbed construction will be required in order to accommodate this very large and heavy construction equipment.
- It is recommended that a comprehensive tree survey be conducted to document the location of all trees on the site with a diameter of 12 inches or greater. This survey will serve as a valuable tool to superimpose over the site plan, providing an accurate depiction of the substantial number of trees that may need to be removed to facilitate the construction of the proposed 40 buildings, utilities and infrastructure. This information is crucial for a thorough understanding of the project's environmental impact and will aid in making informed decisions regarding tree preservation and mitigation measures.

9) Traffic

- The EB strongly disagrees with the estimate that each cabin will generate only 0.34 trips per site. Beyond the activities of being in the cabin or walking on the property, there is a plethora of tourist attractions in the Hudson Valley area that are continuously growing. The region offers a diverse range of activities, including hiking, mountain biking, boat cruises, state parks, museums, art galleries, the Walkway Over the Hudson and The Culinary Institute of America, to name a few. Moreover, the Kingston/Rhinebeck area boasts an array of excellent dining options. It is highly unlikely that guests will limit themselves to staying on-site, as the

surrounding area provides numerous compelling reasons to explore. Given the richness of available activities, guests are expected to venture out multiple times per day. The EB believes that the estimated 0.34 trips per site may significantly underestimate the actual frequency, possibly equating to 3.4 trips. This discrepancy raises questions about how guests will allocate the estimated \$2,000,000 per year in direct expenditures, as stated by the applicant if they never leave the site. A more realistic assessment of travel frequency is essential for a comprehensive understanding of the potential impact of the project on local traffic and the surrounding environment.

EB REVIEW SUMMARY:

Central Sewer System:

The sewage treatment system lacks detailed design information, and the presence of individual hot tubs in each cabin raises concerns about potential impacts on the system's functionality.

Water System:

Concerns include the adequacy of a single well to supply water for 39 cabins, the impact on neighboring wells, and the potential stress from an on-site laundry facility on the water and sewer infrastructure.

Steep Slopes:

The proposal lacks clarity on the volume and effectiveness of drainage structures, and the term "practicable" regarding avoiding disturbance of steep slopes may need clarification to align with zoning regulations.

Fire and Smoke:

The high number of proposed wood fires raises environmental and safety concerns, requiring a detailed plan for ash disposal and mitigation measures to address potential air quality impacts.

Site Chemicals:

The use of chemicals on the site necessitates a comprehensive listing with concentrations and Safety Data Sheets for evaluation of environmental impact and human safety considerations.

Lighting:

Compliance with dark skies initiative is claimed, but the significant number of exterior lights poses concerns for potential light pollution and negative impacts on wildlife.

Pets:

The presence of numerous dogs may lead to noise disturbances, waste management challenges, and negative effects on local wildlife, impacting the harmony of the resort facility with its surroundings.

Trees:

Disagreement on the estimate of trees to be removed during construction, concerns about the feasibility of construction without additional tree removal, and a recommendation for a comprehensive tree survey for informed decision-making.

Traffic:

Disagreement with the estimate of trips per site, emphasizing the rich array of tourist attractions in the area and the need for a more realistic assessment of travel frequency for a comprehensive understanding of the project's impact.

Respectfully submitted,

Town of Esopus

Environmental Board members:

Mark Ellison, Chairperson
Julie Brinkman
Christopher DeCicco
Ellie Gartenstein

Cynthia McVay
Nina Nichols
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