

May 9, 2023

City of Lewes  
114 E. 3<sup>rd</sup> Street  
P.O. Box 227  
Lewes, DE. 19958

Attn: Janelle Cornwell, AICP  
City Planning & Development Officer

Re: **Henlopen Bluff**  
PLUS Response Letter (2022-08-11)  
Tax Map No.: 335-8.00-52.00, 53.00, & 53.01; 335-9.00-1.02  
DBF # 2261G008.E01

*Ring W. Lardner, P.E.  
W. Zachary Crouch, P.E.  
Michael E. Wheedleton, AIA, LEED GA  
Jason P. Loar, P.E.  
Jamie L. Sechler, P.E.*

Dear Ms. Cornwell,

We have read and reviewed the comments provided during the PLUS Review of the Project on August 24, 2022 and received from the Office of State Planning dated September 22, 2022. We offer the following item-by-item response.

### **Strategies for State Policies and Spending**

This project is located in a Level 1 and Level 2 investment area, which is consistent with the 2020 Strategies for State Policies and Spending. This site is also located in the City of Lewes. Investment Level 1 reflects areas that are already developed in an urban or suburban fashion, where infrastructure is existing or readily available, and where future redevelopment or infill projects are expected and encouraged by State policy. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near-term future. Development in Levels 1 and 2 is consistent with the 2020 Strategies for State Policies and Spending; therefore, the Office of State Planning Coordination has no objections to this subdivision plan provided it meets the relevant codes and ordinances and is compatible with the Comprehensive Plan of the City of Lewes.

**We recognize that the project is in an area designated as Investment Level 1. We understand growth in Level 1 areas is expected and encouraged by State policy. Utilities and infrastructure are existing and readily available adjacent to the project.**

### **Code Requirements/Agency Permitting Requirements**

#### **Department of Transportation - Contact Stephen Bayer 302-760-4834**

- Because the site fronts on Gills Neck Road (SCR 267), which is part of the Lewes

Scenic and Historic Byway, it is subject to outdoor advertising regulations found in 17 Del. C. §1101-1120. Accordingly, the applicant should expect the following requirements:

- o No new billboards, variable message boards, or electronic changing message sign(s) anywhere on or off Gills Neck Road within 660 feet of the closest right-of-way edge.  
**None are proposed.**
  - o No off-premises advertising on the property for others within 660 feet of the closest right-of-way edge of Gills Neck Road, e.g., displaying on-site the bank/financial institution funding the project or the contractor building the project.  
**None are proposed.**
  - o There is an adopted Kings Highway and Gills Neck Road Master Plan for future roadway and right-of-way improvements.  
**We have reviewed the Master plan.**
  - o The applicant may be asked to work with or provide updates to the Lewes Byway Committee and per implementation of the Master Plan and byways coordination. The applicant may contact the Byways Chair, Ms. Mary Roth at [mroth@delawaregreenways.org](mailto:mroth@delawaregreenways.org) or (302) 302-655-7275.  
**We are prepared to meet with the Byways Committee as our application progresses through the approval process.**
- The site access on Gills Neck Road must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <http://www.deldot.gov/Business/subdivisions/index.shtml?dc=changes>.  
**We are familiar with DelDOT's requirements. This portion of Gills Neck Road is maintained by the City of Lewes therefore the city will determine to what requirements the road will be designed.**
  - Pursuant to Section 1.3 of the Manual, a Pre-Submittal Meeting is required before plans are submitted for review. The form needed to request the meeting and guidance on what will be covered there and how to prepare for it is located at [https://www.deldot.gov/Business/subdivisions/pdfs/Meeting\\_Request\\_Form.pdf?080220](https://www.deldot.gov/Business/subdivisions/pdfs/Meeting_Request_Form.pdf?080220)  
**11-A Pre-Submittal Meeting was held on 2/24/2022.**  
**Pre-submittal meeting minutes were submitted to DelDOT.**
  - Section 1.7 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when construction plans are submitted for review.  
**We are familiar with DelDOT's review fees.**
  - Per Section 2.2.2.1 of the Manual, Traffic Impact Studies (TIS) are warranted for

developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day. Using the 10th edition of the Institute of Transportation Engineers' Trip Generation Manual, DelDOT estimates that the subject development, consisting of 79 single family detached houses, would generate 837 vehicle trip ends per day and estimates the weekday morning and evening peak hour trip ends at 61 and 81, respectively. Therefore, a TIS would normally be required.

The original Showfield plan included these parcels of land with an access to Gills Neck Road in the same general location. That project performed a TIS in 2007 for a plan that proposed 607 homes. The plan was subsequently downsized to 166 single-family homes. The 2007 TIS also included land that has now become the approved Olde Town at White's Pond subdivision, which consists of 85 single-family homes. The total unit count for the three developments is 330 units (166-Showfield, 85-Olde Town, 79-Henlopen Bluff), which is substantially less than the 607 analyzed as part of the 2007 TIS. For these reasons and the below regarding developments with an ADT of less than 2,000 a new traffic impact study is not required.

- o Section 2.2.2.2 of the Development Coordination Manual provides that for developments generating less than 2,000 vehicle trip ends per day and less than 200 vehicle trip ends per hour in any hour of the day, DelDOT may accept an Area Wide Study (AWS) Fee in lieu of the TIS if the local government does not require a TIS. The AWS Fee is calculated as \$10 per daily trip or, in this case, \$8,370. AWS Fees are used to fund traffic studies, not to build improvements.

An Area Wide-Study Fee memo was issued by DelDOT on March 11, 2022.

- o The purpose of a TIS, per DelDOT regulations, is to determine the offsite improvements for which the developer should be responsible to build or contribute toward. DelDOT anticipates requiring the developer to improve Gills Neck Road, within the limits of their frontage, to meet DelDOT's standards associated with its Functional Classification. Gills Neck Road is a Local Road, for which the standard includes 11-foot lanes and 5-foot shoulders. Frontage, as defined in Section 1.8 of the Manual, includes the length of roadway perpendicular to lines created by the projection of the outside parcel corners to the roadway.

Based on the 2022 DelDOT Road Design Manual when offsite bicycle facilities are provided a 2' shoulder is sufficient. A 10' shared-use path will be constructed along the Henlopen Bluff site frontage therefore, shoulder widths should be reduced to 2'. Wide roadways encourage higher vehicles speeds.

According to the Kings Highway Gills Neck Road Master Plan for the Byways this section of road is to be maintained in its current state to preserve the character of the roadway and no widening should be required.

Wider roads encourage faster speeds as they give drivers more room for error. Shoulders along Gills Neck Road would also encourage drivers to park along the shoulder to fish or walk along the strip of land adjacent to the canal.

Widening the road would also require the removal of established trees and impact the existing concrete post fence installed by Otis Smith.

For the above reasons we believe road widening would not be beneficial to the character or safety of this portion of Gills Neck Road.

- o Questions regarding the requirement to improve the site frontage should be directed to the Sussex County Review Coordinator, Mr. Kevin Hickman. Ms. Polasko may be reached at [Kevin.Hickman@delaware.gov](mailto:Kevin.Hickman@delaware.gov) or (302) 760-2461.

**Acknowledged.**

- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way along the site's frontage. By this regulation, this dedication is to provide a minimum of 30 feet of right-of-way from the physical centerline of Gills Neck Road. The following right-of-way dedication note is required, "**An X-foot wide strip of right-of-way from the centerline is hereby dedicated in fee simple to the State of Delaware, acting by and through the Delaware Department of Transportation.**"  
**A 15' right-of-way dedication is proposed along the frontage of Gills Neck Road to bring the right-of-way from the centerline to 30'.**
- In accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage. The location of the easement shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, "**A 15-foot wide permanent easement is hereby dedicated in fee simple to the State of Delaware, acting by and through the Delaware Department of Transportation.**"  
**A 15-foot permanent easement is provided behind the dedicated right-of-way line.**
- Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:
  - o A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
  - o Depiction of all existing entrances within 300 feet of the proposed entrance on Gills Neck Road.

- o Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

**The above items will be included on the Record Plan**

- Section 3.5.4.2 of the Manual addresses requirements for Shared Use Paths (SUP) and sidewalks. For projects in Level 1 and 2 Investment Areas, installation of paths or sidewalks along the frontage on State-maintained roads is required.  
**A shared-use path is proposed along the frontage of Gills Neck Rd.**
- Section 3.5.4.4 of the Manual addresses accessways, paved pathways connecting a sidewalk or path along a road frontage to an internal sidewalk or path. DelDOT anticipates requiring an accessway from the stub road between houses 50 and 51, or near house 61, directly to the shared use path connecting Gills Neck Road to US Route 9.  
**A connection to the shared-use path from the internal sidewalk network is proposed in these locations.**
- In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State right- of-way along Gills Neck Road.  
**Acknowledged.**
- In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrances and how long those lanes should be. The worksheet can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.  
**Acknowledged.**
- In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at [http://www.de\[dot\].gov/Business/subdivisions/index.shtml](http://www.de[dot].gov/Business/subdivisions/index.shtml).  
**Acknowledged.**
- In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.  
**All known existing utilities will be shown.**

**DART First State - Contact Jared Kauffman 302-576-6062**

- The internal pedestrian pathway needs to be directly connected to the Junction

### Breakwater Trail

**A connection will be provided. The exact location will be determined during the construction plan design phase.**

Department of Natural Resources and Environmental Control - Contact  
Clare Quinlan 302-735-3480

**Disclaimer Clause:** Staff from the Delaware Department of Natural Resources and Environmental Control (DNREC) reviewed the project submitted for PLUS review. The absence of comments regarding specific resources does not indicate that there are not additional constraints or environmental issues on site, nor does it indicate DNREC support of a project.

### Concerns Identified Within the Development

#### Footprint Wetlands and Subaqueous Land

Maps from the Statewide Wetlands Mapping Project indicate the potential presence of non-tidal wetlands on the site. The application indicates that wetlands have been delineated. The U.S. Army Corps of Engineers sign-off is completed. The application proposes to disturb approximately 0.1 acres of non-tidal wetlands.

#### Requirements:

- Federal permits from the U.S. Army Corps of Engineers may be necessary if dredge or fill is proposed in non-tidal wetlands or streams. In certain cases, permits from the US Army Corps of Engineers may trigger additional certifications from DNREC (Coastal Zone Federal Consistency Certification and 401 Water Quality Certification). Work with the U.S. Army Corps of Engineers to determine the appropriate permitting requirements if federal permits are required.

Federal Contact: U.S. Army Corps of Engineers (Dover Office) at (267) 240-5278.  
Website: <https://www.nap.usace.army.mil/Missions/Regulatory/Contacts/>

State Contact: DNREC Wetlands and Subaqueous Lands Section at (302) 739-9943.  
Website: <https://dnrec.alpha.delaware.gov/water/wetlands-subaqueous/>

**We will comply with all Army Corps and DNREC requirements.**

#### Vegetated Buffer Zones

Site plans do not show a vegetated buffer along non-tidal wetlands. Vegetated buffer zones placed adjacent to waterways and wetlands help improve water quality by reducing sediment and pollutants loads. They also provide valuable habitat and can help prevent encroachment of human activities into ecologically sensitive areas. Vegetated buffers are not equivalent to setbacks, as residential lots, walkways, and stormwater management facilities should not be contained within the vegetated buffer zone.

#### Requirements:



- The applicant must comply with minimum vegetated buffer widths as identified within county and municipal codes.

Contact: DNREC Wildlife Species Conservation & Research Program at (302) 735-3600. Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/contact-information/>

A fifty-foot buffer from all wetlands is provided as per City of Lewes Code.

### **Special Flood Hazard Area**

According to the newest Flood Insurance Rate Maps (FIRM), a portion of this parcel is situated within a Special Flood Hazard Area, specifically within the mapped 100-year floodplain (1% annual chance of flooding). The Special Flood Hazard Area identified on the site lies within zone AE. Lots 59 and 60 are proposed partially within the 100-year floodplain. In lands contained within the 100-year floodplain, the National Flood Insurance Program's floodplain management regulations must be enforced through the local floodplain ordinance, which can have higher standards. Homeowners with mortgages may be required to purchase flood insurance. A portion of this site is also situated within the moderate risk floodplain, or 500-year floodplain (0.2% annual chance of flooding), identified as a shaded zone-X.

#### Requirements:

- The applicant must comply with the local floodplain ordinance and regulations applicable to development or construction within the 100-year floodplain. In determining the boundary of the floodplain, use the most recent FIRM maps available, which can be found at <https://floodplanning.dnrec.delaware.gov/>

Contact: DNREC Shoreline and Waterway Management Section at (302) 739-9921.  
Website: <https://dnrec.alpha.delaware.gov/watershed-stewardship/waterways/floodplains/>

A letter of map amendment was approved by the Army Corps to revise the flood plain to follow the base flood elevation contour of five. The grading for lots 15, 16, 18, 59, & 60 have been revised to show that no fill is proposed in the flood plain. The houses for these lots will need to be built on pilings if they extend into the flood plain to satisfy City of Lewes code section 197-73D(5) that states “no fill is allowed in the flood plain for the purpose of supporting a building or structure”.

### **Stormwater Management**

This application proposes greater than 5000 square feet of land disturbing activities, therefore, this project will be subject to Delaware's *Sediment and Stormwater Regulations*.

#### Requirements:

- A Sediment and Stormwater Plan must be developed, then approved by the appropriate plan review agency prior to any land disturbing activity taking place on

the site. For this project, the plan review agency is the Sussex Conservation District.

**A plan will be submitted to SCD for review and approval.**

- Additionally, to address federal requirements, construction activities that exceed 1.0 acre of land disturbance require Construction General Permit coverage through submittal of an electronic Notice of Intent for Stormwater Discharges Associated with Construction Activity. This form must be submitted electronically (<https://apps.dnrec.delaware.gov/enoi/>, select Construction Stormwater General Permit) to the DNREC Division of Watershed Stewardship, along with the \$195 fee.

**An NOI permit will be submitted for this project.**

- Schedule a project application meeting with the appropriate plan review agency prior to moving forward with the stormwater and site design. As part of this process, you must submit a Stormwater Assessment Study.

**A pre-application meeting was held with SCD on January 19, 2022.**

Plan review agency contact: Sussex Conservation District at (302) 856-2105 or (302) 856-

7219. Website: <https://www.sussexconservation.org/>

General stormwater contact: DNREC Sediment and Stormwater Program at (302)

739-9921. E-mail: [DNREC.Stormwater@delaware.gov](mailto:DNREC.Stormwater@delaware.gov).

Website: <https://dnrec.alpha.delaware.gov/watershed-stewardship/sediment-stormwater/>

### **Excellent Groundwater Recharge Area**

An Excellent Groundwater Recharge Area is located on the northeastern portion of the site. These areas have soils that are conducive to water infiltrating downward from surface water

into groundwater. Preservation of these areas is important for replenishing groundwater supplies and ensuring drinking water for future generations.

### **Requirements:**

- The applicant must comply with all county and municipal requirements for construction and uses in Excellent Groundwater Recharge Areas.

**Per the City of Lewes Code 197-75, 20% impervious cover is allowed and up to 50% is allowed with an environmental assessment report.**

Contact: DNREC Source Water Assessment and Protection Program at (302) 739-9945. Website: <https://dnrec.alpha.delaware.gov/water/supply/ground-water-protection/>



### **Nutrient Management Plan**

This project proposes open space of 34 acres.

#### **Requirements:**

- A nutrient management plan is required for all persons or entities who apply nutrients to lands or areas of open space of 10 acres or more.

**The development will comply with DNREC's nutrient management program.**

Contact: Delaware Department of Agriculture's Nutrient Management Program at (302) 698- 4558. Website: <https://agriculture.delaware.gov/nutrient-management/>

Delaware Emergency Management Agency - Contact Phillip Cane 302-659-2325

### **Proposed Project Parcel Flood Concern**

- This/These parcel(s) is/are located within an area of **Minimal Flood Concern of 1000 years or greater and 0.2% Flood Concern for 500 years.**

### **Parcel Status within County Evacuation Zone Location**

- The parcel(s) is/are located within the **Sussex County Evacuation Zone (A and B).**

DEMA recommends and encourages the County Evacuation Zone Location to be made publicly available to businesses and patrons through signs, pamphlets, or other means.

State Historic Preservation Office - Contact Carlton Hall 302-736-7400

- This area has seen multiple PLUS review with comments recommending archaeological survey.
- Two sites are located within the parcel, one aboveground structure (SO1056), and one prehistoric archaeological site (S00540, 7S-D-012). The potential for prehistoric archaeological resources is high based on the existence of numerous environmental factors that would have been conducive to human habitation. Additionally, many prehistoric archaeological sites have been identified in the surrounding areas, and most of the new proposed project area has not been systematically surveyed.
- The potential for historic sites is medium to high based on sites identified on the historic maps, and typical historic period settlement patterns in the area. It is important that the developer also be aware of the Unmarked Human Burials and Human Skeletal Remains Law of 1987 (Delaware Code: Title 7, Chapter 54), which pertains to the discovery and disposition process of such remains.

Abandoned or unmarked family cemeteries are very common in Delaware, especially on historic farm sites, rural areas, or open space lands. Disturbing unmarked burials triggers Delaware's Unmarked Human Burials and Human Skeletal Remains Law of 1987 (Delaware Code: Title 7, Chapter 54), and such discoveries can result in substantial delays while the procedures required under this law are carried out.

**The developer is aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law of 1987.**

- This office recommends that an archaeological survey be conducted to investigate the project area for the presence of archaeological resources.

**The developer does not believe the State needs to investigate the property for archaeological resources.**

### **Delaware State Fire Marshall's Office - Contact Duane Fox 302-739-4394**

This document is for information purposes only and does not constitute any type of approval from the Delaware State Fire Marshal's Office.

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulations (DSFPR):

#### **Fire Protection Water Requirements**

- Water distribution system capable of delivering at least 500 gpm for I-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
- Where a water distribution system is proposed for residential occupancy use sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

#### **Fire Protection Features**

- For townhouse buildings, provide a section/ detail and the UL design number of the 2- hour fire rated separation wall on the Site plan.

#### **Accessibility**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access roads to the subdivision must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door for one- and two-family dwellings.

- Any dead-end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

### **Gas Piping and System Information**

- Provide type of fuel proposed and show locations of bulk containers on plan.

### **Required Notes**

- Provide a note on the final plans submitted for review to read "All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
  - Any townhouse 2-hr separation wall details shall be shown on site plans
  - Provide Road Names, even for County Roads

We thank the Fire Marshal's office for providing the above information. We will work with the fire marshal's office to develop a plan that meets all their requirements for plan approval.

### **Recommendations/Additional Information**

This section includes a list of site-specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code**

**requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site design, and it is hoped (**but in no way required**) that the applicant will open a dialogue with the relevant agencies to discuss how these suggestions can benefit the project.

**Department of Transportation - Contact Stephen Bayer 302-760-4834**

- DelDOT acknowledges vehicular interconnection may not be feasible to the adjacent parcels however, DelDOT suggests pedestrian connection to the adjacent parcels where possible.  
**A pedestrian connection is proposed to the Showfield property line between lots 10 & 11.**
- The applicant should expect a requirement that any substation and/or wastewater facilities will be required to have access from an internal driveway with no direct access to Gills Neck Road.  
**None are proposed.**
- The applicant should expect a requirement that all PLUS and Technical Advisory Committee (TAC) comments be addressed prior to submitting plans for review.  
**Acknowledged**
- Please be advised that the Standard General Notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision dates of March 21, 2019 and March 16, 2022. The notes can be found at <https://www.deldot.gov/Business/subdivisions/>  
**Acknowledged**

**Department of Natural Resources and Environmental Control - Contact Clare Quinlan 302-735-3480**

**Wetlands and Subaqueous Lands**

- Do not disturb wetland areas. Wetlands are a critical part of our natural environment. They reduce the impacts of flooding, absorb pollutants, and improve water quality. Wetlands provide habitat for animals and plants and many contain a wide diversity of life, supporting plants and animals that are found nowhere else.  
**No wetland impacts are proposed other than those required for the ditch crossing and work along Gills Neck Road.**

*Federal Contact: U.S. Army Corps of Engineers (Dover Office) at (267) 240-5278.  
Website: <https://www.nap.usace.army.mil/Missions/Regulatory/Contacts/>*

**State Contact: DNREC Wetlands and Subaqueous Lands Section at (302) 739-9943.  
Website: <https://dnrec.alpha.delaware.gov/water/wetlands-subaqueous/>**

### **Vegetated Buffer Zones**

- Incorporate a 100-foot vegetated buffer zone from the edge of wetlands and all waterways to protect water quality and to provide an additional margin of safety for flooding.
- Vegetated buffer zones should be left undisturbed during construction and should be identified outside of the Limit of Disturbance on the engineering plans. In some instances, stormwater outfalls, conveyances, and emergency spillways may cross through these zones, and will require temporary disturbance during construction.
- Vegetated buffer zones should be deeded as community open space and not contained within any lot lines. Signage should be installed at the edge and within the buffer zones to deter residents from encroaching into these common areas.
- Maintain vegetated buffer zones as either grasslands/meadows or forest. Buffer zones should be planted exclusively with native trees and plants. Native plants are well-suited to our climate and require limited maintenance. They also provide an increasingly important role in the survival of native birds and beneficial insects whose habitat is shrinking due to development and climate change.
- Grass cutting for vegetated buffer zones if maintained as meadow should not occur between April 1st to July 31st to reduce impacts to nesting birds and other wildlife species that utilize meadows and grasslands for breeding habitat.

Contact: DNREC Wildlife Species Conservation & Research  
Program at (302) 735-3600. Website:

<https://dnrec.alpha.delaware.gov/fish-wildlife/contact-information/>

**A fifty-foot buffer from all wetlands is provided as per City of Lewes Code.**

### **Sea Level Rise**

The northeastern portion of this site is vulnerable to permanent inundation from sea level rise. By 2050, mean sea levels are projected to rise by 0.7 - 1.9 feet; by end of century sea levels are projected to increase by 1.7 - 5.0 feet. Roadways, lots, and homes are proposed on land subject to inundation by sea level rise between 1 and 5 feet. In addition to permanent inundation, as mean sea levels rise, the frequency and severity of tidal flooding events is expected to increase.

- In areas within 5 feet of mean sea level, avoid construction of permanent structures and infrastructure. All infrastructure and structures on the site should incorporate the effects of sea level rise through the expected lifespan of the

structures. This may include increasing freeboard of structures, ensuring that critical infrastructure is elevated to withstand future sea level rise, construction of flood control measures, and incorporating green infrastructure for flood control.

All structures will be constructed above the FEMA base flood elevation of 5.0 feet.

Contact: DNREC Climate and Sustainability Section at (302) 735-3480.

Website: <https://dnrec.alpha.delaware.gov/coastal-programs/plaiming-training/adapting-to-sea-level-rise/>

### Special Flood Hazard Area

- Locate all structures outside of the floodplain. If this is not possible, the developer should consider designing structures to a higher standard to avoid potential future flood damage and loss.

All structures will be constructed above the FEMA base flood elevation of 5.0 feet.

Contact: DNREC Shoreline and Waterway Management Section at (302) 739-9921.

Website: <https://dnrec.alpha.delaware.gov/watershed-stewardship/waterways/floodplains/>

### Stormwater Management

- If the stormwater outlet to the Lewes and Rehoboth Canal is proposed as a pipe, consider utilizing a tide gate to counter potential flooding concerns from high tides. This device prevents the backflow of tidal water.  
This will be considered during the detailed sediment and stormwater design of the ponds. The pipe outlets are currently above the mean high-water elevation of the Lewes Rehoboth canal.
- Where the site and soil conditions allow, integrate runoff reduction techniques including infiltration basins, bioretention (rain gardens), filter strips, and pavers to encourage on-site stormwater infiltration and reduce runoff.  
This will be considered during the detailed sediment and stormwater design.
- For improved stormwater management, preserve existing trees, wetlands, and passive open space.  
Acknowledged.

Plan review agency contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219.

Website: <https://www.sussexconservation.org/>

General stormwater contact: DNREC Sediment and Stormwater Program at (302) 739-9921. E-mail: [DNREC.Stormwater@delaware.gov](mailto:DNREC.Stormwater@delaware.gov).



Website: <https://dnrec.alpha.delaware.gov/watershed-stewardship/sediment-stormwater/>

### **Drainage**

- All existing drainage ditches on the property should be evaluated for function and cleaned, if needed, prior to the construction of the project.
- Environmental permits or exemptions may be required by the County Conservation District (Standard Plan), the DNREC Sediment and Stormwater Program (eNOI/NOT), Army Corp of Engineers, and/or DNREC Wetlands and Subaqueous Lands Section prior to clearing and/or excavating ditch channels.
- All precautions should be taken to ensure the project does not hinder any off-site drainage upstream of the project or create any off-site drainage problems downstream by the release of on-site storm water.

**The developer will comply with all DNREC & ACOE requirements.**

Contact: DNREC Drainage Program at (302) 855-1930. Website:  
<https://dnrec.alpha.delaware.gov/drainage-stormwater/>

### **Water Quality (Pollution Control Strategies)**

This site lies within the Rehoboth Bay Watershed. Surface water quality in this watershed does not meet Federal and/or State Water Quality Standards and a Pollution Control Strategy is in place for this watershed.

- Implement vegetated buffers with a width of at least 100 feet around all water features on or adjacent to the site.  
**A fifty-foot buffer from all wetlands is provided as per City of Lewes Code.**
- Reduce impervious surfaces on the project site by eliminating areas of impervious pavement and/or using pervious pavement where practicable.
- Reduce stormwater runoff by integrating infiltration basins, bioretention (rain gardens), filter strips, and by preserving existing trees, wetlands, and passive open space.
- Reduce the necessity for nutrient application by maintaining open space as meadow or forest planted exclusively with native plants. Native plants are well-suited to our climate and require limited maintenance.

Contact: DNREC Division of Watershed Stewardship's Watershed Assessment Section at (302) 739-9939. Website: <https://dnrec.alpha.delaware.gov/watershed-stewardship/>

**The stormwater management design will meet DNREC and Sussex Conservation District standards.**

### **Excellent Groundwater Recharge Area**

- For Excellent Groundwater Recharge Areas, limit impervious surfaces to no more than 20% of the entire area designated as having excellent recharge.  
**The project will comply with the 20% impervious area coverage or provide an environmental assessment report.**

Contact: DNREC Source Water Assessment and Protection Program at (302) 739-9945.  
Website: <https://dnrec.alpha.delaware.gov/water/supply/ground-water-protection/>

### **Mosquitoes**

The project is expected to be impacted by mosquitoes due to its location near large expanses of wetlands. Mosquito control issues are increasing as developments infringe on wetland areas, often leading to increased demands for mosquito control services beyond what DNREC has the resources to provide.

- If necessary, arrange for long-term mosquito control services through a private company licensed in this area of specialty. In some cases, the DNREC Mosquito Control Section may be able to provide these services free of charge.

**Acknowledged.**

Contact: DNREC Division of Fish and Wildlife, Mosquito Control Section at (302) 739- 9917. Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/mosquito-control/>

### **Additional Sustainable Practices**

- Build garages and parking spaces to be "electric vehicle (EV)-ready". Many manufacturers have pledged to sell only electric vehicles in the next 10-15 years. Installing a 240-volt outlet in one or two locations in a garage will enable a resident to easily (and cheaply) install a level 2 EV charger. This will increasingly be a selling point for homes.
- Offer the option to install solar or geothermal systems for each home. This allows a purchaser to incorporate the cost into their mortgage, making it more affordable. For community facilities, consider using renewable energy infrastructure such as solar or geothermal to reduce energy costs and further reduce pollution created from offsite generation. Grant funds and incentives are available for Delmarva Power customers through the DNREC Green Energy Fund, which includes several funding types through the state's major electric utilities (<https://dnrec.alpha.delaware.gov/climate-coastal-energy/renewable/assistance/>).
- Incorporate nonmotorized connectivity and install bicycle racks where feasible to help facilitate non-vehicular travel modes.
- Use efficient Energy Star rated products and materials in construction and redevelopment. Energy efficient appliances use less energy over time. This saves consumers and businesses money, while also helping to reduce pollution from power generation.

- Use structural paint coatings that are low in Volatile Organic Compounds to help protect air quality. Air pollution from new construction is generated through the use of maintenance equipment, paints, and consumer products like roof coatings and primers.
- Use recycled materials, such as reclaimed asphalt pavement, to reduce heat island effects on paved surfaces, prevent landfill waste, and lower material costs.

Contact: DNREC Division of Climate, Coastal & Energy at (302) 735-3480. Website: <https://dnrec.alpha.delaware.gov/climate-coastal-energy/>

We thank DNREC for their comments and will take them into consideration during the development of the project.

Delaware Emergency Management Agency - Contact Phillip Cane 302-659-2325

### **First Street Foundation Community Risk Level**

- The First Street Foundation Community Risk Level considers a Flood Factor, which stems from rain, rivers, tidal, and storm surge, to determine the risk of water reaching the building over a 30-year period.
- The First Street Foundation rates the community risk level of **(3)** for that immediate area of **Lewes** which suggests a **major** risk from flooding, combining risks associated between residential properties, commercial properties, critical infrastructure facilities, social infrastructure facilities, and roads. It is expected to increase between now and the next 30 years.

*"Community Risk levels represent a risk as Minimal (0). Minor (1). Moderate (2). Major (3), Severe (4), and Extreme (5). Overall Community Risk accounts for combined flood risk to residential properties, commercial properties, critical infrastructure facilities, social infrastructure facilities, and roads."*

### **Population**

- The county has a population density of **265.60** per square mile based on the US 2020 Census report: an increase from 2010 at **208.90** persons per square mile.
- The specific census block(s) the project is located on has a total population of **10**, though, with development, this will undoubtedly change.
- The adjacent blocks aggregate brings the area to a total population of **176**.

### **FEMA National Risk Index**

- The FEMA National Risk Index is an online mapping application that identifies communities most at risk of 18 natural hazards: Avalanche, Coastal Flooding, Cold

Wave, Drought, Earthquake, Hal, Heat Wave, Hurricane, Ice Storm, Landslide, Lightning, Riverine Flooding, Strong Wind, Tornado, Tsunami, Volcanic Activity, Wildfire, and Winter Weather. The FEMA National Risk Index is calculated by multiplying the Expected Annual Loss times the Social Vulnerability and dividing that by the Community Resilience.

$$\frac{\text{Expected Annual Loss} \times \text{Social Vulnerability}}{\text{Community Resilience}} = \text{Risk Index}$$

- According to FEMA's National Risk Index, the parcel(s) **are** considered **relatively moderate** for overall natural hazards risks.
- Community Resilience is a consequence reduction risk component and a community risk factor that represents the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions and withstand/recover rapidly from disruptions. Social Vulnerability is a consequence-enhancing risk factor that represents the susceptibility of social groups to the adverse impacts of natural hazards.
- Its community resilience is rated as **relatively moderate**, while its social vulnerability is rated as **relatively high**.

### Potential Parcel Solar Panel Capabilities

- Regarding energy use and consumption, the parcel utilizes **electricity** as the predominant fuel type for heating purposes.
- However, for electricity generation via solar panels, the parcels have an average photovoltaic power potential of **1501 kWh/kWp**. As such, should solar panels be utilized, we recommend an optimum tilt of the photovoltaic modules at approximately **33°**, which could provide a potential of **1811 kWh/m<sup>2</sup>**.

### Renewable Energy Commitment

- DEMA strongly encourages the use of renewable energies and high-efficiency appliances and utilities.
- Regarding utilities, DEMA suggests incorporating 90% series furnaces/HYAC systems: the closer to 99%, the better as well as A/C units of 20 Seer or greater. DEMA recommends using tankless water heaters and battery backup systems for sump pumps to reduce potential water damage from power failure.
- Lastly, DEMA encourages the integration of modern and emerging technologies,

such as the potential for electric vehicles in garages/parking lots, green roofs where applicable and allowable, and the like.

**We thank DEMA for their comments and will take them into consideration during the development of the project.**

Delaware State Fire Marshall's Office - Contact Duane Fox 302-739-4394

- Although not a requirement of the Delaware State Fire Prevention Regulations, the Office of the State Fire Marshal encourages home builders to install fire sprinkler protection in all residential dwellings.
- The Office of the State Fire Marshal reminds home builders that they are obligated to comply with requirements of Subchapter III of Chapter 36 of Title 6 of the Delaware Code which can be found at the following website:  
<http://delcode.delaware.gov/title6/c036/sc03/index.shtml>
- Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for an appointment. Applications and brochures can be downloaded from our website: [www.statefiremarshal.delaware.gov](http://www.statefiremarshal.delaware.gov), technical services link, plan review, applications, or brochures.

**We thank the Fire Marshal's office for providing the above information. We will work with the fire marshal's office to develop a plan that meets all their requirements for plan approval.**

Sincerely,  
*Davis, Bowen & Friedel, Inc.*



Cliff Mumford, P.E.  
Associate

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cc: David Edgell, Office of State Planning  
Doug Motley, Showfield, LLC  
Nick Hammonds, Showfield, LLC  
David Hutt, Morris James, LP