



STATE OF DELAWARE  
EXECUTIVE DEPARTMENT  
OFFICE OF STATE PLANNING COORDINATION

August 24, 2016

Clifford Mitchell, P.E.  
Vandemark & Lynch, Inc.  
4305 Miller Road  
Wilmington, DE 19802

RE: PLUS review 2016-07-10; Country House

Dear Mr. Mitchell:

Thank you for meeting with State agency planners on July 27, 2016 to discuss the Country House project. According to the information received you are seeking review of a site plan for a 210,716 square foot independent living facility with 55 residential units on 42.6 acres along Kennett Pike in New Castle County.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. **The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as the New Castle County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.**

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

This project is located in Investment Level 2 according to the *Strategies for State Policies and Spending*. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas.

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

#### **Department of Transportation – Contact Bill Brockenbrough 760-2109**

- The site access on Kennett Pike must be evaluated and, if necessary improved, in accordance with DelDOT's Development Coordination Manual (formerly the Standards and Regulations for Subdivision Streets and State Highway Access), which is available at <http://www.deldot.gov/information/business/subdivisions/changes/index.shtml>. Because the Applicant has two plans pending at once with New Castle County, the subject one and 122 Martin Luther King Jr. Blvd. South – Haslet Armory · Third Floor · Dover, DE 19901  
Phone (302)739-3090 · Fax (302) 739-5661 · [www.stateplanning.delaware.gov](http://www.stateplanning.delaware.gov)

one for the Charis Property, and because these developments would share the existing Country House access, we recommend that the applicant make one application to DelDOT addressing the two land development plans with a single entrance construction plan.

- Pursuant to Section P.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 [http://www.deldot.gov/information/business/subdivisions/Meeting\\_Request\\_Form.pdf](http://www.deldot.gov/information/business/subdivisions/Meeting_Request_Form.pdf).
- Referring to Sections P. 5 and also, respectively Sections 3.4.2 and 4.3 of the Development Coordination Manual, the Initial Stage review fee and the Construction Stage review fee shall be assessed to this project. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when the entrance plan is submitted for review.
- Per Section 2.2.2.1 of the Development Coordination 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. The 128 vehicle trip ends per day shown on the PLUS application suggests that the subject development would not meet these warrants. We calculate that the development would generate 190 vehicle trip ends per day but with regard to the TIS warrants this difference is not significant.
- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Kennett Pike. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.
- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Development Coordination Manual, DelDOT will require dedication of right-of-way along the site's frontage on Kennett Pike. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the physical centerline on Kennett Pike. The following right-of-way dedication note is required, "**An additional X-foot width is hereby dedicated to the State of Delaware, as per this plat.**"
- In accordance with Section 3.2.5.1.2 of the Development Coordination Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Kennett Pike. 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 established to the State of Delaware, as per this plat.**"

- In accordance with Section 3.4 of the Development Coordination Manual, a record plan shall be prepared prior to issuing “Letter of No Objection”. The following information will be required for the “Letter of No Objection” review:
  - Initial Stage Fee Calculation Form
  - Initial Stage Review Fee
  - Gate-Keeping Checklist – Site Plan
  - Design Checklist - Record Plan
  - Sight Distance Spreadsheet
  - Owners and Engineers’ name and e-mail address
  - Record Plan
  - Conceptual Entrance Plan
  - Submission of the Area-Wide Study Fee (If applicable)
  
- Referring to Section 3.4.2.1 of the Development Coordination Manual, the following items, among other things, are required on the Record Plan:
  - A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
  - Depiction of all existing entrances on Kennett Pike within 450 feet of the property lines.
  - Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.
  
- Section 3.5.4.2 of the Development Coordination Manual addresses requirements for shared-use paths and sidewalks. Projects located in Level 1 and 2 Investment Areas are required to install a shared-use path or sidewalk along the State-maintained road frontage. Where a physical impossibility exists, we will accept a fee in lieu.
  
- Referring to Section 4.3 of the Development Coordination Manual, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Entrance Plan review:
  - Construction Stage Fee Calculation Form
  - Construction Review Fee
  - Gate-Keeping Checklist – Entrance Plan
  - Design Checklist - Entrance Plan
  - Auxiliary Lane Spreadsheet
  - Entrance Plan
  - Pipe/Angle Spreadsheet (If applicable)
  - SWM Report and Calculations (If applicable)
  
- In accordance with Section 5.2.5.6 of the Development Coordination Manual, Turning Movement Diagrams shall be provided to verify vehicles can safely enter and exit the site

entrance. As per Section 5.2.3 of the Manual, the entrance shall be designed for the largest vehicle using the entrance.

- In accordance with Section 5.2.9 of the Development Coordination Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrance and how long those lanes should be. The worksheet can be found at [http://www.delDOT.gov/information/business/subdivisions/Auxiliary\\_Lane\\_Worksheet.xls](http://www.delDOT.gov/information/business/subdivisions/Auxiliary_Lane_Worksheet.xls)?
- In accordance with Section 5.4 of the Development Coordination 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.delDOT.gov/information/business/subdivisions/Intersection-Sight-Distance.xls>.
- In accordance with Section 5.14 of the Development Coordination 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.
- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.

**Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352**

**Executive Summary.**

The proposed development will result in increased impervious surface and new sources of greenhouse gas emissions. Opportunities exist to preserve natural resources while reducing the environmental impact on-site and provide additional energy efficiency alternatives to homeowners.

This project falls entirely within a Level 2 Source Water Protection Area (SWPA) and is within close proximity of a wellhead protection area for the Country House public water system; therefore, land use within these areas has the potential to negatively impact water quality or quantity in the public drinking water system. The applicant should refer to the New Castle County Unified Development Code for regulations regarding development.

This project parcel may be suitable habitat for the federally protected bog turtle, based on the DNREC database. A Phase I surveys for bog turtle habitat should be conducted to ensure that the project will not impact bog turtles or their habitat.

As discussed at the July 27<sup>th</sup> PLUS meeting, DNREC commends the applicant for retaining most of the existing forest cover and expanding the sidewalk network within the project area. The State of Delaware is threatened by climate change and has a goal of reducing greenhouse gas emissions by 30 percent by 2030. Appropriate development and re-development that provides access to public transportation, opportunities to walk with outdoor recreation, and that employs energy efficient building standards are among key strategies to meet these goals. DNREC encourages the use of high performance energy efficiency building standards with consideration for alternative energy sources, which could include solar power and/or the installation of electric vehicle charging stations. Additionally, the use of green infrastructure can help protect water quality and adapt to the effects of climate change. We also recommend an abundant use of native vegetation and shade trees throughout the landscape, and pedestrian connections to adjacent parcels.

The following pages provide applicable regulations and detailed recommendations associated with this project from various DNREC Divisions. We would like to be a partner in creating appropriate development that highlights the environment as a natural amenity of the landscape. The Department has resources and expertise that are available to help make this a reality, often at no expense to the landowner.

#### **TMDLs.**

- Total Maximum Daily Loads (TMDLs) for nitrogen, phosphorus, and bacteria have been promulgated through regulation in most of the State of Delaware's water bodies. This project is located in the greater Piedmont drainage area, specifically within the greater Christina River Basin. In the Christina River Basin, post-development nitrogen and phosphorus loading must be capped at the pre-development or baseline loading rate (or a 0 percent post-construction increase in N & P in Delaware's portion of the Christina River Basin) to meet the required TMDL for each nutrient. Moreover, reductions in bacteria that range from 29 percent to 95 percent (High Flow) is also required (depending upon location). A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited waterbody" can assimilate and still meet State water quality standards (e.g., dissolved oxygen, nutrients, and bacteria; *State of Delaware Surface Water Quality Standards, as amended July 11, 2004*) to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. TMDLs are required by federal law (Section 303(d) of the 1972 Clean Water Act), and the states are charged with developing and implementing specific land use practices that support these goals. The specific required nutrient and bacterial requirements for the various stream segments in the Basin, and background information is outlined in the report entitled "*Christina River Basin High-Flow TMDL*" by the EPA and can be retrieved here:

<http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessmentTMDLs.aspx>

A nutrient management plan is required under the *Delaware Nutrient Management Law* (3 Del.C., Chapter 22) for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. Please contact the Delaware Nutrient Management

Program at (302) 739-4811 for further information concerning compliance requirements, or view the following weblink: <http://dda.delaware.gov/nutrients/index.shtml>

### **Water Supply.**

- The project information sheets state water will be provided to the project by the City of Wilmington via a public water system and/or individual on-site wells. Our records indicate that the project is located within the public water service area granted to the City of Wilmington under Certificate of Public Convenience and Necessity 94-CPCN-09.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

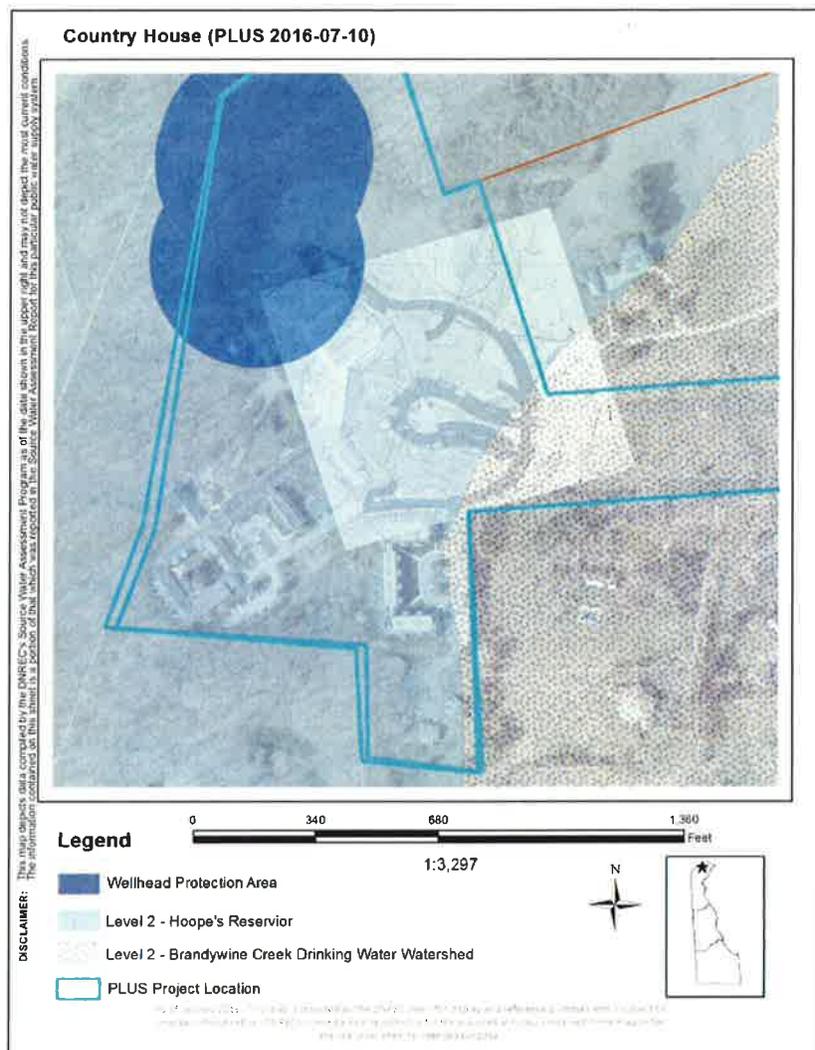
All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications take approximately four weeks to process, which allows the necessary time for technical review and advertising. Should you have any questions concerning these comments, please contact Rick Rios, at (302) 739-9944.

### **Source Water Protection.**

- DNREC has determined that the entire project falls within Level 2 Source Water Protection Areas (Brandywine Creek and Hoopes' Reservoir) for New Castle County. In addition, the project is within ninety feet of a wellhead protection area for the Country House public water system (see map).

Level 2 Source Water Protection Areas are the delineated watershed upstream from a surface water intake that supplies water to a drinking water system. Land Use or Land Activity within this area has the potential to influence water quality or quantity to the public drinking water system.

DNREC recommends referring to NCC Unified Development Code for regulations regarding development in these areas.



**Sediment and Erosion Control/Stormwater Management.**

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Contact the reviewing agency to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the New Castle County Department of Land Use Engineering Section. Contact the Department of Land Use at (302) 395-5470 for details regarding submittal requirements and fees.

**Air Quality.**

- The applicant shall comply with all applicable Delaware air quality regulations. Please note that the following regulations in Table 1 – Potential Regulatory Requirements may apply to your project:

<b>Table 1: Potential Regulatory Requirements</b>	
<b>Regulation</b>	<b>Requirements</b>
<b>7 DE Admin. Code 1106 -</b> Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> <li>• Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads.</li> <li>• Use covers on trucks that transport material to and from site to prevent visible emissions.</li> </ul>
<b>7 DE Admin. Code 1113 –</b> Open Burning	<ul style="list-style-type: none"> <li>• Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year.</li> <li>• Prohibit the burning of land clearing debris.</li> <li>• Prohibit the burning of trash or building materials/debris.</li> </ul>
<b>7 DE Admin. Code 1135 –</b> Conformity of General Federal Actions to the State Implementation Plan	<ul style="list-style-type: none"> <li>• Require, for any “federal action,” a conformity determination for each pollutant where the total of direct and indirect emissions would equal or exceed any of the de minimus levels (See Section 3.2.1)</li> </ul>
<b>7 DE Admin. Code 1141 –</b> Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products	<ul style="list-style-type: none"> <li>• Use structural/ paint coatings that are low in Volatile Organic Compounds.</li> <li>• Use covers on paint containers when paint containers are not in use.</li> </ul>
<b>7 DE Admin. Code 1144 –</b> Control of Stationary Generator Emissions	<ul style="list-style-type: none"> <li>• Ensure that emissions of nitrogen oxides (NO<sub>x</sub>), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), and carbon dioxide (CO<sub>2</sub>) from emergency generators meet the emissions limits established. (See section 3.2).</li> <li>• Maintain recordkeeping and reporting requirements.</li> </ul>
<b>7 DE Admin. Code 1145 –</b> Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> <li>• Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.</li> </ul>

For a complete listing of all Delaware applicable regulations, please look at our website:  
<http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

### **Hazardous Waste.**

- If it is determined by the Department that there was a release of a hazardous substance on the property in question and the Department requires remediation pursuant to the Hazardous Substance Cleanup Act, the provisions of 7 Del.C., Chapter 91; Delaware Hazardous Substance Cleanup Act; and the Delaware Regulations Governing Hazardous Substance Cleanup shall be followed.

### **Tank Management.**

- If a release of a Regulated Substance occurs at the proposed project site, compliance of 7 Del.C., Chapter 60; 7 Del.C., Chapter 74; and DE Admin. Code 1351, State of Delaware Regulations Governing Underground Storage Tank Systems (the UST Regulations) is required.

The following (LUST) projects are located within a quarter mile from the proposed project area:

- **Methodist Country House ID: 3-001335 , Project: N9307129, (Inactive)**
- **Tenant House, Facility: 3-002469, Project: n0809092 (Inactive)**

Per the UST Regulations: Part E, § 1. Reporting Requirements: Any indication of a Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants, contractors, utility companies, financial institutions, real estate transfer companies, UST Owners or Operators, or Responsible Parties shall be reported within 24 hours to:

- The Department's 24-hour Release Hot Line (800) 662-8802; and
- The DNREC Tank Management Section by calling (302) 395-2500.

For more information, please visit: <http://www.dnrec.delaware.gov/tanks/Pages/default.aspx> or contact Ross D. Elliott at DNREC-TMS with further questions at (302)-395-2500

### **Delaware State Fire Marshall's Office – Contact John Rudd 739-4394**

- **Fire Protection Water Requirements:**
  - Water distribution system capable of delivering at least 1000 gpm for 1-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 Health Care 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:**
  - All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
  - Buildings occupied as apartments (multi-family living units comprising of 3 or more units) will require automatic sprinkler protection installed.
  - Buildings greater than 10,000 sqft, 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
  - Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
  - Show Fire Lanes and Sign Detail as shown in DSFPR
  
- **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.
  - 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
  - Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
  - Provide Road Names, even for County Roads

- **Additional Notes:**

- For licensing purposes, the Department of Health & Social Services, Division of Long-Term Care Residents Protection is to be notified of any intent to construct, expand, or renovate.

**State Historic Preservation Office – Contact Terrence Burns 736-7404**

- There are no known archaeological sites or National Register-listed properties on this parcel. However, it is still important that the developer be aware of the Unmarked Human Burials and Skeletal Remains Law, in Title 7, Chapter 54, of the Delaware Code).
- Abandoned or unmarked family cemeteries are very common in the State of Delaware. They are usually in rural or open space areas, and sometimes near or within the boundary of an historic farm site. Even a marked cemetery can frequently have unmarked graves or burials outside of the known boundary line or limit. Disturbing unmarked graves or burials triggers the Delaware's Unmarked Human Burials and Human Skeletal Remains Law (7 Del. C. Ch. 54), and such remains or discoveries can result in substantial delays while the procedures required under this law are carried out. If there is a discovery of any unmarked graves, burials or a cemetery, it is very costly to have them archaeologically excavated and the burials moved. The Division of Historical & Cultural Affairs recommends that owners and/or developers have a qualified archaeological consultant investigate their project area, to the full extent, to see if there is any unmarked cemetery, graves, or burial sites. In the event of such a discovery, the Division of Historical & Cultural Affairs also recommends that the plans be re-drawn to leave the full extent of the cemeteries or any burials on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with the landowner association or development. If you would like to know more information pertaining to unmarked human remains or cemeteries, please go to the following websites for additional information: [www.history.delaware.gov/preservation/umhr.shtml](http://www.history.delaware.gov/preservation/umhr.shtml) and [www.history.delaware.gov/preservation/cemeteries.shtml](http://www.history.delaware.gov/preservation/cemeteries.shtml).

Therefore, prior to any demolition or ground-disturbing activities, the developer should hire an archaeological consultant, to examine the parcel for archaeological resources and plan to avoid those areas. If there is any federal involvement with the project, in the form of licenses, permits, or funds, the federal agency through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential cultural or historic resources. Owners and developers who may plan to apply for an Army Corps of Engineers permit or for federal funding, such as HUD or USDA grants, should be aware of the National Historic Preservation Act of 1966 (as amended). Regulations promulgated for Section 106 of this Act stipulate that no ground-disturbing or demolition activities should take place before the Corps or other involved federal agency determines the area of potential effect of the project undertaking. These stipulations are in place to allow for comment from the public, the Delaware State Historic Preservation Office, and the

Advisory Council for Historic Preservation about the project's effects on historic properties. Furthermore, any preconstruction activities without adherence to these stipulations may jeopardize the issuance of any permit or funds. If you need further information or additional details pertaining to the Section 106 process and the Advisory Council's role, please review the Advisory Council's website at [www.achp.gov](http://www.achp.gov).

### **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 Bill Brockenbrough 760-2109**

- Be advised:
  - That Kennett Pike is part of the Brandywine Valley National Scenic Byway. In reviewing plans for this project, DelDOT will be guided by the Corridor Management Plan ([http://www.deldot.gov/information/community\\_programs\\_and\\_services/byways/brandywine\\_cmp.shtml](http://www.deldot.gov/information/community_programs_and_services/byways/brandywine_cmp.shtml)) for the Byway.
  - DelDOT utilizes two new checklists, one for Record Plans and one for Entrance/Construction Plans, which are now required to be submitted with the project through the Planning and Development Coordination Application (PDCA). These checklists are a condensed version of the major requirements laid out in the Manual for each plan type respectively. The checklists offer the major topics, however they are not conclusive for all requirements in the Manual. Accurate and thorough completion of the checklist should reduce the number of iterations of review that a project will need to go through. To find the checklists and more information about them, please visit <http://www.deldot.gov/information/business/subdivisions/>.
  - As of August 1, 2015, all new plan submittals and re-submittals, including major, minor and commercial plans, shall now be uploaded via the PDCA (Planning Development Coordination Application) with any review fee paid online via credit card or electronic check. Guidance on how to do this is available on our website at <http://www.deldot.gov/information/business/subdivisions/>
  - The Standard General Notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision date of

January 28, 2016. The notes can be found at  
[http://www.deldot.gov/information/business/subdivisions/Sheet\\_Notes.doc?012816](http://www.deldot.gov/information/business/subdivisions/Sheet_Notes.doc?012816).

**Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352**

**Soils Assessment.**

- Based on soils survey mapping update (Figures 1 & 2), the primary soil mapping units mapped on subject parcel are Glenelg (GeB & GeC), Glenville (GnA & GnB), and Manor (MaD; 15 to 25 percent slopes). Glenville and Glenelg are moderately well drained to well-drained and have moderate to few limitations for development, while Manor is well drained but has severe limitations due to steeply-sloping topography and should be avoided (considered unsuitable for development).

It is strongly recommend that the applicant contact a licensed (Delaware Class D) soil scientist to make a site-specific assessment (i.e., soil survey mapping) of the soils on this site as a means of delineating the existing wetlands and defining their extent. A licensed soil Class-D soil scientist familiar with the identification of wetland vegetation is qualified to conduct a wetlands delineation. A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch at (302) 739-9947, or a list can be obtained here:

<http://www.dnrec.delaware.gov/wr/Information/GWDInfo/Pages/GroundWaterDischargeSLicensesandLicensees.aspx>. Based on the information presented in the PLUS application, a wetland delineation was conducted but not approved by the USACE. The wetland delineation should also be submitted to DNREC for review.

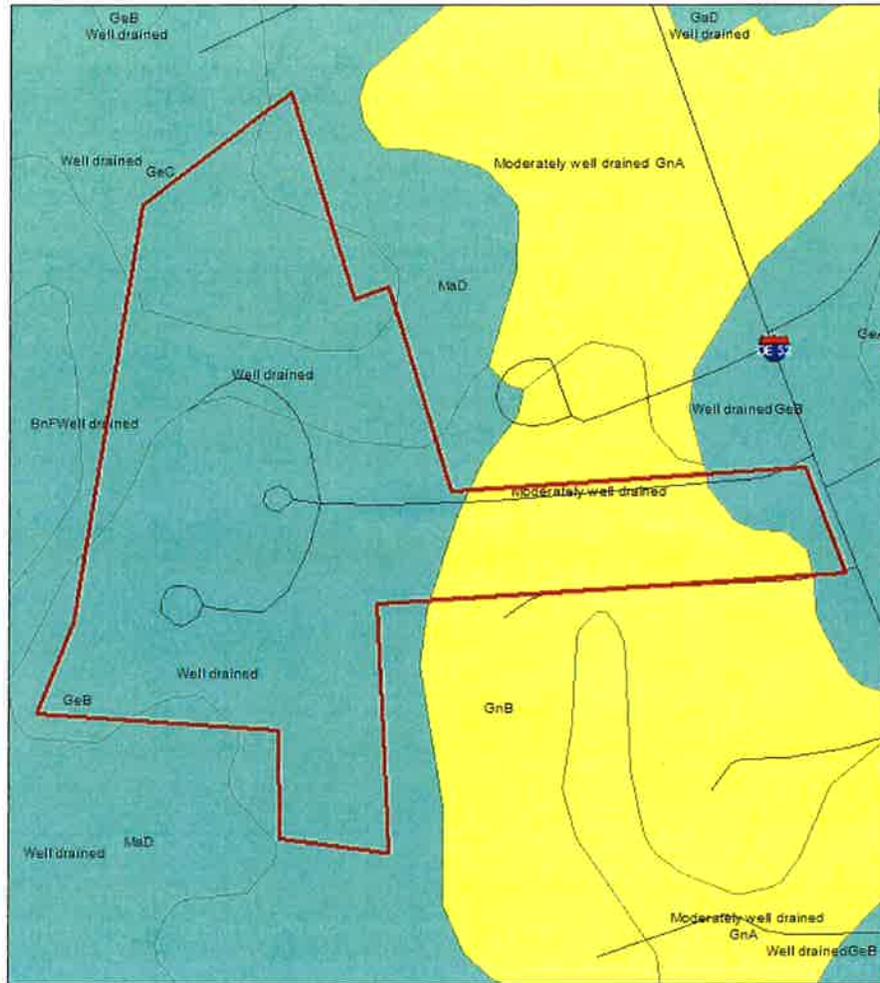
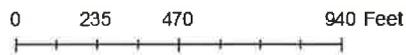


Figure1: NRCS soil survey mapping update in the immediate vicinity of the proposed construction



**Legend**

**Drainage Class**

<all other values>

**DrainClass**

- <Null>
- Moderately well drained
- Poorly drained
- Somewhat poorly drained
- Very poorly drained
- Well drained



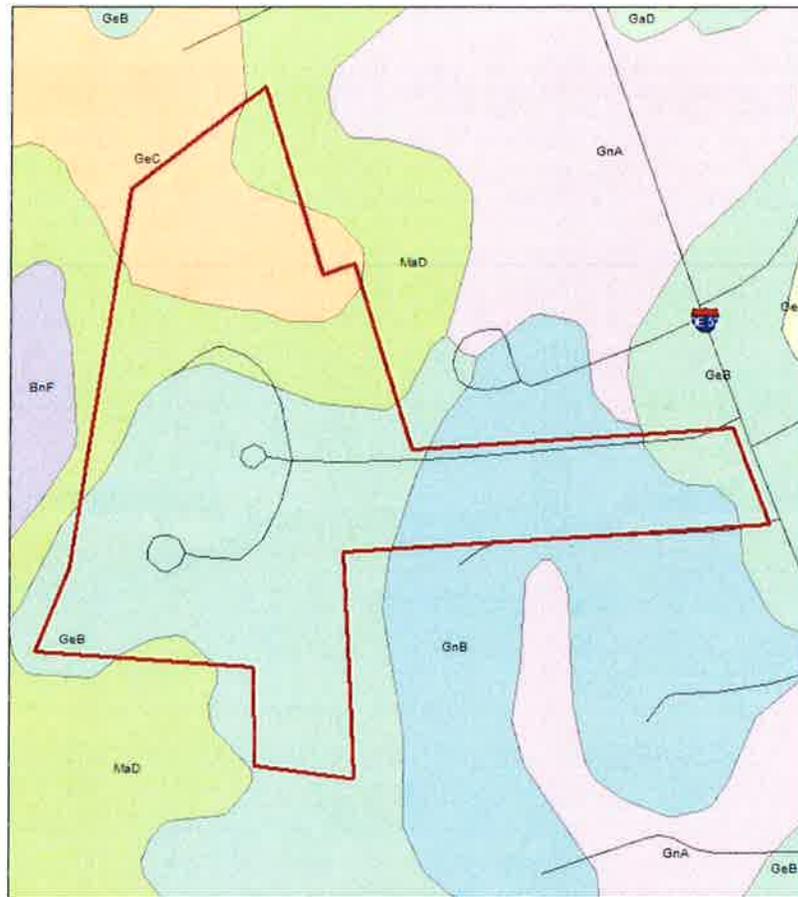
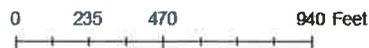


Figure2 : NRCS soil survey mapping update in the immediate vicinity of the proposed construction



### Bog Turtle.

- A review of our database has revealed that there may be suitable habitat for the federally listed bog turtle (*Glyptemys muhlenbergii*) within the proposed project area. Bog turtles typically occur in freshwater wetlands with open canopies, mucky soils, and tussock vegetation. However, they can occur in more marginal habitats as well. Because the bog turtle is a federally listed species, protected under the Endangered Species Act, its presence can affect the scope of work. To ensure that the project will not impact bog turtles or their habitat, Phase I surveys for bog turtle habitat should be conducted.

Phase I surveys can be conducted any time of year when ice and/or snow cover is not present. If potential habitat is found, however, please note there is a time of year restriction during which Phase II surveys for bog turtles must be conducted. A *Delaware approved* bog turtle surveyor must be used to conduct the surveys. Please contact Holly Niederriter, at (302) 735-8670, to obtain a list of contacts to conduct Phase I and, if necessary, Phase II surveys.

If potential bog turtle habitat is found during Phase I surveys, you are required to either:

- Completely avoid all direct and indirect project impacts to the wetland, in consultation with the U.S. Fish and Wildlife Service and Delaware Division of Fish and Wildlife;

*OR*

- Have Phase II surveys conducted to determine if bog turtles are present. In accordance with Delaware's bog turtle site survey procedures, surveys must be conducted by a State-approved bog turtle surveyor between April 15 and June 15.

**Additional information on TMDL compliance and the PCS.**

- A Pollution Control Strategy (PCS) to achieve the required TMDL nutrient and bacterial load reduction requirements has been established for the Christina Basin. The Christina watershed PCS strategies can be viewed here:

<http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx>

DNREC strongly encourages the applicant to reduce nutrient and bacterial pollutants on their parcel through implementation of the following recommended BMPs:

- Maintain and preserve as much of the existing forest cover and open space as possible; we further suggest additional native tree, shrub and/or native herbaceous vegetation plantings in this parcel. We suggest that the applicant maintain as much of the existing forest cover and open space as possible; we further suggest additional native tree, shrub and/or native herbaceous vegetation plantings in this parcel, wherever possible.
- Conduct a United States Army Corps of Engineers (USACE) approved onsite wetlands delineation before commencing any construction activities.
- Maintain a vegetated buffer of at least 100 feet from the adjoining wetlands and waterbodies. Based on a review of existing buffer research, an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant reconsider their proposal and maintain/establish this aforementioned 100-foot buffer width (planted in native vegetation) from all waterbodies (including ditches and ponds) and all non-

tidal and tidal wetlands (i.e., a USACE approved field wetlands delineation for non-tidal wetlands and State approved wetlands delineation for tidal wetlands, where applicable). The 50-foot buffer proposed by the applicant is insufficiently protective of water quality.

- Calculate post-construction surface imperviousness with all forms of created (or constructed) surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, ponds, and roads) included in the calculation. Omission of any of the above-stated forms of surface imperviousness will result in an underestimate of the actual post-development surface imperviousness and the associated environmental impacts.
- Employ green-technology storm water management and a rain gardens (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant runoff. Please contact Lara Allison, at (302) 739-9939, for further information about the possibility for installing rain gardens on this parcel.
- Use pervious paving materials instead of conventional paving materials (e.g., asphalt or concrete), where it is practicable and is not in conflict with local ordinances such as source water protection, fire marshal codes, and/or sediment and stormwater regulations. Wherever possible, pervious pavement reduces the amount of water and pollutant runoff draining to adjoining streams and wetlands in the greater Christina River Basin.
- Assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the “Nutrient Load Assessment protocol.” The protocol is a tool used to assess changes in nutrient loading (e.g., nitrogen and phosphorus) resulting from the conversion of individual or combined land parcels to a changed land use; thus providing applicants and governmental entities with quantitative information about the project’s impact(s) on baseline water quality. We strongly encourage the applicant/developer to use this protocol to design and implement the most effective BMPs. Please contact John Martin or Jen Walls in the Division of Watershed Stewardship, at (302) 739-9939 for more information on the protocol.

**Additional information on tank management.**

- When contamination is encountered, PVC pipe materials should be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.

If any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMS. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMS.

**Additional information on hazardous waste sites.**

- DNREC strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Environmental Site Assessment (including a title search to identify environmental covenants) in accordance to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA. Additional remediation may be required if the project property or site is re-zoned by the county.

Should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency number (800) 662-8802. SIRS should also be contacted as soon as possible at (302) 395-2600 for further instructions.

**Additional information on air quality.**

- DNREC was pleased to see the inclusion of sidewalks in the development plan. It is recommended that both DelDOT and the applicant pursue the opportunity to connect gaps in the existing bicycle/pedestrian and sidewalk network in the near future in order to promote alternative travel methods in the area that reduce dependency on vehicular travel and encourage multi-modal transportation efforts. DNREC also commends the developer for attempting to preserve all trees except where necessary to construct buildings, parking, access ways, drainage facilities and utilities and where selective thinning of existing vegetation is approved. Furthermore, DNREC places great importance in the health, longevity and quality of life of the residents of Delaware and is pleased to see the addition of a new continuing care retirement community.

DNREC encourages developers and builders to consider all sustainable growth practices in their design, and we believe that the air quality impacts associated with the project should be completely considered. New homes and businesses may emit, or cause to be emitted, additional air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:

- Emissions that form ozone and fine particulate matter (New Castle County currently violates federal health-based 2008 air quality standards for ozone and falls under the "maintenance" category for the emission of particulate matter (PM)),
- The emission of greenhouse gases which are associated with climate change, and
- The emission of air toxics.

Air emissions generated from new homes and businesses include emissions from the following activities:

- Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
- The generation of electricity, and
- All transportation activity.

Based on the information provided, Table 2 – Projected Air Quality Emissions represents the actual impact the Country House Property may have on air quality.

<b>Table 2: Projected Air Quality Emissions for Country House development (Based on projected estimate of 128 trips during peak season)</b>					
Emissions Attributable to Peninsula Square (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO <sub>2</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )	Carbon Dioxide (CO <sub>2</sub> )
Mobile emissions	0.425152	0.56064	*	*	*

(\*) Indicates data is not available.

Note that emissions associated with the actual construction of the apartment community, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the table above.

**Recommendations:**

DNREC encourages sustainable growth practices that:

- Control sprawl;
- Preserve rural and forested areas;
- Identify conflicting land use priorities;
- Encourage growth on previously developed sites and denser communities while at the same time protect our diminishing land base;
- Coordinate transportation, housing, environment, and climate protection plans with land use plans; and
- Demonstrate that communities can achieve the qualities of privacy, community, and contact with nature without degrading the natural environment or generating additional environmental costs in terms of congestion, use of natural resources, or pollution.

Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:

- **Constructing with only energy efficient products.** Energy Star qualified products are up to 30 percent more energy efficient. Savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and

air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of energy efficiency translates into a percent reduction in pollution. The Energy Star Program is an excellent way to save on energy costs and reduce air pollution.

- **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation and from the use of oil or gas heating equipment.
- **Constructing with high albedo, high solar reflectance materials.** This includes roofing and hardscape. These materials help to reduce heat island impacts and, by extension, help to minimize the potential for localized ground-level ozone formation. These materials also help reduce demands on air conditioning systems and save on energy costs.
- **Providing shade for parking areas.** Approaches may include architectural devices, vegetation, or solar panels. Providing shade for parking areas helps to reduce heat island impacts, and, by extension, helps to minimize the potential for localized ground-level ozone formation. Such measures can also have the additional benefit of channeling or infiltrating stormwater.
- **Providing charging stations for plug-in electric vehicles.** This measure helps to reduce localized air pollution by supporting the use of non-gasoline powered vehicles. Please refer to the US Department of Energy's website for electric vehicle readiness information: [http://www1.eere.energy.gov/cleancities/electric\\_vehicle\\_projects.html](http://www1.eere.energy.gov/cleancities/electric_vehicle_projects.html). Several charging stations exist nearby in Millsboro, Lewes, and Rehoboth Beach.
- **Encouraging the use of safe multimodal transportation.** This measure can significantly reduce mobile source emissions. For every vehicle trip that is replaced by the use of a sidewalk or bike path, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.
- **Using retrofitted diesel engines during construction.** This includes equipment that is on-site as well as equipment used to transport materials to and from site.
- **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
- **Planting trees in vegetative buffer areas.** Native trees reduce emissions by trapping dust particles and replenishing oxygen. Trees also reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

(When selecting tree species, keep in mind their VOC emission rates, found here:  
<http://www.nrs.fs.fed.us/units/urban/local-resources/downloads/vocrates.pdf>)

This is a partial list, and there are additional things that can be done to reduce the impact of the development. The applicant can contact the DNREC Division of Air Quality (DAQ) to discuss the specific emission mitigation measures that will be incorporated into the Country House project. The DAQ point of contact is Lauren DeVore, and she may be reached at (302) 739-9437 or [lauren.devore@state.de.us](mailto:lauren.devore@state.de.us).

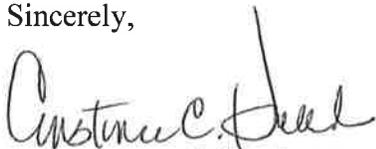
**Delaware State Fire Marshall's Office – Contact John Rudd 739-4394**

- Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for 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.

**Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.**

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,



Constance C. Holland, AICP  
Director, Office of State Planning Coordination

CC: New Castle County