



**STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION**

March 22, 2016

Mr. Charlie Barnett
Morris Ritchie Associates, Inc.
18 Boulden Circle Suite 36
New Castle, DE 19720

RE: PLUS review 2016-02-04; Whispering Woods

Dear Charlie:

Thank you for meeting with State agency planners on February 24, 2016 to discuss the proposed plans for the Whispering Woods project. According to the information received, you are seeking review of a 178 unit subdivision on 114.5 acres along Boyds Corner Road in New Castel 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 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

- 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 695 vehicle trip ends per day shown on the PLUS application suggests that the subject development would meet these warrants.

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- However, per Section 2.2.2.4 of the Manual, if a development is located within a Transportation Improvement District (TID) and is consistent with the Land Use and Transportation Plan for that TID, then under certain conditions DelDOT may require participation in the TID in lieu of conducting a TIS and making improvements based on the TIS. This project is located in the Southern New Castle County TID, is consistent with the plan for that TID and the conditions in Section 2.2.2.4 are met.
- The Southern New Castle County TID pre-dates Section 2.4 of the Manual, so its administration is somewhat different from what is described there but the procedures involved are essentially the same. We anticipate requiring the applicant to enter an agreement whereby they would pay toward the improvements contemplated for the TID. The applicant should contact our Subdivision Reviewer for this part of New Castle County, Mr. Pao Lin, in this regard. Mr. Lin may be reached at (302) 760-2157.
- The subdivision streets and the site access on Delaware Route 896 must be designed 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>.
- 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 Delaware Route 896. 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 Delaware Route 896. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the centerline on Route 896. The following right-of-way dedication note is required, "**An additional X-foot of right-of-way is hereby dedicated to Public Use, 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 Delaware Route 896. 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.**"
- Referring to Section 3.4.2 of the Development Coordination Manual, the Initial Stage review fee shall be assessed to this project.

- 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 within 600 feet of the proposed entrance.
 - 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. We anticipate requiring construction of a shared-use path across the site frontage on Delaware Route 896.

- Section 3.5.6 of the Development Coordination Manual addresses requirements for subdivision street intra-connectivity and specifies a minimum Connectivity Ratio, the ratio of street sections to intersections, of 1.4 or greater. We calculate that the plan presented meets that requirement with a ratio of 1.43.

- Section 3.5.7.3 of the Development Coordination Manual addresses requirements for connections to undeveloped or re-developable land, including a requirement for linkage street stubs at a ratio of one per 1,320 linear feet of the boundary line or fraction thereof, which adjoins such land. The proposed Rumor Place is one such stub. Recognizing that much of the adjoining land appears to be wet, and therefore unsuitable for development, we still anticipate requiring three additional linkage street stubs, one to the lands of Rausch Enterprises (Tax Parcel No. 13-012.00-043) in the area of Lots 94 and 95, one to the Delmarva Power & Light property (Tax Parcel No. 13-012.00-057) along the south

property line, probably in the area of Reflection Court, and one to the lands of Richard Spicer and Sydney Coneeny (Tax Parcel No. 13-012.00-043), probably in the area of Lot 30.

- While Title 17 Delaware Code §531 limits DeIDOT's ability to accept, into State maintenance, streets that connect to age-restricted developments, we believe the proposed Rumor Place has value in that it could potentially allow residents access to a signalized intersection at Ratledge Road. Presently DeIDOT has no plans to install a signal at Ratledge Road and we know of no active plans to develop the lands of Rausch Enterprises, however, it seems likely that those lands will develop at some point and the Ratledge Road intersection is a rational place to install a signal if traffic volumes at some point warrant one. Per Title 17 Delaware Code §531, a majority vote of the homeowners in the subject development would be necessary to permit a State-maintained street connection but we believe the prospect of signalized access could produce such a majority.
- Section 3.6 of the Development Coordination Manual addresses requirements for noise analysis. In accordance with this section, the applicant will be required to provide an analysis of the expected noise levels associated with US Route 301 and Delaware Route 896 at the proposed dwellings. Based on the results of that analysis, they may be required to provide noise mitigation.
- In accordance with Section 3.8 of the Development Coordination 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 Delaware Route 896.
- Referring to Section 4.3 of the Development Coordination Manual, the Construction Stage review fee shall be assessed to this project.
- 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.
- 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.
- This project is located within the regulated airspace zones of Summit Airport (EVY), which is a public-use facility. Federal Aviation Regulation (FAR) Part 77 imposes height restrictions on any structures within these zones. DelDOT requires that the applicant for this project submits a “Proposed Construction/Alteration in Airport Zones Notification Form” in accordance with Delaware Code (2 Del. C. § 602).
 - This notification form can be submitted during the plan approval process with the local land use jurisdiction, but DelDOT’s Office of Aeronautics is willing to test hypothetical height numbers to prevent any future project complications. Please contact Mr. Joshua Thomas with the Office of Aeronautics at (302) 760-4834 with any questions or concerns. A copy of the notification form can be found at this address:
http://www.deldot.gov/information/community_programs_and_services/airports/pdfs/aviation_obstruction_review_form.pdf.

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

The Department envisions a Delaware that offers a healthy environment where people embrace a commitment to the protection, enhancement and enjoyment of the environment in their daily lives; where Delawareans' stewardship of natural resources ensures the sustainability of these resources for the appreciation and enjoyment of future generations; and where people recognize that a healthy environment and a strong economy support one another.

Executive Summary.

While the conservation and protection of this area will have benefit for wildlife, neighboring parcels, water quality and air quality, there remain several opportunities to conserve and protect important sensitive habitat, improve water quality, protect drinking water supplies and reduce greenhouse gas emissions.

The proposed development plan would place approximately half of the lots within a mature forested area that contains sensitive wetlands. It is important to note that the wet woods that are proposed to be filled as a result of this project provide wetland functions and ecological value. DNREC is requesting the opportunity to conduct an onsite survey to evaluate this habitat and determine the potential for species of conservation concern, since much of the forested area is mapped as Key Wildlife Habitat in the Delaware Wildlife Action Plan (DEWAP).

As discussed at the PLUS meeting, the Department recommends that the number of single family lots in the northern portion of the project be reduced and/or the lots reconfigured to minimize or eliminate intrusion into this forested area. This would also minimize or eliminate the need to fill wetlands and obtain wetland permits from the USACE. The Department is available to provide assistance with selecting the most appropriate conservation mechanism and for developing a forest management plan that would provide guidance for invasive species management, monitoring of forest health and management of public access.

The State of Delaware is threatened by climate change and has a goal of reducing greenhouse gas emissions by 30% by 2030. Appropriate development and re-development that provides access to public transportation, opportunities to walk and bike to shopping and recreation, and that employs energy efficient building standards are among key strategies to meet these goals. We encourage the applicant to provide pedestrian, bike and vehicular access to adjacent neighborhoods where practical. We also encourage the use of high performance building standards and consideration of alternative energy sources to promote clean sustainable energy and reduce greenhouse gas emissions. We further recommend an abundant use of native vegetation and shade trees throughout the landscape, as well as pervious pavement and green infrastructure, where practicable, to absorb carbon dioxide, protect water quality and provide relief to residents on hot days.

The following pages provide information about 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 protects and 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. Contact information for specific offices are listed below or you can contact Michael Tholstrup at (302) 735-3352.

Wetlands.

- DNREC has reviewed the proposed project and determined that State regulated wetlands and subaqueous lands are not located on this property based on a review of the State wetland maps, aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. For more information, please contact the DNREC Wetlands and Subaqueous Lands Section at (302) 739-9943 or online at:

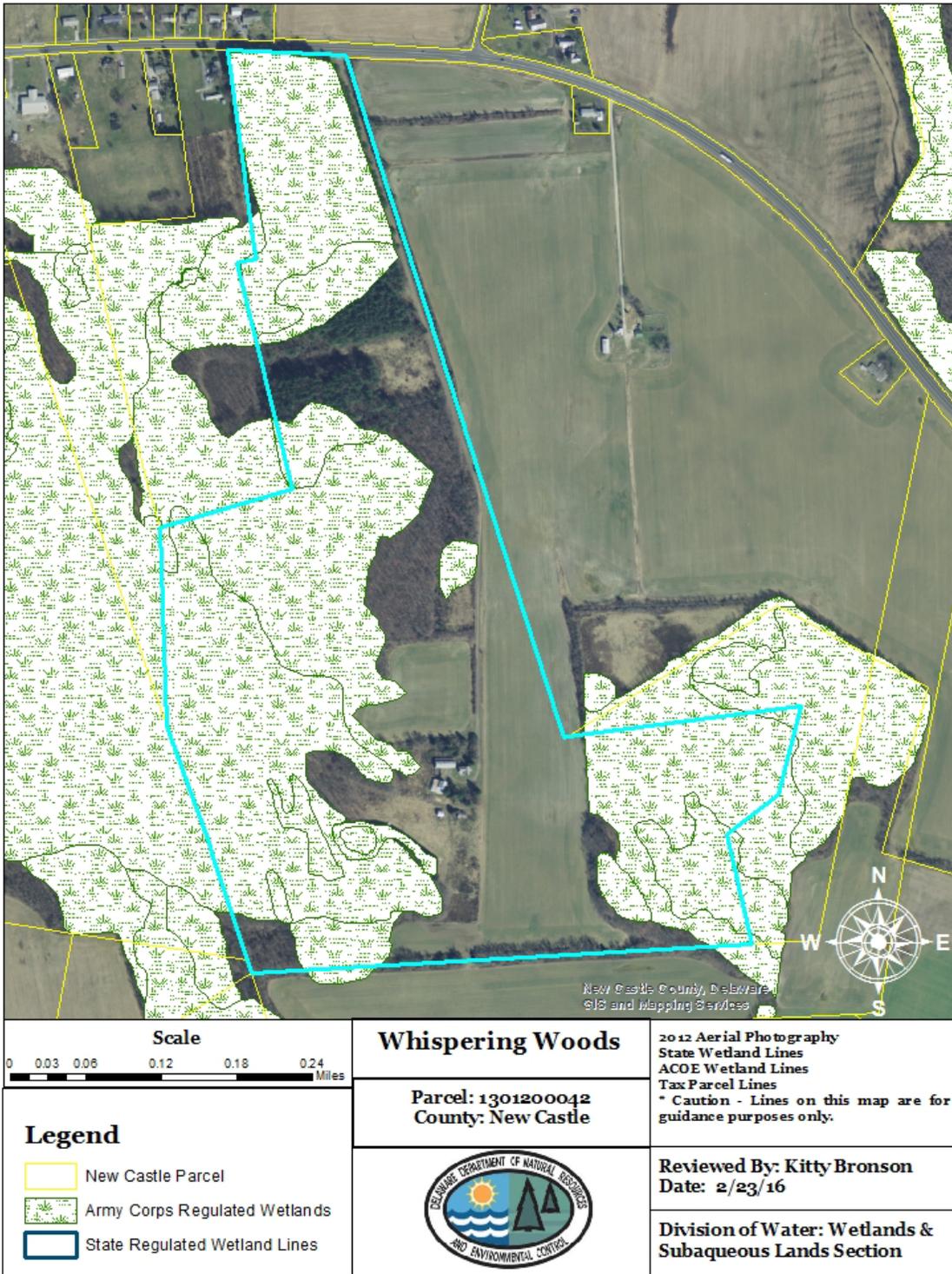
<http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx>.

Waters of the U.S. regulated by the U.S. Army Corps of Engineers (USACE) are likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. According to our GIS SWMP maps, there are considerable wetlands regulated by the U.S. Army Corps of Engineers on this parcel. A wetlands delineation should be done by a consultant to determine actual wetland borders for setbacks and Army Corps compliance.

Waters of the United States include the following: navigable waters of the United States; wetlands; tributaries to navigable waters of the United States, including adjacent wetlands and lakes and ponds; interstate waters and their tributaries, including adjacent wetlands; and all other waters of the United States not identified above, such as isolated wetlands, intermittent streams, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, where the use, degradation or destruction of these waters could affect interstate or foreign commerce.

The extent of Federal jurisdiction over Waters of the United States is determined by the USACE and is based on site specific conditions. Therefore, an on-site inspection by an environmental consultant is recommended to determine if Waters of the U.S. are located on the property and the limits of Federal jurisdictional. The U.S. Army Corps of Engineers can be contacted at (215) 656-6728 or online at

<http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm>.



TMDLs.

- The project is located in the greater Delaware River and Bay drainage area, specifically within the Appoquinimink River watershed. In this watershed, the State of Delaware has

developed specific Total Maximum Daily Load (TMDL) pollutant reduction targets for nitrogen, phosphorus, and bacteria (under the auspices of Section 303(d) of the Clean Water Act). 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. The TMDL for the Appoquinimink River watershed calls for a 60 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for an 8 percent (freshwaters) reduction in bacteria from baseline conditions. The specific TMDL nutrient and bacterial load reductions for the Appoquinimink watershed can be viewed 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. This project’s open space may exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at (302) 739-4811 for further information concerning compliance requirements, or view additional information here: <http://dda.delaware.gov/nutrients/index.shtml>

Water Supply.

- The project information sheets state water will be provided to the project by Artesian Water Company via a public water system. DNREC records indicate that the project is located within the public water service area granted to Artesian Water Company under Certificate of Public Convenience and Necessity 94-CPCN-08.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the DNREC 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.

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.

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, but we believe, however, that the air quality impacts associated with the project should be completely considered. 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:

Table 1: Potential Regulatory Requirements	
Regulation	Requirements
7 DE Admin. Code 1106 - Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> • Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. • Use covers on trucks that transport material to and from site to prevent visible emissions.
7 DE Admin. Code 1113 – Open Burning	<ul style="list-style-type: none"> • Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year. • Prohibit the burning of land clearing debris. • Prohibit the burning of trash or building materials/debris.
7 DE Admin. Code 1135 – Conformity of General Federal Actions to the State Implementation Plan	<ul style="list-style-type: none"> • 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)
7 DE Admin. Code 1141 – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products	<ul style="list-style-type: none"> • Use structural/ paint coatings that are low in Volatile Organic Compounds. • Use covers on paint containers when paint containers are not in use.
7 DE Admin. Code 1144 – Control of Stationary Generator Emissions	<ul style="list-style-type: none"> • Ensure that emissions of nitrogen oxides (NO_x), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO₂), carbon monoxide (CO), and carbon dioxide (CO₂) from emergency generators meet the emissions limits established. (See section 3.2). • Maintain recordkeeping and reporting requirements.
7 DE Admin. Code 1145 – Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> • Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

For a complete listing of all Delaware applicable regulations, please look at our website:
<http://www.dnrec.delaware.gov/Air/Pages/Air-Regulations.aspx>.

Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) for this project were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact the Whispering Woods project may have on air quality:

Table 2: Projected Air Quality Emissions for Whispering Woods					
Emissions Attributable to Whispering Woods (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Area Source Emissions	5.5	0.6	0.5	0.6	22.3
Electric Power Generation	*	2.2	7.6	*	1120.4
Mobile Source Emissions	8.2	8.5	0.2	0.1	5260.8
Total Emissions	13.7	11.3	8.3	0.7	6403.5

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the road, 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.

Deanna Morozowich, (302) 739-9402, Deanna.Morozowich@state.de.us

Hazardous Waste Sites.

- If it is determined by DNREC's Site Investigation and Restoration Section (SIRS), 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.

The proposed project is within a half mile of three SIRS sites:

Boys Corner (DE-1620) is located 0.21 miles north west of the proposed project property

- The Site was used for agriculture fields prior to becoming a Certified Brownfields Site in September 2015.
- The Sampling and Analysis Plan was approved in October 2015 and sampling is expected to begin soon.

Mt Pleasant Railroad Dump (DE-0079) is located 0.34 miles north west of the proposed project property

- At a unknown time rail-road ties, tires and construction debris were dumped on the Site.
- In 1985, the debris was removed from the property and a Preliminary Assessment was conducted.
- The site was given a No Further Action designation (NFA) in 1985.

Sealand Site (DE-0092) is located 0.36 miles north west of the proposed project property

- In 1983, DNREC and EPA initiated an Emergency Removal Action under CERCLA. The action consisted of the removal of 240,800 gallons of coal tar that had been stored in the wooden and steel storage tanks, 320 drums, and approximately 80 cubic yards of solid waste.
- In 1991 a Remedial Investigation was conducted and the Site was given a NFA by EPA.
- In 1994 DNREC required further investigation of the Site in the form a Facility Evaluation. The FE report indicated that nickel is present in the groundwater.
- The Site is in Operation and Maintenance phase. A second 5-year review is being coordinated.

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There are no known archaeological sites or National Register-listed property on this parcel. However, if any development or construction project proceeds, the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law, which is in, Chapter 54, of Title 7, 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 and www.history.delaware.gov/preservation/cemeteries.shtml.

Therefore, prior to any demolition or ground-disturbing activities, the developer may want hire an archaeological consultant, to examine the parcel for archaeological resources, as well a cemetery or unmarked human remains.

- If there is any federal involvement with the project, in the form of licenses, permits, or funds, the federal agency, often 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.

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

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 Regulation:

- **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 townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains.
- **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 road to the subdivision from Boyd's Corner Road must be constructed so fire department apparatus may negotiate it. If a "center island" is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision.

- 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.
 - 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
 - Square footage of each structure (Total of all Floors)
 - National Fire Protection Association (NFPA) Construction Type
 - Maximum Height of Buildings (including number of stories)
 - Name of Water Provider
 - Letter from Water Provider approving the system layout
 - Townhouse 2-hr separation wall details shall be shown on site plans
 - Provide Road Names, even for County Roads

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

- Because the proposed development would generate more than 200 vehicle trips per day, a Pre-Submittal Meeting is required before plans are submitted for review. The form needed to request this 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.

- It appears that the parking for the community center is proposed to be head-in perpendicular parking, similar to the additional parking provided in the townhouse portion of the property. These spaces, at times, will see significantly more activity than would the additional off-street parking serving the townhouses. We would expect that both users of those spaces and residents of the homes across from them would find this design to be a nuisance at best and potentially a safety hazard. We suggest that a small parking lot be provided instead.
- Somewhat similarly, on Tranquility Way, some of the additional off-street parking serving the townhouses is located on the inside of a curve and would be subject to sight distance problems. We suggest that it be relocated.
- Please be advised that 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/>
- Be advised that the Standard General Notes have been updated and posted to the DeIDOT 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.

Department of Natural Resources and Environmental Control – Contact Michael

Tholstrup 735-3352

Soils Assessment.

- The soil mapping units with significant limitations for development are Othello (OtA) and Fallsington (FgA). Othello and Fallsington are poorly-drained wetland associated (hydric) soils which are considered unsuitable for development (Figure 1).

DNREC strongly discourages building on hydric soils (e.g., Othello and Fallsington) because they are functionally important source of water storage (functions as a “natural sponge”); the loss of water storage through excavation, filling, or grading of intact native hydric soils increases the probability for more frequent and destructive flooding events. The probability for flooding is further compounded by increases in surface imperviousness as building density in the area increases over time. Moreover, destruction of hydric soils increases the amount pollutant runoff (i.e., hydric soils sequester and detoxify pollutants) which contributes to lower water quality observances in regional waterbodies and wetlands. Therefore, we strongly recommend 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. A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch at (302) 739-9947.

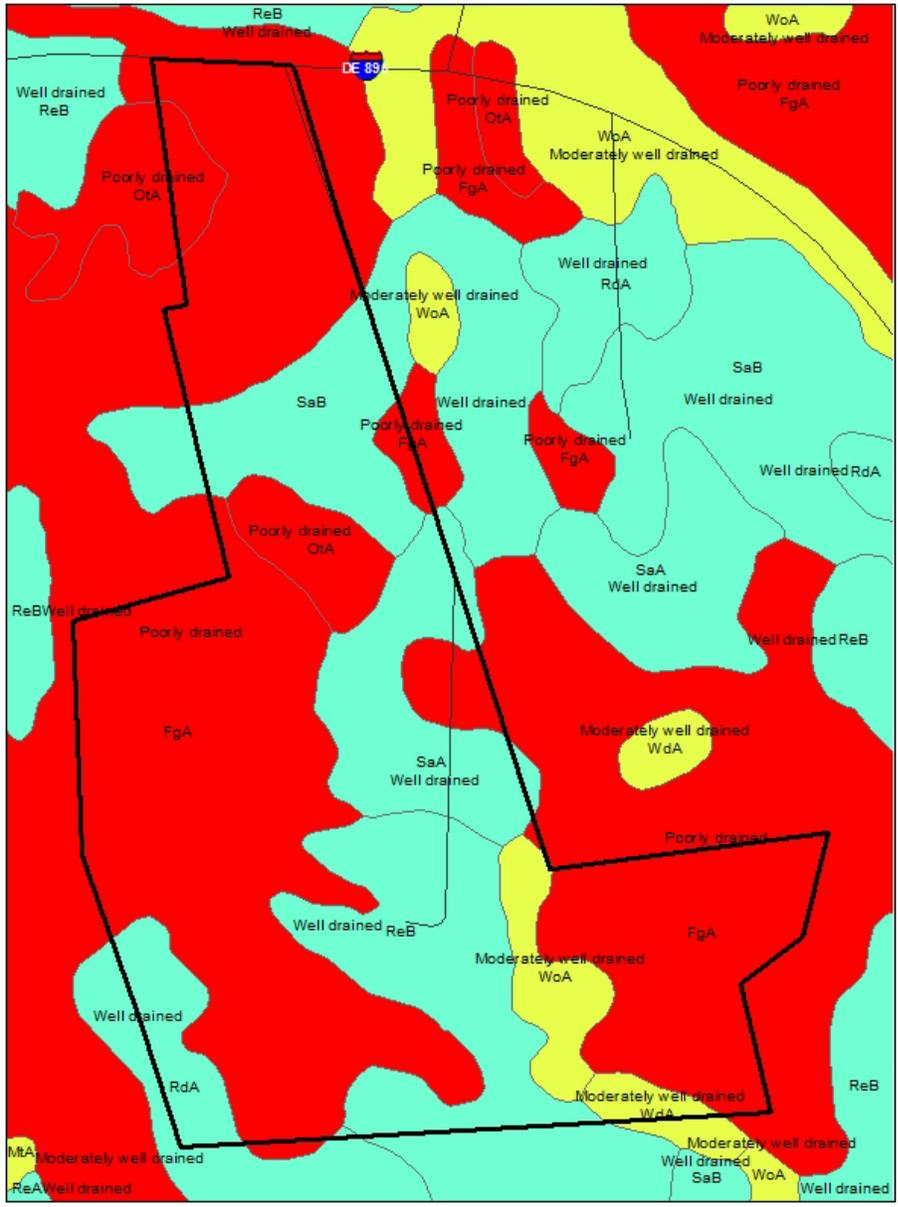
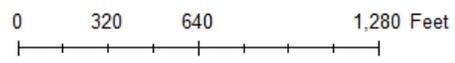


Figure 1: NRCS soil survey mapping update in the immediate vicinity of the proposed construction



Legend

Drainage Class	DrainClass
<all other values>	<Null>
Moderately well drained	1
Poorly drained	2
Somewhat poorly drained	3
Very poorly drained	4
Well drained	5

Site Visit Request.

- DNREC Fish and Wildlife scientists have not surveyed the project area. In order to provide more informed comments, we request the opportunity to conduct a survey to evaluate habitat and determine the potential for species of conservation concern. Our scientists have extensive knowledge of the flora and fauna of the state. The survey will be conducted at no expense to the landowner. Please contact Kate Fleming at (302) 735-8658 or Kate.Fleming@state.de.us to schedule a site visit.

Habitat preservation.

- The vast majority of the forest on this property is mapped as Key Wildlife Habitat in the Delaware Wildlife Action Plan (DEWAP) because it is part of a large wetland complex/large forest block that can support an array of plant and animal species. Moreover, analysis of aerial imagery suggests that there may be vernal pools present on or adjacent to the project site. Large upland forest buffers around these seasonal ponds not only protect water quality, but provide critical habitat for amphibians and reptiles that are dependent on wetland for breeding. A site visit would help our biologists confirm the presence of these sensitive wetland features and allow us to make the most informed recommendations to minimize impacts.

The PLUS application indicates a large area will be devoted to open space. It is our recommendation that the undeveloped forested wetlands on site be designated for wildlife habitat and are not disturbed as a result of the project.

To protect the function and integrity of wetlands on and adjacent to the site, a minimum 100-foot buffer should be left intact around the perimeter. This recommendation is based on peer reviewed scientific literature that shows an adequately-sized buffer that effectively protects wetlands and streams - in most circumstances - is about 100 feet in width. Upland buffers also serve as habitat for many terrestrial species that are dependent on aquatic and wetlands habitats for a portion of their annual life cycle. Lot lines, roadways, and infrastructure should not be placed within this buffer zone. Buffers are an integral component of aquatic and wetland habitats, reducing the amount of sediments, pollutants, and other non-point source material that may affect the function and integrity of habitat and the condition and survivability of aquatic organisms.

Forest preservation.

- The project description indicates that forest thinning or clearing will be a conducted as a component of this project. In cases where tree thinning or clearing is proposed, New Castle County may require a tree survey to be conducted and/or a Woodland Management Plan to be developed. If a tree survey is required or Woodland Management Plan developed, the Species Conservation and Research Program would like an opportunity to review these documents to confirm that appropriate forest resources are being retained. We also request the opportunity to visit the site so that results included in the tree survey report can be confirmed. If a tree survey is not conducted, our program botanist would like an opportunity to conduct a survey. Please contact our plant biologist,

Bill McAvoy, with the tree survey results or to schedule a site visit, at (302) 735-8668 or William.McAvoy@state.de.us.

TMDL compliance through the PCS.

- In response to concerns about the need for reducing nonpoint source nutrient (nitrogen and phosphorus) and bacterial pollutants to levels sufficient to meet the prescribed TMDL reduction requirements in the Appoquinimink watershed, a multifaceted and comprehensive process known as a Pollution Control Strategy (PCS) has been developed to enable such reductions. Specifically, a PCS is a combination of best management practices and control technologies that reduce nutrient and bacterial pollutant runoff loading in waters of a given watershed to levels consistent with the TMDL reduction levels specified. The PCS for the Appoquinimink River watershed consists of recommendations from the following four areas: agriculture, land preservation (open space), stormwater, and wastewater. A PCS to achieve the required TMDL nutrient and bacterial load reduction requirements has been established for the Appoquinimink watershed. Additional information about Appoquinimink River PCS is available here: <http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx>.

In support of the PCS, the applicant is strongly urged to reduce nutrient and bacterial pollutants through voluntary commitment to the implementation of the following recommended BMPs:

- Maintain as much of the existing forest cover as possible. The DNREC watershed assessment section believes that the applicant's plan to remove much of the existing forested acreage in this parcel (approximately 50% slated for removal with much - if not most - of this forested acreage likely jurisdictional wetlands) to accommodate this development, will contribute to significant increases in pollutant runoff (nutrients, pesticides, and hydrocarbons), or discharges into adjoining wetlands and waters of the greater Appoquinimink watershed. Ultimately this will have a negative impact on water quality. Therefore, we strongly recommend that the applicant significantly reduce forest cover removal. We further suggest additional native tree, shrub and/or native herbaceous vegetation plantings, wherever possible.
- Hire a licensed soil scientist to conduct a field-based delineation of the hydric soils and/or wetlands on this site. A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch at (302) 739-9947. According to the application, a wetlands delineation was conducted but not approved by the United States Army Corps of Engineers. We strongly recommend that that applicant obtain approval by the USACE before commencing any construction activities. Moreover, the wetlands delineation was not submitted to DNREC.
- Maintain a vegetated buffer of at least 100 feet from the adjoining wetlands and waterbodies. Based on a review of existing buffer research, the 50-foot buffer width from wetlands as proposed by the applicant in the PLUS application is insufficiently

protective of water quality. An adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a 100-foot buffer width (planted in native vegetation) from all waterbodies (including 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 or other State-regulated wetlands).

- 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 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) to help reduce the amount of water and pollutant runoff draining to adjoining streams and wetlands. Pervious pavers are especially recommended for areas designated for parking.
- 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(s); 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 use this protocol to help them design and implement the most effective BMPs. Please contact John Martin or Jen Walls of the Division of Watershed Stewardship, at (302) 739-9939 for more information on the protocol.

Additional information on 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.

No environmental impacts are anticipated; however, 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 by calling (800) 662-8802; and
- The DNREC Tank Management Section by calling (302) 395-2500.

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.

For more information, please visit TMS online, here:

<http://www.dnrec.delaware.gov/tanks/Pages/default.aspx> or contact Ross D. Elliott at DNREC-TMS with further questions at (302) 395-2500, or by email: Ross.Elliott@state.de.us

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. SIRB should also be contacted as soon as possible at (302) 395-2600 for further instructions.

Additional information on air quality.

- New homes may emit, or cause to be emitted, 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; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
 - The emission of greenhouse gases which are associated with climate change, and
 - The emission of air toxics.

Air emissions generated from new homes 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 needed to support the new homes, and
- All transportation activity.

Recommendations. 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% 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 infrastructure for plug-in vehicles.** Such measure may entice a potential apartment owner/renter to purchase an electric vehicle if the electrical outlets are available as this will help minimize vehicle emissions.
- **Providing shade for parking lot 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.
- **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 NO_x 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.

This is a partial list, and there are additional things that can be done to reduce the impact of the project. The applicant should submit a plan to the DNREC Division of Air Quality (DAQ) which addresses the above listed measures, and details all of the specific emission mitigation measures that will be incorporated into the Whispering Woods project. The DAQ point of contact is Deanna Cuccinello, (302) 739-9402.

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, technical services link, plan review, applications or brochures.
- Although not a requirement of the State Fire Prevention Regulations, the Office of the State Fire Marshal encourages that home builders consider the benefits of home sprinkler protection in dwellings. The Office of the State Fire Marshal also reminds home builders of the 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>

Department of Public Health – Contact: Laura Saperstein 744-1011

- The Delaware Division of Public Health (DPH) is pleased to be able to participate in the PLUS application process. In keeping with its mission to protect and promote the health of all people in Delaware, DPH looks for opportunities to encourage and enhance our population's health behaviors that will result in healthy people and healthy communities.

Community design can impact the health of a population. Studies show that persons in lower-income communities, the elderly, and children often suffer more from consequences of inadequate land-use and transportation. Additionally, we know physical activity has a direct correlation to many chronic diseases, including hypertension, diabetes and obesity. In 2013, 33.6% of Delawareans reported a BMI of "overweight;" and an additional 31% reported a BMI as "obese." To that end, DPH looks to make recommendations for land-use that can empower Delawareans to make good health behaviors a part of their daily lives. A recent study by Sallis, et.al., "Is your Neighborhood Designed to Support Physical Activity? A Brief Streetscape Audit Tool," identified that modifiable microscale elements of the environment may affect an individual's physical activity levels. An example of a microscale environment factor might be including crosswalks, or curb cuts at crossings and intersections, and/or including streetscape characteristics like street lights, benches, sidewalk buffers, trees and overhead coverage as part of the community design.

DPH would offer the following recommendations for consideration to the Whispering Woods plan for development:

1. DPH is pleased to see the inclusion of proposed open space indicated as “Community Center.” This will enable residents to incorporate leisure activity into their daily lives.
 - a. Because intended active or passive recreation was not clearly defined in the PLUS application, DPH would further recommend that Whispering Woods review the recreational needs and priorities identified through Statewide Comprehensive Outdoor Recreation Plan, or SCORP, for that specific area.
(<http://www.dnrec.delaware.gov/parks/information/Pages/2013Scorp.aspx>).
2. DPH recommends incorporating sidewalks and internal walkways including marked crosswalks.
 - a. The presence of these attributes could be particularly important for improving the experience of pedestrians, and according to recent research, are indicators of a broader pattern of activity-supportive design features.
 - b. Sidewalks are basic attributes for supporting pedestrian activity. Additionally, curb cuts improve this access for older adults, people with disabilities, and parents with baby strollers.
3. Consider including bike facilities into the land use plan, such as bike lanes, particularly across the frontage, turn lanes in/out at entrance, bike signage bike parking.
 - a. Bicycling is a low-cost and efficient means of active transportation that effectively improves the built environment by including non-motorized options to the transportation systems. Moreover, active transportation is of fundamental importance to healthy living.
4. Include lighting features such as streetlights, lit open spaces and low-level lighting for sidewalks and/or paths.
 - a. Street lighting is needed for safety during nighttime activity and increased feelings of security.
 - b. multi-use pathways and internal connections to adjacent land, proposed open spaces, or future land developments to accommodate pedestrians and bicycles

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.

PLUS review 2016-02-04

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

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland". The signature is written in black ink and is positioned above the typed name and title.

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

CC: New Castle County