November 17, 2006

Mr. Roger Gross
Merestone Consultants, Inc.
19633 Blue Bird Lane, Ste. 7
Rehoboth Beach, DE 19971

RE: PLUS review – PLUS 2006-10-05; Lands of Givens

Dear Mr. Gross:

Thank you for meeting with State agency planners on October 25, 2006 to discuss the proposed plans for the Lands of Givens project to be located at the northeast corner of Robinsonville Road and Cedar Grove Road in Sussex County.

According to the information received, you are seeking site plan approval through the County for 115 residential units located within an Investment Level 3 and the Environmentally Sensitive Developing area.

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 Sussex is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

Executive Summary

The following section includes some site specific highlights from the agency comments found in this letter. This summary is provided for your convenience and reference. The full text of this letter represents the official state response to this project. Our office notes that the applicants are responsible for reading and responding to this letter and all comments contained within it in their entirety.
State Strategies/Project Location

- The Office of State Planning and Coordination acknowledges that the proposed development is located within an Investment Level 3 area. These areas are where we anticipate growth to occur or where growth is occurring. In addition, this site falls within the Environmentally Sensitive Developing Area within Sussex County comprehensive plan. This office has no objections to the development of this property in accordance with County codes and ordinances. With that said, the developer should keep in mind that it is located in an Environmentally Sensitive Developing Area and should design a site plan that recognizes the environmental or cultural resources valuable to this region of Sussex County. With these thoughts in mind, this office would encourage the developer to reconsider the design of this site to preserve open space within the development to promote these resources and improve the quality of the community's design.

In addition, this office would encourage the developer to work with the various State agencies to address their concerns regarding the natural resources within the site and the need for quality open space for potential residents. Also, I would encourage the developer to work with the Department of Transportation - Western Parkway Working Group to address the potential impacts regarding this project on the proposed development. If the developer has any additional questions or wish to learn more about better community design, please feel free to contact this office.

Street Design and Transportation

- Robinsonville Road and Cedar Grove Road are both local roads. DelDOT’s policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project. The five-foot dedications shown on the plan appear to address this requirement.

- DelDOT will also require the construction of a 10-foot wide shared use path in a 15-foot wide permanent easement across the frontages of the site.

- The developer should anticipate a requirement to improve sections of Robinsonville Road and Cedar Grove Road to meet DelDOT’s local road standards.
• The developer should anticipate a requirement to enter a signal agreement for the intersection of Robinsonville Road and Cedar Grove Road.

• The creation of an outlot to be retained by Mr. & Mrs. Givens is acceptable, but that lot must be accessed through the proposed development streets rather than directly from Robinsonville Road.

• From the discussion at the PLUS meeting, DelDOT understands that Mr. & Mrs. Givens live on their existing lot (Tax Parcel 3-34-11.00-81.04) and may want the outlot for the sole purpose of expanding their residence, without additional access. DelDOT would have no objection that except that as the outlot is presently configured it would preclude a street connection to Robinsonville Road. DelDOT understands that the developer will ask Mr. & Mrs. Givens if they might consider a reconfigured outlot to allow the street connection.

• As discussed at the PLUS meeting, the subject development would be affected by one of the alternative alignments being considered for the Western Parkway. DelDOT anticipates selecting one of these alignments in 2007 for design and construction, but no schedule has been set for either of these activities. More information on the Western Parkway Project may be found at http://www.deldot.gov/static/projects/western_parkway.

Natural and Cultural Resources

• According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested and palustrine scrub-shrub wetlands were mapped over much of the north central portion of the parcel. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. The developer should maintain a 100-foot vegetated buffer from the wetlands. There should not be any buildings or associated infrastructure within the buffer.

• The following is required by the Sussex County Conservation District:

1. The District will require a phased plan and sequence of construction for this project. DNREC regulations require no more than 20 acres to be disturbed at more time. Please address.

2. Please demonstrate to the District that this project has an adequate outfall.
3. Under the DNREC Health and Safety Memo of 2000, all wet ponds are required to have an open space depth of 3 feet or more that comprises 50-75 percent of the area of the pond.

4. Consideration should be made for any adjacent properties during the design of this project, including drainage and erosion/sediment control.

5. Please provide a soil survey report for each SWM basin.

6. Please incorporate “Green Technology BMPs” in the stormwater management design as stated in the section 10.3.5.1 of the regulations. The District recommends green technology practices such as bioswales between the rear lots to provide drainage and water quality.

- The Drainage Program does not support the removal of trees for the creation of stormwater management areas.

- The Drainage Program does not have a clear understanding how stormwater is to be conveyed to the stormwater management areas. The Drainage Program requests that the routing of major stormwater pipes through yards be prohibited.

- DNREC has never surveyed this site; therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at or adjacent to this project site. In order to provide more informed comments and to make recommendations, the program botanist and zoologist request the opportunity to survey the forest and wetland areas that could potentially be impacted by the project.

- The amount of forest loss estimated by the applicant should be re-evaluated, as the applicant states 12.7 out of 21.68 acres will be cleared. However, there are at least 42 completely forested lots, 18 partially wooded lots and roadways within the forested area. Not only will these lots be cleared for homes, driveways and garages but subsequently by homeowners for sheds, play areas, pools, kennels etc. Although stated on the site plan, there does not appear to be 18 acres of forest preserved and what is maintained will be fragmented by lots and infrastructure.
The following are a complete list of comments received by State agencies:

**Office of State Planning Coordination – Contact: Bryan Hall 739-3090**

The Office of State Planning and Coordination acknowledges that the proposed development is located within an Investment Level 3 or an areas where we anticipate sprawl growth to occur in areas where growth is occurring at an accelerated rate. In addition, this site falls within the Environmentally sensitive area within Sussex County and that this site may have environmental or cultural resources valuable to this region of Sussex County. With these thoughts in mind, this office would encourage the developer to reconsider the design of this site to preserve open space within the development to promote these resources and improve the quality of the community's design.

In addition, this office would encourage the developer to work with the various PLUS partners to meet their concerns regarding natural resources within the site and the need for quality open space for potential residents. Also, I would encourage the developer to work with the Department of Transportation - Western Parkway Working Group to address the potential impacts regarding this project on the proposed development. If the developer has any additional questions or wish to learn more about better community design, please feel free to contact this office.

**Division of Historical and Cultural Affairs – Contact: Alice Guerrant 739-5685**

This parcel contains the site of the J. Roach House (S-960; Beers Atlas of 1868). There may be archaeological remains associated with this house. There is a small area of medium potential for prehistoric-period archaeological sites. There are two early-20th-c. houses cut out of the northwest corner of the parcel, and a mid-20th-c. house across Cedar Grove Rd from the southeast corner of the parcel.

Small, rural, family cemeteries often are found in relation to historic farm complexes, such as the Roach House, usually a good distance behind or to the side of the house. The developer should be aware of Delaware’s Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out, and the developer may want to hire an archaeological consultant to check for the possibility of a cemetery here. The DHCA would have to have a copy of any archaeological report done for this purpose. They will be happy to discuss these issues with the developer; the contact person for this program is Faye Stocum, 302-736-7400.
The DHCA recommends sufficient landscaping around the development to block any adverse visual or noise effects on the nearby historic properties. They would appreciate the opportunity to examine the area for possible archaeological sites, to learn something about their location, nature, and extent prior to any ground-disturbing activities.

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

1) Robinsonville Road and Cedar Grove Road are both local roads. DelDOT’s policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project. The five-foot dedications shown on the plan appear to address this requirement.

2) DelDOT will also require the construction of a 10-foot wide shared use path in a 15-foot wide permanent easement across the frontages of the site.

3) The developer should anticipate a requirement to improve sections of Robinsonville Road and Cedar Grove Road to meet DelDOT’s local road standards. Preliminarily, those improvements would include widening the road to 11-foot lanes and 5-foot shoulders, an overlay of the existing pavement and improvements to the geometry and drainage. Again preliminarily, the limits of those improvements on each road will be from the intersection of the two roads to the far limits of the site frontage. A final determination regarding the limits of the improvements, and the details of the improvements, such as the thickness of any required overlay, will be determined as part of the entrance plan review.

4) The developer should anticipate a requirement to enter a signal agreement for the intersection of Robinsonville Road and Cedar Grove Road. DelDOT will install a signal at this intersection if and when DelDOT finds that one is warranted. The agreement would obligate the developer to fund, or participate in funding that signal when it is installed.

5) The creation of an outlot to be retained by Mr. & Mrs. Givens is acceptable, but that lot must be accessed through the proposed development streets rather than directly from Robinsonville Road. DelDOT would prefer that a second access to the development be built on Robinsonville Road (which would provide additional entry for emergency services) and if that were done Mr. & Mrs. Givens’ outlot could be accessed from that street. Alternatively, a driveway easement could be provided in the area of Lots 35 through 38 to serve the outlot.
From the discussion at the PLUS meeting, DelDOT understands that Mr. & Mrs. Givens live on their existing lot (Tax Parcel 3-34-11.00-81.04) and may want the outlot for the sole purpose of expanding their residence, without additional access. DelDOT would have no objection that except that as the outlot is presently configured it would preclude a street connection to Robinsonville Road. They understand that the developer will ask Mr. & Mrs. Givens if they might consider a reconfigured outlot to allow the street connection.

6) As discussed at the PLUS meeting, the subject development would be affected by one of the alternative alignments being considered for the Western Parkway. The proposed Western Parkway Project is one of the recommendations contained in a report that resulted from the State Route 1 Land Use and Transportation Study (LUTS), a joint DelDOT and Sussex County study that began in 2001 and ended in 2003. Since that time, the Department has been engaged with this project to examine a full range of alternatives for providing a transportation corridor parallel to and west of existing Route 1 (Coastal Highway) from north of Five Points (Route 9) to Delaware Route 24. We have refined this range of potential corridor alignments for which we will be doing further engineering and environmental analysis, and one of those alignments would affect the Cedar Grove Road frontage of the subject development. DelDOT anticipates selecting one of these alignments in 2007 for design and construction, but no schedule has been set for either of these activities. More information on the Western Parkway Project may be found at http://www.deldot.gov/static/projects/western_parkway.

Pending the results of our location decision, DelDOT recommends that the Developer proceed with the planning for their development but maintain contact with the project manager for the Western Parkway Study, Mr. Monroe C. Hite, III. Mr. Hite may be reached at (302) 760-2120.

If DelDOT selects the alternative that would affect their development, they would be compensated for any damages resulting from that selection. As necessary, the developer may contact our Assistant Director for Real Estate, Mr. Wayne Rizzo, about how any such damages would be determined. Mr. Rizzo may be reached at (302) 760-2228.

7) The developer’s site engineer should contact the Subdivision Manager for Sussex County, Mr. John Fiori, regarding specific requirements for road improvements and access. His review will include both of the existing site accesses as well as the proposed access. Mr. Fiori may be reached at (302) 760-2157.
The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-9071

Soils

Based on the Sussex County soil survey update, Fort Mott, Downer, Pineyneck, and Hurlock were mapped in the immediate vicinity of the proposed construction. Fort Mott and Downer are well-drained upland soils that, generally, have few limitations for development. Pineyneck is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Hurlock is a poorly-drained wetland associated (hydric) soil that has severe limitations for development.

It should also be noted that a significant portion of subject parcel (approximately 40-45%) is likely to have a seasonal high water table within one-foot of the soil surface. These soils are mapped as Hurlock and are indicative of wetland conditions. Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or “nor’easters.” This is in addition to increased flooding likely from surface water runoff emanating from future created forms of structural imperviousness (roof tops, roads, and sidewalks).

Wetlands

According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested and palustrine scrub-shrub wetlands were mapped over much of the north central portion of the parcel. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. The developer should maintain a 100-foot vegetated buffer from the wetlands. There should not be any buildings or associated infrastructure within the buffer.

PLUS application materials indicate that wetlands have been delineated (presumably a field delineation). This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763.

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and
Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

**Impervious Cover**

Based on a review of the PLUS application, post-development surface imperviousness is estimated to be about 15 percent. However, given the scope and density of this project, this estimate is likely to be an **underestimate**. Use of the wetland and stormwater management acreage for the calculation of recreational open space, as reported in the PLUS application for this project, significantly underestimates this project’s actual amount of created surface imperviousness, and ultimately understates its environmental impacts. Therefore, it is strongly recommended that the finalized open space calculation omit all wetland and stormwater management areas. Furthermore, the applicant should also realize that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks, and roads) should be accounted for when calculating surface imperviousness. It was not clear from the information submitted whether all of these forms were considered in surface imperviousness calculation.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed’s overall water quality. It is strongly recommended that the applicant implement best management practices (BMPs) that reduce or mitigate some of its most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials (“pervious pavers”) in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

**ERES Waters**

This project is located adjacent to receiving waters of the Inland Bays designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 5.6 of Delaware’s “Surface Water Quality Standards” (as amended July 11, 2004), specify that all designated ERES waters and receiving tributaries develop a
“pollution control strategy” to reduce non-point sources of pollutants through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 5.6.3.5 of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Inland Bays Watershed. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited water body” can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states are charged with developing and implementing standards to support these desired use goals. This project is located in the low nutrient reduction area requiring a 40 percent reduction in nitrogen and phosphorus, respectively. A Total Maximum Daily Load (TMDL) is the maximum level of pollution for which a water quality limited water body can assimilate without compromising use and recreational goals such as swimming, fishing, drinking water, and shell fish harvesting.

Compliance with TMDLs through the PCS

As stated above Total Maximum Daily loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Inland Bays Watershed. The TMDL calls for a 40% reduction in nitrogen and phosphorus from baseline conditions. A Pollution Control Strategy (PCS) will provide the regulatory framework for achieving them. The Department developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional reductions may be possible through the implementation of Best Management Practices such as wider vegetated buffers along watercourses, reducing forest cover removal, and the use of innovative stormwater management treatment trains. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

Water Resource Protection Areas

The DNREC Water Supply Section has determined that most of the proposed development falls within an excellent ground-water recharge area (see following map and attached map). The review found no wellhead protection areas.
The Delaware Geological Survey Report of Investigations No. 66 was published in 2004. This report along with the accompanying maps were part of “Shaping Delaware’s Future: Managing Growth in the 21st Century Delaware, Strategies for State Policies and Spending” (December 1999) (73 Del. Laws, c. 67, § 2; 70 Del. Laws, c. 186 § 1.).

The intent of the project was to identify areas of excellent recharge to protect them as critical areas. Excellent recharge areas are near-surface areas within which precipitation infiltrates the land surface to the unconfined aquifer at a more rapid rate than other areas. The Report states that the recharge potential “map categories are indicators of how fast contaminants will move and how much water may become contaminated” (Andres, 2004, p. 1). This proposed development shows a large storm-water management area within the excellent ground-water recharge area.

The construction phase of this type of pond requires excavation, hauling, and grading. The heavy equipment used in this phase has the capacity to compact and degrade the structure of the strata that defines the area as an excellent ground water recharge area. Changes to the structural soil properties may cause significant reduction in recharge capacity. Installing storm-water management ponds in excellent ground-water recharge areas have the potential to contaminate the ground water beneath it and infiltrate into the aquifer.

The proposed development would change the total impervious cover from 0% to approximately 14.52%. The developer on the PLUS application provided the numbers. DNREC Water Supply Section recommends that that portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover. The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies.

References

Delaware Department of Natural Resources and Environmental Control, 2005, Source Water Protection Guidance Manual for the Local Governments of Delaware, p. 144.

Land of Givens (PLUS 2006-09-05) Excellent ground-water recharge potential areas are highlighted in green.
Water Supply

The project information sheets state water will be provided to the project by Tidewater Utilities via a central water system. Our records indicate that the project is located within the public water service area granted to Tidewater Utilities under Certificate of Public Convenience and Necessity 83-W-15.

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 typically 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

Standard Comments:

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson, Program Manager, at (302) 856-7219 for details regarding submittal requirements and fees.

It is strongly recommended that you contact the Sussex Conservation District 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.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to the Division of Soil and Water Conservation along with the $195 NOI fee prior to plan approval.
Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique.

Each stormwater management facility should have an adequate outlet for release of stormwater. Any drainage conveyed onto this site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption.

Clearly address how Stormwater Quality and Quantity Treatment will be provided. If this project is eligible for a Quantity Waiver, please make the request in the stormwater narrative citing the specific regulation.

Please indicate on the sediment and stormwater management plan who shall be responsible for maintenance of the stormwater management facilities both during construction and after. During the design of the sediment control and stormwater management plan, considerations should be made for maintenance (i.e. access, easements, etc.) of any structures or facilities.

If a stormwater management pond is going to be utilized as a sediment trap/basin during construction it must be designed to accommodate 3600 cubic feet of storage per acre of contributing drainage area until project stabilization is complete.

All ponds are required to be constructed per Pond Code 378.

Please note that if the stormwater facilities will impact wetlands, a permit must be provided to the District prior to receiving approval. Please address.

Site-Specific Comments:

The District will require a phased plan and sequence of construction for this project. DNREC regulations require no more than 20 acres to be disturbed at more time. Please address.

Please demonstrate to the District that this project has an adequate outfall.

Under the DNREC Health and Safety Memo of 2000, all wet ponds are required to have an open space depth of 3 feet or more that comprises 50-75 percent of the area of the pond.
Consideration should be made for any adjacent properties during the design of this project, including drainage and erosion/sediment control.

Please provide a soil survey report for each SWM basin.

Please incorporate “Green Technology BMPs” in the stormwater management design as stated in the section10.3.5.1 of the regulations. The District recommends green technology practices such as bioswales between the rear lots to provide drainage and water quality.

Please provide SCD with a copy of the AutoCAD drawings and HydroCAD files to expedite the review process.

**Drainage**

The Drainage Program requests that the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. Notify downstream landowners of the change in volume of water released on them.

The Drainage Program does not support the removal of trees for the creation of stormwater management areas.

The Drainage Program does not have a clear understanding how stormwater is to be conveyed to the stormwater management areas. The Drainage Program requests that the routing of major stormwater pipes through yards be prohibited.

The Drainage Program encourages the elevation of rear yards to direct water towards the streets where storm drains are accessible for maintenance. However, the Drainage Program recognizes the need for catch basins in rear yards in certain cases. Therefore, catch basins placed in rear yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, kennels, and other structures placed along the storm drains, or within 10 feet of the catch basins, can hinder drainage patterns as well as future maintenance to the storm drains or catch basins. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.

The Drainage Program requests a 15-foot side yard setback on all lots with a drainage easement on the side. A 15-foot side yard setback will allow room for equipment to
utilize the entire drainage easement and maneuver free of obstructions if the drainage conveyance requires periodic maintenance or future re-construction.

The Drainage Program requests a 10-foot drainage easement around all catch basins located on private property to ensure adequate room for maintenance. The Drainage Program recommends restrictions on fences, sheds, and other structures within the easement to prevent obstructions from being placed within 10 feet of the catch basin.

Record all drainage easements on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction.

For questions or clarifications, please contact Jim Sullivan at (302) 739-9921.

**Site Visit Request**

DNREC has never surveyed this site; therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at or adjacent to this project site. In order to provide more informed comments and to make recommendations, the program botanist and zoologist request the opportunity to survey the forest and wetland areas that could potentially be impacted by the project. This would also allow the applicant the opportunity to reduce potential impacts to rare species and unique habitats and to ensure that the project is environmentally sensitive. In addition, a survey of the project site will give staff an opportunity to document the biodiversity of the property before project activities begin. Please contact Bill McAvoy or Kitt Heckscher at (302) 653-2880 to set up a site visit.

**Forest Preservation**

The amount of forest loss estimated by the applicant should be re-evaluated, as the applicant states 12.7 out of 21.68 acres will be cleared. However, there are at least 42 completely forested lots, 18 partially wooded lots and roadways within the forested area. Not only will these lots be cleared for homes, driveways and garages but subsequently by homeowners for sheds, play areas, pools, kennels etc. Although stated on the site plan, there does not appear to be 18 acres of forest preserved and what is maintained will be fragmented by lots and infrastructure.

Forest fragmentation separates wildlife populations, increases road mortality, and increases “edge effects” that leave many forest dwelling species, particularly songbirds, vulnerable to predation. Forest clearing causes wildlife to disperse into surrounding areas, often resulting in human/animal conflicts. It also puts greater pressure on nearby Wildlife
Areas, Nature Preserves, and other protected lands. A greater effort to preserve forest should be made and this could be accomplished by:

1. Downsizing the current site plan by omitting lots and associated roads so that a larger, connected area of forested open space remains.

2. Locating stormwater management ponds on the non-forested area of the parcel or utilizing an alternate method of stormwater control that does not require tree clearing.

3. If tree clearing occurs despite the recommendations above, clearing should not occur April 1st to July 31st to reduce impacts to birds and other wildlife species that utilize trees for breeding. This recommendation would only protect those species during one breeding season, as once trees are cleared the result is an overall loss of habitat.

**Plant Rescue**

Since forested wetlands are to be destroyed, filled, or disturbed, we recommend that the developer/landowner contact the Delaware Native Plant Society to initiate a plant rescue. Selected plants from the site of disturbance will be collected by Society members and transplanted to the Society’s nursery. Plants will then be used in restoration projects and/or sold at the Society’s annual native plant sale. This can be done at no expense or liability to the developer/landowner”. Please contact Lynn Redding at (302) 736-7726, (lynn_redding@ml.com) or William A. McAvoy at (302) 653-2880, (william.mcavoy@state.de.us).

**Potential Hunting Issue**

Because the project parcel is part of a larger forest block, legal hunting activities may take place on adjacent properties. Hunting within 100 yards of a dwelling is prohibited and the applicant should contact adjacent landowners to determine if this is going to be an issue. In effect, the adjacent landowner will be losing 100 yards of their property for hunting if there is not a buffer between lot lines and the adjacent property line. There is also noise associated with hunting, such as the discharge of firearms or dogs barking when pursuing game.

**Nuisance Geese**

Stormwater ponds planned for the subdivision may attract waterfowl like resident Canada geese and mute swans. High concentrations of waterfowl in ponds create water-quality
problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns around ponds provide an attractive habitat for these species. We recommend native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (50 feet) around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

**Solid Waste**

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State's limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

**Air Quality**

Once complete, vehicle emissions associated with this project are estimated to be 8.8 tons (17,651.3 pounds) per year of VOC (volatile organic compounds), 7.3 tons (14,614.1 pounds) per year of NOx (nitrogen oxides), 5.4 tons (10,782.5 pounds) per year of SO2 (sulfur dioxide), 0.5 ton (959.8 pounds) per year of fine particulates and 738.3 tons (1,476,508.8 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 3.6 tons (7,119.6 pounds) per year of VOC (volatile organic compounds), 0.4 ton (783.4 pounds) per year of NOx (nitrogen oxides), 0.3 ton (650.1 pounds) per year of SO2 (sulfur dioxide), 0.4 ton (838.9 pounds) per year of fine particulates and 14.4 tons (28,861.2 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 1.4 tons (2,821.7 pounds) per year of NOx (nitrogen oxides), 4.9 tons (9,814.6 pounds) per year of SO2 (sulfur dioxide) and 723.8 tons (1,447,647.6 pounds) per year of CO2 (carbon dioxide).
For this project the electrical usage via electric power plant generation alone totaled to produce an additional 1.4 tons of nitrogen oxides per year and 4.9 tons of sulfur dioxide per year.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, http://www.energystar.gov/:

“ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

- building envelope upgrades,
- high performance windows,
- controlled air infiltration,
- upgraded heating and air conditioning systems,
- tight duct systems and
- upgraded water-heating equipment.”

The Energy office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.
State Fire Marshal’s Office – Contact: Duane Fox 856-5298

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal’s Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**
   - Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
   - The infrastructure for fire protection water shall be provided, including the size of water mains.

b. **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 Cedar Grove Road must be constructed so fire department apparatus may negotiate it.
   - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
   - Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
   - The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
   - The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

c. **Gas Piping and System Information:**
   - Provide type of fuel proposed, and show locations of bulk containers on plan.
d. **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”
- Name of Water Supplier
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Provide Road Names, even for County Roads

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.delawarestatefiremarshal.com](http://www.delawarestatefiremarshal.com), technical services link, plan review, applications or brochures.

**Department of Agriculture - Contact: Scott Blaier 698-4500**

The Delaware Department of Agriculture has no objections to the proposed application. The *Strategies for State Policies and Spending* encourages environmentally responsible development in areas in Investment Levels 3.

Most of the site has been designated as having “excellent” ground-water recharge potential. DNREC has mapped all ground-water recharge-potential recharge areas for the state, and an “excellent” rating designates an area as having important groundwater recharge qualities.

Senate Bill 119, enacted by the 141st General Assembly in June of 2001, requires the counties and municipalities with over 2,000 people to adopt as part of the update and implementation of their 2007 comprehensive land use plans, areas delineating excellent ground-water recharge potential areas. Furthermore, the counties and municipalities are required to adopt regulations by December 31, 2007 governing land uses within those areas to preserve ground-water quality and quantity.

Maintaining pervious cover in excellent and good recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as “excellent” and “good” recharge areas adversely impacts the future prospects for agriculture in Delaware. The developer should make every effort to protect and maintain valuable ground-water recharge potential areas.
This site also overlaps with the State’s Green Infrastructure Investment Strategy Plan. The Forest and Natural Areas layers are present on the entire site. These designations have valuable environmental characteristics and functions which are discussed in Governor Minner’s Executive Order Number 61. They should be preserved as such, and not developed for residential use.

*Right Tree for the Right Place*

The Delaware Department of Agriculture Forest Service encourages the developer to use the “Right Tree for the Right Place” for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

*Native Landscapes*

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

*Tree Mitigation*

The Delaware Forest Service encourages the developer to implement a tree mitigation program to replace trees at a 1:1 ratio within the site and throughout the community. This will help to meet the community’s forestry goals and objectives and reduce the environmental impacts to the surrounding natural resources. To learn more, please contact our offices at (302) 349-5754.

**Public Service Commission - Contact: Andrea Maucher 739-4247**

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.
The proposal is for a site plan review for 115 residential units on 49 acres located in the northeast corner of Robinsonville Road and Poastal Road south of Jimtown Road situated in Lewes & Rehoboth Hundred. According to the State Strategies Map, the proposal is located in an Investment Level 3 area and inside the growth zone. As a general planning practice, DSHA encourages residential development inside growth zones and where residents will have proximity to services, markets, and employment opportunities. Furthermore, the proposal targets units for first time homebuyers. According to the most recent real estate data collected by DSHA, the average home price in Sussex County is $236,000. However, families earning respectively 100% of Sussex County’s median income only qualify for mortgages of $171,216, thus creating an affordability gap of $64,784. The provision of units within reach of families earning at least 100% of Sussex County’s median income will ensure housing that is affordable for first time homebuyers. Furthermore, the proposal targets units for first time homebuyers.

To facilitate the units targeted for first time homebuyers, we encourage the developer to apply for Sussex County’s Moderately Price Housing Unit Program which provides the following incentives to developers who provide a percentage of units affordable to Sussex County residents of modest income:

- An expedited review;
- Waivers of some or all County fees associated with the County approval process;
- Density bonus.

NOTE: Proposals must be located in Town Centers, Developing Areas, and Environmentally Sensitive Areas according to the County’s most recent certified Comprehensive Plan.

A Request for Proposal (RFP) process has been established to select initial program participants. The developer is encouraged to call William C. Lecates, Director of Sussex County’s Community Development and Housing Division at (302) 855-7777 to learn more about the RFP application process.

Department of Education – Contact: John Marinucci 739-4658

1. This proposed development is in the Cape Henlopen School District.
2. DOE offers the following comments on behalf of the Cape Henlopen School District.
3. Using the DOE standard formula, this development will generate an estimated 58 students.
4. DOE records indicate that the Cape Henlopen School Districts' elementary schools are not at or beyond 100% of current capacity based on September 30, 2005 elementary enrollment.

5. DOE records indicate that the Cape Henlopen School Districts' secondary schools are not at or beyond 100% of current capacity based on September 30, 2005 secondary enrollment.

6. While the Cape Henlopen School District secondary and elementary schools are not currently beyond capacity, the district does NOT have adequate student capacity to accommodate the additional students likely to be generated from this development given the number of planned and recorded residential subdivisions within district boundaries.

7. Continued development will cause significant burden to the Cape Henlopen School District without the provision for additional educational infrastructure.

8. The developer is strongly encouraged to contact the Cape Henlopen School District Administration to address the issue of school over-crowding that this development will exacerbate.

9. DOE requests the developer work with the Cape Henlopen School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the school district.

Sussex County – Contact: Richard Kautz 855-7878

The applicant should coordinate any plans to use an adjacent wastewater public utility with Mr. Lank. A conditional use approval may be necessary.

Sussex County will be considering recommendations regarding implementation of a Source Water Protection Program required by the State. Depending on the requirements adopted by the County Council this project might be affected. Any well location should insure that the wellhead protection area is entirely on site.

Because this project is electing to use the amended AR-1 Cluster subdivision density for 20 additional units, the developer must include in the application the documentation and a plan for the management of all open space. Also, the developer must document for the Planning and Zoning Commission how the proposed development: provides for a total environment and design which are superior to that which would be allowed under the standard lot option; preserves the natural environment and historic or archeological resources; and, will not have an adverse effect on any of the items included under Ordinance Number 1152 (County Code 99-9C). These issues can be addressed by including in the application an explanation of how the developer plans to mitigate the issues raised by the State agencies and the requirements of the County Zoning Ordinance.
The Sussex County Engineer Comments:

The project proposes to develop using a private central community wastewater system. We recommend that the wastewater system be operated under a long-term contract with a capable wastewater utility that meets TMDL limits for Delaware's Inland Bays. The project is in the Environmentally Sensitive Developing Zone (ESDZ) and Sussex County will consider serving the area within the Inland Bays Planning Area for sewer service. The study will conclude approximately November 2006. The study will develop options for sewer service and make a recommendation. Sussex County requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications. A sewer concept plan must be submitted to the Sussex County Engineering Department for review and approval prior to the design of the sewer system. A checklist for concept plans is attached. A review and approval of the treatment and disposal system by the Sussex County Engineering Department is also required. Disposal fields should not be counted as open space. Wastewater disposal fields should be clearly identified on recorded plots.

When Sussex County provides sewer service, it is required that the treatment system be abandoned and a direct connection made to the County system at the developers and/or homeowners association expense. For questions regarding the above comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-1299.

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

CC: Sussex County
This map was produced by the Delaware Department of Natural Resources and Environmental Control.