



June 12, 2006

Mr. Mark Davidson
Design Consultants Group, LLC
18072 Davidson Drive
Milton, De 19968

RE: PLUS review – PLUS 2006-05-09; Canal Landing at West Bethany

Dear Mr. Davidson:

Thank you for meeting with State agency planners on May 24, 2006 to discuss the proposed plans for the Canal Landing at West Bethany project to be located on the north side of Muddy Neck Road and the East side of Ogre Drive near Ocean View.

According to the information received, you are seeking site plan approval for 337 dwelling units on 71.81 acres located within the Environmentally Sensitive Developing Area according to the Strategies for State Policies and Spending.

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 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.

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

- This project is located in Investment Level 3 according to the Strategies for State Policies and Spending and in the Environmentally Sensitive Developing Area according to the Sussex County comprehensive plan. Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments will support growth in these areas, but please be advised that the State may have other priorities in the near term future. Also, in the Environmentally Sensitive Areas, State policies encourage growth that is sensitive to the natural resources on and surrounding the site.

That said, it is encouraging to see a development proposal that incorporates a mix of uses including live/work units and connections to adjacent developments. As such we are supportive of this development.

Street Design and Transportation

- Muddy Neck Road is classified as a collector road. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 40 feet from the centerline on collector roads. Therefore they will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- The plan for the development should include a shared use path in a 15-foot wide permanent easement across the frontage of the site.
- DelDOT applauds the proposed connection between subject development and the retirement community proposed to the north.
- DelDOT is pleased to see that a proposed street appears to provide for a future connection to Tax Parcel 1-34-17.00-11.01. If that is not the intent, they would ask that that connection be provided.
- The plan presented shows several locations where residential streets are proposed to end without cul-de-sacs or other turnarounds. The lack of a turnaround on a no-outlet street means that visitors to that street must turn around using someone's

driveway. As an amenity for the residents, DelDOT recommends that turnarounds be provided. Alternatively, in some instances, adjoining cul-de-sacs could be interconnected to form loops, thus improving the street network.

Natural and Cultural Resources

- It is recommended that the development include sufficient landscaping to protect the adjacent house from visual and audible effects. The DHCA would also appreciate the opportunity to check the area for archaeological sites, to learn something about their location, nature, and extent prior to any ground-disturbing activities.
- Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested wetlands, palustrine open water and palustrine emergent wetlands on the parcel. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. SWMP maps show that lot lines will be within the wetland areas. Lots should exclude all wetlands and associated buffers. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex on site.
- PLUS materials show several impacts (road crossings) to streams. Please note that impacts to streams and associated riparian wetlands, including road crossings, are regulated by the DNREC Wetlands and Subaqueous Lands Section, and by the Corps of Engineers.
- A small portion of the project is in the floodplain. It is recommended that construction remain out of the floodplain and above the base flood elevation. Drainage and flooding problems exist in this area, especially in low-lying areas.
- DNREC has not surveyed this property, therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at this project site that would be affected by project activities. In order to provide more informed comments and to make reasonable recommendations, our program botanist and zoologist request the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. This would also allow the applicant the opportunity to reduce potential impacts to rare species and to ensure that the project is environmentally sensitive. Please contact Bill McAvoy or Kitt Heckscher at (302) 653-2880 to set up a site visit.

- Considering the fact that this development is within an Environmentally Sensitive Developing Area and thousands of acres of forest have been lost to development in just the last two years, the site plan should be changed to allow for greater forest preservation. DNREC strongly recommend the following site plan changes:
 1. A reduction in the number of lots and infrastructure in the eastern portion of the site plan. Ideally this would entail all lots and infrastructure to the east of the road that provides a connection to parcel 1-34-17-12. At the very least, this would entail relocating the units along the cul-de-sac and other associated structures and pond/pool.
 2. Stormwater management ponds that require tree clearing should be relocated and removed from the forest. Trees function in flood abatement and erosion control and it does not make sense to remove them to control stormwater, especially when tree removal can exasperate flooding problems. Alternate methods of stormwater containment should also be explored (such as bioswales, etc.).
 3. If tree clearing is going to occur despite recommendations to the contrary, then we recommend clearing not occur from April 1st to July 31st to minimize impacts to migratory birds and other wildlife that utilize forests for breeding.
- The developer should be aware that properties abutting the Assawoman Canal will not have direct access to the waterway. The State (Division of Parks and Recreation) owns the canal as well as some of the upland area along each of the banks. The entire canal property extends from its northern end at White Creek to its southern end at Little Assawoman Bay, a total of 98 acres.

The following are a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: Herb Inden 739-3090

This project is located in Investment Level 3 according to the Strategies for State Policies and Spending and in the Environmentally Sensitive Developing Area according to the Sussex County comprehensive plan. Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments will support growth in these areas, but please be advised that the State may have other priorities in the near term future. Also, in the Environmentally Sensitive Areas, State policies encourage growth that is sensitive to the natural resources on and surrounding the site.

That said, it is encouraging to see a development proposal that incorporates a mix of uses including live/work units and connections to adjacent developments. As such we are supportive of this development.

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

There is an early-20th-century dwelling (S-2344) on West St (Muddy Neck Rd) within this parcel. This may be the same as or on the same site as the S. Evans House, shown on Beers Atlas of 1868. There may be archaeological resources associated with this dwelling. There is a moderate potential for prehistoric-period archaeological sites here. There is one early- to mid-20th-century house adjacent to this parcel to the southwest on West St.

Small, rural, family cemeteries often are found in relation to historic farm complexes, such as the Evans 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. The Division of Historic and Cultural Affairs will be happy to discuss these issues with the developer; the contact person for this program is Faye Stocum, 302-736-7400.

It is recommended that the development include sufficient landscaping to protect the adjacent house from visual and audible effects. The DHCA would also appreciate the opportunity to check the area for archaeological sites, to learn something about their location, nature, and extent prior to any ground-disturbing activities.

The DHCA appreciate the opportunity to document the historic house and outbuildings on the parcel prior to any demolition activities.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) A traffic impact study has been done for this development, under the name Berzins Property. DelDOT received it on May 18, 2006. Normally for a study received then DelDOT would expect to complete their review and send comments to Sussex County by the middle of August. Due to current fiscal issues, however, they are unable to begin that review as promptly as they would like. If DelDOT receives additional funds in July, they anticipate commenting to the County in October.

- 2) Muddy Neck Road is classified as a collector road. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 40 feet from the centerline on collector roads. Therefore they will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- 3) The plan for the development should include a shared use path in a 15-foot wide permanent easement across the frontage of the site.
- 4) DelDOT applauds the proposed connection between subject development and the retirement community proposed to the north.
- 5) DelDOT is pleased to see that a proposed street appears to provide for a future connection to Tax Parcel 1-34-17.00-11.01. If that is not the intent, they would ask that that connection be provided.
- 6) The plan presented shows several locations where residential streets are proposed to end without cul-de-sacs or other turnarounds. The lack of a turnaround on a no-outlet street means that visitors to that street must turn around using someone's driveway. As an amenity for the residents, DelDOT recommends that turnarounds be provided. Alternatively, in some instances, adjoining cul-de-sacs could be interconnected to form loops, thus improving the street network.
- 7) The developer's site engineer should contact Mr. John Fiori, the DelDOT Subdivision Manager for Sussex County, regarding their specific requirements for access. He may be reached at (302) 760-2260.

**The Department of Natural Resources and Environmental Control – Contact:
Kevin Coyle 739-9071**

Soils

According to the Sussex County soil survey mapping update, Gravel Pits, Klej, and Mullica were mapped on subject parcel. Gravel Pits result from excavation activities and likely to exhibit variable suitability's or limitations for site-specific uses. A soil scientist should be consulted before considering development in vicinity of this area. Klej is a somewhat poorly-drained transitional soil that likely contains both wetland (hydic) and upland soil components, and some development limitations. Mullica is a very poorly-drained wetland associated (hydic) soil that has severe limitations for development.

Most of the soils mapped on this parcel are wetland associated (hydric) Mullica soils (estimated at +/- 70%). 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 from surface water runoff emanating from created forms of structural imperviousness (roof tops, roads, and sidewalks).

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested wetlands, palustrine open water and palustrine emergent wetlands on the parcel. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. SWMP maps show that lot lines will be within the wetland areas. Lots should exclude all wetlands and associated buffers. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex on site. It is important to note that both DNREC and the Army Corps of Engineers (ACOE) discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

PLUS materials indicate that there will not be direct impacts to these wetlands through construction activities; however, secondary impacts of construction could be detrimental to the health of these wetlands and their associated streams. Impacts to these wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. 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.

This project is located directly adjacent to sensitive headwater wetlands which ultimately drain into the greater Little Assawoman Bay watershed. This greatly increases the probability of harmful impacts to both surface and groundwater quality of all waters within this watershed which will make it more difficult for the State to achieve future

required TMDL nutrient reductions. In recognition of the likely impacts to water and habitat quality and the necessity to protect it for long-term sustainable use, the Watershed Assessment Section strongly urges the applicant to consider a minimum 100-foot buffer from all wetlands and water bodies. In cases where natural buffer vegetation has been removed or reduced by past development or farming activities, the developer is encouraged to restore/establish to said buffer width or greater with native herbaceous and/or woody vegetation.

Water Bodies

PLUS materials show several impacts (road crossings) to streams. Please note that impacts to streams and associated riparian wetlands, including road crossings, are regulated by the DNREC Wetlands and Subaqueous Lands Section, and by the Corps of Engineers.

Impervious Cover

Based on a review of the submitted PLUS application, the applicant projects that only about 13.8% (determined from information in PLUS application) of this parcel will be rendered impervious following this parcel's development; however, this figure could be a significant underestimate given the scope and density of this project. The applicant should be made aware that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks and roads) should be included in the impervious surface calculation. It is strongly recommended that the applicant recalculate this figure and include it within the finalized project design plans.

Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline. Based on the analyses of 2002 aerial photography by the University of Delaware, the Little Assawoman Bay watershed, at that time, had about 9.7 percent impervious cover. Although this data is about 4 years old and likely an underestimate, it illustrates the importance of a proactive strategy to mitigate for predictable and cumulative environmental impacts. Since this project will further increase the watershed's level of imperviousness, the applicant is strongly advised to pursue best management practices (BMPs) that mitigate or reduce 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 retention of existing forest cover or additional tree plantings are examples of practical BMPs that could easily be implemented to reduce surface imperviousness.

ERES Waters

This project is located adjacent to receiving waters of Little Assawoman Bay 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). Moreover, provisions defined in subsection 5.6.3.5 of same section, specially authorize the Department to mandate BMPs to meet 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 Little Assawoman Bay 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. TMDL nutrient reductions of 40 percent will be required for the Little Assawoman Bay watershed.

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 Little Assawoman watershed. The TMDL calls for a 40% reduction for both nitrogen and phosphorus from baseline conditions. The Department developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. According to this tool, your development plan, as proposed, will reduce nitrogen by 79% and phosphorus by 50%. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool. Therefore, the following concerns need to be addressed before a reasonably accurate nutrient budget can be calculated:

- 1) The 404 wetland delineation line was not indicated on the submitted conceptual lot layout. Since an accurate accounting of nutrient impacts via the nutrient budget protocol is dependent on an accurate accounting of wetlands impacts, an approved ACOE approved wetlands delineation is the only reasonable way to assess such impacts. Use of National Wetlands Inventory (NWI) or Statewide Wetland Mapping Project (SWMP) maps are not considered acceptable substitutes for an ACOE approved wetlands delineation.
- 2) Proposed wetland and stream buffer widths were not apparent or disclosed.
- 3) The reported impervious cover figure (i.e., 13.8%) appears to understate the amount of this project's created forms of post-development surface imperviousness. This figure should be recalculated to include all created forms of post-development constructed surface imperviousness (roads, sidewalks, and rooftops).

DNREC then suggests that the applicant verify their project's compliance with nutrient budget protocol after addressing the above-mentioned concerns.

Water Supply

The information provided indicates that the Town of Ocean View/Tidewater Utilities will provide water to the proposed projects through a central public water system. Our files reflect that The Town of Ocean View/Tidewater Utilities does not currently hold a certificate of public convenience and necessity (CPCN) to provide public water in these areas. They will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. According to SB-135 that was signed on June 30, 2003 by Governor Minner, the municipality is required to give notice to the Public Service Commission when the annexation is complete. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-739-4247.

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.

DNREC regulations require no more than 20 acres to be disturbed at more time. A phased erosion and sediment control plan and sequence of construction will be required.

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 the project, including drainage and erosion/sediment control.

Please investigate Green Technology Practices for quality management.

Tax ditches are located on this property; therefore, the District will require an approval letter from DNREC Drainage Section. Please contact Brooks Cahall with DNREC Drainage for technical assistance at 302-856-5488.

Floodplains

A small portion of the project is in the floodplain. It is recommended that construction remain out of the floodplain and above the base flood elevation. Drainage and flooding problems exist in this area, especially in low-lying areas.

Open Space

The developer is strongly urged to consider alternatives to mowed grass within community open space areas. Mowing and other maintenance costs from lawn areas can become a substantial burden for community maintenance associations. There may be areas within the development that are appropriate for warm or cool season grasses,

especially around storm water management ponds. The maintenance costs associated with meadow type grasses are much lower than those of lawn grasses, and provide food and habitat for birds and other wildlife and can help reduce non-point source pollution.

Site Visit Request

DNREC has not surveyed this property, therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at this project site that would be affected by project activities.

In order to provide more informed comments and to make reasonable recommendations, our program botanist and zoologist request the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. This would also allow the applicant the opportunity to reduce potential impacts to rare species and to ensure that the project is environmentally sensitive. Please contact Bill McAvoy or Kitt Heckscher at (302) 653-2880 to set up a site visit.

Forest Preservation

Considering the fact that this development is within an Environmentally Sensitive Developing Area and thousands of acres of forest have been lost to development in just the last two years, the site plan should be changed to allow for greater forest preservation. The site plan states that tree 'conservation and replenishment' will take place; however, newly planted trees do not have the same wildlife value as older, established trees which also contain an understory of herbaceous vegetation. As the area is cleared, wildlife that is currently inhabiting the forest will have to disperse into the surrounding area and there is very little habitat in this developed area of the state. Human/animal conflicts will likely result, including interactions on the roadways.

DNREC strongly recommend the following site plan changes:

1. A reduction in the number of lots and infrastructure in the eastern portion of the site plan. Ideally this would entail all lots and infrastructure to the east of the road that provides a connection to parcel 1-34-17-12. At the very least, this would entail relocating the units along the cul-de-sac and other associated structures and pond/pool.
2. Stormwater management ponds that require tree clearing should be relocated and removed from the forest. Trees function in flood abatement and erosion control and it does not make sense to remove them to control stormwater, especially when

tree removal can exasperate flooding problems. Alternate methods of stormwater containment should also be explored (such as bioswales, etc.).

3. If tree clearing is going to occur despite recommendations to the contrary, then we recommend clearing not occur from April 1st to July 31st to minimize impacts to migratory birds and other wildlife that utilize forests for breeding.

Plant Rescue

Because there is forest and wetland loss associated with this project, it is recommended 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 or lynn_redding@ml.com.

Nuisance Waterfowl

The application states that perimeter trees and shrubs will be planted around stormwater management ponds to deter nuisance geese. 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 a reduction in the number of ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Assawoman Canal

The developer should be aware that properties abutting the Assawoman Canal will not have direct access to the waterway. The State (Division of Parks and Recreation) owns the canal as well as some of the upland area along each of the banks. The entire canal property extends from its northern end at White Creek to its southern end at Little Assawoman Bay, a total of 98 acres. The width of the property is 210 feet, which includes the canal and portions of each bank (60-80 feet of upland area on each side of

the canal). The general rule of thumb is the State owned property extends 105 feet from the center of the canal in each direction (east and west).

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 25.9 tons (51,726.0 pounds) per year of VOC (volatile organic compounds), 21.4 tons (42,825.6 pounds) per year of NO_x (nitrogen oxides), 15.8 tons (31,597.5 pounds) per year of SO₂ (sulfur dioxide), 1.4 ton (2,812.7 pounds) per year of fine particulates and 2,163.4 tons (4,326,812.6 pounds) per year of CO₂ (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 10.4 tons (20,863.4 pounds) per year of VOC (volatile organic compounds), 1.1 ton (2,295.6 pounds) per year of NO_x (nitrogen oxides), 1.0 ton (1,905.0 pounds) per year of SO₂ (sulfur dioxide), 1.2 ton (2,458.4 pounds) per year of fine particulates and 42.3 tons (84,575.7 pounds) per year of CO₂ (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 4.1 tons (8,268.8 pounds) per year of NO_x (nitrogen oxides), 14.4 tons (28,760.9 pounds) per year of SO₂ (sulfur dioxide) and 2,121.1 tons (4,242,236.9 pounds) per year of CO₂ (carbon dioxide).

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	25.9	21.4	15.8	1.4	2163.4
Residential	10.4	1.1	1.0	1.2	42.3
Electrical Power		4.1	14.4		2121.1
TOTAL	36.3	26.6	31.2	2.6	4326.8

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 4.1 tons of nitrogen oxides per year and 14.4 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:**

- Water distribution system capable of delivering at least 1500 gpm for 2-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Mercantile)
- 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. (Apartments, Assembly and Townhouses)
- 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. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**

- All structures over 10,000 sq.ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq.ft., 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR
- For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan.

c. **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 Muddy Neck 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.

d. **Gas Piping and System Information:**

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

e. **Required Notes:**

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

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, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Milton Melendez 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 Investment Level 2 and 3 areas.

A portion of this site is designated as a “good recharge” area. DNREC has mapped all ground-water recharge potential areas. A “good” rating is the second highest rating and designates an area as having important ground-water recharge qualities. 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 an adequate and 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 attempt to minimize the impact on these important areas.

Additionally, this site overlaps with the State’s Green Infrastructure Investment Strategy Plan. The Forest layer is present in this site; this designation identifies areas that possess unique natural features that are valuable for preservation.

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.

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.

Delaware State Housing Authority – Contact Karen Horton 739-4263

This proposal is a site plan review for 337 units on 71 acres located on the north side of Muddy Neck Road near the intersection of Ogre Drive. According to the State Strategies Map, the proposal is located in an Environmentally Sensitive Developing Area. We support this proposal because it includes units targeted for first time homebuyers in an area where development pressures continue to drive housing prices upward. According to the most recent real estate data collected by DSHA, the average home price in Sussex County is \$237,000. However, families earning 100% of Sussex County's median income, only qualify for mortgages of \$171,216. The provision of units within reach of families earning at least 100% of Sussex County's median income would help increase housing opportunities for first time homebuyers.

Department of Education – Contact: John Marinucci 739-4658

DOE offers the following comments on behalf of the Indian River School District.

1. Using the DOE standard formula, this development will generate an estimated 169 students.
2. DOE records indicate that the Indian River School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2005 elementary enrollment.
3. DOE records indicate that the Indian River School Districts' *secondary schools are not at or beyond 100% of current capacity* based on September 30, 2005 secondary enrollment. In a correspondence dated May 1, 2006 from the Indian River School District, the district asserted that while the Indian River High School has capacity, the Middle Schools operated by the district are beyond capacity.
4. This development will create additional elementary school and middle school student population growth which will further compound the existing shortage of space. The developer is strongly encouraged to contact the Indian River School District Administration to address the issue of elementary school over-crowding that this development will exacerbate.
5. DOE requests developer work with the Indian River 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 local school district.

Sussex County – Contact: Richard Kautz 855-7878

The town is encouraged to avoid the creation of new enclaves and to eliminate existing enclaves during its negotiation of the annexation agreement.

The Sussex County Engineer Comments: The proposed project is within the South Bethany Planning Area, as defined in the South Coastal Area Planning Study, Update 2005. The project request is for 337 units on 71.00 acres, which results in a gross density of 4.74 EDUs/acre. This density is consistent with the Town of Ocean View codes. This density is only allowable if the project is annexed into the Town of Ocean View; otherwise the allowable density is 4.0 EDUs/acre. This project is within the growth and annexation boundary of the Town of Ocean View's Comprehensive Land Use Plan. The project is contiguous to the South Bethany Sanitary Sewer District (SBSSD). A sewer concept plan will have to be reviewed and approved prior to annexation into the SBSSD. The project will have to be annexed into the South Bethany Sanitary Sewer District prior to any construction review. The connection point for this project will be determined by the Sussex County Engineer. Sussex County requires that design and construction of the collection and transmission system be in accordance with the Sussex County Sewer Standards and Specifications as well as the South Coastal Area Planning Study, Update 2005. System Connection Charges will be due prior to the issuance of any building permits.

A checklist for preparing concept plans and the guidelines for annexation into a county operated sewer district are attached.

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
Town of Ocean View