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September 9, 2006

State Of Delaware, Executive Department
Office of State Planning Coordination
540 S. DuPont Highway, Thomas Collins Bldg.
Dover, DE 19901

Attn: Mrs. Constance C. Holland, AICP

Re: Sandy Cove, PLUS 2004-08-02, response

Dear Lawrence,

This letter is in response to comments received from the Office of State Planning Coordination dated, September 13, 2004. We offer the following item-by-item response narrative for your review.

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.

Office of State Planning Coordination – Contact: Ann Marie Townshend 739-3090

The Office of State Planning Coordination notes that this proposal is located in an "Investment Level 4" area according to the 2004 draft update to the Strategies for State Policies and Spending. The Strategies update has been endorsed by the Cabinet Committee on State Planning Issues and is currently awaiting final approval by Governor Minner. This project is also in an area that was designated as "Rural" by the 1999 Strategies for State Policies and Spending, but that Sussex County included in the Environmentally Sensitive Development District in their 2003 Comprehensive Plan. The Investment Level 4 in this location reflects the environmental sensitivity of the project site, specifically the wetlands, excellent recharge area, and high agricultural suitability of the soils. In Investment Level 4 areas, State policies discourage development and encourage preservation of agricultural and natural resources.

Because of the environmental sensitivity of the site, we encourage the developer to redesign the project to be more compatible with the natural environment. Specifically, we recommend preserving the forested area on the site, protecting the water resource protection area, and utilizing green technologies for stormwater management.

Our office proposes the implementation of green technology for stormwater management, mainly bio-swales in combination with filter strips. The proposed ponds are designed as mirror ponds and will not be utilized for stormwater management.

During the construction of this project, the selective thinning of the existing forested area will be implemented. The bulk removal of the trees will be limited to areas of road construction and construction of homes. This will save approximately 60% of the wooded areas.

State Historic Preservation Office (SHPO)– Contact: Anne McCleave 739-5685

This development is proposed for the Rural Area. The SHPO does not favor development in the Rural Area. There is a high probability for prehistoric archaeological sites within and around the subject area. It is recommended that the forested area be preserved and a buffer provided between this area and the proposed development in order to help preserve any sites. It is also suggested some landscaping on the north and east corner of the property to help buffer the view from potential historic properties that exist in that area.

We acknowledge the above mentioned comments and take it under consideration.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

Because the development is proposed for a Rural Area, it is inconsistent with the Strategies for State Policies and Spending. Therefore DelDOT will not participate in the cost of any road improvements needed to support this development. The comments that follow are technical, and are not intended to suggest that DelDOT supports this development proposal.

- 1) *While no rezoning, is needed now, this project as proposed last year required a rezoning to MR-.RPC (medium density with a residential*

planned community overlay). In a letter dated June 13, 2003, DeIDOT commented to Sussex County that they did not recommend that a traffic impact study be required for the rezoning. A copy of that letter is available, but DeIDOT did not elaborate on their position.

- 2) *North of this project is a six-lot subdivision known as The Bluffs at Sandy Landing and served by a cul-de-sac street known as Otonka Trail. While there is a right-of-way for the cul-de-sac bulb and a stem of about 200 feet, that right-of-way appears to be accessible only by casements extending about 570 feet from Falling Point Road through the subject land and adjacent parcels. It is recommended that, insofar as they own the land involved, the applicant place the remainder of Otonka Trail in a right-of-way.*
 - 3) *The plan accompanying the PLUS materials shows a proposed street parallel to Falling Point Road offset from both that road and Otonka Trail. It is recommended that this street be shifted west to align with Otonka Trail.*
 - 4) *The plan accompanying the PLUS materials shows two access points on Falling Point Road, one opposite Sandy Landing Road where Otonka Trail currently begins and one for a new subdivision entrance. Given the relatively small amount of frontage that the site has, we will permit only one of these points. In a related matter, the double frontage lots proposed along Falling Point Road will be allowed access only by way of the internal street. No direct access will be permitted on Falling Point Road.*
 - 5) *It is recommended that sidewalks be provided on all internal streets to encourage walking.*
 - 6) *The developer's site engineer should contact the DeIDOT Subdivision Manager for Sussex County, Mr. John Fiori, regarding their requirements with regard to the design of the site entrance. Mr. Fiori may be reached at (302) 760-2260.*
- 1. The waiver of traffic impact study is gratefully appreciated.**
 - 2. The necessary right-of way for Otonka Trail will be provided as long as the easement is within boundary of Sandy Cove.**
 - 3. The necessary adjustment will be made for entrance alignment with**

Otonka Trail.

- 4. We have received the comments from DeIDOT Subdivision Manager for Sussex County. DeIDOT recommends only one access point, opposite of Otonka Trail. This change is shown on attached revised plan (revision 8/15/06). The access point for lots parallel with Falling Point Road will have access from the internal subdivision road. The denial of access will be recorded for the double frontage lots along Falling Point Road.**
- 5. The 5' wide concrete sidewalks is provided along one side of all internal subdivision streets of Sandy Cove.**
- 6. The Entrance Plan will be forwarded to DeIDOT Subdivision Manager for Sussex County.**

The Department of Natural Resources and Environmental Control – Contact:
Kevin Coyle 739-3091

Soils

According to the soil survey update, the following soils were found in the immediate vicinity of the proposed construction and grouped on the basis of drainage class:

Excessively well drained - Evesboro

Well 'Drained –Henlopen

Moderately well drained - Pepperbox

Very poorly drained (hydric) – Manahawkin & Broadkill mucky silt loam

Evesboro is an excessively well-drained upland soil that has moderate limitations associated with rapid permeability. Henlopen is a well-drained upland soil that, generally, has few limitations for development. Pepperbox is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Manahawkin and Broadki IL are very poorly-drained wetland associated (hydric) soils that have severe limitations for development.

Although most of the soils on subject parcel are fairly well drained, they have limitations associated with rapidly permeable sandy surface and subsurface horizons. Such soils are conducive to nutrient leaching via groundwater or surface runoff into the surrounding watershed. In soils containing shallow water tables or found in close proximity to waterbodies, these impacts are greatly intensified.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of Estuarine and Palustrine Forested wetlands on this parcel.

The developer and County should note that impacts to these wetlands are regulated by both the DNREC Wetlands and Subaqueous Lauds Section and 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.

Because there is strong evidence that federally regulated wetlands exist on site, a wetland delineation, in accordance with the methodology established by the Corps of Engineers Wetlands Delineation Manual, (Technical Report Y-87-1) should be conducted. Once complete, this delineation should be verified by the Corps of Engineers through the Jurisdictional Determination 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) 739-4691 to schedule a meeting.

Vegetated zones of no less than 100 feet should be employed from the edge of the wetland complex. The developer should note that both DNREC and Army Corps of Engineers 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.

Buffers

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. Moreover, the Department strongly advocates the preservation of the existing

forested buffer (in its entirety), for the vicinity of said parcel contiguous to the Indian River Bay and Pepper Creek.

Further, the Department strongly recommends that the periphery of the proposed ponds contain a 50-foot buffer of native woody and/or herbaceous vegetation. Buffers can significantly reduce nutrient pollution from overland runoff into pond(s) and thereby reduce the problems associated with nuisance algae and geese. In addition to the employ of buffers as a management tool for anticipated

Soils

Preliminary Groundwater Impact Assessment was performed by Duffield Associates and approved by DNREC. The approval letter is forthcoming and final construction drawings for community septic system is ready for submission.

Wetlands

Wetland delineation and Jurisdictional Determination were prepared by Duffield Associates and approved by Department of The Army, Philadelphia district Corps of Engineers, CENAP-OP-R-200300920-23 (JD). There will be no activity within wetlands nor any portion of the wetlands will be on any lots within this development.

Buffers

There is a minimum of 50 foot buffer provided and undisturbed from the state wetlands as established by DNREC. This buffer varies in width as shown on the plan.

As shown on the latest plan (revised 8/15/06), we have provided a landscape buffer around the ponds (not used for stormwater management). The ponds are for esthetic purpose only and we will further discuss the option of reduction or elimination with the developer. In addition we have rearranged the lots on the west side of Miriam Circle to provide additional buffer (average width from 404 wetlands line is 41+/- feet). The buffer is also preserve the natural wooded area.

ERES Waters

This project is located adjacent to receiving waters of 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 11.5 of Delaware's "Surface Water Quality Standards" (as amended August 11, 1999), specify that all designated ERES waters and receiving tributaries develop a "pollution control strategy" to reduce non-point sources of nutrient runoff through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 11,5(c) of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree practicable, or where attainable, a standard requiring no discharge of pollutants.

As we have mentioned in our reply to Office of State Planning Coordinator this project will fully implement the Green Technology Best Management Practices to protect the environment from surface runoff pollutants.

TMDLs

With the adoption of Total Maximum Daily Loads (TMDLs) as a "nutrient-runoffmitigation strategy" for reducing nutrients in the Inland Bays Watershed, reduction of nitrogen and phosphorus loading will be mandatory. 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 arc authorized under federal code, states are charged with developing and implementing standards to support those desired use goals. The Jurisdictional authority for attaining these use goals will fall under the auspices of Section 11.5 of the State of Delaware's Surface Water Quality Standards (as amended August 11, 1999), and will be achieved via nutrient reductions referred to as "pollution control strategies."

Nutrient reductions prescribed under TMDLs are assigned on basis of water quality concerns – that is, the those regions deemed to be of greatest environmental concern will require correspondingly higher levels of nutrient reduction than those regions deemed less environmentally sensitive. In this watershed, these regions arc demarcated as high and low reduction zones. The high reduction zone corresponds to the western portion of the watershed, and requires a reduction of

nitrogen and phosphorus by 85 and 65 percent, respectively, The low reduction zone corresponds to the eastern portion of the watershed, and requires a reduction of nitrogen and phosphorus by 40 percent. This project is proposed within the low nutrient reduction zone.

In order for the applicant to verify compliance with TMDL mandate, a full nutrient accounting process known as nutrient budget should be prepared. The developer/consultant should contact Lyle Jones in the Department's Watershed Assessment Section for further information regarding the acceptable protocol for calculating a nutrient budget. He can be reached at 739-9939.

As we have mentioned previously this project will fully implement the Green Technology Best Management Practices to protect the environment from surface runoff pollutants. In addition the TMDL was submitted (by Duffield Associates) to Lyle Jones (DNREC) and presently is being revised based on comments.

Water Supply

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 302-739-3665.

The dewatering permit will be applied for as needed prior commencement of the construction.

Water Resource Protection Areas

The majority of this site is located in an excellent recharge area (see map). According to the State law that created the Source Water Protection Program, county and municipal governments will be required to enact ordinances to protect Water Resource Protection Areas, The following language has been excerpted from the draft Source Water Protection Guidance Manual for Local Governments, Supplement 1 - Ground-Water Recharge Design Methodology. While the language is currently draft, and the local ordinances are not yet in place, the developer may find the language useful in modifying the site plan to protect the excellent recharge area.

Water Resource Protection Areas (WRPAs) are defined as (1) surface water areas such as floodplains, limestone aquifers, and reservoir watersheds, (2) wellhead areas, or (3) excellent recharge areas. The purpose of an impervious cover threshold is to minimize loss of recharge and protect the quality and quantity of ground and surface water supplies in WRPAs.

New development in WRPAs may exceed the 20 % impervious cover threshold, but be no more than 50 % impervious, provided the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis.

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

The Department recommends the following (ranked in order of preference):

- 1) Preserve WRPAs as open space and parks by acquisition or conservation easement*
- 2) Limit impervious cover of new development to 20 % by right within WRPAs.*
- 3) Allow impervious cover of new development to exceed 20% within*

WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that directly infiltrate rooftop runoff.

- 4) Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that infiltrate stormwater runoff from forested and/or grassed surfaces with pretreatment.*

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 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 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 (NOT) for Stormwater Discharges Associated with Construction Activity must be submitted to DNREC Division of Soil and Water Conservation along with the \$195 NOI fee prior to plan approval.

This site has the potential for a direct discharge to tidewater, making the project eligible for a waiver of stormwater quantity management. Furthermore, the soils on this site are excellent for recharge. The Sediment and Stormwater program recommends eliminating the large wet pond areas in favor of Green Technology BMPs for stormwater quality management. 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.

Open swales along the roadways would provide a significant amount of area for runoff to recharge.

Because the soil is so sandy, it is likely that the proposed wet ponds would need to be lined to maintain a permanent pool. This would be an added expense to the developer and maintenance of a wet pond would become the burden of the homeowners' association. Elimination of large wet ponds will also limit the possibility of resident Canada geese problems for the site. Green Technology BMPs can be situated so that the mature trees will not have to be removed for construction of a pond, as currently shown on the plan.

Each stormwater management facility should have an adequate outlet for release of stormwater. Facilities designed to infiltrate must have an overflow for release of runoff greater than the design volume. If a pipe discharge from the site to the creek is proposed, try to combine all discharges to a single discharge point to prevent further tree clearing and disturbance to wetlands. Any drainage conveyed onto this site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption.

If the ponds will remain as shown on the current plan, we would prefer to see access to Pond #2 be through open space rather than an easement along property lines (such as between lots 55 and 56). A minimum width of 12 feet should be provided around the top of banks of the ponds for maintenance access to the facility.

It is recommended that you relocate the open space to an area that is not currently wooded so that the buffer along the creek will not need to be removed to provide the open space.

Restrictions will be placed on structures located within the flood zone. Contact Mike Powell of DNREC Division of Soil and Water Conservation regarding those restrictions.

**As we have mentioned previously this project will fully implement the Green Technology Best Management Practices.
All of the proposed structures (homes) within this project will comply with flood zone restrictions.**

Forest

As the design phase of this project moves forward, DNREC strongly encourages the landowner(s) to consider preservation of upland, riparian, and wetland forests on these

parcels. Forests provide environmental services that benefit humans directly such as water quality protection (erosion control and sediment, nutrient, biological and toxics removal), climate moderation, aesthetic value and recreational opportunities. In addition, forests provide habitat for many species of plants and animals. Forest fragmentation resulting from development separates wildlife populations, increases road mortality, and increases "edge effects" that leave many forest dwelling species, particularly songbirds, vulnerable to predation. DNREC would gladly assist the landowner(s) in evaluating these parcels for wildlife habitat. Many new incentive-based programs for wildlife management are available to private landowners through our agency. Please contact their office if the landowner(s) is interested in more information.

During the construction of this project, the selective on lot thinning of the existing forested area will be implemented. The bulk removal of the trees will be limited to areas of road construction and construction of homes. This will save approximately 60% of the wooded areas. In addition, revision to plan (8/15/06) provide additional (1.97+/- ac.) forestry buffer between the 404 wetlands line and rear lot lines. The bulk grading also provides a minimum of 10 feet additional natural forest along rear lot lines.

Open Space

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure (such as stormwater management ponds) be pulled out of the forest and that areas of community open space be designated along the riparian areas. Doing so will accomplish two things: it will preserve and expand the existing riparian buffers on site and its value for birds and wildlife and it will create recreational opportunities for residents by allowing them access to and views of the forest and stream.

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

Open space containing Forest and/or wetlands should be placed into a permanent conservation easement or other permanent protection mechanism. Conservation areas should also be marked to avoid infringement by homeowners.

Establishing the conservation easement on this project will be taken into advisement. The limitation of the infringement by homeowners will have to be specifically stipulated (i.e. removable structures, temporary gardens, flower beds, playground equipment).

Habitat

Based on review of topographic maps, aerial photographs, and because we have not visited the site previously, our DNIIP Botanist requests the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. His observations would allow DNREC to make more informed comments on this project. Please contact Bill McAvoy at (302) 653-2880 to set up a site visit.

*The proposed project lies within five miles of a known Delmarva fox squirrel (*Sciurus niger cinereus*) population at the Assawoman Wildlife Area. Delmarva fox squirrels were listed as federally endangered in 1967 and are protected by the Endangered Species Act. They generally inhabit mature forests with open understories and wet woodlands, but can be opportunistic in their habitat choice. The proposed project area contains potential habitat for Delmarva fox squirrels and the following is required prior to beginning work:*

- 1. Completely avoid all direct and indirect impacts to the habitat, in consultation with the U.S. Fish and Wildlife Service (Trevor Clark 410-573-4527) and Delaware Division of Fish and Wildlife, Nongame and Endangered Species Program (Holly Niederriter 302-653-2880);*

OR

- 2. Have surveys conducted to determine if Delmarva fox squirrels are present. In accordance with Delaware's fox squirrel site survey procedures, surveys must be conducted by a State approved fox squirrel surveyor two times between September and May: once in the fall, and again between March 15 and May 30. A list of qualified surveyors is available upon request. Please note that surveys may confirm the presence of fox squirrels but cannot confirm absence.*

The arrangement will be made for site visit and if necessary the survey will be conducted by state approved fox squirrel specialist. Mr. Trevor Clark was contacted and we are awaiting his response.

Ponds/Nuisance Species

The ponds within the subdivision will likely attract waterfowl like resident Canada geese and mute swans that will create a nuisance for community residents. Although small numbers of these species are enjoyed by residents, geese and swans can quickly multiply and overwhelm the area. 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. Ponds that remain in the subdivision plan should be landscaped to deter nuisance species. Short manicured lawns around ponds provide an attractive habitat for these species. However, native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area around ponds, are not as attractive to geese because they do not feel as safe from predators and other disturbance when their view of the area is blocked. 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 and/or size of ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

The landscape buffer will be established with the native planting. The landscape Plan planting schedule will described necessary species of plants, trees, grasses etc.

Re-vegetation

It is requested that no invasive species be used in the re-vegetation of disturbed areas, A list of species considered invasive in Delaware can be found on the DNHP web site, <www.dnrec.state.de.us/fw/invasive.htm>. DNREC recommends the use of native plants and their Botanist, Bill McAvoy can be contacted at (302) 653-2880 to

assist you in developing a plant list.

The re-vegetation will be established with the native planting. The landscape Plan planting schedule will described necessary species of plants, trees, grasses etc.

Recreation

It is recommended that sidewalks be built fronting every residence and stub streets. A complete system of sidewalks will, 1) fulfill the recreation need for walking and biking facilities 2) provide opportunities for neighbors to interact in the community and 3) facilitate safe, convenient off-road access to neighboring communities, public mass transit stops, schools, stores, work etc.

We recommend that a series of stacking trail loops be designed providing access to the bay. For trail design/construction specifications, contact Susan Mocrschel at (302) 739/ 5285.

The Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information on outdoor recreation patterns and preferences as well as other information on their landscape perception. These findings are the foundation of the 2003-2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) providing guidance for investments in needed outdoor recreation facilities. The high and moderate facility needs in Eastern Sussex County are listed below. We appreciate the inclusion of recreation opportunities in the project design. Consideration should be given to incorporate some of these recreation opportunities into the project. Although swimming pools are a moderate priority for Delaware residents, we are concerned about the long term maintenance costs for the number of homes in this community.

For additional information about the outdoor recreation priorities, contact Bob Ehemann at 739-5285.

High Priorities

Moderate Priorities

Walking or Jogging Paths *Picnic Areas*
Bike Paths *Skate Facilities*
Fishing Areas *Canoe/Kayak Access*

Hiking Trails

Swimming Pools

Playgrounds

Soccer Fields

Tennis Courts

Power Boat Access

Baseball/Softball Fields

Sidewalks and stacking trail loops will be provided. The recreation amenities will reflect the above recommendations.

Air Quality

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer in the upper atmosphere, and contribute to the potential for world climate change. Breathing polluted air can have numerous effects on human health, including respiratory problems, hospitalization for heart or lung disease, and even premature death. Some can also have effects on aquatic life, vegetation, and animals.

Once complete, vehicle emissions associated with this project are estimated to be 5.9 tons (11,818.7 pounds) per year of VOC (volatile organic compounds), 4.9 tons (9,785.1 pounds) per year of NOx (nitrogen oxides), 3.6 tons (7,219.6 pounds) per year of SO2 (sulfur dioxide), 0.3 ton (642.7 pounds) per year of fine particulates and 494.3 tons (988,618.9 pounds) per year of CO2 (carbon dioxide)

Emissions from electrical power generation associated with this project are estimated to be 0.9 tons (1,889.3 pounds) per year of NOx (nitrogen oxides), 3.3 tons (6,571.5 pounds) per year of SO2 (sulfur dioxide) and 484.6 tons (969,294.5 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 2.4 tons (4,767.0 pounds) per year of VOC (volatile organic compounds), 0.3 ton (524.5 pounds) per year of NOx (nitrogen oxides), 0.2 ton (435.3 pounds) per year of SO2 (sulfur dioxide), 0.3 ton (561.7 pounds) per year of fine particulates and 9.7 tons (19,324.4 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO2	PM2.5	CO2 --
<i>Mobile</i>	5.9	4.9	3.6	0.3	494.3
<i>Residential</i>	2.4	0.3	0.2	0.3	9.7
<i>Electrical Power</i>		0.9	3.3		484.6
TOTAL	8.3	6.1	7.1	0.6	988.6

The Department of Natural Resources and Environmental Control is asking that local jurisdictions consider mitigation to help resolve this issue. Mitigation might involve limiting large new developments to growth zones, focusing development to urban areas capable of providing mass transit services, requiring more energy efficient homes which would lessen air quality impacts, and promoting walkability and bikability within and between developments and town centers.

While the inclusion of bicycle and pedestrian facilities in the project and interconnection with other projects in the area would provide some level of mitigation, the location of this project outside in an Investment Level 4 area and distant from services creates a situation where reliance on automobiles will be inevitable, thereby having a significant impact on air quality.

We acknowledge the above mentioned comments.

Underground Storage Tanks

There is one inactive LUST sites located near the proposed

project: Murphy's Marina, Facility # 5-000613, Project S8811067

No environmental impact is expected from the above inactive/active LUST site(s). However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would be need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized, it will need to be changed to ductile steel in the contaminated areas.

The Modified Phase I Environmental Site Assessment is being completed by Duffield Associates..

State Fire Marshal's Office — Contact: Kevin McSweeney 739-3696

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 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)*
- 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 10000 sq.ft., 3-stories or more or 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*

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 Sandy Landing 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.*
- > *If the use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.*

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)*
- 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. Application.s and brochures can be downloaded from our website: www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

The Delaware State Fire Marshal Regulations will be adhered to.

Department of Agriculture - Contact: Mark Davis 739-4811

As per relevant county ordinances, a forested buffer is required between the proposed subdivision and all adjacent properties in active agricultural use. In addition, a forest buffer should be maintained for those pre-existing residential properties and along all streams, wetlands, and river that border the proposed subdivision.

The developer should consider a diverse landscape plan that uses Delaware native tree and shrub species and encourages the "Right Tree for the Right Place" concept,

The landscape Plan planting schedule will described necessary species of plants, trees, grasses etc.

Public Service Commission - Contact: Andrea Maucher 739-4247

The information provided indicates that Tidewater Utilities will provide water to the proposed projects through a central public water system. PSC has verified that 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. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-739-4247.

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.

After July 6, 2004, any wastewater operator serving 50 or more customers in the aggregate that starts or expands its operations will need to apply for a CPCN. Additional requirements may apply if the operator has not been previously granted a CPCN to provide wastewater services. Contact: Kevin Neilson at (302) 739-4247.

All utility operators will have necessary certificates to provide service in this area..

Delaware Emergency Management Agency – Contact Don Knox 659-3362

An impact to public safety is foreseen by implementation of this project, due to the number of residential units being constructed. The developer should notify the police, fire service, and emergency medical response organization serving this part of Sussex County, to keep them apprised of all development activities. Portions of this property are located in the Special Flood Hazard Area inundated by the 500-year flood. This area could experience possible flooding from a category 2, 3, or 4 hurricane. Routes 26 and 113 are storm evacuation routes and this development will add to the traffic volume on these routes during a coastal storm event.

All emergency facilities serving this area will be notify of development activities..

Department of Education – Contact Nick Vacirca 739-4658

77 dwelling units could generate an estimated 39 additional students for the Indian

River School District.

Sussex County does not have school concurrence legislation at this time; however, it is recommended that the developer submit a package to the school district for informational purposes.

If the development is approved and build, please use the following information for school transportation planning. If there are homes more than 1/2 mile from the nearest public road (outside the development), developers should plan wide enough streets so that large school buses can access and turn around (without backing) from the furthest areas within the development while picking up and dropping off students. Should there not be any sites more than 1/2 mile from the nearest public road, provisions for appropriate pick-up and drop-off at the development entrance should be included. The developer should work closely with the school district transportation supervisor.

In addition if any development is planned adjacent to school property, the developer should provide walking or bike paths for the use of multi modes of transportation.

The School district will be notified and copy of the proposed subdivision will be supplied..

Sussex County — Contact Rick Kautz 855-7878

Being in the ESDA, an Environmental Assessment and Public Facility Evaluation Report should be prepared. The report needs to include responses to the PLUS comments, particularly the excellent recharge area mitigation measures and the significant reduction of the existing forest.

A berm or other inhibiting measure should be established between the through lots and Falling Point Road.

The Sussex County Engineering Department states: The proposed project is in the Vines Creek Planning Area. Due to the close proximity of the Indian River Bay and Pepper Creek the Sussex County Engineering Department prefers a connection to the Sussex County wastewater system. If this cannot be accomplished, then we recommend that the wastewater system be operated under a long-term contract with a capable wastewater utility, Sussex County requires design and construction or the collection and transmission system to meet Sussex County sewer standards and specifications. When Sussex County provides sewer service, it is required that the treatment system be abandoned and a direct connection made to the county system

Mrs. Constance C. Holland, AICP
State Of Delaware, Executive Department
Office of State Planning Coordination
Page 23

*at the developers and/or homeowners association expense.
For questions regarding these comments, contact Chris Calio, Sussex County
Engineering Department at (302) 855-7839.*

The design of the wastewater facilities are being completed and we have received the comments from Sussex County Engineering Department on our conceptual sewer plan.

The above comments serve as an official response from Engineering Consulting, Inc. On behalf of our client Sandy Landing, LLC, we thank your for your review and comments on this project. If you should have any questions or concerns please contact me at (302) 836-9098.

Sincerely,

Gejza J. Csoltko, P.E.
Project Manager

Cc: Constance C. Holland, AICP, Office of State Planning