



February 15, 2006

Randy B. Duplechain  
Davis, Bowen & Friedel  
23 N. Walnut Street  
Milford, DE 19963

RE: PLUS review – PLUS 2006-01-08; Merriken/Davis Property

Dear Mr. Duplechain:

Thank you for meeting with State agency planners on January 25, 2006 to discuss the proposed plans for the Merriken/Davis property project to be located on the west side of Bridgeville Highway, 2,160 ft. south of Herring Run Road within the City of Seaford.

According to the information received, you are seeking a rezoning from AR-1 to R-3 to build a 355 lot subdivision.

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

### **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 proposal is located within the City of Seaford in an Investment Level 1 and 2 area according to the Strategies for State Policies and Spending. In these areas State policies support development that is consistent with the local comprehensive plan.

### **Street Design and Transportation**

- DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site.
- DelDOT recommends that a stub street be provided to the adjoining Hill property (Tax Parcel 3-31-5.00-11.01).
- DelDOT is aware that the City is or was trying to sell off land on the west side of Bridgeville Highway, immediately across Herring Run from this project. It is recommended that they require the developer to prepare an access plan for Bridgeville Highway from Union Street to Dutton Avenue, demonstrating to the City and DelDOT's satisfaction how the developments proposed there can be accommodated. Only the entrance to the subject site needs to be designed in detail, but the plan should show how the left and right turn lanes necessary for all of the development in that block can fit within the space available.
- Although they did not mention it at the PLUS meeting, recent traffic impact studies (TIS) in the area have identified a need for improvements to the intersection of Bridgeville Highway and Herring Run Road. While the subject development would not generate enough traffic to warrant a TIS, DelDOT anticipates asking the developer to contribute to those improvements.

### **Natural and Cultural Resources**

- Portions of the proposed development/rezoning are located in a 100-year floodplain. It is recommended that land development activities be limited to those areas outside and above the 100-year floodplain.

- This project is located directly adjacent to sensitive headwater or near headwater riparian wetlands associated with the Herring Run – greatly increasing the probability of harmful impacts to surface and groundwater quality of all waters within the greater Nanticoke River watershed. In recognition of this concern, the Watershed Assessment Section strongly recommends the applicant consider preserving the existing forested buffer in its entirety. Otherwise, a buffer width of at least 100-foot should be retained to protect the water and habitat quality of the adjacent waterway and its' wetlands.
- PLUS materials indicate that 3.18 acres of forest (25%) will be removed. Although small, this area provides water quality, air quality and habitat benefits. The developer should make efforts to minimize any forest clearing.
- The project site falls wholly or partially within a wellhead protection area for the City of Seaford. Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where the quantity and quality of ground water moving toward such wells may be adversely affected by land use activities or impervious cover.
- It is recommended that lots and infrastructure be removed from the forested riparian buffer and that the existing buffer be left in tact. At the very least, a 100-foot forested buffer should be left intact along Herring Creek and any associated wetlands.

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

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

This proposal is located within the City of Seaford in an Investment Level 1 and 2 area according to the Strategies for State Policies and Spending. In these areas State policies support development that is consistent with the local comprehensive plan. We are pleased to see that the plan, as presented, includes a road connection to the adjacent development; however we also support DeIDOT's request to provide a stub street to the adjacent Hill property.

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

Nothing is identified in the records on this parcel. It is immediately adjacent to Lawrence (S-194), which is listed in the National Register of Historic Places. The 1937 aerial photograph shows outbuildings and a house next to the road at the eastern end of the

parcel. These appear to be part of the historic farm complex that supported Lawrence. There are also areas of high and medium potential for prehistoric-period archaeological sites within this parcel.

Small, rural, family cemeteries often are found in relation to historic farm complexes, such as Lawrence, usually a good distance behind or to the side of the house. While such a cemetery might be in the woods immediately behind Lawrence, it is possible that it was further from the house and now has lost all surface markings. 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. We will be happy to discuss these issues with the developer; the contact person for this program is Faye Stocum, 302-736-7400.

The DHCA is pleased to see that Lawrence will remain on its own parcel. The current landscaping around Lawrence on its parcel appears to be sufficient to protect the house from visual and excessive noise intrusions. They would like the opportunity to document the remaining outbuilding(s) and house that are within the development parcel prior to any demolition work. The DHCA would also like the opportunity to look for archaeological sites and learn something about their location, character, and extent prior to any ground-disturbing activities.

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

- 1) Bridgeville Highway is classified as a major collector road. Collector road rights-of-way vary in Delaware are typically larger than those of local roads. 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 DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- 2) DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site.
- 3) DelDOT commends the developer for providing the proposed stub street and recommend that it be coordinated with the proposed stub from the adjoining Mears 2 project.
- 4) DelDOT recommends that a stub street be provided to the adjoining Hill property (Tax Parcel 3-31-5.00-11.01).

- 5) There are two sections of alley and one section of street proposed to run parallel and adjacent to the Mearfield and Mears 2 developments, separated from them by a relatively narrow strip of open space. Such an arrangement is inefficient in that these roadways are each loaded only on one side. Where possible, these roadways should be shifted to the north property line and the two developments just mentioned should be re-subdivided to allow frontage and/or access on these roadways. Based on comments that the developer's engineer made at the PLUS meeting, it may be too late to make some of these changes.
- 6) DelDOT is aware that the City is or was trying to sell off land on the west side of Bridgeville Highway, immediately across Herring Run from this project. It is recommended that they require the developer to prepare an access plan for Bridgeville Highway from Union Street to Dutton Avenue, demonstrating to the City and DelDOT's satisfaction how the developments proposed there can be accommodated. Only the entrance to the subject site needs to be designed in
- 7) detail, but the plan should show how the left and right turn lanes necessary for all of the development in that block can fit within the space available.
- 8) Although they did not mention it at the PLUS meeting, recent traffic impact studies (TIS) in the area have identified a need for improvements to the intersection of Bridgeville Highway and Herring Run Road. While the subject development would not generate enough traffic to warrant a TIS, DelDOT anticipates asking the developer to contribute to those improvements.
- 9) The developer's site engineer should contact Mr. John Fiori, the DelDOT project manager for Sussex County, regarding their specific requirements for streets and 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 Evesboro and Johnston were mapped in the immediate vicinity of the proposed construction. Evesboro is an excessively well-drained upland soil that has moderate limitations on account of its rapid permeability. Johnston is a very poorly-drained wetland associated (hydric) floodplain soil that has the highest severity level for development.

## **Wetlands**

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

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

This project is located directly adjacent to sensitive headwater or near headwater riparian wetlands associated with the Herring Run – greatly increasing the probability of harmful impacts to surface and groundwater quality of all waters within the greater Nanticoke River watershed. Headwater streams and their associated wetlands are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system downstream. In recognition of this concern, the Watershed Assessment Section strongly recommends the applicant consider preserving the existing forested buffer in its entirety. Otherwise, a buffer width of at least 100-foot should be retained to protect the water and habitat quality of the adjacent waterway and its' wetlands.

## **Impervious Cover**

Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline below their predevelopment level. Based on information compiled by the University of Delaware through analysis of 2002 aerial photography, the Nanticoke watershed has about 8.5 percent impervious cover. Since the amount of imperviousness generated by this project will be well over this 10 percent watershed threshold and studies have shown that increases in a watershed's surface imperviousness usually reflect proportional decreases in water and habitat quality when this threshold is exceeded, the applicant is strongly advised to be proactive and pursue best management practices (BMPs) that mitigate or reduce its most predictable 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 forest preservation and/or enhancement of existing forested buffers from wetlands and water bodies (including ditches) are some examples of practical BMPs that could easily be implemented to reduce the impacts from constructed surface imperviousness. Even better, reducing the amount of constructed structural imperviousness (i.e., buildings and paved surfaces) in the first place is probably the best BMP and should also be considered.

The applicant did not indicate the amount of constructed surface imperviousness projected for this project in the PLUS application. This figure is an important variable to gauge environmental impacts from water and pollutant runoff. 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; otherwise, an inaccurate assessment of this project’s true environmental impacts will result.

### **ERES Waters**

This project is located adjacent to receiving waters of the Chesapeake 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). Best Management Practices as defined in subsection 5.6.3.5 of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants.

### **TMDLs**

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Nanticoke 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 shellfish harvesting. In the Nanticoke watershed, “target-rate-reductions” of 30 and 50 percent will be required for nitrogen and phosphorus, respectively.

### **Compliance with TMDLs through the PCS**

In the Nanticoke watershed, the primary source of water quality impairment is associated with nutrient runoff from agricultural and/or residential development. In order to mitigate for the aforementioned impairments, a post-development TMDL reduction level of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. Compliance with the post-development TMDL nutrient loading reduction requirements will be assessed via nutrient budget protocol, a computer-based model that quantifies post-development nutrient loading under a variety of land use scenarios in combination with a variety (or absence) of BMP types and intensities. This post-development loading rate is then compared with the pre-development loading rate as a means to assess whether the project meets the acceptable TMDL reduction levels. Since an assessment of impervious cover was not included in the PLUS application, we assumed an impervious cover figure of 35 percent as a “best-guess-estimate” (may in fact be higher) of surface imperviousness. Based on preliminary evaluation of this project using this model (assuming 35 percent surface imperviousness) the development as currently conceived, does **not** meet the Nanticoke River watershed TMDL nutrient reduction requirements for nitrogen and phosphorus. The applicant is strongly advised to consider the use of appropriate BMPs and Best Available Technologies (BATs) to ensure compliance. Examples of BMPs or BATs that should be used to significantly reduce nutrient loading from this project include practices that prevent or mitigate surface imperviousness, maintenance of recommended wetland and water body buffer widths, and utilization of innovative or “green technology” stormwater methodologies.

Since impervious cover is an important variable in the nutrient budget calculation, this figure must be calculated for projecting this parcel’s contribution to impacts from nutrient runoff. The applicant should also keep in mind that all forms of constructed surface imperviousness (i.e., paved roads/driveways, rooftops, and sidewalks) should be included in the calculation. The applicant should then run the model (with the properly calculated impervious cover figure) with an attempt to incorporate as many of the above-mentioned BMPs or BATs as possible as a means to definitively assess whether this project meets specified TMDL loading rates. Please contact Lyle Jones of Watershed Section at 739-9939 for the acceptable model protocol.

### **Water Resource Protection Areas**

The DNREC Water Supply Section has determined that the project site falls wholly or partially within a wellhead protection area for the City of Seaford. Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where the quantity and quality of ground water moving toward such wells may be adversely affected by land use activities or impervious cover.

The DNREC Water Supply Section recommends that the portion of the new development within the wellhead protection area not exceed 20% impervious cover. Some allowance for augmenting ground-water recharge should be considered if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within this area. However, the development should not exceed 50% regardless. A water balance calculation will be necessary to determine the quantity of clean water to be recharged via a recharge basin. The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies.

The proposed development would change the impervious cover to a higher percentage. Ideally, relocating any open space areas to the part of the parcel within the wellhead protection area would decrease the total impervious area in the wellhead protection area. Augmenting the groundwater recharge with clean rooftop run-off systems are another alternative to reducing the total impervious cover.

In addition, because the wellhead protection area may be the source of public drinking water, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant state, federal, or local program.

For more information refer to the Final Source Water Protection Guidance Manual for the Local Governments of Delaware <http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html>

and

Ground-Water Recharge Design Methodology [http://www.wr.udel.edu/swaphome/phase2/Publications/swapp\\_manual\\_final/swapp\\_guidance\\_manual\\_supp\\_1\\_2005\\_05\\_02.pdf](http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf).

### **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 302-739-9944.

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

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

A Notice of Intent (NOI) 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.

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. Green Technology BMPs (infiltration, biofiltration, filtration, bioretention) must be given first consideration for stormwater quality management. Ponds may be used for additional quantity management if necessary.

Each stormwater management facility should have an adequate outlet for release of stormwater. The condition of the existing stream and downstream road culvert may need to be assessed for capacity for conveyance of the developed discharges from the site.

It is strongly recommended that you contact the Sussex Conservation District to schedule a preliminary 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. As of July 1, 2005, a new two-step review process is now in place. The first step, referred to as the "Conceptual SWM Plan", does not require completion of the construction drawings for submission. Additional information, including checklists, regarding these new procedures is available on the Sediment & Stormwater Program Web site.

### **Drainage**

A tax ditch right-of-way is not declared for the section of ditch affecting the property. The original map shows there was no ROW for this section. The profile shows that the design grade matched the present condition. All other relevant formation documents were checked and no remarks were found that provided special exceptions for this area. Therefore, no ROW exists for this section. Based on the site plan provided with the PLUS application form, nothing falls within the 16.5 foot ROW that exists for the upper areas of this system.

### **Floodplains**

Portions of the proposed development/rezoning are located in a 100-year floodplain. It is recommended that land development activities be limited to those areas outside and above the 100-year floodplain.

### **Forest Preservation**

PLUS materials indicate that 3.18 acres of forest (25%) will be removed. Although small, this area provides water quality, air quality and habitat benefits. Clearing portions of the forest within the parcel will reduce the habitat value by allowing invasive species such as multiflora rose, oriental bittersweet and autumn olive to occupy the forest edge. Invasive species prosper in disturbed areas and pose a threat to mature trees and native shrubs.

The site plan should be changed and the number of units and the associated infrastructure reduced. According to the site plan there are an excess number of parking spaces, well above the number that is required. The roadways could also be scaled back or reconfigured so that less space is required and wetlands are more protected. Considering the benefit of trees in flood abatement and erosion control, stormwater management ponds should not be located in the forested area. The stormwater ponds in the site plan are too close to existing wetlands and the wetlands could receive stormwater which is usually of poor quality. Therefore, the developer is strongly encouraged to preserve, and where possible, enhance forested resources on site. In addition, the developer should provide the community with a detailed landscape management plan that outlines how to manage open space areas, as well as control for invasive species.

If tree clearing still occurs despite the above recommendations, it is recommended that clearing not occur April 1st to July 31st to reduce impacts to nesting birds and other wildlife species that utilize forests for breeding.

## **Open Space**

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 demarked to avoid infringement by homeowners.

## **Rare Species/Buffers**

The Delaware Natural Heritage Program has not surveyed this project site; therefore, a review of their database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities on this project site. However, there are rare species associated with Herring Creek, so adequate buffers to protect water quality are important. Considering the number of additional projects in the vicinity, cumulative impacts to water quality from run-off are a real concern. It is recommended that lots and infrastructure be removed from the forested riparian buffer and that the existing buffer be left in tact. At the very least, a 100-foot forested buffer should be left intact along Herring Creek and any associated wetlands.

## **Nuisance Waterfowl**

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

with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

### **Underground Storage Tanks**

There are no LUST site(s) located near the proposed project. 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 with nitrile rubber gaskets in the contaminated areas.

### **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 27.2 tons (54,488.8 pounds) per year of VOC (volatile organic compounds), 22.6 tons (45,113.0 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 16.6 tons (33,285.2 pounds) per year of SO<sub>2</sub> (sulfur dioxide), 1.5 ton (2,963.0 pounds) per year of fine particulates and 2,279.0 tons (4,557,918.3 pounds) per year of CO<sub>2</sub> (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 11.0 tons (21,977.8 pounds) per year of VOC (volatile organic compounds), 1.2 ton (2,418.2 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 1.0 ton (2,006.8 pounds) per year of SO<sub>2</sub> (sulfur dioxide), 1.3 ton (2,589.7 pounds) per year of fine particulates and 44.5 tons (89,093.1 pounds) per year of CO<sub>2</sub> (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 4.4 tons (8,710.4 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 15.1 tons (30,297.1 pounds) per year of SO<sub>2</sub> (sulfur dioxide) and 2,234.4 tons (4,468,825.2 pounds) per year of CO<sub>2</sub> (carbon dioxide).

	VOC	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Mobile	27.2	22.6	1.6	1.5	2279.0
Residential	11.0	1.2	1.0	1.3	44.5
Electrical Power		4.4	15.1		2234.4
TOTAL	38.2	28.2	17.7	2.8	4557.9

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 4.4 tons of nitrogen oxides per year and 15.1 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):

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):

❖ *This Agency has no objection to the re-zoning request. The information provided below shall be considered when plans are being designed.*

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, Apartments, and Townhouses)
- 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 of 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
- 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 Bridgeville Highway 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](http://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 Merriken/Davis application. The site is located on a controlled development area. The *Strategies for State Policies and Spending* encourages environmentally responsible development in areas within a Investment Level 1 and 2 area. This site is a part of a “good recharge” area. DNREC has mapped all ground water potential recharge areas. A “good recharge” rating is the highest rating and designates an area as having important groundwater 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 a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as “excellent” and “good” recharge areas adversely impacts the future prospects for agriculture in Delaware.

*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 Jimmy Atkins 739-4263**

DSHA supports this proposal because residents will have proximity to services, markets, and employment opportunities. The proposal also targets first time homebuyers. For informational purposes, the most recent real estate data collected by DSHA, the median home price in the Seaford area is \$180,000. However, families earning 80% of Sussex County's median income only qualify for mortgages of \$142,040. We recommend that some of the units be set-aside at this price level to ensure that working households have access to affordable housing.

**Department of Education – Contact: John Marinucci 739-4658**

Accommodation of DelDOT and State Fire Marshal requirements for road widths, turning radii and fire lanes will address the needs of school bus access.

Request developer work with the local 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.

**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: City of Seaford