



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

March 21, 2011

Mr. Frank Kea, RLA  
Solutions, IPEM.com  
132 East Market Street, Ste. B  
P.O. Box 416  
Georgetown, DE 19947

**RE: PLUS review – 2011-02-03; Pelican Pointe (aka Fenwick Pointe)**

Dear Mr. Kea:

Thank you for meeting with State agency planners on February 23, 2011 to discuss the proposed plan for the Pelican Pointe project to be located on the south side of Route 54, approximately 200' feet east of Sandy Cover Road, east of Williamsville.

According to the information received, you are seeking a rezoning from AR-1 to CR-1 with a conditional use for multi-family with the intention of building 132 apartments and 8,900 sq. ft. of commercial on 15.29 acres.

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

**Strategies for State Policies and Spending**

- This project is located in Investment Level 3 according to the Strategies for State Policies and Spending. In addition, it is located within the Environmentally Sensitive Developing Area of the Sussex County comprehensive plan. Investment 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. We encourage you to design the site with respect for the environmental features which are present.

## **Code Requirements/Agency Permitting Requirements**

### State Historic Preservation Office – Contact Terrence Burns 736-7404

- The developer should also be aware that there is known cultural or historic resource within this parcel (or property), and a couple nearby. The one that was on the parcel, but probably demolished was a mid to late 19th-century house (S-2069) along Route 54. The others that are nearby is a 20th-century house-bungalow (S-2070) near the corner of Route 54 and Sand Cove Road, and another 20th-century house (S-8192) along Route 54, near the northeast side of the parcel as well. With this in mind, it is important that the developer be aware of the Delaware Unmarked Human Remains Act of 1987, outlined in Chapter 54 of Title 7 of the Delaware Code, which pertains to the discovery and disposition of such remains, because the unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out.
- Prior to any demolition or ground-disturbing activities, the developer should consider hiring an archaeological consultant to examine the parcel for archaeological sites, such as a cemetery or unmarked human remains.
- If there is any federal involvement with the project, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential culture or historic resources.

### Department of Transportation – Contact Bill Brockenbrough 760-2109

- The site access must be designed in accordance with DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access. This manual is available on-line at [http://www.deldot.gov/information/pubs\\_forms/manuals/subdivisions/pdf/Subdivision\\_Manual\\_Revision\\_1\\_proposed\\_060110.pdf](http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/Subdivision_Manual_Revision_1_proposed_060110.pdf).
- The proposed development meets DelDOT's volume warrants for a Traffic Impact Study (TIS), as contained in Section 2.3.1 of the Standards and Regulations. A TIS was required for a previous development proposal for this site and that study was completed and submitted to us in 2010. DelDOT's consultant, McCormick Taylor, substantially completed a review of that study but they did not send comments to the County, pending discussions with the developer. Having now been informed of the current proposal, they have determined that, from their perspective, the 2010 TIS is adequate to address most of the off-site intersections and for the County to act on the rezoning request. DelDOT has written to the County separately in that regard and a copy of our letter is attached.
- As discussed in that letter, if the County approves the rezoning, DelDOT will require a revised TIS, focusing on the site entrance and the intersection of Route 54 and Sand Cove Road (Sussex Road 394), as a condition for any plan approvals. Accordingly, DelDOT recommends that the applicant's engineer meet with us to set a scope for that revised TIS when they are ready to proceed with it. As summer counts will be required, we recommend a meeting this spring, or possibly next spring depending on the project

schedule. To schedule a scoping meeting, please contact Mr. Troy Brestel of this office. Mr. Brestel may be reached at (302) 760-2167.

- DelDOT anticipates that Sussex County will require a “Letter of No Objection” from the Department for this project. Per Section 3.4 of the Standards and Regulations, the developer must submit **three (3) signed and sealed paper copies and one electronic (pdf) copy** of the **record plan**, with an Initial Stage Fee Calculation Form and the Initial Stage Fee. Please make all submissions to Mr. John Fiori, Subdivision Manager. The entrance plan will not be reviewed until after the “Letter of No Objection” has been issued.
- As specified in Section 4.1 of the Standards and Regulations, when the entrance construction plans are submitted for review, the developer must submit **two (2) paper copies and one electronic (pdf) copy** of the construction plans, one copy of the record plan, an Initial Stage Fee Calculation Form, a Construction Stage Fee Calculation Form, a Construction Stage Review Fee, an application for highway entrance permit and a signed and sealed commercial entrance design checklist for review and approval. Be advised that the Department will not review the entrance plan until it has signed off on the record plan. Please make all submissions to Mr. John Fiori, Subdivision Manager.
- In accordance with Section 3.5.4.2 of the Standards and Regulations, DelDOT anticipates requiring a shared use path along the property frontage on Route 54.
- The relevant segment of Delaware Route 54 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 DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- DelDOT will require the developer to provide a 10-foot wide shared-use path in a 15-foot wide permanent easement along the property frontage on Route 54.
- Without prejudging the results of the revised traffic impact study, DelDOT anticipates requiring the developer to improve Route 54 to meet major collector road standards from Sand Cove Road to the east limits of the site frontage. These standards include 12-foot wide travel lanes and 8-foot wide shoulders.
- The site access must be designed in accordance with DelDOT’s Standards and Regulations for Subdivision Streets and State Highway Access. This manual is available on-line at:  
[http://www.deldot.gov/information/pubs\\_forms/manuals/subdivisions/pdf/Subdivision\\_Manual\\_Revision\\_1\\_proposed\\_060110.pdf](http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/Subdivision_Manual_Revision_1_proposed_060110.pdf).

While compliance with the entire manual is required, as relevant, they direct your attention to the following areas in particular:

- Referring to Chapter 3 – Site Plan Design, Section 3.6.5: Dedication of Right-Of-Way, Figure 3-3 Minimum Standards for Total Roadway Right-Of-Way, page 3-19, the project will be required to dedicate right-of-way in accordance with our minimum standards.
- Referring to Appendix J – General Notes for Construction Plan, page J-7, a note concerning the maintenance of the multi modal (shared use) path along Route 54 is required.
- Referring to Chapter 3 – Site Plan Design, Section 3.5.5.5: Bus Stop Criteria, page 3-12, a bus stop will be required for this project.
- Referring to Chapter 3 – Site Plan Design, Section 3.4.1: Traffic Information, page 3-3, a traffic generation diagram is required.
- Referring to Appendix D – Plan Review Checklist, pages D-2 thru D-39, contains the new checklists required for all plan type submittals.
- Referring to Chapter 3 – Site Plan Design, Section 3.1: Purpose, page 3-1, a “Letter of No Objection” will be required for this project.
- Referring to Chapter 1 – Introduction, Section 1.4: Review Fees, page 1-8, the Initial Stage review fee will be assessed for this project.
- Referring to Chapter 4 – Construction Plans, Section 4.4: Commercial Entrance Plan Checklist, page 4-8, an entrance plan should be prepared for review and approval.
- Referring to Chapter 1 – Introduction, Section 1.4: Review Fees, page 1-8, the Construction Stage review fee will be assessed for this project.

Please contact the DelDOT Subdivision Manager for eastern Sussex County, Mr. John Fiori, if you have questions regarding these requirements. Mr. Fiori may be reached at (302) 760-2260.

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

## **Wetlands**

- The applicant is responsible for determining whether any State-regulated wetlands (regulated pursuant to 7 Del.C. Chapter 66 and the Wetlands Regulations) are present on the property. This determination can only be made by contacting the Division of Water Resources’ Wetlands and Subaqueous Lands Section at 302/739-9943 and consulting the State’s official wetland regulatory maps, which depict the extent of State jurisdiction. The area regulated by State law may be very different from the area under federal authority. No activity may take place in State-regulated wetlands without a permit from DNREC’s Wetlands Section.
- In addition, most perennial streams and ditches and many intermittent streams and ditches are regulated pursuant to the Subaqueous Lands Act (7 Del.C. Chapter 72) and the Regulations Governing the Use of Subaqueous Lands. Ponds, which are connected to other waters, are also regulated, while isolated ponds are not. Any work in regulated streams, ditches or ponds requires a permit from the Wetlands and Subaqueous Lands Section. An on-site jurisdictional determination is recommended in order to determine

whether any regulated watercourses exist on the property. Please contact the Wetlands and Subaqueous Lands Section at 302/739-9943 to schedule an on-site visit. Such appointments can usually be scheduled within 2 to 3 weeks.

### **TMDLs and Nutrient Management Plans**

- The project is located in the greater Inland Bays drainage area – specifically, within the area designated as the “low nutrient reduction zone” of the Indian River Bay watershed. In this portion of the watershed, specific Total Maximum Daily Load (TMDL) pollutant reduction targets have been developed by the State of Delaware (under the auspices of Section 303(d) of the 1972 Federal Clean Water Act) for nutrients (e.g., nitrogen, phosphorus), and bacteria. 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 State water quality standards (e.g., dissolved oxygen, nutrients, and bacteria; State of Delaware Surface Water Quality Standards, as amended July 11, 2004) to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. The TMDL for the Low Reduction zone of the Inland Bays watershed calls for a 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 40 percent reduction in bacteria from baseline conditions.
- The adopted Inland Bays Pollution Control Strategy regulation was published in the Delaware Register of Regulations on November 11, 2008 and is now an enforceable regulatory directive. A Pollution Control Strategy (PCS) is an implementation strategy that identifies the actions necessary (regulatory and nonregulatory) to systematically reduce the pollutant loading to a given water body, and meet the TMDL reduction requirements specified for that water body. These regulations can be reviewed at: <http://regulations.delaware.gov/documents/November2008c.pdf> and background information, guidance documents, and mapping tools can be retrieved from [http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/ib\\_pcs.htm](http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/ib_pcs.htm). The regulations address sediment and stormwater controls for new development projects and additional measures and standards for onsite wastewater treatment and disposal systems.
- The regulations require that permanent sediment and stormwater management plans be designed and implemented to include design criteria to further reduce nutrient contributions.
- **Based on information supplied by the applicant, this project – as currently proposed – is not likely to meet the TMDL nutrient reduction requirements mandated by the PCS.**

### **Water Supply**

- The project information sheets state water will be provided to the project by Artesian Water Company via a public water system. Our records indicate that the project is located within the public water service area granted to Artesian Water Company under Certificate of Public Convenience and Necessity 00-CPCN-07.

- 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.

### **Sediment and Stormwater Program**

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. A project application meeting is required for this site. Contact the reviewing agency to schedule a project application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-2105 for details regarding submittal requirements and fees (Delaware Code, Title 7, Chapter 40; Delaware Regulations, Administrative Code, Title 7, 5101).

### **Drainage Program**

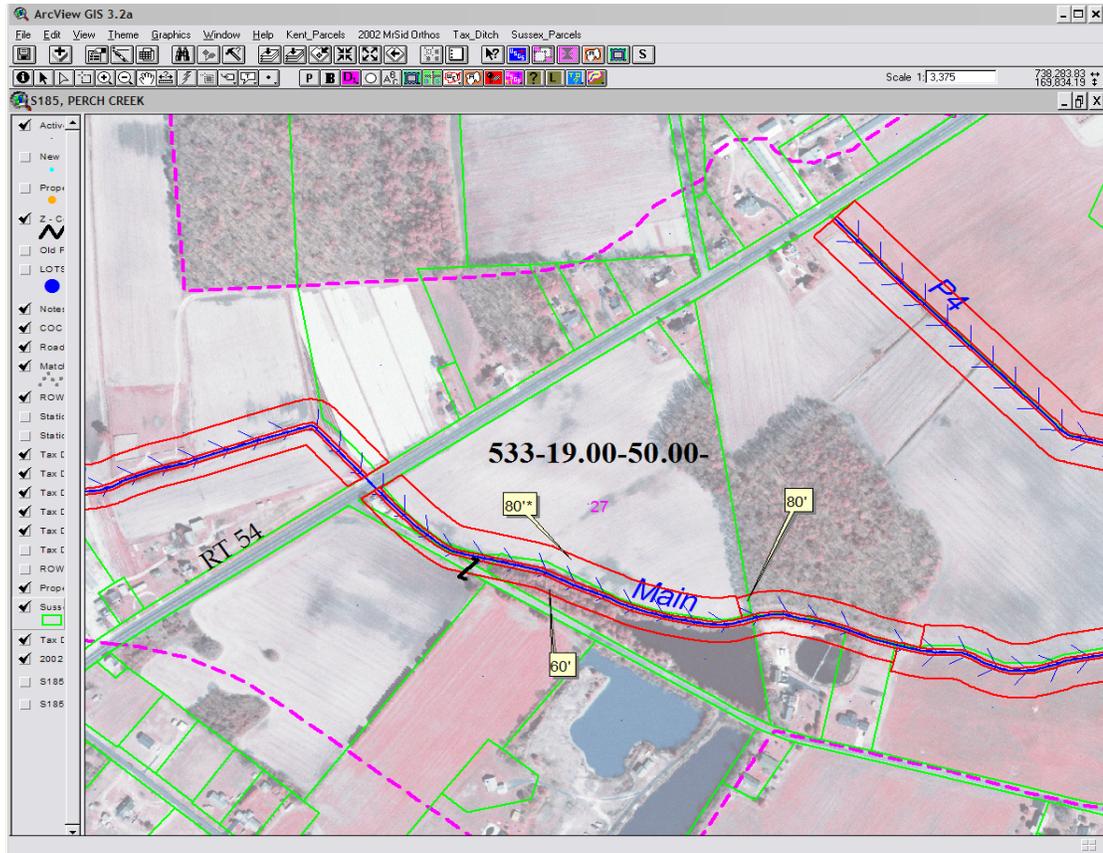
- The Drainage Program has researched the Tax Ditch rights-of-ways for Parcel # 533-19.00-50.00. The information is as follows:

- This parcel is located in the Perch Creek Tax Ditch and is affected by the following rights-of-way:

○ Perch Creek Tax Ditch	○ Left	○ Right
○ Main	○ 60'	○ 80'

- Please note that the above rights-of-way are measured from the centerline of the ditch, with the exception of the ones noted with an asterisk, which are measured from top of the ditch bank. The designation of Left and Right side are based upon looking upstream.
- Any change to the location of the tax ditch or existing tax ditch rights-of-way will require a change to the Perch Creek Tax Ditch court order. The placement of permanent obstructions within tax ditch rights-of-ways is prohibited. Using the drawing from the PLUS application, it appears there are buildings, parking lots, trees, and a stormwater management pond within the tax ditch rights-of-way. Please contact

Matthew Grabowski, Environmental Program Manager with the Drainage Program in Georgetown at (302) 855-1930 to resolve any issues with the tax ditch rights-of-way for this project.



### Hazardous Waste Sites

- If it is determined by the Department that there was a release of a hazardous substance on the property in question and the Department requires remediation pursuant to the Hazardous Substance Cleanup Act, the provisions of 7 Del.C. Chapter 91, Delaware Hazardous Substance Cleanup Act and the Delaware Regulations Governing Hazardous Substance Cleanup shall be followed.”

### Air Quality

- The applicant shall comply with all applicable Delaware air quality regulations. Please note that the following regulations in Table 1 – Potential Regulatory Requirements may apply:

<b>Table 1: Potential Regulatory Requirements</b>	
<b>Regulation</b>	<b>Requirements</b>
<b>7 DE Admin. Code 1106</b> - Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> <li>• Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads.</li> <li>• Use covers on trucks that transport material to and from site to prevent visible emissions.</li> </ul>
<b>7 DE Admin. Code 1113</b> – Open Burning	<ul style="list-style-type: none"> <li>• Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year.</li> <li>• Prohibit the burning of land clearing debris.</li> <li>• Prohibit the burning of trash or building materials/debris.</li> </ul>
<b>7 DE Admin. Code 1135</b> – Conformity of General Federal Actions to the State Implementation Plan	<ul style="list-style-type: none"> <li>• Require, for any “federal action,” a conformity determination for each pollutant where the total of direct and indirect emissions would equal or exceed any of the de minimus levels (See Section 3.2.1)</li> </ul>
<b>7 DE Admin. Code 1141</b> – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products	<ul style="list-style-type: none"> <li>• Use structural/ paint coatings that are low in Volatile Organic Compounds.</li> <li>• Use covers on paint containers when paint containers are not in use.</li> </ul>
<b>7 DE Admin. Code 1144</b> – Control of Stationary Generator Emissions	<ul style="list-style-type: none"> <li>• Ensure that emissions of nitrogen oxides (NO<sub>x</sub>), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), and carbon dioxide (CO<sub>2</sub>) from emergency generators meet the emissions limits established. (See section 3.2).</li> <li>• Maintain recordkeeping and reporting requirements.</li> </ul>
<b>7 DE Admin. Code 1145</b> – Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> <li>• Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.</li> </ul>

For a complete listing of all Delaware applicable regulations, please look at our website: <http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

- Fire Protection Water Requirements
  - Water distribution system capable of delivering at least 1500 gpm for 2-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
  - Where a water distribution system is proposed for Mercantile sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.
  
- Fire Protection Features
  - All structures over 10,000 square feet. aggregate will require automatic sprinkler protection installed.
  - Buildings greater than 10,000 square feet., 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 Delaware State Fire Prevention Regulation
  
- 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 from Lighthouse 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.
  - The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
  - The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.
  
- Gas Piping and System Information
  - Provide type of fuel proposed, and show locations of bulk containers on plan.
  
- Required Notes
  - Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”

- Proposed Use
- 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 Delaware State Fire Prevention Regulation ) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Department of Agriculture – Contact Scott Blaier 698-4529

Section 1. Chapter 99, Code of Sussex Section 99-6 may apply to this subdivision. The applicant should verify the applicability of this provision with Sussex County. This Section of the Code states:

G. Agricultural Use Protections.

- (1) Normal agricultural uses and activities conducted in a lawful manner are preferred. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land uses adjacent to land used primarily for agricultural purposes shall be subject to the following restrictions:
  - (a) For any new subdivision development located in whole or in part within three hundred (300) feet of the boundary of land used primarily for agricultural purposes, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

“This property is located in the vicinity of land used primarily for agricultural purposes on which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities.”
  - (b) For any new subdivision development located in whole or in part within fifty (50) feet of the boundary of land used primarily for agricultural purposes no improvement requiring and occupancy approval for a residential type use

shall be constructed within fifty (50) feet of the boundary of land used primarily for agricultural purposes

### **Recommendations/Additional Information**

This section includes a list of site specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site design, and it is hoped (**but in no way required**) that the applicant will open a dialogue with the relevant agencies to discuss how these suggestions can benefit the project.

#### State Historic Preservation Office – Contact Terrence Burns 736-7404

- Since there are known cultural and historic resources nearby, such as the houses, the developer should also consider putting a landscape barrier between the proposed development and the houses, in order to block any noise or visual effects that may affect them in an adverse way.

#### Department of Transportation – Contact Bill Brockenbrough 760-2109

- If they have not done so, DelDOT recommends that the developer consult with one or more convenience store operators regarding their site layout. While they are generally amenable to the plan presented, their experience is that store operators want more convenient access for their customers who drive and need more open access for their fuel deliveries.
- Further with regard to site access, the restaurant and convenience store access would be through a parking aisle for the apartment complex. That aspect of the site is outside DelDOT jurisdiction, but it is inherently dangerous to apartment dwellers walking to and from their vehicles and moving in and out of parking spaces. DelDOT strongly recommends removing the perpendicular parking from the aisle that connects the main entrance aisle to the commercial uses. Parallel parking might work reasonably well in this context, but even that should be avoided if possible.
- Because this development would generate more than 200 trips per day, the developer's engineer should schedule a pre-submittal meeting with the DelDOT Subdivision Section to help identify and address any issues not already apparent before making their first plan submission. Information on what to bring to the meeting and a form for requesting the meeting are available on our website at <http://www.deldot.gov/information/business/>.
- Sand Cove Road (Sussex Road 394) is only 130 feet away from the west edge of the proposed development. DelDOT recognizes that a crossing of the Perch Creek Tax Ditch and the purchase of private property would be necessary for the developer to access Sand Cove Road. However, in considering where to place signals along Route 54, we prefer to

give priority to public roads over commercial driveways. Accordingly, and to provide for better circulation to the surrounding area, they recommend that the developer pursue a connection to Sand Cove Road and design their site to accommodate that possibility. Because of the perpendicular parking along it, discussed above, the stub aisle proposed is not sufficient.

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

### **Additional information on TMDLs**

- Please maximize open space through voluntary preservation of the existing forest cover and/or establishment of additional native tree cover on this parcel.
- A United Army Corps of Engineers approved wetlands delineation is strongly recommended before proceeding beyond the initial planning stage. The applicant should keep in mind that in addition to Federal wetland regulatory requirements, additional and more stringent State wetland regulatory requirements may also apply.
- Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. Wetland and Stream Buffer Requirements – A Review. *J. Environ. Qual.* 23: 878-882.), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from all water bodies (including ditches) and wetlands (See figure 1).
- DNREC recommends that the applicant calculate post-construction surface imperviousness with all forms of created surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, and roads) included in the calculation. They also strongly encourage the use of pervious paving materials (in lieu of conventional asphalt and concrete) to mitigate surface imperviousness and its' impacts on water quality wherever practicable.
- DelDOT recommends the use of rain gardens, and green-technology storm water management structures (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant impacts via runoff from impervious surfaces.

### **Additional information on drainage**

- The Drainage Program requests that the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of onsite stormwater. Notify downstream landowners of the change in volume of water released on them.

### **Nuisance Waterfowl**

- A fairly large stormwater management pond is depicted on the site plan as well as an existing pond. These ponds may attract resident Canada geese and mute swans that will create a nuisance for community residents. 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.
- DNREC recommends native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within an adequate buffer (15-30 feet in width) around the pond (to be planted in accordance with the Sediment and Stormwater Plan approval agency requirements). When the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to reside and nest in the area of the pond. At this time, they do not recommend using monofilament grids due to the potential for birds and other wildlife to become entangled if the grids are not properly installed and maintained. In addition, the on-going maintenance (removing entangled trash, etc.) may become a burden to the homeowners association or land manager.
- 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.

### **Additional information on hazardous waste sites**

- There are no Site Investigation and Restoration Branch (SIRB) sites or salvage yards found within a ½-mile radius of the proposed project.
- SIRB strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Assessment in accordance to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA.
- Should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency number (800-662-8802). SIRB should also be contacted as soon as possible at 302-395-2600 for further instructions.

**Additional information on air quality**

- According to the Preliminary Land Use Application the applicant has requested a review of the site plan located on the south side of Route 54 approximately 200 feet of Sand Cove Road for a property rezone from AR-1 (Agricultural) to C-1) Commercial Mixed Use. The applicant intends on developing the 15 acre property into 8,900 sq. ft. of commercial space and 132 residential units.
- Homes and businesses may emit, or cause to be emitted, air contaminants that may negatively impact public health, safety and welfare. These negative impacts are attributable to:
  - Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
  - The emission of greenhouse gases which are associated with climate change, and
  - The emission of air toxics.
- Air emissions generated from both new homes and businesses include emissions from the following activities:
  - Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
  - The generation of electricity needed to support your home or business, and
  - Transportation activity.
- The three air emissions components (i.e., area, electric power generation, and mobile sources) were quantified and the emissions in Table 2 represent the projected impacts the Pelican Point development may have on air quality.

<b>Table 2: Projected Air Emissions</b>					
Emissions Attributable to the Pelican Point Development (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO <sub>2</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )	Carbon Dioxide (CO <sub>2</sub> )
Direct Area Source	4.1	0.4	0.4	0.5	16.6
Electrical Power Generation	*	1.6	5.6	*	830.8
Mobile	6.0	6.3	0.2	0.1	3901.3
<b>Total</b>	10.1	8.3	6.2	0.6	4748.7

(\*) Indicates data is not available.

- Note that emissions associated with the actual construction of the development, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the tables above.
- Measures may be taken to substantially reduce the air emissions. These measures include:
  - **Constructing with only energy efficient products.** Energy Star qualified products are up to 30% more energy efficient. Savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of increased energy efficiency translates into a percent reduction in pollution. The Energy Star Program is excellent way to save on energy costs and reduce air pollution.
  - **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation, and from the use of oil or gas heating equipment.
  - **Providing tie-ins to the nearest bike paths and links to any nearby mass transport system.** These measures can significantly reduce mobile source emissions.
  - Additionally, the following mitigation measures will reduce emissions associated with the actual construction phase of the project:
    - **Using retrofitted diesel engines during construction.** This includes equipment that are on-site as well as equipment used to transport materials to and from site.
    - **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
    - **Planting trees at residential units and in vegetative buffer areas.** Trees reduce emissions by trapping dust particles and by replenishing oxygen. Trees also reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

This is a partial list, and there are additional things that can be done to reduce the impact of the development. The applicant should submit a plan to the DAQ which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Pelican Point development.

Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

- Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: [www.statefiremarshal.delaware.gov](http://www.statefiremarshal.delaware.gov), technical services link, plan review, applications or brochures.

Delaware Department of Education – Contact John Marinucci 735-4199

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

- Using the DOE standard formula, this development will generate an estimated 66 students.
- DOE records indicate that the Indian River School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2010 elementary enrollment.
- DOE records indicate that the Indian River School Districts' *secondary schools are very close to 100% of current capacity* based on September 30, 2010 secondary enrollment. The Indian River School District does not have sufficient capacity given the number of previously approved and recorded sub-division lots.
- The developer is strongly encouraged to contact the Indian River School District Administration to address the issue of school over-crowding that this development will exacerbate.
- 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.

Department of Agriculture – Contact Scott Blaier 698-4529

- The Delaware Department of Agriculture Forest Service encourages the school district to use the “Right Tree for the Right Place” for any design considerations. This concept allows for the proper placement of trees to reduce heating and cooling costs. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource. To further support this concept the Delaware Forest Service does not recommend the planting of the following species due to the high risk of mortality from insects and disease:

Hybrid Pear

Leyland Cypress

Ash Trees

Red Oak (except for Willow Oak)

If you would like to learn more about the potential problems or impacts associated with these trees, please contact the Delaware Forest Service for more information at (302) 698-4500.

#### 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.

**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, Office of State Planning Coordination

CC: Sussex County



**STATE OF DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

**CAROLANN WICKS, P.E.**  
**SECRETARY**

February 21, 2011

Mr. Lawrence B. Lank  
Director  
Sussex County Planning and Zoning Commission  
P.O. Box 417  
Georgetown, DE 19947

Dear Mr. Lank:

This letter concerns Pelican Pointe (fka Fenwick Pointe, SSR6431), an approximately 15.29-acre development (Tax Parcel 5-33-19.00-50.00) located on the south side of Delaware Route 54 just east of Sand Cove Road (Sussex Road 394). The land is zoned AR-1 and the owner seeks to have it rezoned to CR-1. Briefly, we would not object to the County's accepting the developer's rezoning application now.

In that regard, the developer's traffic engineer, Orth-Rodgers and Associates, has prepared a Traffic Impact Study (TIS). The scope of work for the study was established in 2008 and traffic counts were done that year. Orth-Rodgers completed the study and submitted it for review in early 2010. We assigned that review to our consultant, McCormick Taylor that year but they did not complete it, pending discussions between us and the developer. The development proposed was a shopping center of about 102,000 square feet. The study assumed completion of the development in 2012.

We have been informed that the proposed development has changed, to 132 apartments, a restaurant and a convenience store with fuel pumps. This combination of uses would generate more traffic in the weekday morning peak hour but less traffic in the weekday evening and Saturday midday peak hours compared to the shopping center previously proposed.

The TIS and McCormick Taylor's review of it found poor levels of service, i.e. long delays, for traffic entering Route 54 from Sand Cove Road, Williamsville Road (Sussex Road 395) and Sound Church Road (Sussex Road 394A) during the summer Saturday peak hour, but also found that the traffic on these roads was not sufficient to justify the construction of turning lanes or signals, except possibly at Sand Cove Road if the subject development were connected to it. For these reasons and because of the relative trip generation of the current development proposal, we do not see any benefit from further study of most of the intersections addressed in the TIS.



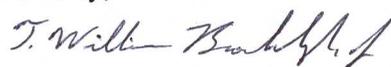
Mr. Lawrence B. Lank  
February 21, 2011  
Page 2 of 2

Therefore, we have asked McCormick Taylor to complete their review letter based on the previous development proposal. A copy is enclosed. We have advised Orth-Rodgers that, if the rezoning is approved, we will require a revised TIS based on the current development proposal, which TIS will focus on the site access and the intersection of Route 54 and Sand Cove Road.

The enclosed Traffic Impact Study (TIS) review letter has been completed under the responsible charge of a registered professional engineer whose firm, McCormick Taylor, is authorized to work in the State of Delaware. They have found the TIS to conform to DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access and other accepted practices and procedures for such studies. DelDOT accepts this TIS review and concurs with the recommendations. We are providing it to you in fulfillment of our joint agreement regarding the review of TIS. In view of the change in the proposed use, if the County finds that a revised traffic impact study, possibly of the same scope as the original study, is necessary to address the proposed rezoning, please let me know.

If you have any questions concerning this letter or the attached review letter, please contact me at (302) 760-2109.

Sincerely,



T. William Brockenbrough, Jr.  
County Coordinator

TWB:km  
Enclosure  
cc with enclosure:

Ms. Constance C. Holland, Office of State Planning Coordination  
Mr. Derrick S. Kennedy, Orth-Rodgers & Associates Inc.  
Mr. Andrew J. Parker, McCormick Taylor  
Mr. Mir A. Wahed, Johnson, Mirmiran, and Thompson  
DelDOT Distribution

## DelDOT Distribution

Frederick H. Schranck, Deputy Attorney General  
J. Brett Taylor, Director of Policy and Communications, Public Relations  
Natalie Barnhart, Director, Transportation Solutions (DOTS)  
Michael Strange, Acting Director, Division of Planning  
Michael H. Simmons, Assistant Director, Project Development South, DOTS  
Donald D. Weber, Chief Traffic Engineer, Traffic, DOTS  
Mark Luszc, Assistant Chief Traffic Engineer, Traffic, DOTS  
Thomas E. Meyer, Traffic Studies Manager, Traffic, DOTS  
Theodore G. Bishop, Assistant Director, Development Coordination  
Jeffrey S. Reed, District Engineer, South District, Maintenance & Operations (M&O)  
Marvin Roberts, Public Works Manager, South District, M&O  
Jennifer Pinkerton, Deputy Principal Assistant, Pavement Management  
William J. Dryden, Transportation Planner, Project Development South, DOTS  
Lisa Collins, Service Development Planner, Delaware Transit Corporation  
J. Marc Coté, Subdivision Engineer, Development Coordination  
John T. Fiori, Subdivision Manager, Development Coordination  
Anthony Aglio, Bicycle and Pedestrian Coordinator, Statewide & Regional Planning  
Troy E. Brestel, Project Engineer, Development Coordination

February 21, 2011

Mr. William Brockenbrough, Jr.  
County Coordinator  
DelDOT Division of Planning  
P.O. Box 778  
Dover, DE 19903

RE: Agreement No. 1404  
Traffic Impact Study Services  
**Task No. 54A – Fenwick Pointe**

Dear Mr. Brockenbrough,

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for Fenwick Pointe prepared by Orth-Rodgers & Associates, Inc (ORA), dated February 24, 2010. This review was assigned as Task Number 54A. ORA prepared the report in a manner generally consistent with DelDOT's *Standards and Regulations for Subdivision Streets and State Highway Access*.

We have recently been made aware that ORA's TIS, along with our subsequent review and recommendations contained herein, are based on a proposed land use plan that has become outdated. If the property is rezoned as the developer has proposed, the developer is now expected to develop the property with apartments, a convenience store and a restaurant, rather than the shopping center evaluated in the TIS. As such, it should be understood that this review letter applies only to ORA's TIS dated February 24, 2010, and the recommendations herein may no longer be valid if the proposed land use is changed.

The TIS evaluates the impacts of Fenwick Pointe, proposed to be located on the south side of Delaware Route 54 (Lighthouse Road / Sussex Road 58), approximately 200' east of Sand Cove Road (Sussex Road 394) in Sussex County, Delaware. The proposed development would consist of 102,000 square feet of retail space on approximately 15 acres of land. Two access points are proposed along Delaware Route 54. Construction is anticipated to be complete by 2012.

The land is currently zoned as AR-1 (Agricultural Residential) in Sussex County. The developer has proposed rezoning the land to CR-1 (Commercial Regional).

DelDOT currently has one relevant project near the study area. The *SR 54, Mainline Improvements* project (State Contract No. 24-112-01) includes improvements planned along Delaware Route 54, east of Delaware Route 20 (Zion Church Road / Sussex Road 382) to Keenwick Road (Sussex Road 58C), which will include two 12-foot travel lanes, a 14-foot center left-turn lane, two eight-foot shoulders, two three-foot grass buffers, and two five-foot sidewalks. In addition, a reconstruction project was completed in 2007 for the intersection of Delaware Route 54 and Delaware Route 20, which realigned the intersection and added a fourth leg for the Americana Bayside development.

In addition, due to the number of signal requests DelDOT's Traffic Section had received, a corridor study was completed for Delaware Route 54 from Selbyville to Delaware Route 1 to determine the optimal locations for traffic signals along the corridor. The study, completed in 2002 by Whitman, Requardt and Associates, used projected volumes for a horizon year of 2025 and it determined that, within the Fenwick Pointe study area, the intersection of Delaware Route 54 and Sand Cove Road would be an optimal location for a traffic signal when warranted.

Based on our review, we have the following comments and recommendations:

The following intersections exhibit level of service (LOS) deficiencies without the implementation of physical roadway and/or traffic control improvements:

<i>Intersection</i>	<i>Situations for which deficiencies occur</i>
Delaware Route 54 and West Site Entrance	2012 Saturday with Fenwick Pointe
Delaware Route 54 and East Site Entrance	2012 Saturday with Fenwick Pointe
Delaware Route 54 and Sand Cove Road	2012 Saturday with Fenwick Pointe
Delaware Route 54 and Williamsville Road (Sussex Road 395)	2012 Saturday with Fenwick Pointe
Delaware Route 54 and Sound Church Road (Sussex Road 394A)	2012 Saturday without and with Fenwick Pointe

Although the TIS analyzed two site entrances along Delaware Route 54, DelDOT's Subdivision Section will permit Fenwick Pointe to have only one access point along Delaware Route 54, to be located near the middle of the site frontage. Limiting site access to one location on Delaware Route 54 minimizes the number of new conflict points being introduced along the heavily-traveled beach/evacuation route. Consolidating the site entrances to one location also alleviates concerns about having three intersections (one existing intersection at Sand Cove Road and two proposed site entrances) spaced less than 1,000 feet apart along Delaware Route 54.

Furthermore, due to the proximity of the intersection of Sand Cove Road and the proposed site entrance on Delaware Route 54, it is recommended that a traffic signal be installed at only one of these two intersections (when warranted). The aforementioned Delaware Route 54 Corridor Study identified the intersection of Delaware Route 54 and Sand Cove Road as an optimal location for the installation of a traffic signal when warranted. Also, when determining where to place traffic signals along Delaware Route 54, DelDOT prefers to give priority to public roadways over commercial driveways. As such, a signal may be installed on Delaware Route 54 at Sand Cove Road when warranted, and the proposed Fenwick Pointe site entrance along Delaware Route 54 should be constructed as an unsignalized intersection.

To provide better access and traffic operations for drivers entering and exiting the proposed Fenwick Pointe development, the developer should also pursue a connection to Sand Cove Road (in addition to the site entrance on Delaware Route 54). Such a connection would allow drivers

leaving the shopping center and making a left to travel west on Delaware Route 54 to do so via a second location (Sand Cove Road), which could become a signalized intersection.

Additionally, the unsignalized T-intersections of Delaware Route 54 and Williamsville Road, and Delaware Route 54 and Sound Church Road each exhibit LOS deficiencies under future conditions during the summer Saturday peak hour. However, we do not recommend any improvements be implemented by the developer at either of these intersections. For the Williamsville Road intersection, the LOS deficiencies would exist only on the low-volume minor street approach during the summer Saturday peak hour, with the 95<sup>th</sup> percentile queue lengths on that approach expected to be 75 feet or less. For the Sound Church Road intersection, the LOS deficiencies are also limited to low-volume minor street approach during the summer Saturday peak hour, with the 95<sup>th</sup> percentile queue lengths on that approach expected to be approximately 100 feet. Simply adding turn lanes would do very little to address the minor street delays and queues for summer Saturday conditions, and the volumes at both intersections would not warrant traffic signals (nor these would not be good locations for traffic signals as shown by the aforementioned Delaware Route 54 Corridor Study).

Should the County choose to approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan. All applicable agreements (i.e. letter agreements for off-site improvements and traffic signal agreements) should be executed prior to entrance plan approval for the proposed development.

1. The developer should improve Delaware Route 54 from Sand Cove Road to the eastern edge of the site frontage in order to meet DeIDOT’s major collector road standards. These standards include but are not limited to twelve-foot travel lanes and eight-foot shoulders. The developer should provide a bituminous concrete overlay to the existing travel lanes, at DeIDOT’s discretion. DeIDOT should analyze the existing lanes’ pavement section and recommend an overlay thickness to the developer's engineer if necessary.
  
2. The developer should construct a single site entrance on Delaware Route 54. This site entrance should be located near the center of the site frontage, or approximately 600-700 feet east of Sand Cove Road. The proposed configuration is shown in the table below.

Approach	Current Configuration	Proposed Configuration
Northbound Site Entrance	Approach does not exist	One left-turn lane and one right-turn lane
Eastbound Delaware Route 54	One through lane	One through lane and one right-turn lane
Westbound Delaware Route 54	One through lane	One left-turn lane and one through lane

Initial recommended minimum turn-lane lengths (excluding tapers) of the separate turn lanes are listed below. The developer should coordinate with DeIDOT's Subdivision Section to determine final turn-lane lengths.

Approach	Left-Turn Lane	Right-Turn Lane
Northbound Site Entrance	N/A	675 feet*
Eastbound Delaware Route 54	N/A	185 feet**
Westbound Delaware Route 54	255 feet**	N/A

\* turn-lane length based on storage length per queuing analysis

\*\* turn-lane length based on deceleration + storage length per DeIDOT's *Standards and Regulations for Subdivision Streets and State Highway Access*

3. The developer should pursue a connection to Sand Cove Road. This would involve a crossing of Drum Creek (aka Perch Creek tax ditch) and the purchase of private property, but would provide a second access point to and from the proposed development. Additionally, if the intersection of Delaware Route 54 and Sand Cove Road were to become signalized, a connection from the proposed development to Sand Cove Road would benefit drivers leaving the shopping center and heading west on Delaware Route 54 by allowing them to make a left turn onto Delaware Route 54 at a traffic signal. The developer should coordinate with DeIDOT's Subdivision Section to determine design details of such a connection, including the location, lane configurations, and turn-lane lengths for the site access intersection along Sand Cove Road, as well as any needed improvements to Sand Cove Road.
  
4. Contingent upon the developer obtaining a connection to Sand Cove Road (as noted in Item No. 3), the developer should improve the intersection of Delaware Route 54 and Sand Cove Road. The proposed configuration is shown in the table below.

Approach	Current Configuration	Proposed Configuration
Northbound Sand Cove Road	One shared left/right-turn lane	One left-turn lane and one right-turn lane
Eastbound Delaware Route 54	One shared through/right-turn lane	One through lane and one right-turn lane
Westbound Delaware Route 54	One shared through/left-turn lane	One left-turn lane and one through lane

Should plans for the site access connection to Sand Cove Road move forward, at that time the developer should coordinate with DeIDOT's Subdivision Section to determine final turn-lane lengths for the intersection of Delaware Route 54 and Sand Cove Road.

5. The developer should enter into a traffic signal agreement with DelDOT for the intersection of Delaware Route 54 and Sand Cove Road. The agreement should include pedestrian signals, crosswalks and interconnection at DelDOT's discretion.
6. The following bicycle, pedestrian, and transit improvements should be included:
  - a. The shoulders on Delaware Route 54 should be maintained and marked as bike lanes along the site frontage.
  - b. A right-turn yield to bikes sign (MUTCD R4-4) should be added at the start of each right-turn lane added to Delaware Route 54.
  - c. Where right-turn lanes are added to Delaware Route 54, a minimum of a five-foot bicycle lane should be dedicated and striped with appropriate markings for bicyclists through the turn lane in order to facilitate safe and unimpeded bicycle travel.
  - d. Appropriate bicycle symbols, directional arrows, striping (including stop bars), and signing should be included along bicycle facilities and right-turn lanes within the project limits.
  - e. Utility covers should be moved outside of the designated bicycle lane or be flush with the pavement.
  - f. Covered bike parking should be included near the entrances of all commercial establishments to be included within this development.
  - g. A 15-foot wide easement from the edge of the right-of-way shall be dedicated to DelDOT within the site frontage along Delaware Route 54. Within this easement, a minimum of a five-foot wide sidewalk (with a minimum of a five-foot buffer from the roadway) that meets current AASHTO and ADA standards should be constructed. The sidewalk should connect to any paths on adjacent parcels or to the shoulder at the beginning and ending limits of the site frontage.
  - h. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.
  - i. Internal sidewalks for pedestrian safety and to promote walking as a viable transportation alternative should be constructed within the development. These sidewalks should each be a minimum of seven feet wide (with a minimum of a five-foot buffer from the roadway) and should meet current AASHTO and ADA standards. These internal sidewalks should connect the building entrances to the frontage sidewalks and to adjacent parcels where applicable.
  - j. Where internal sidewalks are located alongside of parking spaces, a buffer should be added to eliminate vehicular overhang onto the sidewalk.
  - k. The parking areas within the site should be shaded as much as possible.
  - l. The developer should coordinate with the Delaware Transit Corporation (DTC) regarding the possibility of adding a bus stop at this location to support potential future DTC service. An ADA-compliant 8' x 5' concrete pad should be installed at an appropriate location in front of the development along Delaware Route 54. Internal sidewalks should be connected to this bus stop and parking facilities for bicyclists should be included.

- m. The developer should coordinate with other developments along the Delaware Route 54 corridor to explore the idea of contracting a private shuttle operator to provide transit services until such time comes that DTC provides service to this area.

Improvements in this TIS may be considered “significant” under DelDOT’s *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT’s website at [http://www.deldot.gov/information/pubs\\_forms/manuals/de\\_mutcd/index.shtml](http://www.deldot.gov/information/pubs_forms/manuals/de_mutcd/index.shtml). For any additional information regarding the work zone impact and mitigation procedures during construction please contact Mr. Adam Weiser of DelDOT’s Traffic Section. Mr. Weiser can be reached at (302) 659-4073 or by email at [Adam.Weiser@state.de.us](mailto:Adam.Weiser@state.de.us).

Please note that this review generally focuses on capacity and level of service issues; additional safety and operational issues will be further addressed through DelDOT’s subdivision review process.

Additional details on our review of this TIS are attached. Please contact me at (302) 738-0203 or through e-mail at [ajparker@mtmail.biz](mailto:ajparker@mtmail.biz) if you have any questions concerning this review.

Sincerely,

**McCormick Taylor, Inc.**



Andrew J. Parker, P.E., PTOE  
Project Manager

Enclosure

**General Information**

**Report date:** February 24, 2010

**Prepared by:** Orth-Rodgers & Associates, Inc.

**Prepared for:** Robino-Stortini Holdings, LLC

**Tax parcel:** 533-19.00-50.00

**Generally consistent with DelDOT's *Standards and Regulations for Subdivision Streets and State Highway Access*:** Yes

**Project Description and Background**

**Description:** The proposed development would consist of 102,000 square feet of retail space.

**Location:** Fenwick Pointe is proposed to be located on the south side of Delaware Route 54 (Lighthouse Road / Sussex Road 58), approximately 200' east of Sand Cove Road (Sussex Road 394) in Sussex County, Delaware. A site location map is included on Page 8.

**Amount of land to be developed:** approximately 15 acres of land

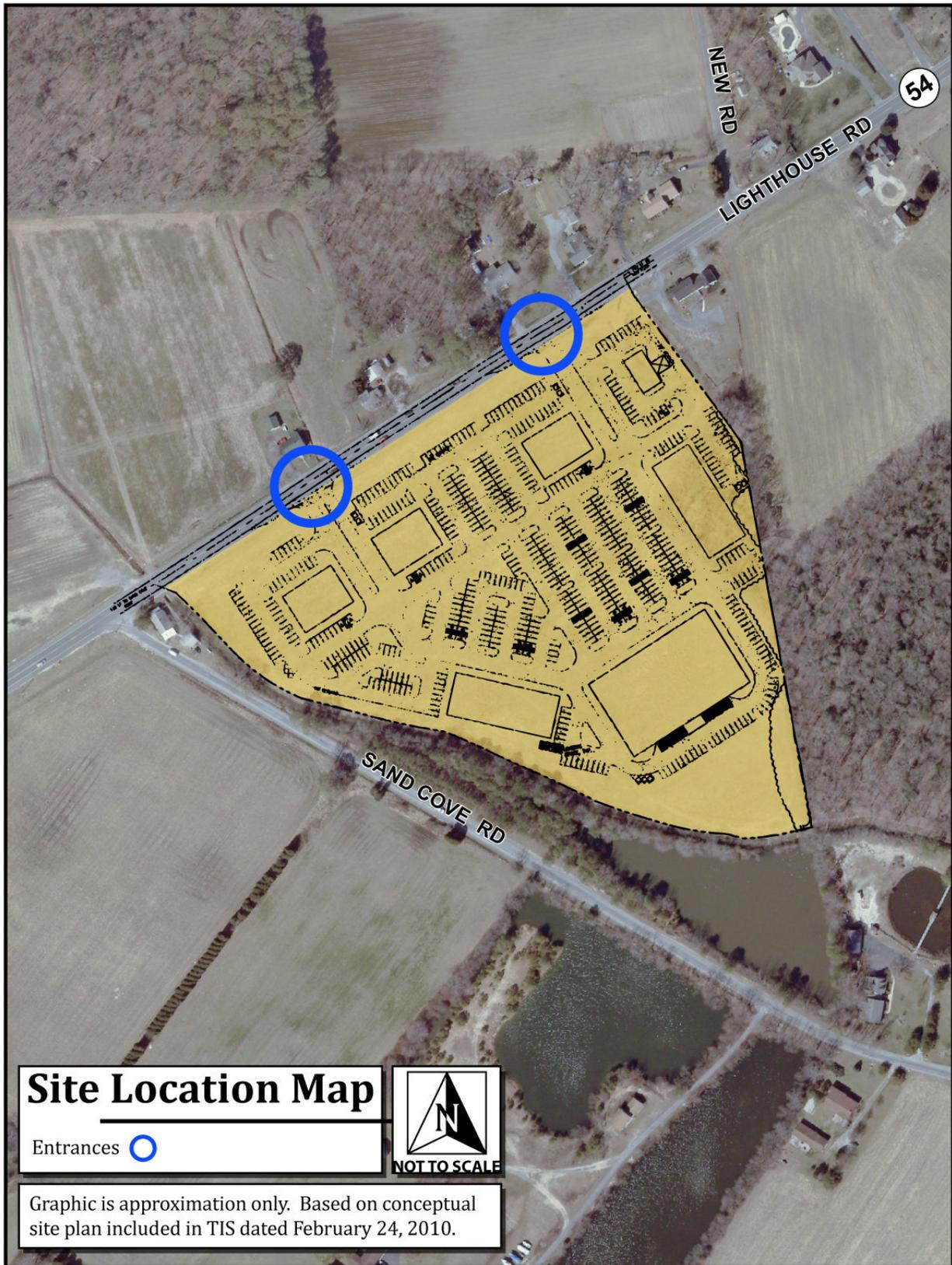
**Land use approval(s) needed:** Rezoning and Subdivision approval. The land is currently zoned as AR-1 (Agricultural Residential) in Sussex County. The developer has proposed rezoning the land to CR-1 (Commercial Regional).

**Proposed completion date:** 2012

**Proposed access locations:** Two access points are proposed along Delaware Route 54.

**Daily Traffic Volumes:**

- 2008 Average Annual Daily Traffic on Delaware Route 54: 5,699 vpd



## **Livable Delaware**

*(Source: Delaware Strategies for State Policies and Spending, July 2004)*

### **Location with respect to the Strategies for State Policies and Spending Map of Delaware:**

The proposed Fenwick Pointe development is located within Investment Level 3 and within the Environmentally Sensitive Developing Area.

#### *Investment Level 3*

These areas are portions of the county designated for growth, development districts, or long-term annexation. Areas classified as an Investment Level 3 will be considered for state investing after the Level 1 and 2 areas are substantially built out or when the facilities are logical extensions of existing systems and deemed appropriate to serve a particular area. Many of the areas within the Investment Level 3 designation include important farmland and natural resources along with portions of roadways that are designated for corridor capacity protection. Therefore the character pattern and timing of growth along with federally mandated air and water quality goals should be considered on a case-by-case basis for areas within this designation.

In Investment Level 3 Areas, the state will continue to invest in the regional roadway network and roadway safety while continuing to protect the capacity of major transportation corridors. Roadway improvements to support new development are not encouraged in Investment Level 3 and funds will not be allocated for these types of improvements until they have been allocated to Level 1 and 2 areas.

#### *Environmentally Sensitive Developing Areas*

Environmentally Sensitive Developing Areas are defined as a Developing District with special environmental design and protection requirements. New regulations are in place in these areas to control the density of development, preserve open space and valuable habitat and to prevent excessive levels of sediments and nutrients in waterways. Regulated areas include Indian River, Indian River Bay and Rehoboth Bay. Residential Planned Communities and Village Style development is encouraged in these areas to provide open space and protect habitat. If a central wastewater system is provided, residential density would be permitted up to the maximum allowable density of the underlying zoning districts. Industrial uses in these areas are regulated by the Delaware Coastal Zone Act, however they do not regulate commercial, residential warehousing or distribution activities.

### **Proposed Development's Compatibility with Livable Delaware:**

The proposed Fenwick Pointe development falls within Investment Level 3 and is to be developed as a commercial site (shopping center). While roadway improvements to support new development are not encouraged in Investment Level 3 Areas, these areas will be considered for state investing after Level 1 and Level 2 areas are substantially built out. There are no Level 1 or Level 2 areas within the immediate vicinity of the proposed development, but most of these areas within southeastern Sussex County are substantially built out. Additionally, the state would want to protect the capacity of Delaware Route 54, a major east-west transportation corridor between Selbyville and Fenwick Island along which long-term future growth is anticipated. As such, and

as long as the capacity of the Delaware Route 54 corridor is protected, this development generally complies with the 2004 update of the Livable Delaware “Strategies for State Policies and Spending,” although additional discussion may be required due to potential different interpretations regarding compatibility with the Investment Level 3 area.

### **Comprehensive Plan**

#### **Sussex County Comprehensive Plan:**

*(Source: Sussex County Comprehensive Plan Update, June 2008)*

The Sussex County Comprehensive Plan Future Land Use Map indicates that the proposed development parcel is in a Low Density Area, which is categorized as a Rural Area, and within the Environmentally Sensitive Developing Area, which is categorized as a Growth Area.

In Rural Areas, farming should co-exist with appropriate residential uses and permanently preserved property. The following major guidelines should apply to future growth in Low Density Areas:

*Permitted Uses* – The primary uses envisioned in Low Density Areas are agricultural activities and single-family detached homes. Business development should be largely confined to businesses addressing the needs of these two uses. Industrial uses that support or depend on agriculture should be permitted. The focus of retail and office uses in Low Density Areas should be providing convenience goods and services to nearby residents. Commercial uses may require conditional use approval from County Council. The types of commercial uses in these residential areas should be limited in their location, size and hours of operation. More intense commercial uses, such as auto repair and gasoline sales, should be avoided in these areas.

*Densities* – Base densities in Low Density Areas should be unchanged from the current zoning provisions. The minimum lot size should be  $\frac{3}{4}$  acre for lots served by on-lot septic systems and  $\frac{1}{2}$  acre for lots with central sewers. The cluster option permitted in Low Density Areas should continue to permit overall site densities of up to 2 units per acre, provided significant open space is set aside and the tract connects to public sewers.

*Infrastructure* – Development where lots are no smaller than  $\frac{3}{4}$  acre can be accommodated in this planning area without central sewers. Other development should require central sewer service.

In contrast to Rural Areas, designated Growth Areas are designed to accommodate concentrated levels of development. The Environmentally Sensitive Developing Area has been designated by Sussex County for large areas around Rehoboth Bay, Indian River Bay, and Little Assawoman Bay (the inland bays). This designation recognizes two characteristics of these areas. First, these regions are among the most desirable locations in Sussex County for new housing, as reflected in new construction data and real estate prices. Second, these regions contain ecologically important wetlands and other coastal lands that help absorb floodwaters and provide extensive habitat for native flora and fauna. These areas also have great impacts upon the water quality of the bays and inlets and upon natural habitats.

The challenge in these regions is to safeguard genuine natural areas and mitigate roadway congestion without stifling the tourism and real estate markets that: a) provide many jobs; b) create business for local entrepreneurs; and c) help keep local tax rates reasonable. The County has major initiatives to extend public sewer service to replace failing on-site systems in many of these areas. Very careful control of stormwater runoff is an extremely important concern to keep sediment and other pollutants out of the inland bays.

The following major guidelines should apply to future growth in Environmentally Sensitive Developing Areas:

*Permitted Uses* – Environmentally Sensitive Developing Areas are areas that can accommodate development provided special environmental concerns are addressed. A range of housing types should be permitted in Environmentally Sensitive Areas, including single-family homes, townhouses and multi-family units. Retail and office uses are appropriate but larger shopping centers and office parks should be confined to selected locations with access to arterial roads. Careful mixtures of homes with light commercial and institutional uses can be appropriate to provide for convenient services and to allow people to work close to home. Major new industrial uses are not proposed in these areas. Industrial zones are regulated by the Delaware Coastal Zone Act, which restrict heavy industry and bulk transfer.

*Densities* – The Environmentally Sensitive Developing Areas function as an “overlay” area to several underlying zoning districts. It may be advisable for legal reasons to convert this overlay area into regular zoning districts, while maintaining the current standards. Most of the Environmental Sensitive Developing Areas should continue to allow 2 homes per acre. The option should exist to go up to 4 units per acre if the developer uses optional density bonuses. Smaller lots and flexibility in dimensional standards should be allowed if the developer uses a cluster option that results in permanent preservation of a substantial percentage of the tract.

The County may also consider an additional layer of protection in the Environmentally Sensitive Developing Areas. Tidal wetland area could be subtracted from the total tract size so that “net” tract size is used as the basis for calculating how much development is allowed.

All applicants for developments of a minimum size (as specified in zoning) should continue to be required to provide information that analyzes the development’s potential environmental impacts, including effects on stormwater runoff, nitrogen and phosphorous loading, wetlands, woodlands, wastewater treatment, water systems, and other matters that affect the ecological sensitivity of the inland bays.

*Infrastructure* – Central water and sewer facilities are strongly encouraged. If central utilities are not possible, permitted densities should be limited to 2 units per acre.

**Proposed Development’s Compatibility with Comprehensive Plans:**

The proposed development is a commercial site, which appears to comply with the *Permitted Uses* for a Low Density Area as long as the corresponding guidelines are met, the rezoning to CR-1 is approved, and, if required, a conditional use approval is granted by County Council. The site also appears to comply with the *Permitted Uses* for the Environmentally Sensitive

Developing Area. As such, the proposed development appears to be compatible with the Sussex County Comprehensive Plan, although additional discussion may be required based on the details of the proposed land use.

### **Transportation Analysis Zones (TAZ)**

**Transportation Analysis Zones (TAZ) where development would be located: 1190**

#### **TAZ Boundaries:**



**Current employment estimate for TAZ: 986 jobs in 2005**

**Future employment estimate for TAZ: 1,381 jobs in 2030**

**Current population estimate for TAZ: 1,834 people in 2005**

**Future population estimate for TAZ: 2,863 people in 2030**

**Current household estimate for TAZ: 818 houses in 2005**

**Future household estimate for TAZ: 1,289 houses in 2030**

**Relevant committed developments in the TAZ: Americana Bayside Property, Dekowski Property, Americana Bayside Site**

**Would the addition of committed developments to current estimates exceed future projections: Yes**

**Would the addition of committed developments and the proposed development to current estimates exceed future projections: Yes**

**Relevant Projects in the DelDOT Capital Transportation Program (FY 2010 – FY 2015)**

DelDOT currently has one relevant project near the study area. The *SR 54, Mainline Improvements* project (State Contract No. 24-112-01) includes improvements planned along Delaware Route 54, east of Delaware Route 20 (Zion Church Road / Sussex Road 382) to Keenwick Road (Sussex Road 58C), which will include two 12-foot travel lanes, a 14-foot center left-turn lane, two eight-foot shoulders, two three-foot grass buffers, and two five-foot sidewalks. In addition, a reconstruction project was completed in 2007 for the intersection of Delaware Route 54 and Delaware Route 20, which realigned the intersection and added a fourth leg for the Americana Bayside development.

In addition, due to the number of signal requests DelDOT’s Traffic Section had received, a corridor study was completed for Delaware Route 54 from Selbyville to Delaware Route 1 to determine the optimal locations for traffic signals along the corridor. The study, completed in 2002 by Whitman, Requardt and Associates, used projected volumes for a horizon year of 2025 and it determined that, within the Fenwick Pointe study area, the intersection of Delaware Route 54 and Sand Cove Road would be an optimal location for a traffic signal when warranted.

**Trip Generation**

Trip generation for the proposed development was computed using comparable land uses and equations contained in Trip Generation, Eighth Edition, published by the Institute of Transportation Engineers (ITE). The following land uses were utilized to estimate the amount of new traffic generated for this development:

- 102,000 square feet of retail (ITE Land Use Code 820)

Table 1  
FENWICK POINTE PEAK HOUR TRIP GENERATION

Land Use	PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total
102,000 square feet of retail	310	335	645	451	417	868
Pass-by Trips	121	131	252	167	154	321
<b>TOTAL TRIPS</b>	<b>189</b>	<b>204</b>	<b>393</b>	<b>284</b>	<b>263</b>	<b>547</b>

Table 2  
FENWICK POINTE DAILY TRIP GENERATION

Land Use	Weekday ADT			Saturday ADT		
	In	Out	Total	In	Out	Total
102,000 square feet of retail	3440	3440	6880	4678	4678	9356
<b>TOTAL TRIPS</b>	<b>3440</b>	<b>3440</b>	<b>6880</b>	<b>4678</b>	<b>4678</b>	<b>9356</b>

## **Overview of TIS**

### **Intersections examined:**

- 1) Delaware Route 54 & West Site Entrance
- 2) Delaware Route 54 & East Site Entrance
- 3) Delaware Route 54 & Sand Cove Road
- 4) Delaware Route 54 & Williamsville Road (Sussex Road 395)
- 5) Delaware Route 54 & West Line Road (Sussex Road 396)
- 6) Delaware Route 54 & New Road (Sussex Road 391)
- 7) Delaware Route 54 & Sound Church Road (Sussex Road 394A)
- 8) Delaware Route 54 & Delaware Route 20

### **Conditions examined:**

- 1) 2009 existing conditions (Case 1)
- 2) 2012 without Fenwick Pointe (Case 2)
- 3) 2012 with Fenwick Pointe (Case 3)

**Peak hours evaluated:** Weekday evening and Saturday mid-day peak hours

### **Committed developments considered:**

- 1) Americana Bayside Property (59 townhouses)
- 2) Dekowski Property (13 multi-family residential units)
- 3) Americana Bayside (413 single-family detached houses (278 unbuilt), 1,227 condominiums/townhouses (912 unbuilt), 60 assisted-living units (fully built and occupied), 81,880 square feet of retail, and an 18 hole golf course (fully built and operational))
- 4) The Hamlet at Dirickson Pond (81 single-family dwellings (28 unbuilt))
- 5) The Refuge at Dirickson Creek (287 single-family detached houses (77 unbuilt) and 57 townhouses)
- 6) Swann Cove (351 single-family detached houses (201 unbuilt), 36,600 square-foot grocery store (17,300 square feet unbuilt), and 8,300 square-foot pharmacy)
- 7) Twin Cedars (31 single-family detached houses, 120 apartments, 80 townhouses, and 40,000 square feet of commercial space)
- 8) Waters Run (56 single-family detached homes)
- 9) Jones/Lankford Property (100 townhouses, a 5,000 square-foot fast-food restaurant, and a 8,000 square-foot high-turnover)
- 10) Office Park for PMP Associates (20,000 square foot general office and 60,000 square foot of medical/dental office space)
- 11) Woods at Johnsons Corner (75 single-family homes)

## Intersection Descriptions

- 1) **Delaware Route 54 & West Site Entrance**  
**Type of Control:** proposed two-way stop-controlled (T-intersection)  
**Northbound approach:** (Site Entrance) one left-turn lane and one right-turn lane, stop-controlled  
**Eastbound approach:** (Delaware Route 54) one through lane and one right-turn lane  
**Westbound approach:** (Delaware Route 54) one left-turn lane and one through lane
  
- 2) **Delaware Route 54 & East Site Entrance**  
**Type of Control:** proposed two-way stop-controlled (T-intersection)  
**Northbound approach:** (Site Entrance) one left-turn lane and one right-turn lane, stop-controlled  
**Eastbound approach:** (Delaware Route 54) one through lane and one right-turn lane  
**Westbound approach:** (Delaware Route 54) one left-turn lane and one through lane
  
- 3) **Delaware Route 54 & Sand Cove Road**  
**Type of Control:** two-way stop-controlled (T-intersection)  
**Northbound approach:** (Sand Cove Road) one shared left/right-turn lane, stop-controlled  
**Eastbound approach:** (Delaware Route 54) one shared through/right-turn lane  
**Westbound approach:** (Delaware Route 54) one shared through/left-turn lane
  
- 4) **Delaware Route 54 & Williamsville Road**  
**Type of Control:** two-way stop-controlled (T-intersection)  
**Northbound approach:** (Williamsville Road) one shared left/right-turn lane, stop-controlled  
**Eastbound approach:** (Delaware Route 54) one shared through/right-turn lane  
**Westbound approach:** (Delaware Route 54) one shared through/left-turn lane
  
- 5) **Delaware Route 54 & West Line Road**  
**Type of Control:** two-way stop-controlled (T-intersection)  
**Northbound approach:** (West Line Road) one left-turn lane and one right-turn lane, stop-controlled  
**Eastbound approach:** (Delaware Route 54) one through lane and one right-turn lane  
**Westbound approach:** (Delaware Route 54) one shared through/left-turn lane  
**Note:** This intersection has unconventional geometry with Delaware Route 54 on a horizontal curve. While all approaches at this intersection are striped as shared lanes, which is how the TIS analyzed the operations, there is gravel area just west of the West Line Road approach (between West Line Road and eastbound Delaware Route 54) that drivers use for northbound left turns and eastbound right turns. As such, for the analysis, McCormick Taylor treated this area as a separate northbound left-turn lane and separate eastbound right-turn lane. These are low-volume turning movements in all cases (less than ten vehicles in any peak hour). For drivers making a northbound left turn or an eastbound right turn, because of the geometry of the intersection, if they do not travel across this gravel area they must make a very sharp turn at the intersection of the paved

roadways. Drivers making a westbound left turn or a northbound right turn stay on the paved roadways – they do not use the gravel area. Although no signage is present directing drivers to use the gravel area, a stop bar is striped for the northbound left turns.

**6) Delaware Route 54 & New Road**

**Type of Control:** two-way stop-controlled (T-intersection)

**Southbound approach:** (New Road) one shared left/right-turn lane, stop-controlled

**Eastbound approach:** (Delaware Route 54) one shared through/left-turn lane

**Westbound approach:** (Delaware Route 54) one shared through/right-turn lane

**7) Delaware Route 54 & Sound Church Road**

**Type of Control:** two-way stop-controlled (T-intersection)

**Northbound approach:** (Sound Church Road) one shared left/right-turn lane, stop-controlled

**Eastbound approach:** (Delaware Route 54) one shared through/right-turn lane

**Westbound approach:** (Delaware Route 54) one shared through/left-turn lane

**8) Delaware Route 54 & Delaware Route 20**

**Type of Control:** signalized four-leg intersection

**Northbound approach:** (Americana Bayside Driveway) one left-turn lane, two through lanes, and one right-turn lane

**Southbound approach:** (Delaware Route 20) one left-turn lane, two through lanes, and one right-turn lane

**Eastbound approach:** (Delaware Route 54) one left-turn lane, two through lanes, and one right-turn lane

**Westbound approach:** (Delaware Route 54) one left-turn lane, two through lanes, and one right-turn lane

**Transit, Pedestrian, and Bicycle Facilities**

**Existing transit service:** The Delaware Transit Corporation (DTC) currently does not offer any transit service near the study area.

**Planned transit service:** McCormick Taylor contacted Ms. Lisa Collins, a Service Development Planner for the DTC, via email on March 4, 2010 to determine whether DTC has any plans to extend the existing transit system in the vicinity of the development. In her reply on March 18, 2010, she stated there have been requests to serve nearby developments in the past, but due to factors such as accessibility to the properties by bus, DTC has yet to provide service to this area. DTC recommends that the developer contract with a private shuttle service, which could likely be shared by several communities along the Delaware Route 54 corridor. Other communities in this area have already begun discussing the idea of contracting a shuttle service for travel between this area and nearby Ocean City, MD. Aside from that idea, and with potential future DTC service in mind, DTC recommends that the property be made transit friendly, including installation of a bus pull-off along the site frontage, a 5' x 8' concrete bus pad, and sidewalks connecting the property buildings to the bus stop.

**Existing bicycle and pedestrian facilities:** According to the *Delaware Kent and Sussex Counties Bicycle Touring Map*, Sand Cove Road, West Line Road, New Road, and Williamsville Road are each designated as having above average cycling conditions with low traffic volumes. Sound Church Road is designated as having average cycling conditions with low traffic volumes (less than 2,000 ADT). Delaware Route 54 and Delaware Route 20 are each designated as having average cycling conditions with moderate traffic volumes (between 2,000 and 10,000 ADT). There are currently no designated bicycle lanes or sidewalks along the site frontage on Delaware Route 54, although these facilities are in place at the intersection of Delaware Route 54 & Delaware Route 20.

**Planned bicycle and pedestrian facilities:** DelDOT's Bicycle and Pedestrian Facilities Team indicated, in an email from Anthony Aglio dated March 23, 2010, that the following bicycle and pedestrian facilities should be required. If the development does occur, the following requests should be incorporated into the project to facilitate bicycle and pedestrian transportation:

- a. Bike lanes should be included on Delaware Route 54.
- b. Bike parking should be included near the entrances of all commercial locations.
- c. Sidewalks should be built along the site frontage and leading into the development to the building entrances.
- d. The developer of this project should contact DART regarding the addition of transit service and transit facilities at this location.
- e. The parking areas should be shaded as much as possible.

### **Previous Comments**

All comments from DelDOT's Scoping Letter, Traffic Count Review, Preliminary TIS (PTIS) Review, and Revised PTIS Review were addressed in the Final TIS submission.

### **General HCS Analysis Comments**

*(see table footnotes on the following pages for specific comments)*

- 1) For future conditions at existing intersections, the TIS generally assumed heavy vehicle factors (HV) to be the same as existing HV and assumed no minimum HV. McCormick Taylor assumed the future HV to be either existing HV or 2%, whichever was greater.
- 2) For future conditions, where the lane group volume increased from the existing volume, the TIS assumed a peak hour factor (PHF) of either existing PHF or 0.88, whichever was greater, at all intersections except Delaware Route 54 & Delaware Route 20 where they assumed 0.92 instead of 0.88. McCormick Taylor assumed future PHF of either existing PHF or 0.88, whichever was greater, for all intersections. For cases where the lane group volume did not change from existing to future conditions, the TIS and McCormick Taylor assumed a future PHF equal to existing PHF.
- 3) The HCS analyses included in the TIS did not always reflect the lane widths observed in the field by McCormick Taylor. McCormick Taylor's HCS analyses incorporated the field-measured lane widths.

- 4) The TIS and McCormick Taylor used different cycle lengths and/or signal timing parameters when analyzing the signalized intersections in some cases.
- 5) The TIS input existing Right-Turn-on-Red (RTOR) volumes for some signalized analyses. Due to increased volumes and fewer available gaps, there would likely be fewer vehicles able to make right turns on red, so McCormick Taylor conservatively input no RTOR volumes for future conditions.

Table 3  
PEAK HOUR LEVELS OF SERVICE (LOS)  
based on Traffic Impact Study for Fenwick Pointe  
Report dated February 24, 2010  
Prepared by Orth-Rodgers & Associates, Inc.

Unsignalized Intersection <sup>1</sup> Two-Way Stop Control (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; West Site Entrance</b>				
2012 with Fenwick Pointe (Case 3)				
Northbound West Site Entrance	C (19.3)	F (224.6)	C (20.4)	F (224.6) <sup>2</sup>
Westbound Delaware Route 54 – Left	A (8.7)	B (11.0)	A (8.8)	B (11.0)

Signalized Intersection <sup>1</sup>	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; West Site Entrance</b>				
2012 with Fenwick Pointe (Case 3)	n/a	n/a	A (0.38)	B (0.66)

<sup>1</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.

<sup>2</sup> The 95th percentile queue length for the northbound West Site Entrance left-turn movement during the Case 3 Saturday peak hour is approximately 12 vehicles.

Table 4  
PEAK HOUR LEVELS OF SERVICE (LOS)  
based on Traffic Impact Study for Fenwick Pointe  
Report dated February 24, 2010  
Prepared by Orth-Rodgers & Associates, Inc.

Unsignalized Intersection <sup>3</sup> Two-Way Stop Control (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; East Site Entrance</b>				
2012 with Fenwick Pointe (Case 3)				
Northbound East Site Entrance	C (19.6)	F (200.0)	C (20.6)	F (200.0) <sup>4</sup>
Westbound Delaware Route 54 – Left	A (8.7)	B (11.3)	A (8.9)	B (11.3)
2012 with Fenwick Pointe (Case 3) With Improvement Option 1 <sup>5</sup>				
Northbound Site Entrance	n/a	n/a	E (47.1) <sup>6</sup>	F (868.3) <sup>7</sup>
Westbound Delaware Route 54 – Left	n/a	n/a	A (9.3)	B (13.2)

Signalized Intersection <sup>3</sup>	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; East Site Entrance</b>				
2012 with Fenwick Pointe (Case 3)	n/a	n/a	A (0.40)	A (0.67)
2012 with Fenwick Pointe (Case 3) With Improvement Option 1 <sup>5</sup>	n/a	n/a	B (0.58)	C (0.84)

<sup>3</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.

<sup>4</sup> The 95th percentile queue length for the northbound East Site Entrance left-turn movement during the Case 3 Saturday peak hour is approximately 9 vehicles.

<sup>5</sup> Improvement Option 1 consists of a single site entrance on Delaware Route 54 (instead of two as proposed by the TIS), with all volumes entering and exiting the site at one combined entrance located toward the center of the site frontage. This single site entrance is being considered due to the proximity of the two proposed access points to one another and of the proposed west site entrance to the intersection of Delaware Route 54 & Sand Cove Road.

<sup>6</sup> The 95th percentile queue length for the northbound Site Entrance left-turn movement during the Case 3 PM peak hour (with Improvement Option 1 to combine the two entrances into one) is approximately 7 vehicles.

<sup>7</sup> The 95th percentile queue length for the northbound Site Entrance left-turn movement during the Case 3 Saturday peak hour (with Improvement Option 1 to combine the two entrances into one) is approximately 27 vehicles.

Table 5  
PEAK HOUR LEVELS OF SERVICE (LOS)  
based on Traffic Impact Study for Fenwick Pointe  
Report dated February 24, 2010  
Prepared by Orth-Rodgers & Associates, Inc.

Unsignalized Intersection <sup>8</sup> Two-Way Stop Control (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; Sand Cove Road</b>				
2009 Existing (Case 1)				
Northbound Sand Cove Road	B (10.5)	C (18.7)	B (10.5)	C (18.7)
Westbound Delaware Route 54 – Left	A (7.8)	A (8.9)	A (7.7)	A (8.8)
2012 without Fenwick Pointe (Case 2)				
Northbound Sand Cove Road	B (13.3)	D (32.9)	B (13.4)	D (33.5)
Westbound Delaware Route 54 – Left	A (8.2)	A (9.7)	A (8.2)	A (9.7)
2012 with Fenwick Pointe (Case 3)				
Northbound Sand Cove Road	C (15.5)	E (48.7)	C (15.7)	E (49.2) <sup>9</sup>
Westbound Delaware Route 54 – Left	A (8.5)	B (10.5)	A (8.5)	B (10.5)

Signalized Intersection <sup>8</sup>	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; Sand Cove Road</b>				
2012 with Fenwick Pointe (Case 3)	n/a	n/a	A (0.40)	A (0.74)

<sup>8</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.

<sup>9</sup> The 95th percentile queue length on the northbound Sand Cove Road approach during the Case 3 Saturday peak hour is approximately 1 vehicle.

Table 6  
PEAK HOUR LEVELS OF SERVICE (LOS)  
based on Traffic Impact Study for Fenwick Pointe  
Report dated February 24, 2010  
Prepared by Orth-Rodgers & Associates, Inc.

Unsignalized Intersection <sup>10</sup> Two-Way Stop Control (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; Williamsville Road</b>				
2009 Existing (Case 1)				
Northbound Williamsville Road	B (11.2)	C (20.4)	B (11.2)	C (20.3)
Westbound Delaware Route 54 – Left	A (7.8)	A (8.9)	A (7.8)	A (8.9)
2012 without Fenwick Pointe (Case 2)				
Northbound Williamsville Road	B (14.0)	D (33.7)	B (14.0)	D (33.7)
Westbound Delaware Route 54 – Left	A (8.3)	A (9.7)	A (8.3)	A (9.7)
2012 with Fenwick Pointe (Case 3)				
Northbound Williamsville Road	C (16.4)	F (63.9)	C (16.4)	F (63.1) <sup>11</sup>
Westbound Delaware Route 54 – Left	A (8.6)	B (10.5)	A (8.6)	B (10.6)
2012 with Fenwick Pointe (Case 3) With Improvement Option 1 <sup>12</sup>				
Northbound Williamsville Road	n/a	n/a	C (15.5)	E (45.8) <sup>13</sup>
Westbound Delaware Route 54 – Left	n/a	n/a	A (8.6)	B (10.6)

Signalized Intersection <sup>10</sup>	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; Williamsville Road</b>				
2012 with Fenwick Pointe (Case 3)	n/a	n/a	A (0.43)	A (0.76)

<sup>10</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.

<sup>11</sup> The 95th percentile queue length on the northbound Williamsville Road approach during the Case 3 Saturday peak hour is approximately 3 vehicles.

<sup>12</sup> Improvement Option 1 consists of the addition of a separate right-turn lane on the northbound approach of Williamsville Road.

<sup>13</sup> The 95th percentile queue length on the northbound Williamsville Road approach during the Case 3 Saturday peak hour (with Improvement Option 1) is approximately 2 vehicles.

Table 7  
PEAK HOUR LEVELS OF SERVICE (LOS)  
based on Traffic Impact Study for Fenwick Pointe  
Report dated February 24, 2010  
Prepared by Orth-Rodgers & Associates, Inc.

Unsignalized Intersection <sup>14</sup> Two-Way Stop Control (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; West Line Road <sup>15</sup></b>				
2009 Existing (Case 1)				
Northbound West Line Road	B (10.1)	B (14.7)	B (10.1)	B (14.8)
Westbound Delaware Route 54 – Left	A (7.8)	A (8.8)	A (7.8)	A (8.7)
2012 without Fenwick Pointe (Case 2)				
Northbound West Line Road	B (11.9)	C (19.7)	B (11.9)	C (19.0)
Westbound Delaware Route 54 – Left	A (8.3)	A (9.7)	A (8.3)	A (9.7)
2012 with Fenwick Pointe (Case 3)				
Northbound West Line Road	B (13.4)	D (27.4)	B (13.4)	D (28.3)
Westbound Delaware Route 54 – Left	A (8.6)	B (10.6)	A (8.6)	B (10.6)

<sup>14</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.

<sup>15</sup> This intersection has unconventional geometry and was analyzed differently by the TIS and McCormick Taylor. The TIS analyzed the intersection with a single shared lane on each approach. Based on field observations of drivers utilizing a gravel area just west of the West Line Road approach for northbound left turns and eastbound right turns, McCormick Taylor treated this area as a separate northbound left-turn lane and separate eastbound right-turn lane.

Table 8  
PEAK HOUR LEVELS OF SERVICE (LOS)  
based on Traffic Impact Study for Fenwick Pointe  
Report dated February 24, 2010  
Prepared by Orth-Rodgers & Associates, Inc.

Unsignalized Intersection <sup>16</sup> Two-Way Stop Control (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; New Road</b>				
2009 Existing (Case 1)				
Southbound New Road	B (10.2)	B (14.1)	B (10.2)	B (14.2)
Eastbound Delaware Route 54 – Left	A (7.8)	A (8.4)	A (7.8)	A (8.4)
2012 without Fenwick Pointe (Case 2)				
Southbound New Road	A (9.2)	B (14.7)	B (11.9)	C (18.8)
Eastbound Delaware Route 54 – Left	A (7.2)	A (9.0)	A (8.1)	A (9.0)
2012 with Fenwick Pointe (Case 3)				
Southbound New Road	B (12.6)	B (10.1)	B (12.6)	C (21.2)
Eastbound Delaware Route 54 – Left	A (8.4)	A (7.2)	A (8.4)	A (9.5)

<sup>16</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.

Table 9  
PEAK HOUR LEVELS OF SERVICE (LOS)  
based on Traffic Impact Study for Fenwick Pointe  
Report dated February 24, 2010  
Prepared by Orth-Rodgers & Associates, Inc.

Unsignalized Intersection <sup>17</sup> Two-Way Stop Control (T-intersection)	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; Sound Church Road</b>				
2009 Existing (Case 1)				
Northbound Sound Church Road	B (10.5)	C (16.0)	B (10.5)	C (16.1)
Westbound Delaware Route 54 – Left	A (7.7)	A (8.7)	A (7.7)	A (8.7)
2012 without Fenwick Pointe (Case 2)				
Northbound Sound Church Road	C (20.2)	F (69.5)	C (20.4)	F (85.4) <sup>18</sup>
Westbound Delaware Route 54 – Left	A (8.4)	B (10.0+)	A (8.4)	B (10.0+)
2012 with Fenwick Pointe (Case 3)				
Northbound Sound Church Road	D (26.6)	F (161.0)	D (27.2)	F (222.5) <sup>19</sup>
Westbound Delaware Route 54 – Left	A (8.8)	B (10.7)	A (8.8)	B (10.7)
2012 with Fenwick Pointe (Case 3) With Improvement Option 1 <sup>20</sup>				
Northbound Sound Church Road	n/a	n/a	D (25.9)	F (198.3) <sup>21</sup>
Westbound Delaware Route 54 – Left	n/a	n/a	A (8.8)	B (10.7)

Signalized Intersection <sup>17</sup>	LOS per TIS		LOS per McCormick Taylor	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; Sound Church Road</b>				
2012 with Fenwick Pointe (Case 3)	n/a	n/a	A (0.49)	A (0.74)

<sup>17</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.

<sup>18</sup> The 95th percentile queue length on the northbound Sound Church Road approach during the Case 2 Saturday peak hour is approximately 2 vehicles.

<sup>19</sup> The 95th percentile queue length on the northbound Sound Church Road approach during the Case 3 Saturday peak hour is approximately 4 vehicles.

<sup>20</sup> Improvement Option 1 consists of the addition of a separate right-turn lane on the northbound approach of Sound Church Road, a separate right-turn lane on the eastbound approach of Delaware Route 54, and a separate left-turn lane on the westbound approach of Delaware Route 54.

<sup>21</sup> The 95th percentile queue length on the northbound Sound Church Road approach during the Case 3 Saturday peak hour (with Improvement Option 1) is approximately 4 vehicles.

Table 10  
**PEAK HOUR LEVELS OF SERVICE (LOS)**  
*based on Traffic Impact Study for Fenwick Pointe*  
*Report dated February 24, 2010*  
 Prepared by Orth-Rodgers & Associates, Inc.

<b>Signalized Intersection <sup>22</sup></b>	<b>LOS per TIS</b>		<b>LOS per McCormick Taylor</b>	
	Weekday PM	Saturday Mid-Day	Weekday PM	Saturday Mid-Day
<b>Delaware Route 54 &amp; Delaware Route 20</b>				
2009 Existing (Case 1)	C (0.30)	C (0.56)	C (0.30)	C (0.62)
2012 without Fenwick Pointe (Case 2)	C (0.63)	D (0.95)	D (0.60)	D (0.91)
2012 with Fenwick Pointe (Case 3)	C (0.66)	E (0.99)	D (0.63)	D (0.95)

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<sup>22</sup> For unsignalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, those numbers are X-critical, a composite volume-to-capacity ratio.