



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

July 18, 2014

Mr. Ring Lardner
Davis Bowen & Freidel
23 N Walnut Street
Milford, DE 19963

RE: PLUS review 2014-06-01, Reserves at Nassau, Phase 2

Dear Mr. Lardner:

Thank you for meeting with State agency planners on June 25, 2014 to discuss the proposed plans for the Reserves at Nassau, Phase 2. According to the information received, you are seeking site plan review for the development of 147 residential units on 36.98 acres located in Sussex County.

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

Strategies for State Policies and Spending

- This project is located in Investment Level 1 according to the *Strategies for State Policies and Spending*. Investment Level 1 reflects areas that are already developed in an urban or suburban fashion, where infrastructure is existing or readily available, and where future redevelopment or infill projects are expected and encouraged by State policy.

Code Requirements/Agency Permitting Requirements

State Historic Preservation Office – contact Terrence Burns 736-7404

- There is no known archaeological site or National Register-listed property on this parcel. However, if there is going to be any construction or development project on this parcel, the developer should be aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law, which is outlined in Chapter 54 of Title 7 of the Delaware Code.

- Abandoned or unmarked family cemeteries are very common in the State of Delaware. They are usually in rural or open space areas, and sometimes near or within the boundary of an historic farm site. Even a marked cemetery can frequently have unmarked graves or burials outside of the known boundary line or limit. Disturbing unmarked graves or burials triggers the Delaware's Unmarked Human Burials and Human Skeletal Remains Law (Delaware Code Title 7, Chapter 54), and such remains or discoveries can result in substantial delays while the procedures required under this law are carried out. If there is a discovery of any unmarked graves, burials or a cemetery, it is very costly to have them archaeologically excavated and the burials moved. The Division of Historical & Cultural Affairs recommends that owners and/or developers have a qualified archaeological consultant investigate their project area, to the full extent, to see if there is any unmarked cemetery, graves, or burial sites. In the event of such a discovery, the Division of Historical & Cultural Affairs also recommends that the plans be re-drawn to leave the full extent of the cemeteries or any burials on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with the landowner association or development. If you would like to know more information pertaining to unmarked human remains or cemeteries, please check the following websites for additional information: www.history.delaware.gov/preservation/umhr.shtml and www.history.delaware.gov/preservation/cemeteries.shtml.

Prior to any demolition or ground-disturbing activities, the developer should consider hiring an archaeological consultant to examine or see whether the parcel has any potential pre-historic or historic archaeological site, a cemetery, burials or unmarked human remains. Furthermore, 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 cultural or historic resources. Owners and developers who may plan to apply for an Army Corps of Engineers permit or for federal funding, such as HUD or USDA grants, should be aware of the National Historic Preservation Act of 1966 (as amended). Regulations promulgated for Section 106 of this Act stipulate that no ground-disturbing or demolition activities should take place before the Corps or other involved federal agency determines the area of potential effect of the project undertaking. These stipulations are in place to allow for comment from the public, the Delaware State Historic Preservation Office, and the Advisory Council for Historic Preservation about the project's effects on historic properties. Furthermore, any preconstruction activities without adherence to these stipulations may jeopardize the issuance of any permit or funds. If you need further information or additional details pertaining to the Section 106 process and the Advisory Council's role, please review the Advisory Council's website at www.achp.gov.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Per Section 2.3.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, Traffic Impact Studies (TIS) are warranted for developments generating

more than 400 vehicle trip ends per day or 50 vehicle trip ends per hour. However, Section 2.3.2 provides that for developments generating less than 2,000 vehicle trip ends per day and less than 200 vehicle trip ends per hour, DelDOT may accept an Area Wide Study Fee of \$10 per daily trip in lieu of a TIS.

DelDOT estimates that the proposed development would generate 1,569 vehicle trip ends per typical weekday and 158 vehicle trip ends per hour during the peak hour of that day. Therefore, a TIS would be warranted but that the applicant would qualify to pay the Area Wide Study Fee in lieu of doing a study. To obtain a scope of work for a TIS, the applicant may have their engineer contact Mr. Troy Brestel of this office. Mr. Brestel may be reached at (302) 760-2167.

Because the site's trip generation would be less than 2,000 vehicles per day and 200 vehicles per hour, payment of the Area Wide Study Fee would be acceptable. If the developer chooses this option, payment would be due when the site plan is submitted for review. Payment of the fee would not relieve the developer of responsibility for making off-site improvements or contributing to DelDOT capital projects. In accordance with Section 3.10.2 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access, needed off-site improvements or contributions would need to be shown on the record plan by illustration or note.

- Because the site would generate more than 200 vehicle trip ends per day, a Traffic Operational Analysis may be required as part of the site plan review, in accordance with Section 2.14 (formerly 3.9) of the Standards and Regulations. If the developer performs a TIS, the work involved in a TOA would be included therein. Payment of the Area Wide Study Fee does not exempt the developer from providing a TOA if one is found to be necessary. The need for a TOA will be determined at the Pre-Submittal Meeting. Preliminarily, we anticipate a TOA being required to examine the need for improvements at the west (or north) intersection of Delaware Route 1 and Tulip Drive.
- The site entrance on Tulip Drive must be designed in accordance with DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access, which is available at http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/Subdivision_Manual_Revision_1_proposed_060110.pdf.
- Please be advised that DelDOT has advertised for comment a comprehensive revision of the Standards and Regulations. The comment period ran through June 30 and DelDOT could adopt this revision as soon as August 2014. Implementation guidance has not been developed but Del DOT recommends that the developer's engineer become familiar with the proposed changes and assess whether any of them could be relevant to this project. Information on the proposed revision is available in the Register of Regulations and at http://www.deldot.gov/information/pubs_forms/revisions_to_ASR/index.shtml.

- Referring to Section 1.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Initial Stage review fee shall be assessed to this project.
 - Referring to Section 1.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Construction Stage review fee shall be assessed to this project.
 - In accordance with Section 3.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, any off-site improvements and when those improvements are warranted need to be noted on the record plan.
 - In accordance with Section 3.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, a site plan shall be prepared prior to issuing “Letter of No Objection”. The following information will be required for the “Letter of No Objection” review:
 - Copy of the Initial Stage Fee Calculation Form
 - Copy of the Initial Stage Review Fee
 - Gate-Keeping Checklist – Site Plan
 - Design Checklist – Record Plan*
 - Owners and Engineer’s name and e-mail address
 - Three (3) paper sets of the Record Plan
 - Conceptual Entrance Plan
 - CD with a pdf of the Site Plan
 - Submission of the Area-Wide Study Fee (if applicable)
- *For the design checklist for the site plan, please refer to the Standards and Regulations for Subdivision Streets and State Highway Access, Appendix D, Plan Review Checklist, pages D-2 and D-3.
- As specified in Section 3.4.1.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, a traffic generation diagram is required on the record plan.
 - In accordance with Section 3.4.14 of the Standards and Regulations for Subdivision Streets and State Highway Access, if this development is proposing a neighborhood sign/structure, then a permanent easement shall be established at the entrance. The easement shall be located outside of any existing and/or proposed right-of-way. It will also need to be verified that the sign/structure does not pose a sight distance and/or safety hazard.

- Referring to Section 4.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Entrance Plan review;
 - Copy of the Construction Stage Fee Calculation Form
 - Copy of the Construction Review Fee
 - Gate-Keeping Checklist – Entrance Plan
 - Design Checklist – Entrance Plan**
 - Three (3) paper sets of the Entrance Plan
 - SWM Report and Calculations (if applicable)
 - CD with a pdf of the Entrance Plan

**For the design checklist for the entrance plan, please refer to the Standards and Regulations for Subdivision Streets and State Highway Access, Appendix D, Plan Review Checklist, pages D-9 and D-13.

- In accordance with Section 5.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, a sight distance triangle is required for the sight entrance and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/information/business/subdivisions/Intersection-Sight-Distance.xls>.
- Metes and bounds and total areas need to be shown for any drainage easements. Section 5.7.2.5 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access requires, in part, a minimum 20-foot wide drainage easement for storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. These easements must be shown and noted on the record plan.

Department of Natural Resources and Environmental Control – Contact Bahareh Van Boekhold 735-3495

Wetlands

- State regulated wetlands ARE NOT located on this property based on a review of the State wetland maps. State regulated subaqueous lands ARE likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. Black Hog Gut Stream runs through the property. State subaqueous lands include all tidal waters (up to the mean high water line), most non-tidal rivers, streams, lakes, ponds, bays and inlets (up to the ordinary high water line), most perennial streams and ditches and many intermittent streams and ditches. Additional information about State regulated subaqueous lands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at <http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx>.

- Waters of the U.S. regulated by the U.S. Army Corps of Engineers ARE likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. As stated in the application, wetland permits may be needed. Waters of the United States include the following: navigable waters of the United States; wetlands; tributaries to navigable waters of the United States, including adjacent wetlands and lakes and ponds; interstate waters and their tributaries, including adjacent wetlands; and all other waters of the United States not identified above, such as isolated wetlands, intermittent streams, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, where the use, degradation or destruction of these waters could affect interstate or foreign commerce. The U.S. Army Corps of Engineers can be contacted at (215) 656-6728 or online at <http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm>.

County: Sussex
PLUS 2014-06-01
Reserves at Nassau, Phase 2



TMDLs

- The project is located in the greater Delaware River and Bay drainage, specifically within the Broadkill River watershed. In this watershed, the State of Delaware has developed specific Total Maximum Daily Load (TMDL) pollutant reduction targets for nitrogen, phosphorus, and bacteria (under the auspices of Section 303(d) of the Clean Water Act). 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 Broadkill River watershed calls for a 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 75 percent reduction in bacteria from baseline conditions.
- A nutrient management plan is required under the *Delaware Nutrient Management law (3 Del. Chapter 22)* for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. This project’s open space may exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at 739-4811 for further information concerning compliance requirements or, view the following web link for additional information: <http://dda.delaware.gov/nutrients/index.shtml>

Water Supply

- The information provided indicates that Tidewater Utilities will provide water to the proposed projects through a public water system. DNREC files reflect that Tidewater Utilities does not currently hold a Certificate of Public Convenience and Necessity (CPCN) to provide public water in these areas. They will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-736-7547. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.
- 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.

Water Resource Protection Areas

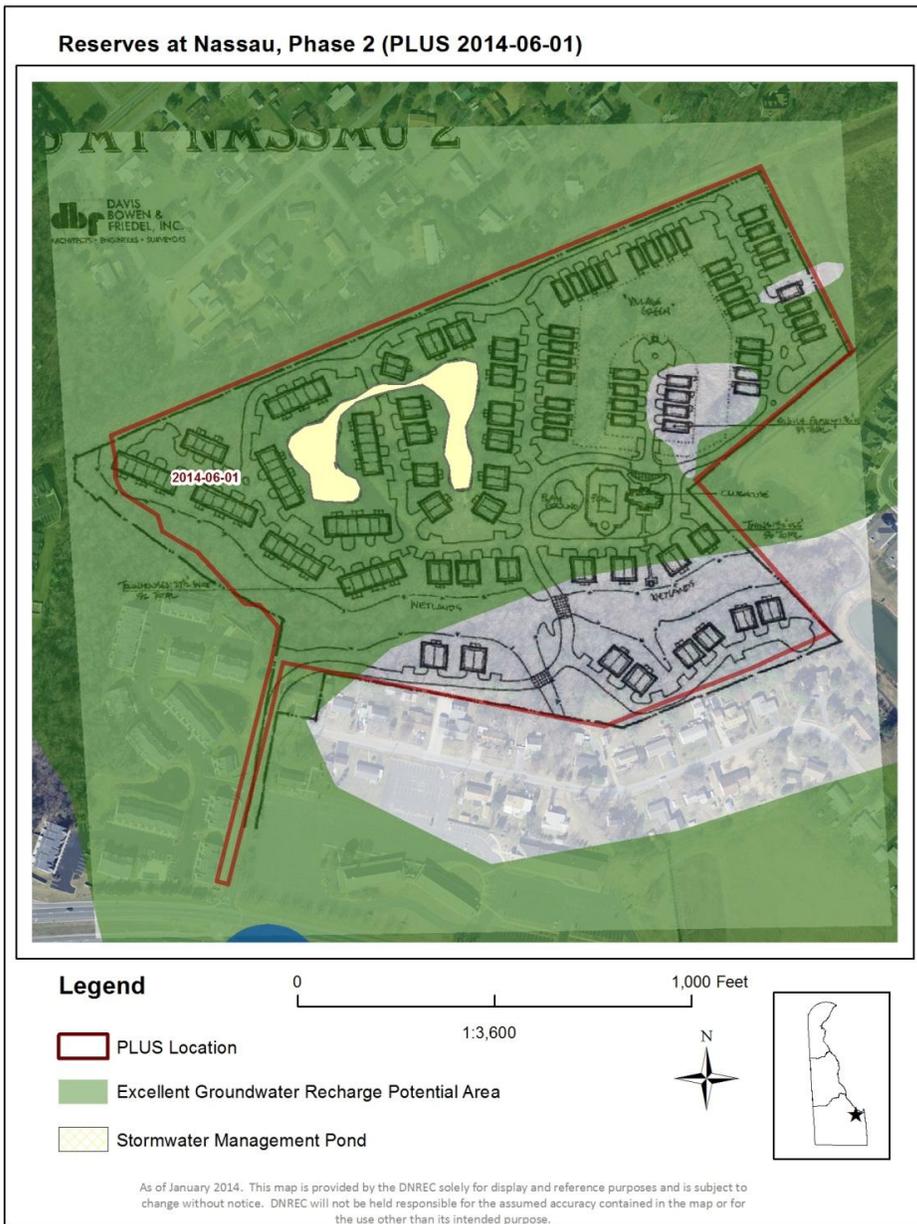
- The DNREC Water Supply Section, Groundwater Protection Branch (GPB) has determined that a portion of the project site falls within an excellent ground-water recharge potential area for Sussex County (see attached map).

Excellent Ground-Water Recharge Areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect ground water in these areas.

The site plan shows wet ponds for the management of stormwater (see map below). Wet ponds intersect the water table and have the potential to affect the water quality of the aquifer. Some research suggests that pollutant removal is reduced when ground water contributes substantially to the pool volume (Schueler, 1997). Wet ponds as a Better Management Practice (BMP) utilize a settling pond to remove particulates. This type of BMP reduces nutrients by the biological activity of alga. While these systems address the particulate and nutrient components of stormwater runoff, they do not address pathogens, petroleum hydrocarbons, pesticides, other organic compounds, and other inorganic compounds associated with residential land use (DNREC, 1999). Because this is an area of excellent recharge potential, there exists the potential for these constituents to enter the aquifer and compromise water quality.

The construction phase of stormwater management ponds requires excavation, hauling, and grading. The heavy equipment used in this phase has the capacity to compact and degrade the structure of the strata that defines the area as an excellent ground-water recharge area (Schueler, 2000a). Changes to the structural soil properties may cause significant reduction in recharge capacity. Installing storm-water management ponds in excellent ground-water recharge areas has the potential to contaminate the ground water beneath it and infiltrate into the aquifer (Schueler, 2000b).

DNREC recommends that wet ponds should be located outside the excellent ground water recharge potential area. In addition, because the excellent ground water recharge area can readily affect the underlying aquifer if contaminants are spilled or discharged across the area, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant state, federal, or local program.



References

Andres, A. Scott, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware: Delaware Geological Survey Report of Investigations No. 66, p. 14. <http://www.udel.edu/dgs/Publications/pubform.html#nvestigations>

Delaware Department of Natural Resources and Environmental Control, 1999, The State of Delaware Source Water Assessment Plan: Dover, DE, p. 301.

Schueler, T. 1997. Influence of groundwater on performance of stormwater ponds in Florida. *Watershed Protection Techniques* 2(4):525-528.

Schueler, T. R., 2000a, The Compaction of Urban Soils, in Schueler, T.R., and Holland, H.K., eds., *The Practice of Watershed Protection*: Ellicott City, MD, Center for Watershed Protection, p. 210 - 218.

Schueler, T. R., 2000b, Pollutant Dynamics of Pond Muck, in Schueler, T.R., and Holland, H.K., eds., *The Practice of Watershed Protection*: Ellicott City, MD, Center for Watershed Protection, p. 453 - 460.

Sediment and Stormwater Program

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the 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. (Title 7, Delaware Code, Chapter 40 and Delaware Regulations, Title 7, Administrative Code, 5101).

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.
- There is one SIRS site within a ½ miles radius of the property in question. Hudson Pit Site (DE-0107) is also identified as the project property. The site is a former borrow pit. After material was removed from the pit, it was backfilled with inert construction debris. Oil soaked sand from Rehoboth and Dewey Beach was deposited in the pits with the authorization of DNREC in November and December of 1977. A Preliminary Assessment was conducted in March 1985 followed by a site Inspection in March 1988. The Site was given a No Further Action designation. A Facility Evaluation was conducted on the site due to concerns of nearby residents. The site entered the Brownfields Program in January of 2014 and is currently being investigated.

Tank Management Section.

Please be aware:

- If a release of a Regulated Substance occurs at the proposed project site, compliance of 7 Del.C., Chapter 60, 7 Del.C., Chapter 74 and DE Admin. Code 1351, State of Delaware *Regulations Governing Underground Storage Tank Systems* (the UST Regulations) is required.
- The following confirmed leaking underground storage tank (LUST) projects are located within a quarter mile from the proposed project area:
 - Atlantic Concrete Co, Facility: 5-000308, Project: S9112288 (Inactive)
 - Confidential Services Inc, Facility: 5-000600, Project: S9510238 (Inactive)

No environmental impacts are anticipated; however, per the **UST Regulations: Part E, §**

1. Reporting Requirements:

- Any indication of a Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants, contractors, utility companies, financial institutions, real estate transfer companies, UST Owners or Operators, or Responsible Parties shall be reported within 24 hours to:

The Department’s 24-hour Release Hot Line by calling 800-662-8802; and
 The DNREC Tank Management Branch by calling 302-395-2500

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 to your project:

Table 1: Potential Regulatory Requirements	
Regulation	Requirements
7 DE Admin. Code 1106 - Particulate Emissions from Construction and Materials Handling	Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. Use covers on trucks that transport material to and from site to prevent visible emissions.
7 DE Admin. Code 1113 – Open Burning	Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year. Prohibit the burning of land clearing debris. Prohibit the burning of trash or building materials/debris.
7 DE Admin. Code 1135 – Conformity of General Federal Actions to the State Implementation Plan	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)
7 DE Admin. Code 1141 – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products	Use structural/ paint coatings that are low in Volatile Organic Compounds. Use covers on paint containers when paint containers are not in use.
7 DE Admin. Code 1144 – Control of Stationary Generator Emissions	Ensure that emissions of nitrogen oxides (NO _x), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO ₂), carbon monoxide (CO), and carbon dioxide (CO ₂) from emergency generators meet the emissions limits established. (See section 3.2).

	Maintain recordkeeping and reporting requirements.
7 DE Admin. Code 1145 – Excessive Idling of Heavy Duty Vehicles	Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

For a complete listing of all Delaware applicable regulations, please look at :

<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 1000 gpm for 1-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 townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains.

Fire Protection Features:

For duplex and townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan

Accessibility:

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision must be constructed so fire department apparatus may negotiate it. Special attention should be provided to the weight capacity limits of the two small bridges leading into the subdivision.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

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
- Square footage of each structure (total of all floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Townhouse 2-hr separation wall details shall be shown on site plans
- Provide Road Names, even for County Roads.

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.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Because the proposed development would generate more than 200 vehicle trips per day, the developer should expect a Pre-Submittal Meeting to be required before plans are submitted for review. Guidance on what will be covered at this meeting and how to prepare for is located at http://www.deldot.gov/information/business/subdivisions/Pre-Submittal_Meeting_Requirements.doc. The form needed to request this meeting is available at http://www.deldot.gov/information/business/subdivisions/Meeting_Request_Form.doc.

Tulip Drive was accepted into the State maintenance system on October 10, 1958, as a subdivision street. As a subdivision street, it was not originally designed to accommodate the traffic associated with the proposed development. Since its original construction, however, St. Jude the Apostle Church and the Taramino townhouse development have been built with access on Tulip Drive, and it appears that the road has been improved to some extent as part of their entrance construction. Research will be needed to determine what improvements will be needed on Tulip Drive as part of the entrance construction. The best way to do that may be to obtain pavement cores, but this topic can be discussed at the Pre-Submittal Meeting.

Complicating matters, while it would appear to a casual observer that the segment of Tulip Drive perpendicular to Delaware Route 1 occupies a right-of-way about 60 feet wide, tax parcel maps show the west (or north) half of that right-of-way to be a tax parcel

owned by the W & B Hudson Family Limited Partnership. At its north (or east) end, that parcel provides access to Sussex County's sewer lift station and would provide the access to the subject development. We anticipate requiring that the part of the parcel presently used as right-of-way for Tulip Drive be dedicated to public use.

Finally, in this regard, whether the site access is dedicated to public use or not, the stub street leading to the lift station will need to be improved to serve as the site access. The developer should anticipate a requirement for a separate turning template plan to verify that vehicles can safely enter and exit the site entrance. The entrance shall be designed for the largest vehicle using it. These improvements can be discussed further at the Pre-Submittal Meeting.

- DelDOT supports the proposed stub street leading to the right-of-way between the lands of Atlantic Concrete and the Village of Five Points. Significant work would be needed where that right-of-way intersects Old Orchard Road (Sussex Road 269A) to allow even an emergency access there and easements would likely be needed from both Atlantic Concrete and the Village of Five Points, to construct an access for regular use. However, such an access would provide for improved connectivity and given the concerns raised by the Department of Natural Resources and Environmental Control (flooding of the access to Tulip Drive) and the Fire Marshal's Office (emergency access) we recommend that the developer pursue a secondary access on Old Orchard Road. The rail trail discussed below would be another potential source of emergency access, but we have no schedule for the construction of the trail at this time.
- The Lewes-Georgetown railroad right-of-way is presently owned by the State of Delaware. As the developer has said, DelDOT has long-range plans for a rail trail in this corridor. Accordingly, we recommend that the developer provide for access to the trail from this development when it develops. Del DOT further recommends that the right-of-way be clearly identified on the plans for the development and that the planned trail be noted on those plans so that potential home buyers are made aware of both the railroad right-of-way and the planned trail before they purchase their homes. DelDOT appreciates the developer's willingness to work in these regards.
- DelDOT's Shared-Use Path and/or Sidewalk Process policy (available at http://www.deldot.gov/information/business/subdivisions/SUP_Sidewalk_Process.pdf) requires that a path or sidewalk be installed along the State-maintained road frontage of any development generating 2,000 or more trips per day. Therefore, the applicant should expect a requirement that a sidewalk be installed to serve this development. The limits and location of the sidewalk will be discussed further at the Pre-Submittal Meeting but preliminarily Del DOT suggests that the sidewalk should begin at Delaware Route 1 and extend along Tulip Drive into the proposed development if possible.
- Be advised that the standard general notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision date of November 26,

2013 for the Record/Site Plan and Construction Plan general notes and the Temporary Traffic Control general notes. The notes can be found at

http://www.deldot.gov/information/business/subdivisions/DelDOT_Development_Coordination_Plan_Sheet_Notes.doc

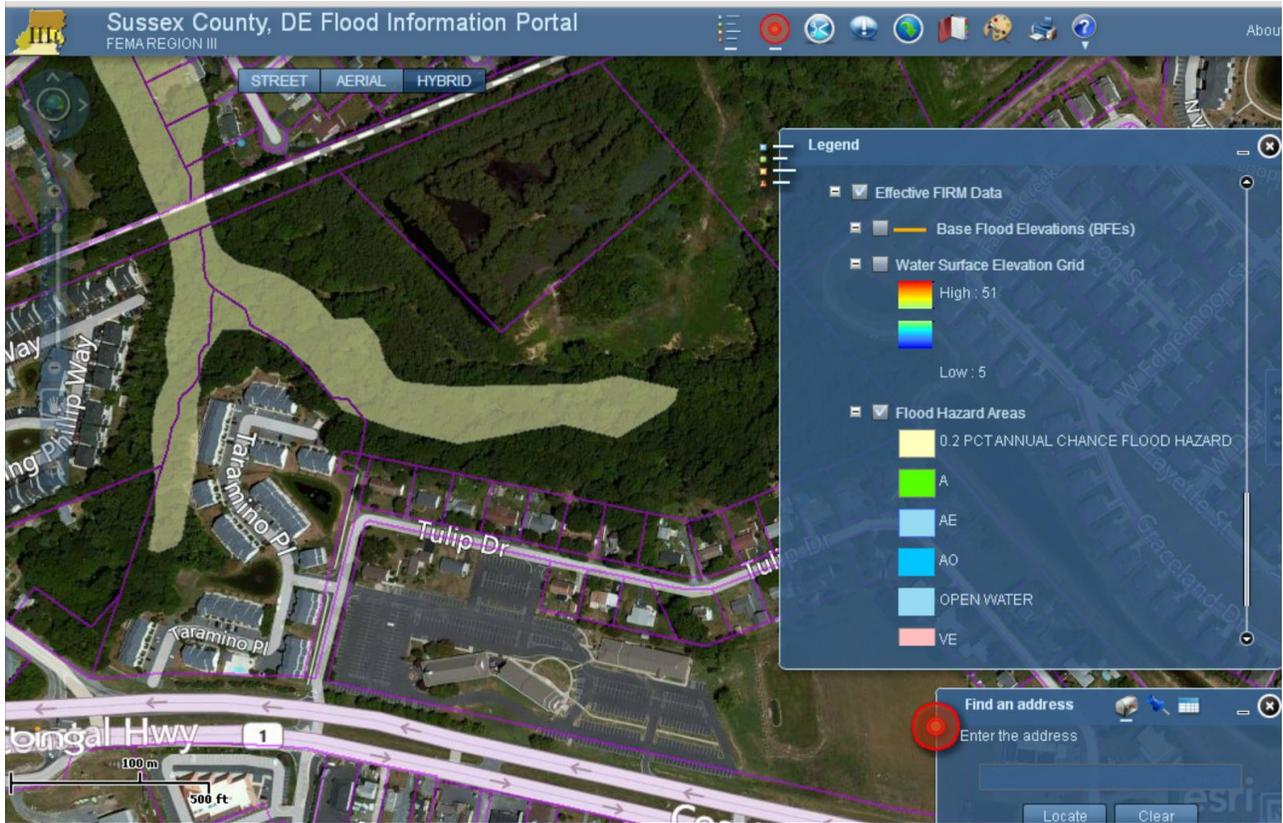
- The applicant should expect a requirement that all PLUS and/or TAC comments be addressed prior to submitting record, subdivision or entrance plans for review.
- Please use the Auxiliary Lane Worksheet to determine whether auxiliary lanes are warranted at the site entrance. The worksheet can be found at http://www.deldot.gov/information/business/subdivisions/auxiliary_lane_worksheet.xls.
- The applicant should expect a requirement that any sub-station and/or wastewater facilities have access from the internal subdivision street with no direct access to the State maintained highway.
- The applicant should expect a requirement to enter into an Inspection Agreement with DelDOT concerning the construction of the entrance, roadway and/or off-site improvements.
- Please be advised DelDOT's check handling procedures changed in 2012. For specific information, see the letter available at <http://www.deldot.gov/information/business/subdivisions/PaymentProcedure.pdf>.

Department of Natural Resources and Environmental Control – Contact Bahareh Van Boekhold
735-3495

Flood Plain and Sea Level Rise

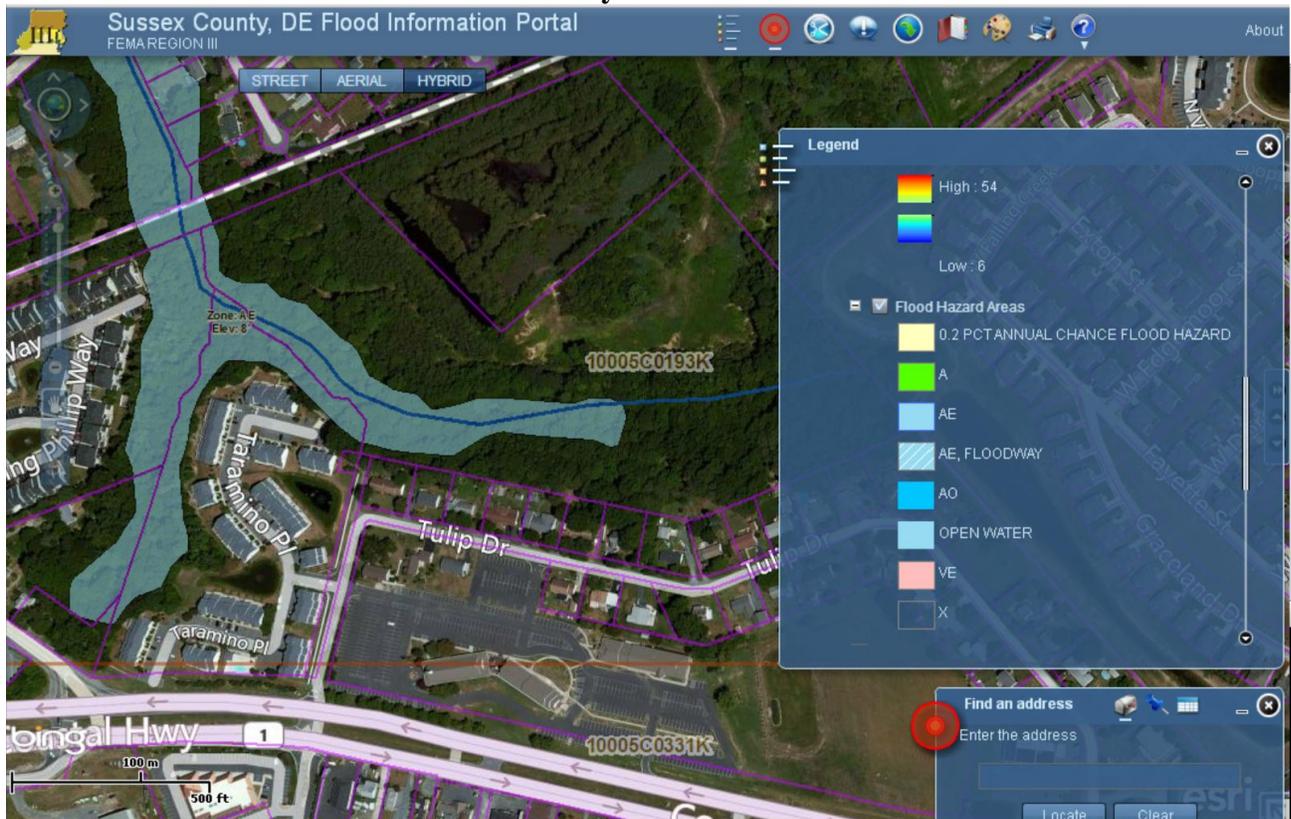
- The project parcel currently contains a moderate risk, 0.2% annual chance special flood hazard area, as shown on the current effective Flood Insurance Rate Map (FIRM).

Reserves at Nassau Phase 2 with Effective Sussex Co. FIRM



These FIRMs have been recently updated by FEMA. In new FIRM, a portion of the parcel will be located in a high risk, 1% annual chance special flood hazard area (Zone AE with a base flood elevation), as shown on the preliminary Flood Insurance Rate Map. (<http://maps.riskmap3.com/DE/sussex/>).

Reserves at Nassau Phase 2 with Preliminary Sussex Co. FIRM



- These preliminary maps are scheduled to become effective in March 2015. Any construction on the parcel will have to comply with the Sussex County floodplain regulations and the map in effect at the time the permit is issued. DNREC encourages the developer to take into account complying with floodplain building standards if lots are to be placed in the preliminary floodplain. How the structures are built will have an impact on the cost of the future owners flood insurance rates.

In addition, a portion of the planned development area lies within an area that will be subject to direct and permanent inundation from sea level rise (<http://de.gov/slrmap>). Sea levels in Lewes have risen by about a foot over the past century (NOAA, 2014). This rate of sea level rise is likely to accelerate in the coming decades as a result of global climate change and local subsidence. Accelerated sea level rise will result in permanent flooding of low-lying coastal areas and increased risk of flood damage during storms (DNREC, 2012).

State maps depicting future inundation risk from sea level rise indicate that Black Hog Gut and the access to the site could be inundated by sea level rise by 2100. In the short-term, sea level rise on this parcel, combined with periodic coastal flooding events, may result in repetitive flood damage to the access to this neighborhood and significant difficulties maintaining storm water and drainage infrastructure. In the long-term, this increased flood and inundation risk could result in costly public and private flood abatement and drainage projects and an eventual abandonment of homes.

- The proposed access road is also located within a mapped future sea level rise area. If built at grade, this road will be subject to periodic and increasing flood risk, potentially resulting in evacuation issues for residents and town emergency managers.
- Recommendations:
 - Lots within flood prone areas should be eliminated.
 - Any structure built within a mapped floodplain should be constructed with 18” of freeboard. Any structures that are built within an area mapped as both floodplain and sea level rise zone should be constructed with 18” of freeboard plus additional freeboard to accommodate future sea levels.
 - Filling lots to elevate them to above base flood elevation is discouraged.
 - Access roads should be designed to be flood resilient for the entirety of its design life span. This includes ensuring that the roadway functions for the 1% chance flood plus anticipated future sea level rise.

References:

NOAA (National Oceanic and Atmospheric Administration). (2014). Mean Sea Level Trend, Lewes, DE. Retrieved from http://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=8557380.

DNREC Delaware Coastal Programs. (2012). **Preparing for Tomorrow's** High Tide; Sea Level Rise Vulnerability Assessment for Delaware

- **Soils assessment**Based on soils survey mapping update, the Longmarsh and Indiantown (LO) soil mapping unit is the main soil mapping unit in the immediate vicinity of the proposed project; we strongly recommend the applicant avoid this mapping unit. LO is a very poorly-drained wetland associated (hydric) soil mapping unit that is considered to have severe limitations for development (i.e., considered unsuitable). Potential unmapped hydric soils may also be present in this parcel.

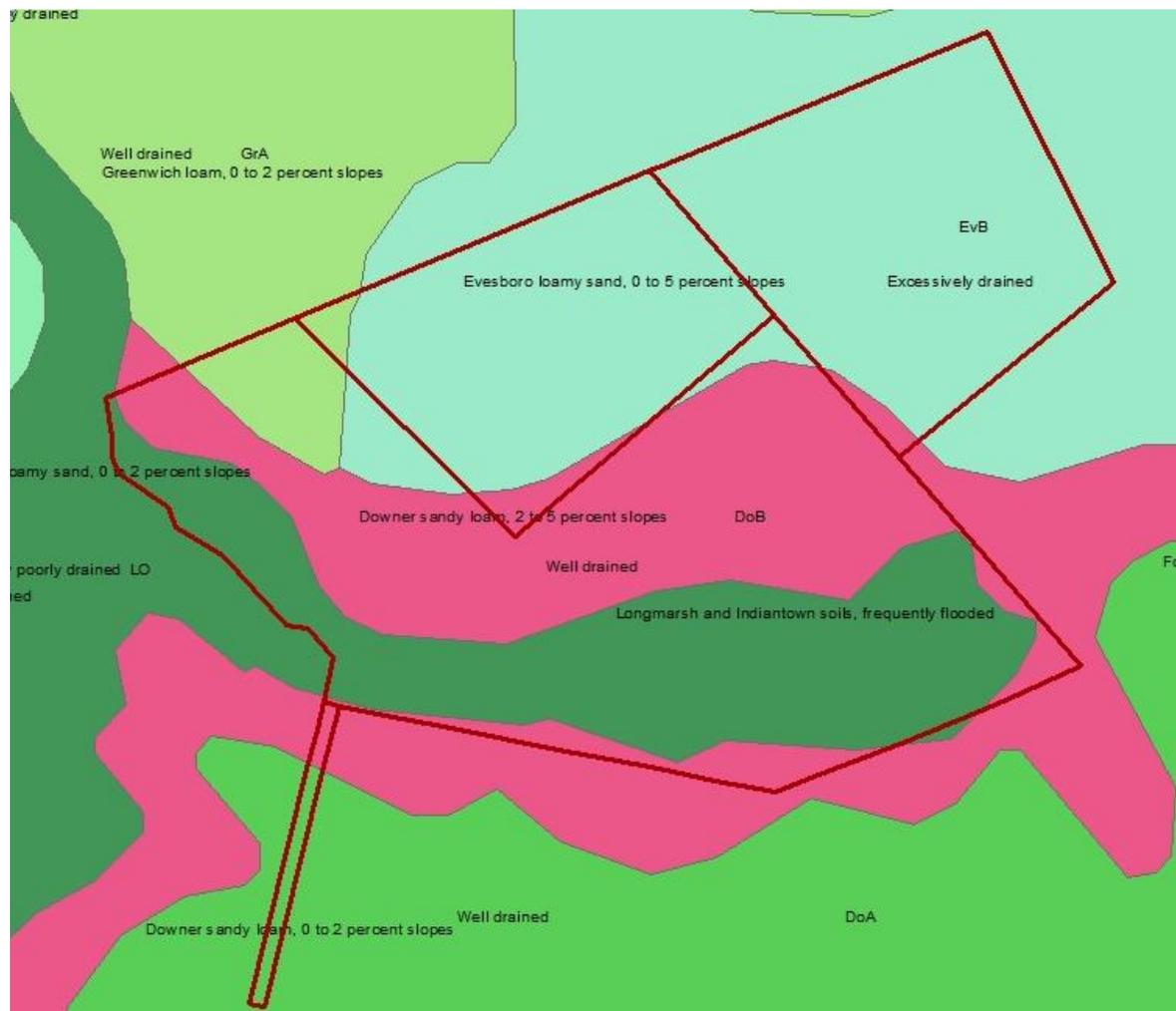


Figure 1: NRCS soil mapping update in the immediate vicinity of the proposed project

Additional information on TMDLs and water quality

- In response to concerns about the need for reducing nonpoint source nutrient (nitrogen and phosphorus) and bacterial pollutants to levels sufficient to meet the TMDL reduction requirements prescribed for waters of the greater Broadkill River watershed, a multifaceted and comprehensive process known as a Pollution Control Strategy (PCS) was developed. Specifically, a PCS is a combination of best management practices and control technologies that reduce nutrient and bacterial pollutant runoff loading in waters of a given watershed to level(s) consistent with the TMDL(s) reduction levels specified for that watershed. The PCS for the Broadkill River watershed consists of recommendations from the following three areas: agriculture, stormwater, and wastewater. Additional information about Broadkill River PCS can be reviewed in the follow web link:
<http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx>
- DNREC encourages the applicant reduce nutrient and bacterial pollutants through voluntary implementation of the following recommended BMPs:

- It is recommended that a United States Army Corps of Engineers (USACE) approved wetlands delineation be conducted before commencing any construction activities in the parcel(s).
- 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 waterbodies (including ditches) and all non-tidal and tidal wetlands (i.e., a USACE approved field wetlands delineation for non-tidal wetlands and State approved wetlands delineation for tidal wetlands). The applicant did not indicate if a buffer (or the width of the buffer) would be established/maintained from the wetlands.
- Calculate post-construction surface imperviousness with all forms of created (or constructed) surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, and roads) included in the calculation.
- Avoid all hydric soil mapping units. Building on such soils is likely to contribute to an increased probability of future onsite and offsite flooding problems. An evaluation of this parcel by a licensed (Class D) certified (ARCPACs) soil scientist, is strongly recommended.
- Since this project will create additional impervious surface that will increase the probability for increased pollutant load runoff impacts to adjoining streams and wetlands, wherever practicable, use of pervious paving materials (instead of conventional asphalt and concrete) to mitigate said impacts.
- Use of green-technology storm water management (in lieu of open-water management structures) and raingardens as BMPs to reduce nutrient pollutant impacts. Please contact Lara Allison at 739-9939 for further information about siting a raingarden(s) in this parcel.
- Applicant should voluntarily assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the “Nutrient Load Assessment protocol.” The protocol is a tool used to assess changes in nutrient loading (e.g., nitrogen and phosphorus) that result from the conversion of individual or combined land parcels to a different land use(s), while providing applicants with quantitative information about their project’s impact(s) on baseline water quality. DNREC strongly encourages the applicant/developer use this protocol to help them design and implement the most

effective BMPs. Please contact John Martin or Jen Walls at 302-739-9939 for more information on the protocol.

Additional information on tank management

- When contamination is encountered, PVC pipe materials should be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas. If any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMS. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMS.

Wetland Habitats and Buffers

- To protect the function and integrity of wetlands on this site, the Division of Fish and Wildlife recommends leaving a minimum of a 100 foot buffer around the perimeter of the wetlands. This recommendation is based on peer reviewed scientific literature that shows an adequately-sized buffer that effectively protects wetlands and streams - in most circumstances - is about 100 feet in width. Upland buffers also serve as habitat for many terrestrial species that are dependent on aquatic and wetlands habitats for a portion of their annual life cycle. Lot lines, roadways, and infrastructure should not be placed within this buffer zone. Buffers are an integral component of aquatic and wetland habitats, reducing the amount of sediments, pollutants, and other non-point source material that may affect the function and integrity of habitat and the condition and survivability of aquatic organisms. DFW also recommend considering using forested areas as open space.

Additional information on hazardous waste sites

- DNREC's Site Investigation and Restoration Section (SIRS) strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Environmental Site Assessment (including a title search to identify environmental covenants) and a Phase II or Facility Evaluation in accordance to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA) and the HSCA Guidance Section 2, part 2.3 (page 2-1). 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. Additional remediation may be required if the project property or site is re-zoned by the county or city.
- 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). SIRS should also be contacted as soon as possible at 302-395-2600 for further instructions.

Air quality recommendations

- New homes and businesses may emit, or cause to be emitted, air contaminants into Delaware’s air, which will 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 commercial spaces 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 the commercial space, and
 - All transportation activity.

Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) for the development were quantified. Table 2 represents the actual impact the development may have on air quality.

Emissions Attributable to Reserves at Nassau Phase 2 (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NO _x)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Mobile emissions	6.7	7.0	0.2	0.1	4,344.6
Power emissions	*	1.8	6.3	*	925.2
Area Source emissions	4.6	0.5	0.4	0.5	18.4
Total emissions	11.3	9.3	6.9	0.6	5,288.2

Note that emissions associated with the actual construction of the road, 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 table above.

- DNREC encourages sustainable growth practices that:
 - Control sprawl;
 - Preserve rural and forested areas;
 - Identify conflicting land use priorities;
 - Encourage growth on previously developed sites and denser communities;
 - Coordinate transportation, housing, environment, and climate protection plans with land use plans; and
 - Demonstrate that communities can achieve the qualities of privacy, community, and contact with nature without degrading the natural environment or generating unacceptable environmental costs in terms of congestion, use of natural resources, or pollution.

- Additional measures may be taken to substantially reduce the air emissions which 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 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. For every vehicle trip that is replaced by the use of a sidewalk, a bike path or mass transit, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.
 - 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 in vegetative buffer areas. Trees reduce emissions by trapping dust particles and 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 project. The applicant should submit a plan to the DNREC DAQ which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into this project.

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, technical services link, plan review, applications or brochures.
- Although not required by the State Fire Prevention Regulations, it is strongly encouraged that a secondary means of emergency vehicular access into the subdivision be considered.

Division of Public Health – Contact: Laura Saperstein 744-1011

- The Delaware Division of Public Health (DPH) is pleased to be able to participate in the PLUS application process. In keeping with its mission to protect and promote the health of all people in Delaware, DPH looks for opportunities to encourage and enhance our population's health behaviors that will result in healthy people and healthy communities.
- Community design can impact the health of a population. Studies show that persons in lower-income communities, the elderly, and children often suffer more from consequences of inadequate land-use and transportation. Additionally, we know physical activity has a direct correlation to many chronic diseases, including hypertension, diabetes and obesity. In 2012, 39.1% of Delawareans reported a BMI of "overweight," and 26.9% reported a BMI as "obese." To that end, DPH looks to make recommendations for land-use that can empower Delawareans to make good health behaviors a part of their daily lives.
- DPH is pleased to see the inclusion of proposed sidewalks and bike paths. The inclusion of this infrastructure will enable residents to choose walking or bicycling as an active transportation option or recreational use. Additionally, DPH is pleased to observe that this development is intending to make use of open space for passive and active recreation by the inclusion of a community pool, club house and "village green." The State Comprehensive Outdoor Recreation Plan (SCORP) has identified swimming pools, playgrounds and walking and/or bike paths among the high priority needs in Region 5. These opportunities enable residents the option of physical activity as part of their everyday life, which is a known cause for reducing the morbidity and mortality of chronic disease.
- DPH believes The Reserves at Nassau; Phase 2 has the opportunity to increase positive health behaviors for its residents by incorporating the following recommendations into its land development proposal:
 - Provide pedestrian connection to the existing development to further active transportation (walking/Biking) among residents.
 - Include pedestrian lighting on all paths and walkways to enhance the usability of active transportation options.
 - Enhance and improve the connectivity of internal trail networks.
 - Include crosswalks at all key intersections

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.

PLUS review – 2014-06-01

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Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland". The signature is written in black ink and is positioned above the typed name and title.

Constance C. Holland, AICP
Director, Office of State Planning Coordination

CC: Sussex County