

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

April 20, 2016

Mr. Keith Rudy, P.E.  
Landmark Science & Engineering  
100 West Commons Blvd., Suite 301  
New Castle, DE 19720

RE: PLUS review 2016-03-03; Crooked Billet

Dear Keith:

Thank you for meeting with State agency planners on March 23, 2016 to discuss the proposed plans for the Crooked Billet project. According to the information received, you are seeking review of a 28 unit subdivision on 28.01 acres in New Castle 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 New Castle 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 2 according to the *Strategies for State Policies and Spending*. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas.

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

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

- The site access on Kennett Pike, the internal subdivision street and the proposed driveways on Kent Road must be designed in accordance with DelDOT's Development Coordination Manual. A copy of the Manual is available at <http://www.deldot.gov/information/business/subdivisions/changes/index.shtml>.

- Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when construction plans are submitted for review.
- We estimate that the proposed development, including the existing historic home, would generate 326 vehicle trip ends per typical weekday and 33 vehicle trip ends per hour in the peak hour of that day. Of those trips, we estimate that 67 vehicle trip ends per typical weekday and 7 vehicle trip ends per hour would be generated by the houses on Kent Road, with the remaining vehicle trip ends being associated with the access on Kennett Pike. Per Section 2.2.2.3 of the Manual, new developments generating fewer than 500 vehicle trip ends per day and fewer than 50 vehicle trip ends per hour warrant Traffic Impact Studies (TIS) only if a TIS is required by the local jurisdiction based on their warrants. Our understanding is that New Castle County requires TIS only for developments generating more than 50 vehicle trip ends per hour. Therefore we do not anticipate requiring a TIS.
- Per Section 2.3.2 of the Manual, DelDOT may require a Traffic Operational Analysis for any development project that is expected to generate 200 or more vehicle trip ends per day and for which a TIS is not required. Accordingly, the proposed access on Kennett Pike is located in the relatively short distance (about 1,300 feet) between Delaware Routes 100 and 141, we are requiring a TOA to verify that the entrance will operate acceptably. DelDOT met with the applicant on October 23, 2015 regarding the scope of work for the TOA and provided that scope of work on November 9, 2015.
- Section 3.2.4.1 of the Manual addresses the placement of right-of-way monuments (markers) along subdivision streets. We will require that monuments be furnished and placed along the proposed streets in accordance with this section.
- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Kennett Pike (Delaware Route 52) and Kent Road. The property also fronts on Delaware Route 141 but no new monuments are needed there. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.
- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way as necessary along the site's frontage on Kennett Pike, Kent Road and Delaware Route 141. The standard dedications are 25 feet on Type I subdivision streets, 30 feet from the outermost edge of the through lanes on divided highways. If a dedication is needed to achieve one of these distances, then the following right-of-way dedication note is required on the record plan, "**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**" The existing rights-of-way appear to be adequate but the distances are not dimensioned.

- In addition to the right-of-way dedications just mentioned, and in accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of a 15-foot permanent easement for infrastructure along the property frontages on Kennett Pike and Delaware Route 141. The following note should be added to the plan: “**A 15-foot permanent easement is hereby established for the State of Delaware as per this plat.**” .
- In accordance with Section 3.4 of the Manual, a record plan shall be prepared prior to issuing “Letter of No Objection”. The following information will be required for the “Letter of No Objection” review:
  - Initial Stage Fee Calculation Form
  - Initial Stage Review Fee
  - Gate-Keeping Checklist – Site Plan
  - Design Checklist - Record Plan
  - Sight Distance Spreadsheet
  - Owners and Engineers’ name and e-mail address
  - Record Plan
  - Conceptual Entrance Plan
  - Submission of the Area-Wide Study Fee (If applicable)
- Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:
  - A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
  - Depiction of all existing entrances within 300 feet of the proposed entrances.
  - Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.
- Section 3.5 of the Manual provides DelDOT’s requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT maintained public road for subdivisions. Because it would likely draw relatively high volumes of cut-through traffic between Westover Hills and Kennett Pike, we do not require that Frances Drive be extended to Kent Road. However, we do anticipate requiring that a Shared Use Path, consistent with Section 3.5.4, be provided in the proposed sanitary sewer/emergency access easement that would connect the two roads.
- Section 3.5.4.2 of the Manual addresses requirements for shared-use paths and sidewalks. Projects located in Level 1 and 2 Investment Areas are required to install a shared-use path or sidewalk along the State-maintained road frontage. The existing sidewalk along

Kennett Pike is sufficient for Westover Way. We anticipate requiring the developer to complete the missing section of sidewalk along the north side of Kent Way.

- Section 3.6 of the Manual provides DelDOT's requirements with regard to noise analysis. Because the development is adjacent to Kennett Pike and Delaware Route 141, which in this area are classified as Principal Arterial roads, we will require a noise analysis in accordance with this section.
- In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State right-of-way along Kennett Pike and Route 141. The plan presented appears to meet this requirement.
- Referring to Section 4.3 of the Manual, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Entrance Plan review:
  - Construction Stage Fee Calculation Form
  - Construction Review Fee
  - Gate-Keeping Checklist – Entrance Plan
  - Design Checklist - Entrance Plan
  - Auxiliary Lane Spreadsheet
  - Entrance Plan
  - Pipe/Angle Spreadsheet (If applicable)
  - SWM Report and Calculations (If applicable)
- In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrance and how long those lanes should be. The worksheet can be found at [http://www.deldot.gov/information/business/subdivisions/Auxiliary\\_Lane\\_Worksheet.xlsm?111215](http://www.deldot.gov/information/business/subdivisions/Auxiliary_Lane_Worksheet.xlsm?111215).
- In accordance with Section 5.4 of the Manual, sight distance triangles are required 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>.
- In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.
- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing

right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.

**Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352**

**Executive Summary.**

The proposed project is located in a developed corridor and has limited natural resource impacts. As you move forward, opportunities exist to further reduce the environmental impacts and provide additional energy efficiency alternatives, on-site.

A significant portion of the parcel falls within the Brandywine Creek Drinking Water Watershed, a Level 2 source water protection area for New Castle County. The Department recommends referring to the NCC Unified Development Code for regulations regarding development in these areas which protect the resource.

We encourage high energy efficiency building standards (with consideration for alternative energy sources), and infrastructure for electric plug-in vehicles in the project's parking design. These considerations promote clean sustainable energy and reduce greenhouse gas emissions. DNREC further recommends an abundant use of native vegetation and shade trees throughout the landscape, as well as pervious pavement and green infrastructure, wherever practicable, to protect water quality.

The following pages provide applicable regulations and detailed recommendations associated with this project from various DNREC Divisions. We would like to be a partner in creating appropriate development that highlights the environment as a natural amenity of the landscape. The Department has resources and expertise that are available to help make this a reality, often at no expense to the landowner.

**TMDLs and Nutrient Management.**

- This project is located in the greater Christina River Basin, specifically within the Brandywine Creek sub-basin. In the Christina River Basin, post-development nitrogen and phosphorus loading must be capped at the pre-development or baseline loading rate (or a 0% post-construction increase in N & P in Delaware's portion of the Christina River Basin) to meet the required TMDL for each nutrient. Moreover, reductions in bacteria that range from 29 percent to 95 percent (High Flow) is also required (depending upon location). The specific required nutrient and bacterial requirements for the various stream segments in the Basin, and background information is outlined in the report entitled "*Christina River Basin High-Flow TMDL*" by the EPA. This report can be retrieved here: [http://www.epa.gov/reg3wapd/tmdl/pa\\_tmdl/ChristinaMeetingTMDL/index.htm](http://www.epa.gov/reg3wapd/tmdl/pa_tmdl/ChristinaMeetingTMDL/index.htm).

Total Maximum Daily Loads (TMDLs) for nitrogen, phosphorus, and bacteria have been promulgated through regulation in most of the State of Delaware's water bodies. A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited waterbody" 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. TMDLs are required by federal law (Section 303(d) of the 1972 Clean Water Act), and the States are charged with developing and implementing specific land use practices that support these goals.

A nutrient management plan is required under the *Delaware Nutrient Management Law* (3 Del.C., 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 is proposed to exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at (302) 739-4811 for further information concerning compliance requirements, or view additional information here: <http://dda.delaware.gov/nutrients/index.shtml>.

#### **Water Supply.**

- The project information sheets did not list the water provider to the project, but indicated service via a public water system. Our records indicate that the project is located within the public water service area granted to the City of Wilmington under Certificate of Public Convenience and Necessity 94-CPCN-09.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the DNREC 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 take approximately four weeks to process, which allows the necessary time for technical review and advertising. Should you have any questions concerning these comments, please contact Rick Rios, at (302) 739-9944.

#### **Source Water Protection Areas.**

- The DNREC Groundwater Protection Branch (GPB) has determined that this project does not fall within any wellhead protection or excellent groundwater recharge potential areas. However, a significant portion of the parcel falls within the Brandywine Creek Drinking Water Watershed. This area is a Level 2 source water protection area for New Castle County.

Level 2 Source Water Protection Areas are the delineated watershed upstream from public drinking water supply intakes. Land Use or Land Activity within these areas has the potential to influence water quality or quantity to the public drinking water system. DNREC recommends referring to NCC Unified Development Code for regulations regarding development in this water resource protection area.



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

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Contact the reviewing agency to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the New Castle County Department of Land Use Engineering Section. Contact the Department of Land Use at (302) 395-5470 for details regarding submittal requirements and fees.

**Air Quality.**

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, but we believe, however, that the air quality impacts associated with the project should be completely considered. 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>

<p><b>7 DE Admin. Code 1144</b> – Control of Stationary Generator Emissions</p>	<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>
<p><b>7 DE Admin. Code 1145</b> – Excessive Idling of Heavy Duty Vehicles</p>	<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.dnrec.delaware.gov/Air/Pages/Air-Regulations.aspx>.

Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) for this project were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact the Crooked Billet may have on air quality.

Emissions Attributable to Crooked Billet (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NO <sub>x</sub> )	Sulfur Dioxide (SO <sub>2</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )	Carbon Dioxide (CO <sub>2</sub> )
Area Source	0.8	0.1	0.1	0.1	3.4
Electric Power Generation	*	0.3	1.2	*	169.9
Mobile Source	1.2	1.3	*	*	798.0
Total Emissions	2	1.7	1.3	0.1	971.3

(\*) Indicates data is not available.

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 while at the same time protect our diminishing land base;
- 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.

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

- The Brindley Farm/Crooked Billet (N-529) is listed in the National Register of Historic Places. We encourage the developer to maintain the house and outbuildings and reuse them adaptively as part of the complex. We also encourage the developer to put landscaping between the development and the historic buildings to block adverse noise or visual effects. If any development or construction project proceeds, the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law, 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 (7 Del. C. Ch. 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 go to the following websites for additional information: [www.history.delaware.gov/preservation/umhr.shtml](http://www.history.delaware.gov/preservation/umhr.shtml) and [www.history.delaware.gov/preservation/cemeteries.shtml](http://www.history.delaware.gov/preservation/cemeteries.shtml).

Therefore, prior to any demolition or ground-disturbing activities, the developer should hire an archaeological consultant, to examine the parcel for archaeological resources, especially a cemetery 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](http://www.achp.gov).

**Delaware State Fire Marshall's Office – Contact John Rudd 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 1000 feet spacing on centers.
  - The infrastructure for fire protection water shall be provided, including the size of water mains.
  
- **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.
  - 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.
  - Additionally, when there is an island proposed to be situated in the center of the cul-de-sac, extra attention should be directed to verify that fire apparatus will be able to freely negotiate through the cul-de-sac without impediment. Generally, the width between the property lines and the edge of the island is a minimum of 24 feet or more.

- 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”
  - Name of Water Supplier
  - Proposed Use
  - National Fire Protection Association (NFPA) Construction Type
  - Maximum Height of Buildings (including number of stories)
  - 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**

- Please be advised that DelDOT is about to advertise for adoption, in the April Register of Regulations, an update of the Development Coordination Manual. The effective date will be April 11, 2016. While in most respects, the changes are incremental, they are located throughout the Manual and could have some effect on the entrance and subdivision street designs.
- Please be advised that as of August 1, 2015, all new plan submittals and re-submittals, including major, minor and commercial plans, shall be uploaded via the PDCA (Planning Development Coordination Application) with any review fee paid online via credit card or electronic check. Guidance on how to do this is available on our website at <http://www.deldot.gov/information/business/subdivisions/>.
- 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 January

28, 2016. The notes can be found at [http://www.deldot.gov/information/business/subdivisions/DeIDOT\\_Development\\_Coordination\\_Plan\\_Sheet\\_Notes.pdf](http://www.deldot.gov/information/business/subdivisions/DeIDOT_Development_Coordination_Plan_Sheet_Notes.pdf).

**Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352**  
**Soils Assessment.**

- Based on the NRCS soil survey mapping update, the primary soil mapping unit mapped on subject parcel is Neshaminy (NtB). Neshaminy is a well-drained upland soil that, generally, has few limitations for development.

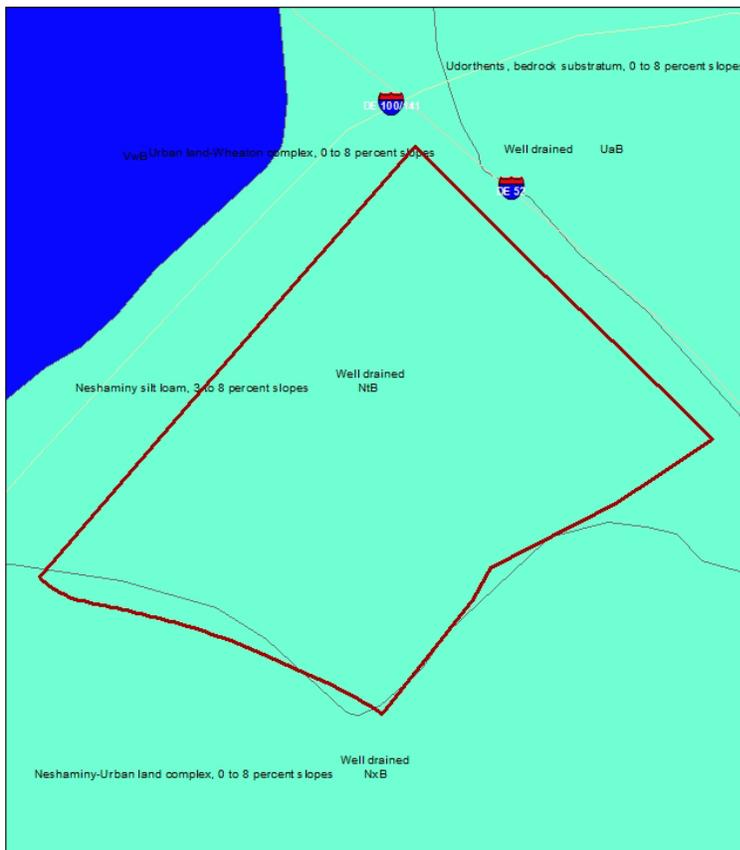


Figure 1: NRCS soil survey mapping update in the immediate vicinity of the proposed construction

**TMDL compliance through the PCS.**

- A Pollution Control Strategy (PCS) to achieve the required TMDL nutrient and bacterial load reduction requirements has been established for the Christina Basin. The web link for the Christina watershed PCS strategies is as follows:

<http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx>

DNREC strongly encourages the applicant to reduce nutrient and bacterial pollutants on their parcel through voluntary implementation of the following recommended BMPs:

- Preserve and/or maintain as much of the existing open space as possible; we suggest additional native tree, shrub and/or native herbaceous vegetation plantings in available open space, wherever possible.
- 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, ponds, and roads) included in the calculation. Omission of any of the above-stated forms of surface imperviousness will result in an underestimate of the actual post-development surface imperviousness and the associated environmental impacts.
- Employ green-technology storm water management and rain gardens (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant runoff. Please contact Lara Allison at (302) 739-9939 for further information about the possibility of installing rain gardens on this parcel.
- Use pervious paving materials instead of conventional paving materials (e.g., asphalt or concrete) to help reduce the amount of water and pollutant runoff draining to adjoining streams and wetlands. Pervious pavers are especially recommended for areas designated for parking.
- 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) resulting from the conversion of individual or combined land parcels to a changed land uses; thus providing applicants and governmental entities with quantitative information about the project’s impact(s) on baseline water quality. We strongly encourage the applicant/developer to use this protocol to help design and implement the most effective BMPs. Please contact John Martin or Jen Walls of the Division of Watershed Stewardship, at (302) 739-9939 for more information on the protocol.

#### **Information on hazardous waste sites.**

- DNREC 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) in accordance with 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.

Additional remediation may be required if the project property or site is re-zoned by the county.

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.

#### **Additional information on air quality.**

- New homes 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 new homes 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 new homes, and
- All transportation activity.

Additional measures may be taken to substantially reduce the air emissions identified above.

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 energy efficiency translates into a percent reduction in pollution. The Energy Star Program is an 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.
- **Constructing with high albedo, high solar reflectance materials.** This includes roofing and hardscape. These materials help to reduce heat island impacts and, by extension, help

to minimize the potential for localized ground-level ozone formation. These materials also help reduce demands on air conditioning systems and save on energy costs.

- **Encouraging the use of safe multimodal transportation.** This measure can significantly reduce mobile source emissions. For every vehicle trip that is replaced by the use of a sidewalk or bike path, 7 pounds of VOC and 11.5 pounds of NO<sub>x</sub> are reduced each year.
- **Using retrofitted diesel engines during construction.** This includes equipment that is 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.** Native 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 Division of Air Quality (DAQ) which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Crooked Billet. The DAQ point of contact is Deanna Cuccinello; she may be reached at (302) 739-9402.

#### **Delaware State Fire Marshall's Office – Contact John Rudd 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.
- Although not a requirement of the State Fire Prevention Regulations, the Office of the State Fire Marshal encourages that home builders consider the benefits of home sprinkler protection in dwellings. The Office of the State Fire Marshal also reminds home builders of the requirements of Subchapter III of Chapter 36 of Title 6 of the Delaware Code which can be found at the following website:  
<http://delcode.delaware.gov/title6/c036/sc03/index.shtml>

**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,

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

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

CC: New Castle County