



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

January 20, 2015

Mr. Andrew Hayes
ForeSite Associates, Inc
208 Delaware Street
New Castle, DE 19720

RE: PLUS review 2014-12-01, Glasgow Avenue

Dear Mr. Hayes,

Thank you for meeting with State agency planners on December 17, 2014 to discuss the proposed plans for Glasgow Avenue. According to the information received, you are seeking review of a site plan and rezoning from CR and S to CR for a 308,500 sf commercial center on 30.9 +/- 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 Levels 1 and 2 according to the *Strategies for State Policies and Spending*. This site is also located in the New Castle County Growth Zone. 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. 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

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There were a couple of known historic houses, along with outbuildings (N-3979, N-3940) on the parcels. They were probably there since the mid to late 19th-century, or early 20th-century, but they do not appear to be there anymore. However, if there is going to be any development or construction on this parcel, the developer should still be aware of the 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 may want to hire an archaeological consultant to examine the parcel for any potential archaeological site (historic or pre-historic), historic cemetery or unmarked human remains. The developer should also consider putting sufficient landscaping or a protection barrier between the future development, houses (N-3979, N-3940) and outbuildings, in order to protect it from the adverse sounds or visual effects.

- 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 760-2122

- 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. 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.

Using Institute of Transportation Engineers (ITE) data, DelDOT estimates that the proposed development would generate 12,058 vehicle trip ends per typical weekday. Therefore, considering only volume warrants, a TIS would be warranted and payment of the Area Wide Study Fee would not be an option.

Therefore DelDOT will require a TIS. Recognizing this requirement, the applicant and their engineer met with DelDOT and New Castle County staff on November 24, 2014, to determine a scope of work for the study. As discussed below under Suggestions, DelDOT has advertised for comment a revision of the Standards and Regulations. Recognizing that the revision might result in a reduced study area, the applicant has asked DelDOT to delay issuance of the scope of work resulting from that meeting pending their review of the draft regulations and possibly DelDOT's adoption of the regulations. A further meeting is scheduled for December 22.

- The site entrances 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.

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

Wetlands

- 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 USGS topographic maps. DNREC suggests contacting them for guidance on wetland regulations for the area. 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 extent of Federal jurisdiction over Waters of the United States is determined by the U.S. Army Corps of Engineers and is based on site specific conditions. Therefore, an on-site inspection by an environmental consultant is recommended to determine if Waters of the U.S. are located on the property and the limits of Federal jurisdictional. 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>.

TMDLs

- 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. This project is located in the Piedmont drainage, specifically within the greater Christina River Basin; the greater Christina River Basin encompasses the Christina River Sub-basin and the White Clay 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% to 95% 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 from the following weblink: http://www.epa.gov/reg3wapd/tmdl/pa_tmdl/ChristinaMeetingTMDL/index.htm

- 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. According to the submitted PLUS application, this project’s open space is likely to 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: <http://dda.delaware.gov/nutrients/index.shtml>

Water Supply

- DNREC records indicate that the project is located within the public water service area granted to Artesian Water Company under Certificate of Public Convenience and Necessity 85-WS-03.
- 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.
- Potential Contamination Sources exist in the area, and any well permit applications will undergo a detailed review that may increase turnaround time and may require site specific conditions/recommendations. In this case, there are three Underground Storage Tanks associated with: (1) Amoco, (2) Hodgson Vo-Tech School, and (3) 896 Deli located within 1000 feet of the proposed project.

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.
Regulation 21 Section 10 – Emission Standards for Hazardous Air Pollutants, Asbestos	Ensure no visible residue of asbestos materials remains in the work area after all asbestos materials are removed in accordance with NESHAP. Display DANGER signs whenever airborne asbestos may be present in accordance with NESHAP and OSHA Use wet removal techniques. Dispose of all asbestos containing waste in clearly labeled sealed containers and store in a secure location awaiting transport to an authorized disposal facility, not to exceed a period of 45 days.

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

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.

Tank Management Section

- 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 leaking underground storage tank (LUST) project is located within the parcels of interest:
 - Cumberland Gulf #122399 Newark, Facility: 3-000300, Projects:
 - N8410019 (Inactive), N0206048 (Inactive), N0405058 (Inactive), N0108076 (Inactive)
- The following confirmed leaking underground storage tank (LUST) projects are located within a quarter mile from the proposed project area:
 - Glasgow BP, Facility: 3-000374, Project: N8501001 and N0301003 (Inactive)
 - 896 Deli, Facility: 3-000283, Project: N8505009 (Inactive)
 - Glass Kitchen Restaurant, Facility: 3-000588, Project: N9202031 (Inactive)
 - SMO #487, Facility: 3-000187, Project: N8505006, N0401009, N1307075 (Inactive)
 - Hodgson VoTech School, Facility: 3-000784, Project: N9208219 (Inactive)
 - Cumberland Farms Inc Newark, Facility: 3-000238, Project: N9306123, N0411119, N1107125 (Inactive)
- 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 Section by calling 302-395-2500.

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 (DSFPR):

Fire Protection Water Requirements

- Water distribution system capable of delivering at least 1500 gpm for 2-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
- Where a water distribution system is proposed for sites containing Mercantile occupancies, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

Fire Protection Features

- All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sqft, 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR

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 circle and the center islands located in the access road and the center island at the entrance into the property off of Glasgow Avenue must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

Gas Piping and System Information

- Provide type of fuel proposed, and show locations of bulk containers on plan.

Required Notes

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout

- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- 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 760-2122

- 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 February 2015. Implementation guidance has not been developed but DelDOT 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.
- Because the proposed development would generate more than 200 vehicle trips per day, a Pre-Submittal Meeting is required before plans are submitted for review. Guidance on what will be covered at this meeting and how to prepare for it 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.
- The plan accompanying the PLUS application shows on-street parking and a median on Glasgow Avenue. The Route 40 Steering Committee has recommended a Glasgow Avenue "Main Street" Study, to develop recommendations for making Glasgow Avenue less of a through road and more of a "main street." WILMAPCO staff has retained a consultant to prepare the study, but work has not yet begun. On-street parking and the installation of a median are recommendations that could follow from that study, but it may be premature to show these features on the plan. DelDOT understands from the discussion at the PLUS meeting that these features were intended only to illustrate the type of improvements that could follow from the WILMAPCO study.
- The plan also shows a section of George Williams Way (formerly Abby Boulevard), a road that presently exists only east of Delaware Route 896. As built, the road connects Lagrange Avenue to Bellwoode Drive and provides access to the Bear Glasgow Family YMCA. The 20-Year Plan for the Route 40 Corridor includes an extension of this road through the Bristol Place development and over Route 896 to connect to Glasgow Avenue. The road would pass

through the south part of the subject development and the plan shows it being constructed and an entrance from it into the development along the north side. DeIDOT anticipates recommending that the developer be required to build the road back to their proposed entrance on it and to dedicate right-of-way and fund construction to the limits of their property. The plan appears to show the use of structure or retaining walls to build the approach for the bridge to carry George Williams Way over Route 896. It is possible, perhaps likely, that DeIDOT would build the bridge approach on fill. If so, and if DeIDOT follows the alignment shown, additional rights-of-way would be needed from this project. The road alignment and the design of the bridge approach still need to be determined.

- With regard to road improvements, the plan shows a grade separation of US Route 40 and Delaware Route 896. As drawn, the plan presumes an exchange of properties between DeIDOT and the developer. The exact exchange will need to be determined as plans are developed for both the grade separation and the subject development. In DeIDOT's current (FY 2015 to FY 2020) Capital Transportation Program (CTP) funds are programmed for Preliminary Engineering in FY 2016 through FY 2018 and for Right-of-Way acquisition in FY 2019. DeIDOT anticipate recommending that the developer be required to contribute toward the cost of that construction.
- As shown on the Investment Level map associated with the *Strategies for State Policies and Spending*, the subject development is located in Level 1 and 2 areas. DeIDOT's Shared-Use Path and/or Sidewalk Process policy (available at http://www.deldot.gov/information/business/subdivisions/SUP_Sidewalk_Process.pdf) states that a path or sidewalk shall be installed along the State-maintained road frontage of any development in a Level 1 or 2 area. Where the construction is not physically possible, a fee in lieu of construction is charged. However, no such impossibility is apparent on this site. Therefore, the applicant should expect a requirement that they install a shared-use path along the US Route 40 frontage and a sidewalk or a shared-use path along the site frontage on Glasgow Avenue and any part of George Williams Way that they might build. Whether DeIDOT will require pedestrian facilities along the Delaware Route 896 frontage has not been determined but should be discussed at the Pre-Submittal Meeting.
- If possible, the access to the proposed medical office building should be aligned directly opposite the south entrance to the Peoples Plaza Shopping Center. Alternatively, consideration should be given to placing the access on the planned extension of George Williams Way. Whether either access will be required should be discussed at the Pre-Submittal Meeting.

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

Soils Assessment

- Based on soils survey mapping update, the Fallsington (FgA) soil mapping unit has the most limitations for development in the immediate vicinity of the proposed project. The Fallsington is a poorly-drained wetland associated (hydric) soil that has severe limitations for development (considered unsuitable for development). DNREC strongly discourage building on hydric soils as they are functionally important source of water storage (functions as a “natural sponge”); loss of water storage increases the probability for more frequent and destructive flooding events (Figure 1). The probability for flooding is further compounded by increases in surface imperviousness as building density in the area increases over time.
- DNREC strongly recommends the applicant contact a licensed (Delaware Class D) soil scientist to make a site specific assessment (i.e., soil survey mapping) of the soils on this site. A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch; the Branch can be reached by phone at 739-9947.



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

Forest Survey

- The project description indicates that forest thinning will be conducted as a component of this project, although it is difficult to understand where the trees will be thinned as the site plans suggest tree clearing will be required. In cases where tree thinning or clearing is proposed, New Castle County may require a tree survey to be conducted and/or a Woodland Management Plan to be developed. If a tree survey or Woodland Management Plan are an aspect of this project, the Wildlife Species Conservation and Research Program would like an opportunity to review these documents to confirm that appropriate forest resources are being retained. Please contact plant biologist, Bill McAvoy, with this information (302-735-8668, William.McAvoy@state.de.us).

Nuisance Waterfowl

- Wet ponds created for stormwater management purposes may attract resident Canada geese and mute swans that will create a nuisance for community residents. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns surrounding ponds provide attractive habitat for these species.

To deter waterfowl from taking up residence in these ponds, DNREC recommends planting the surrounding open space with a mix of native wildflower plantings (to be planted in accordance with the Sediment and Stormwater Plan approval agency requirements). It is best to mow the open space area surrounding the pond only once a year, either in February or March. If mowing must occur more often, it would be helpful to leave a minimum buffer of 15-30 feet in width to be mowed annually. This area would be necessary to adequately deter the waterfowl from inhabiting the area (when the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to reside and nest in the area of the pond). In addition to deterring nuisance waterfowl, the native wildflower mix will also serve to attract bees, butterflies, and other pollinators, and reduce run-off, which can contain oil and other pollutants that homeowners may use on their lawns and driveways.

Program botanist Bill McAvoy would gladly assist in drafting a list of plants suitable for this site. Again, Bill can be contacted at (302) 735-8668 or William.McAvoy@state.de.us

Additional information on TMDLs and water quality

- Although a Pollution Control Strategy (PCS) to achieve the required TMDL nutrient and bacterial load reduction requirements has been established for the Christina watershed, attainment of the load reduction(s) is hampered by circumstance that the strategies for this watershed are entirely voluntary in nature. 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:

- Maintain as much of the existing open space as possible; we further suggest the preservation of more forest cover (appears that applicant is intending to remove nearly all of the forest cover to accommodate this project), or – wherever practicable - additional plantings of native tree, shrub, or herbaceous vegetation.
- 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.
- Use of pervious paving materials (e.g., pervious pavers) as a BMP wherever practicable instead of conventional asphalt or concrete to help reduce potential flooding and pollutant runoff impacts.
- Use of a raingarden(s) as a BMP for mitigating nutrient and bacterial pollutant runoff from increases in surface imperviousness. Please contact Lara Allison at 739-9939 for further information about the possibility for installing a raingarden(s) on this parcel.
- 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.

Additional 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 to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA.
- 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). SIRB should also be contacted as soon as possible at 302-395-2600 for further instructions.

Additional information on air quality

- The overall scope includes 30.9 acres, about half of which appears to be forested. This forest provides air quality benefits not only to nearby residences but also to students at the adjacent Hodgson High School, located between Glasgow Avenue and DE 896/301. According to the application, 8.31 acres are being proposed for “open space,” but the sketch plan appears to leave very little room for this to be possible outside a few small stormwater management basins. Almost the entire footprint of the project is shown as being covered by buildings or paved parking areas. DNREC encourages the developer to clarify its intent regarding open space.
- DNREC encourages developers and builders to consider all sustainable growth practices in their design, and believes that the air quality impacts associated with the project should be completely considered. New businesses may emit, or cause to be emitted, additional 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; Delaware currently violates federal health-based air quality standards for ozone. New Castle County, Delaware is classified as non-attainment for not meeting federal and state 8-hour ozone standards. Compared to Kent and Sussex Counties, short term 1-hour average peak ozone levels are usually highest in New Castle County, as well,
 - The emission of greenhouse gases which are associated with climate change, and
 - The emission of air toxics.
- Air emissions generated from new businesses include emissions from the following activities:
 - Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
 - The generation of electricity, 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 project could not be quantified. DAQ was able, however, to quantify the mobile emissions based on the proposed daily trip data presented in the application and data taken from the ITE Trip Generation Manual, 8th Edition. Table 2 represents the actual impact the Glasgow Avenue project may have on air quality. This impact may change if the percentage of vehicle trips attributable to trucks, excluding vans and pick-up trucks, exceeds the five percent indicated in the application.

Emissions Attributable to Glasgow Avenue (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	42.5	56.1	*	*	*

(*) Indicates data is not available

- Note that emissions associated with the actual construction of the business, 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.
- Please be advised that, based on the daily trip data presented in the application, this project may be subject to the following air quality regulation: 7 DE Admin. Code 1135 – Conformity of General Federal Actions to the State Implementation Plans. As New Castle County is currently designated marginal non-attainment for ozone, the thresholds for demonstrating conformity are 50 tons/year for VOC and 100 tons/year for NO_x. DNREC encourages the developer to consider ways to either reduce daily vehicle trips or to potentially mitigate air quality impacts. If the stated daily vehicle trips (12,803) is found to be incorrect, please advise the Division of Air Quality (DAQ) accordingly.
- 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.
- 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 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.
- Providing shade for parking areas. Approaches may include architectural devices, vegetation, or solar panels. Providing shade for parking areas helps to reduce heat island impacts, and, by extension, helps to minimize the potential for localized ground-level ozone formation. Such measures can also have the additional benefit of channeling or infiltrating stormwater.
- Providing no more than the minimum local code requirements for parking capacity. This measure minimizes the environmental harms associated with parking facilities, such as automobile dependency, vehicle emissions, land consumption, and stormwater runoff.
- Providing charging stations for plug-in electric vehicles. This measure helps to reduce localized air pollution by supporting the use of non-gasoline powered vehicles. Please refer to the US Department of Energy's website for electric vehicle readiness information: http://www1.eere.energy.gov/cleancities/electric_vehicle_projects.html.
- 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, bike path, or mass transit, 7 pounds of VOC and 11.5 pounds of NO_x are reduced each year. There is an opportunity to connect the property to a transit network via two existing DART bus stops located within walking distance along US Route 40 at People's Plaza.
- 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, particularly those between the site and adjacent residential areas/educational facilities. 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 development. 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 the Glasgow Avenue project.

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, technical services link, plan review, applications or brochures.

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 typed name and title.

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

CC: New Castle County