



STATE OF DELAWARE  
EXECUTIVE DEPARTMENT  
OFFICE OF STATE PLANNING COORDINATION

September 25, 2013

Mr. Richard Woodin  
111 Patriot Drive, Suite D  
Middletown, DE 19709

RE: PLUS review 2013-08-02, MOT Charter High School

Dear Mr. Woodin,

Thank you for meeting with State agency planners on August 28, 2013 to discuss the proposed plans for the MOT Charter High School. According to the information received, you are seeking review of a subdivision for the construction of a 104,000 square foot High School with associated parking and utilities.

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 3 according to the Strategies for State Policies and Spending. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments may support future growth in these areas, but please be advised that the State has other priorities for the near future. We encourage you to design the site with respect for the environmental features which are present.

**Code Requirements/Agency Permitting Requirements**

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There are no known cultural or historic resources, such as a National Register-listed property or an Archaeological Site, on this parcel. However, there is a known historic property near the parcel, the T. J. Houston House (N-5131), along Scotts Run Road. This house is also indicated on the Pomeroy and Beers Atlas of 1868

(which is a 19th-century historic map) and the USGS Topographic Map of 1931. If there is going to be any construction activity or development project on the parcel, it is important the developer should be aware of the 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 that pertains to unmarked human remains or cemeteries, please check 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 consider hiring an archaeological consultant to examine the parcel for potential historic or cultural resources, such as a potential archaeological site, a cemetery or unmarked human remains. Furthermore, the developer should also include a barrier or sufficient landscaping between the proposed development and the T. J. Houston House (N-5131) to protect it from adverse sound and visual effects.

In addition, 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).

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. Del DOT is aware that New Castle County has a similar requirement with regard to hourly trip generation and we anticipate a TIS being warranted on both a daily and an hourly basis. Section 2.3.2 of the Standards and Regulations 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, the County's Unified Development Code has no similar provision. To obtain a scope of work for a TIS, the developer may have their engineer contact Mr. Troy Brestel of this office. Mr. Brestel may be reached at (302) 760-2167.

For several years now, DelDOT has been engaged in a planning study, from which we hope to create a Southern New Castle County (SNCC) Transportation Improvement District (TID) for the area bounded by Marl Pit Road, the Chesapeake and Delaware Canal, US Route 13 and Delaware Route 71. The object of a TID is to provide more for comprehensive land use and transportation planning while making it easier to develop in ways and locations that are consistent with the local comprehensive plan(s). This spring, DelDOT adopted expanded regulations regarding TIDs (available at [http://www.deldot.gov/information/pubs\\_forms/revisions\\_to\\_ASR/TrafficImpactStudiesDraftRegulationAmendment130214.pdf](http://www.deldot.gov/information/pubs_forms/revisions_to_ASR/TrafficImpactStudiesDraftRegulationAmendment130214.pdf)) that outline a process that is different in some respects from the work done to date on this particular TID. DelDOT is working with New Castle County and area developers, including the owner of the subject land, to complete the planning for the TID and begin implementing it. If that can be done, we would ask the applicant to enter a recoupment agreement and make payments consistent therewith in lieu of doing a TIS and building off-site improvements. More information on the SNCC TID is available from our Assistant Director for Development Coordination, Mr. Marc Coté. Mr. Coté can be reached at 302) 760-2165.

- 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 site access on Cedar Lane Road (New Castle Road 427) 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/SubdivisionManualRevision1proposed060110.pdf](http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/SubdivisionManualRevision1proposed060110.pdf).
- In accordance with Section 3.6.5 and Figure 3-3 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require dedication of right-of-way along the site's frontage on Cedar Lane Road (New Castle Road 427) to provide a minimum of 40 feet of right-of-way from the road centerline. The right-of-way dedication note has been revised to the following, "**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**" Preliminarily, it appears that the sketch plan already meets this requirement.
- In accordance with Section 3.6.5 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Cedar Lane Road (New Castle Road 427) for a future 10-foot wide pedestrian/bike path. The location of the easement shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, "**A 15-foot wide permanent easement for a future 10-foot wide multi-use path is hereby established, as per this plat.**"
- The proposed school site adjoins the right-of-way for an as-yet unbuilt section of US Route 301. Therefore, in accordance with Section 3.7 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require a noise analysis and may require mitigation measures to buffer the campus from the highway noise. We see from the plan that some reforestation is proposed, but that may be inadequate as noise mitigation and measures such as berms or barriers could require that the area be cleared. We recommend that the noise analysis be done and that any needed mitigation measures be included in the development of the subdivision plan.

Department of Natural Resources and Environmental Control – Contact Kevin Coyle 735-3495

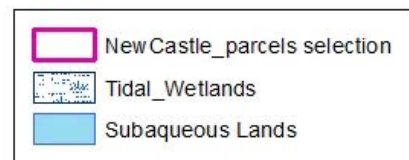
- **Wetlands**  
State regulated wetlands ARE NOT located on this property based on a review of the State wetland maps. State regulated wetlands are those wetlands identified on the State's official State Regulated Wetland Maps. Additional information about State regulated wetlands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at <http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx>.
- State regulated subaqueous lands ARE NOT likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and USGS topographic maps. 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. Drawyer Creek is adjacent to the property line with what looks like a riparian buffer. Caution should be taken when building near this area to keep back from the buffer line set by the county and to keep material out of the water way. 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.asp> x.



0 0.0425 0.085 0.17 Miles

Reviewed By: Kitty Bronson  
Source: New Castle County layers:  
Parcels, DeIDOT Rds, Wetland  
and Swmp maps



- **TMDLs**

The project is located in the greater Delaware River and Bay drainage, specifically within the Appoquinimink 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 Appoquinimink River watershed calls for a 60 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for an 8 percent (freshwaters) 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 project information sheets state water will be provided to the project by Artesian Water Company via a public water system. 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 05-CPCN-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.

- **Water Resource Protection Areas**

The DNREC Ground-Water Protection Branch (GPB) has determined that a significant portion of the project falls within an excellent ground-water recharge potential area for New Castle County (see attached map).

New Castle County (NCC) refers to excellent ground-water recharge potential areas as ‘recharge areas’. Recharge areas are characterized as deposits of coarser grained material that have the best ability to transmit water vertically through the unsaturated zone to the water table. The NCC recharge areas were mapped using the methods described in the Delaware Geological Survey Open File Report No. 34, "Methodology for Mapping Ground-Water Recharge Areas in Delaware’s Coastal Plain" (Andres, 1991), and depicted in a series of maps prepared by the Delaware Geological Survey (Butoryak and Tally, 1993).

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.

DNREC recommendation is to locate any stormwater management facilities to an area of the parcel outside the excellent groundwater recharge area.

The construction phase of stormwater management ponds require 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).

In addition, because the excellent ground water recharge area can so quickly 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, 1991, Methodology for Mapping Ground-Water Recharge Areas in Delaware's Coastal Plain: Delaware Geological Survey Open File Report No. 34, p. 18.*

*Butoryak, Kathleen R. , and Talley, John H., 1993, Delineation of Ground-Water Recharge Resource Protection Areas in the Coastal Plain of New Castle County, Delaware: Delaware Geological Survey Project Report for the Water Resources Agency for New Castle County, p. 26.*

*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 sediment and stormwater plan will be required for 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 possible. 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. (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.

- Site Investigation and Restoration Section (SIRS)

There are no SIRS sites or salvage yards found within a ½-mile radius 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:

| <b>Table 1: Potential Regulatory Requirements</b>  |   |
|--|---|
| <b>Regulation</b>  | <b>Requirements</b>   |
| <b>7 DE Admin. Code 1106 -</b><br>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.<br>Use covers on trucks that transport material to and from site to prevent visible emissions.  |
| <b>7 DE Admin. Code 1113 –</b><br>Open Burning   | Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year.<br>Prohibit the burning of land clearing debris.<br>Prohibit the burning of trash or building materials/debris.  |
| <b>7 DE Admin. Code 1135 –</b><br>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)  |
| <b>7 DE Admin. Code 1141 –</b><br>Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products | Use structural/ paint coatings that are low in Volatile Organic Compounds.<br>Use covers on paint containers when paint containers are not in use.  |
| <b>7 DE Admin. Code 1144 –</b><br>Control of Stationary Generator Emissions  | 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).<br>Maintain recordkeeping and reporting requirements. |
| <b>7 DE Admin. Code 1145 –</b><br>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 our website:  
<http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

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

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

- **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 educational sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.
  
- **Fire Protection Features:**
  - All structures over 10,000 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
  - 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 760-2109**

- Please refer to the DeIDOT website for guidance as to whether a pre-submittal meeting is required and how to prepare for one. That guidance is available at <http://www.deldot.gov/information/business>.
- Please check to determine if any utilities will need to be relocated as part of this project.
- All PLUS comments should be addressed prior to submitting record, subdivision or entrance plans for review.

#### **Department of Natural Resources and Environmental Control – Contact Kevin Coyle 735-3495**

- **Soils Assessment**

Based on NRCS soils survey mapping update, the soil mapping units of concern are Longmarsh (LO), Fallsington (FgA), and Othello (Ot). Longmarsh, Fallsington, and Othello are very poorly-drained to poorly-drained wetland associated (hydric) soils that have severe limitations for development (considered unsuitable; Figure 1).

Building on hydric soils (i.e., Fallsington, Othello, & Longmarsh) may increase the potential for future on-site and off-site flooding events (hydric soils act as nature's "sponge" by retaining water and mitigating surface water runoff or flooding) along with concurrent increases in the volume of pollutant-laden surface water runoff/ discharges to surface water bodies (streams, ponds, and ocean) and groundwater; such increases in water volume and pollutants may negatively impact both homeowner safety and water quality (or health). Therefore, we strongly recommend the applicant avoid building in the hydric Fallsington, Longmarsh, and Othello soil mapping units.

A field evaluation by a licensed soil scientist is strongly recommended (ARCPACS certified and licensed Class D) to make a site-specific field delineation of the hydric soils in this parcel. Please contact the Underground Discharges Branch at 739-9948 for a list of licensed soil scientists.



Figure 1: NRCS soil mapping in the 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 prescribed TMDL reduction requirements in the Appoquinimink watershed, a multifaceted and comprehensive process known as a Pollution Control Strategy (PCS) has been developed to enable such reductions. 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 Appoquinimink River watershed consists of recommendations from the following four areas: agriculture, land preservation (open space), stormwater, and wastewater. Additional information about Appoquinimink River PCS is available from the follow web link:

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

In further support of the PCS, the applicant is also strongly urged to reduce nutrient and bacterial pollutants through voluntary commitment to the implementation of the following recommended BMPs:

- Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J. Environ. Qual. 23: 878-882.), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from all water bodies (including ditches) and all federal and State-regulated wetlands. Specifically the

area needing protection is the wetlands and waters associated with Drawyer's Creek bounding the southern boundary of the proposed project.

- A United States Army Corps of Engineers approved wetlands delineation is strongly recommended.
- Maintain as much of the existing open space as possible; we further suggest additional native tree and native herbaceous planting, 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, and roads) included in the calculation.
- Since this proposed project will significantly increase impervious cover which will subsequently increase surface water runoff impacts, we strongly encourage the applicant, wherever practicable, use/employ pervious paving materials (instead of conventional asphalt and concrete) as a means of mitigating said impacts.
- Use rain gardens, and green-technology storm water management structures (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant impacts via runoff from impervious surfaces.
- 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. We strongly encourage 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 further information on the protocol.
- **Potential Bog Turtle Habitat**  
The tax parcel in question borders Drawyers Creek. Several of the wetlands on the creek in the vicinity of this project support suitable bog turtle habitat. The bog turtle (*Glyptemys muhlenbergii*) is a federally listed species, protected under the Endangered Species Act, its presence can affect the scope of work at projects nearby. The Wildlife Species Conservation and Research Program (WSCR) recommend that the applicant contact WSCR biologist Holly Niederriter at (302) 735-8670 for guidance regarding potential bog turtle issues at this project site.
- **Forest Preservation**  
Just to the north of the tax parcel in question there exists a block of forest that has been surveyed by WSCR botanists. The forest has been evaluated to be in good

condition and likely supports a wide array of flora and fauna. A swath of trees runs south through the project site and joins up with Drawyers Creek. This swath should be preserved (and widened) if at all possible since it is a corridor that wildlife would use to move between these two forested areas. If reforestation or other habitat enhancement is planned for this site, WSCRCP offers our expertise in helping to ensure that enhancements best match the existing habitats in the area. If and when designs of enhancements are begun, please contact WSCRCP biologist Matthew Bailey at: (302) 735-8677 to coordinate participation in planning.

- **Additional information on hazardous waste sites**

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) 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**

Schools 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 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, 8<sup>th</sup> Edition. Table 2 represents the actual impact the MOT Charter High School project may have on air quality.

| Emissions Attributable to MOT Charter High School (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> ) |
|---|----------------------------------|------------------------------------|-----------------------------------|--|-----------------------------------|
| Mobile  | 4.3                              | 5.6                                | *                                 | *  | *                                 |

(\*) *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.
  
- 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.

- **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 energy emissions by cooling during the summer and by providing wind breaks in the winter, thereby 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 MOT Charter High School project.

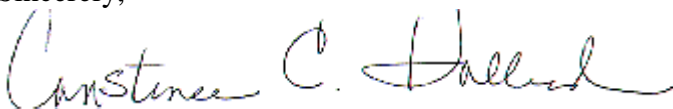
Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

- 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](http://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,



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

CC: Herb Inden, Principal Planner, OSPC

New Castle County