



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

June 23, 2015

Mr. Scott Lobdell, PE  
Van Cleef Engineering  
630 Churchmans Road  
Suite 105  
Newark, DE 19702

RE: PLUS review 2015-05-05, Delaware Sports Complex

Dear Scott,

Thank you for meeting with State agency planners on May 27, 2014 to discuss the proposed plans for the Delaware Sports Complex. According to the information received, you are seeking review of a site plan review for a 156,750 square foot sports complex on 170 acres in Middletown.

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

**Strategies for State Policies and Spending**

This project is located in Investment Level 2 according to the *State Strategies for 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. We also recommend that the Town review their comp plan to make sure this use is consistent with the Future Land Use portion of the plan.

**Code Requirements/Agency Permitting Requirements**

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Per Section 2.2.2.1 of the Development Coordination Manual, Traffic Impact Studies (TIS) are warranted for developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day. According to the PLUS

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application the proposed complex would generate 2,283 trips per day. As discussed below, we believe the actual trip generation may be higher but, regardless, the complex would warrant a TIS.

Per Section 2.2.2.4 of the Manual, if a development is located within a Transportation Improvement District (TID) and is consistent with the Land Use and Transportation Plan for that TID, then under certain conditions DelDOT may require participation in the TID in lieu of conducting a TIS and making improvements based on the TIS. The proposed complex is located in the Westown TID but the land use assumed for it in creating the TID is a wastewater treatment sprayfield. To address the proposed use through the TID would require a significant update and expansion of the Westown Circulation Concept Plan (includes a traffic study), an update of which was just completed in March 2015. If the developer wishes to proceed with their development as proposed and as part of the TID, we would undertake that update and require them to participate at the Commercial rate, currently \$16,569 per acre, for a total of \$2,816,730 based on 170 acres.

Thinking logically about what the update of the Circulation Concept Plan might find, Levels Road (Delaware Route 15) between the St. Annes Boulevard and Grears Corner Road (New Castle Road 459), Grears Corner Road between Levels Road and Green Giant Road (New Castle Road 458) and Green Giant Road between Grears Corner Road and Summit Bridge Road (Delaware Route 71) all would need to be widened to 11-foot lanes with 5-foot paved shoulders to meet current DelDOT standards. These and other road improvements would likely need to be done before much of the complex could open but the developer would get credit toward the above contribution for their expenses in these regards.

DelDOT has heard concerns from area residents about the potential right-of-way impacts of the needed road improvements and we will consider design exceptions if the project moves forward as currently proposed, but for planning purposes the developer should assume they will need to meet State standards.

DelDOT sees three other ways that development of the complex could proceed:

- 1) We would be willing to discuss with the Town and the developer excluding the project from Westown. In that case the developer would need to do a TIS and road improvements, probably including those outlined above, but they would not have to contribute to Westown. Given the project's location at the edge of the TID, this approach may have merit.
- 2) If the developer were willing to reorient their plan and could negotiate a right-of-way through the Rutkoske Property (Tax Parcel 14-010.00-022) to Levels Road close to St. Annes Boulevard, they could likely eliminate the need for much of the road widening described above. We would still need to update the Circulation Concept Plan and base the required improvements on that but we would expect the need for

improvements to be greatly reduced. If this were to occur, we would discuss with the Town the possibility of requiring participation in Westtown at the Industrial and Institutional rate, currently \$8,285 per acre, for a total of \$1,408,450 based on 170 acres.

- 3) If the developer would consider other sites, closer to US Route 301, again they could likely eliminate the need for much of the road widening described above. We would still need to update the Circulation Concept Plan and base the required improvements on that but we would expect the need for improvements to be greatly reduced. If this were to occur, we would discuss with the Town the possibility of requiring participation in Westtown at the Industrial and Institutional rate. We have had preliminary discussions with the Town and see at least one such site.

Questions or concerns regarding Westtown should be directed to Mr. Marc Coté, DelDOT's Assistant Director for Development Coordination. Mr. Coté may be reached at (302) 760-2165.

- The site access must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <http://www.deldot.gov/information/business/subdivisions/changes/index.shtml>.
- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Development Coordination Manual, DelDOT will require dedication of right-of-way along the site's frontage on Green Giant. By this regulation, this dedication is to provide a minimum of 30 feet of right-of-way from the road centerline. The following right-of-way dedication note is required, "**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**"
- In accordance with Section 3.2.5.1.2 of the Development Coordination Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Green Giant Road. 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 is hereby established to the State of Delaware, as per this plat.**"

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

#### **TMDLs**

- The project is located in the greater Delaware River and Bay drainage area, 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 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. 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. The specific TMDL nutrient and bacterial load reductions for the Appoquinimink watershed can be viewed in the following web-link:

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

- A nutrient management plan is required under the *Delaware Nutrient Management Law (3 Del. Chapter 22)* for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. This project's open space may exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at 739-4811 for further information concerning compliance requirements or view the following web-link for additional information: <http://dda.delaware.gov/nutrients/index.shtml>

### **Water Supply**

- The information provided indicates that the Town of Middletown will be used to provide water to the proposed project through 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 98-CPCN-12. DNREC recommends that the developer contact Artesian Water Company to determine the availability of public water. Any public water utility providing water to the site must obtain a certificate of public convenience and necessity (CPCN) from the Public Service Commission. Information on CPCNs and the application process can be obtained by contacting the Public Service Commission at 302-739-4247. Should an on-site Public/Miscellaneous Public well be needed, a minimum isolation distance of 150 feet is required between the well and any potential source of contamination, such as a septic tank and sewage disposal area, and it must also be located at least 150 feet from the outermost boundaries of the project. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.
- Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation. All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction

schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising. 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 is a Zone A Spray Irrigation site associated with the Middletown Waste Water Facility (Ford), located within 1,000 feet of the proposed project.

### **Source Water Protection Areas**

- A significant portion of the project falls within an excellent ground-water recharge potential area for the Town of Middletown (see map). Although the Town of Middletown's Source Water Protection Ordinance meets the minimum standards of protection, this protection does not limit impervious cover in excellent ground-water recharge potential areas.

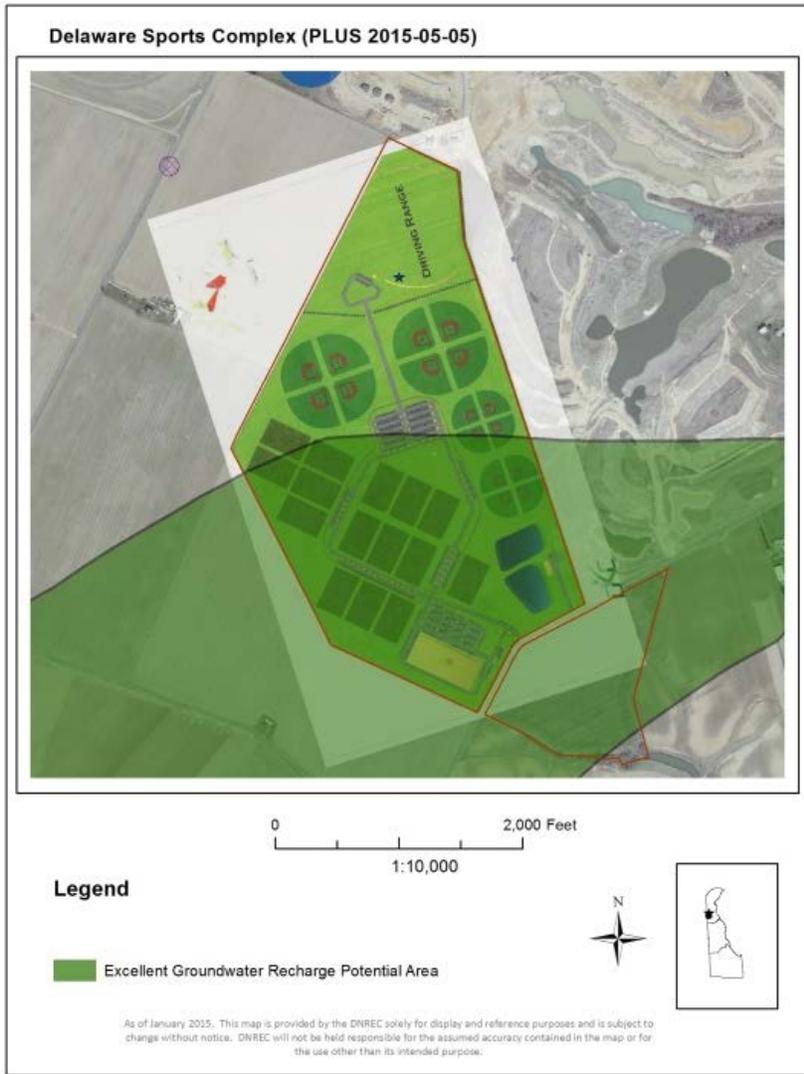
Impervious cover prevents precipitation from infiltrating through the soil to the water table aquifer. Impervious cover refers to structures including but not limited to roads, sidewalks, parking lots, and buildings. Any impervious cover within an area of excellent ground-water recharge potential area has the potential to have a negative effect the quality and quantity of drinking water available. Excellent Ground-Water Recharge Areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect ground water in these areas.

The construction phase of storm water management ponds requires excavation, hauling, and grading. The heavy equipment used in this phase has the capacity to compact and degrade the structure of the strata that defines the area as an excellent ground-water recharge area (Schueler, 2000). 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.

Stormwater ponds already exist within the excellent groundwater recharge potential area and the majority of impervious cover is proposed within the excellent groundwater recharge potential area.

DNREC recommends moving the impervious cover to the area of the parcel outside the excellent groundwater potential area.

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



## References

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

Schueler, T. R., 2000, 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. 752.

### **Sediment and 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 project application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Town of Middletown. Contact Morris Deputy, Town Manager for the Town of Middletown at (302) 378-9120 for details regarding submittal requirements and fees.

### **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.

There are no confirmed leaking underground storage tank (LUST) projects located within a quarter mile from the proposed project area.

No environmental impacts are anticipated; however, per the UST Regulations: Part E, § 1. Reporting Requirements:

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

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

### **Air Quality**

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

<b>Table 1: Potential Regulatory Requirements</b>	
<b>Regulation</b>	<b>Requirements</b>

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

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

<http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

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

- There are no known archaeological sites, or National Register-listed property on this parcel. However, it is still important that the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law, which is in Chapter 54 of Title 7, of the Delaware Code (7 Del. C. Ch. 54).

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 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 may want to hire an archaeological consultant to examine the parcel for any potential archaeological site or archaeological resources, such as cemetery, burial site, 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 Duane Fox 739-4394

- **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 the site of a place of assembly, 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.
  - 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 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

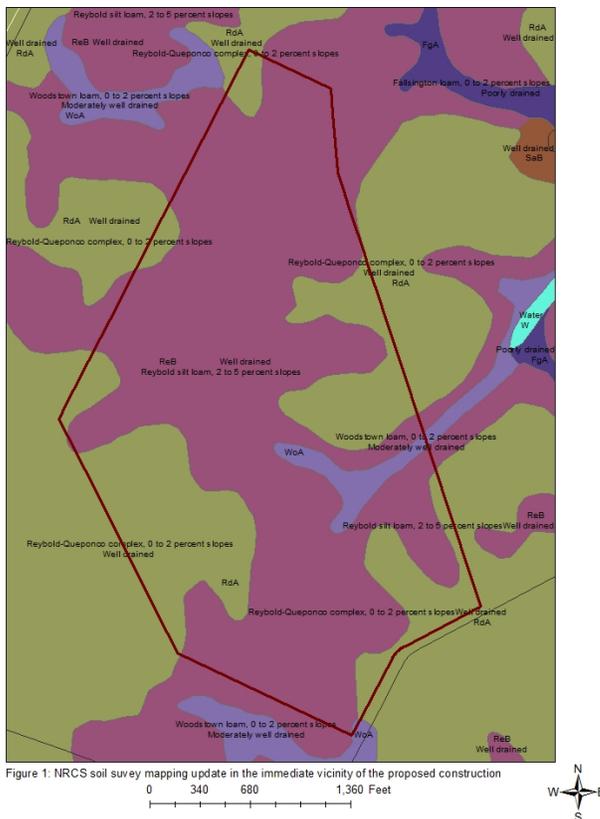
### **Recommendations/Additional Information**

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

### **Soils Assessment**

- The soil mapping units mapped on this parcel are predominately well drained (Figure 1).



### **Habitat and Rare Species**

- A review of our database has revealed that there may be suitable habitat for the federally listed bog turtle (*Glyptemys muhlenbergii*) affected by the project. Bog turtles typically occur in freshwater wetlands with open canopies, mucky soils, and tussock vegetation. However, they can occur in more marginal habitats as well. Because the bog turtle is a federally listed species, protected under the Endangered Species Act, its presence can affect the scope of work. To ensure that the project will not impact bog turtles or their habitat, Phase I surveys for bog turtle habitat should be conducted.
- Phase I surveys can be conducted any time of year when ice and/or snow cover is not present. If potential habitat is found, however, please note there is a time of year restriction during which Phase II surveys for bog turtles must be conducted. *A Delaware approved bog turtle surveyor must be used to conduct the surveys.* Please contact Holly Niederriter (302-735-8670) to obtain a list of contacts to conduct Phase I and, if necessary, Phase II surveys.
- If potential bog turtle habitat is found during Phase I surveys, you are required to either: Completely avoid all direct and indirect project impacts to the wetland, in consultation with the U.S. Fish and Wildlife Service and Delaware Division of Fish and Wildlife;  
*OR*  
Have Phase II surveys conducted to determine if bog turtles are present. In accordance with Delaware's bog turtle site survey procedures, surveys must be conducted by a State-approved bog turtle surveyor between April 15 and June 15.

### **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 strongly urged to reduce nutrient and bacterial pollutants through voluntary commitment to the implementation of the following recommended BMPs:

- 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 for surface imperviousness. Omission of any of the above-stated forms of surface imperviousness will result in an underestimate of the actual post-development surface imperviousness and associated environmental 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 from runoff or discharges from impervious surfaces. Please contact Lara Allison at 739-9939 for further information about the possibility for installing a raingarden(s) on this parcel.
- Since this project will create additional impervious surface that will increase the probability for increased pollutant load runoff impacts to adjoining streams and wetlands in the greater Appoquinimink watershed, wherever practicable, use pervious paving materials (instead of conventional asphalt and concrete) to mitigate the aforementioned pollutant runoff impacts from parking lots and roads. We especially recommend the use of pervious paving materials in areas designated for parking.
- 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 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 air quality**

- New facilities may emit, or cause to be emitted, air contaminants into Delaware’s air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:
  - Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
  - The emission of greenhouse gases which are associated with climate change, and
  - The emission of air toxics.

- Air emissions generated from commercial spaces include emissions from the following activities:
  - Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
  - The generation of electricity needed to support the commercial space, and
  - All transportation activity.

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

Emissions Attributable to Delaware Sports Complex (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO <sub>2</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )	Carbon Dioxide (CO <sub>2</sub> )
Mobile emissions	7.58	9.99	*	*	*

(\*) 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 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.
- **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 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](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 NOx 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, particularly those between the site and adjacent residential areas.** Trees reduce emissions by trapping dust particles and replenishing oxygen. Trees also reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

This is a partial list, and there are additional things that can be done to reduce the impact of the 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 Delaware Sports Complex project. The DAQ point of contact is Deanna Cuccinello, and she may be reached at (302) 739-9402

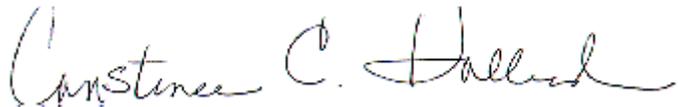
Delaware State Fire Marshall's Office – Contact John Rudd 323-5365

- 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.
- The local Fire Chief should be contacted, prior to any approval by our Agency, for suggestions on providing readily easy access for Emergency Medical Services to the most remote portions of the participant areas of the sports fields.

**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".

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

CC: Town of Middletown