

DNREC commends the school district and designers for applying many green-technology stormwater practices to this site. Specific plans are to infiltrate almost twice the acreage that is required, create five bio-infiltration swales, divert almost 17 acres of runoff to groundwater, and infiltrate the total volume of a two-year storm. We hope the school can serve as a model to other schools contemplating whether to adopt more green practices.

The extra protection is critical because of the school site's location in an excellent recharge area, where we calculate that post-construction impervious cover will be almost 60 percent.

In addition, the school is designed for geo-thermal heating and cooling. At the PLUS meeting, DNREC asked the project presenters whether the school was being designed to LEED specifications. The response was that LEED certification was cost-prohibitive.

This elementary school project is one of four identified throughout the state as a candidate to receive \$950,000 for the district to design, construct and operate a LEED Silver Certified school as a demonstration project. The Department of Education sent a letter to the Milford School District on January 21 to announce the availability of those funds, to be spent on one project. The intention is to design, construct and operate a LEED Silver Certified school and track the operating costs of that school, in order to perform a cost/benefit analysis energy efficient school design and operation.

The deadline for responding to the request to participate in this joint partnership with DNREC and DOE is February 20. We hope Milford School District is planning to respond to this offer.

Comments by division and program follow.

Fish and Wildlife

Our field scientists have not surveyed this project area; therefore, we are unable to provide information pertaining to the existence of state-rare or federally listed plants, animals or natural communities at this project site. According to the application, there will be no disturbance within 100 feet of wetlands and there are no tree clearing activities. Therefore, there is a low probability that impacts to rare species will occur. *Edna Stetzar - (302) 653-2880, Edna.Stetzar@state.de.us*

Soil and Water

Sediment and Stormwater Program. The designer has held a pre-application meeting with the Sediment and Stormwater Program and is incorporating green technology best-management practices throughout the project. Please continue to work with the Stephen Wright of the Sediment and Stormwater Program during final design of the site. *James Sullivan - (302) 739-9921, James.Sullivan@state.de.us*

2009-01-02

Milford School District

Page 2

Flood Management. We approve of the proposed site plan in relation to the Special Flood Hazard Area. Please be aware when you are determining a Base Flood Elevation be sure to refer to the Flood Insurance Study on detailed streams such as this one. Do not rely solely on the whole number that is indicated on the FIRM panel. (The General Notes on the site plan indicates the map panel may have been used). *Gregory Williams - (302) 739-9921, Gregory.Williams@state.de.us*

Water Resources

Soils Assessment. According to the NRCS soil survey update Downer (DnA; 0-2% slopes) and Fort Mott (FmB; 2-5% slopes), and Water (W) were mapped on subject parcel. Downer and Fort Mott are well-drained upland soils that, generally, have few limitations for development. The area mapped as water also includes wetlands and is unsuitable for development (Figure 1).

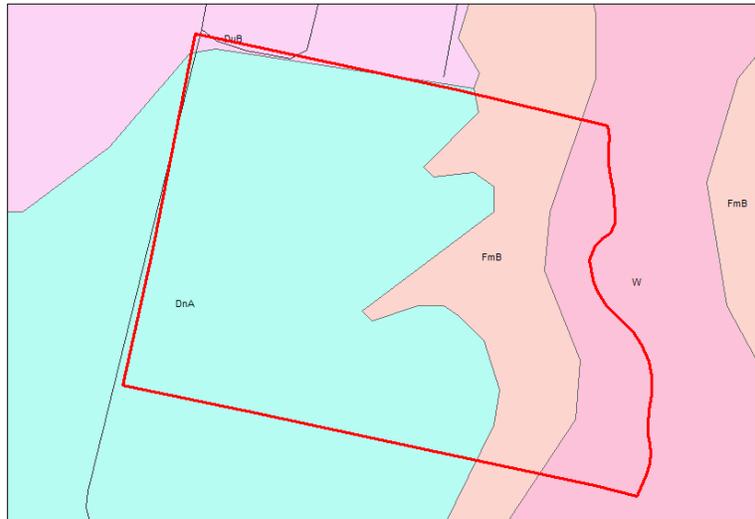


Figure 1: NRCS soil survey update mapping in the vicinity of the Milford Upper Elementary School.

Water Allocation. The project information sheets state water will be provided to the project by the City of Milford via a public water system. Our records indicate that the project is located within the public water service area granted to the City of Milford under Certificate of Public Convenience and Necessity 91-CPCN-09.

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. *Ricardo Rios - (302) 739-9944, Ricardo.Rios@state.de.us*

Wetlands. According to the Statewide Wetlands Mapping Project (SWMP) maps palustrine scrub-shrub/emergent riparian wetlands (PSS1/EM1Fh7) and palustrine unconsolidated bottom (PUBHh; diked pond) bottom wetlands were mapped on subject parcel (Figure 2).

The applicant is responsible for determining whether any State-regulated wetlands (regulated pursuant to 7 Del.C. Chapter 66 and the Wetlands Regulations) are present on the property.

This determination can only be made by contacting the Division of Water Resources' Wetlands and Subaqueous Lands Section at 302/739-9943 and consulting the State's official wetland regulatory maps, which depict the extent of State jurisdiction. The area regulated by State law may be very different from the area under federal authority.

No activity may take place in State-regulated wetlands without a permit from DNREC's Wetlands Section.

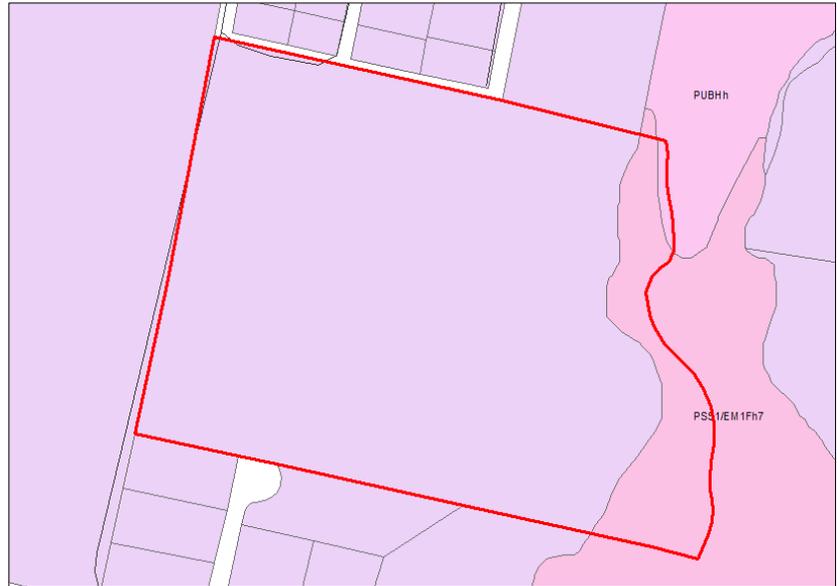


Figure 2: SWMP mapping in the vicinity of the Milford Upper Elementary School.

In addition, most perennial streams and ditches and many intermittent streams and ditches are regulated pursuant to the Subaqueous Lands Act (7 Del.C. Chapter 72) and the Regulations Governing the Use of Subaqueous Lands. Ponds which are connected to other waters are also regulated, while isolated ponds are not. Any work in regulated streams, ditches or ponds requires a permit from the Wetlands and Subaqueous Lands Section. An on-site jurisdictional determination is recommended in order to determine whether any regulated watercourses exist on the property. Please contact the Wetlands and Subaqueous Lands Section at 302/739-9943 to schedule an on-site visit. Such appointments can usually be scheduled within 2 to 3 weeks.

The applicant should also be reminded that they must avoid construction/filling activities in those areas containing wetlands or wetland associated hydric soils as they are also subject to regulatory requirements specified under Federal 404 provisions of the Clean Water Act. A site-specific field wetlands delineation using the methodology described in the 1987 United States Army Corps of Engineers (USACE) manual is the basis for making a jurisdictional wetland determination for nontidal wetlands in Delaware.

The applicant is forewarned that the USACE views the use of the National Wetlands Inventory (NWI) mapping or the Statewide Wetlands Mapping Project (SWMP) mapping as an unacceptable substitute for a field-based jurisdictional wetland delineation (i.e., 1987 USACE manual). To ensure compliance with said USACE regulatory requirements, it is strongly recommended that a field wetlands delineation using the above-referenced methodology be performed on this parcel before commencing any construction activities.

It is further recommended that the USACE be given the opportunity to officially approve the completed delineation. In circumstances where the applicant or applicant's consultant delineates what they believe are nonjurisdictional isolated (SWANCC) wetlands (as asserted by the applicant in the PLUS application), the USACE must be contacted to evaluate and assess the jurisdictional validity of such a delineation. The final jurisdictional authority for making isolated wetlands determinations rests with the USACE. The USACE can be reached by phone at 736-9763.

Palustrine headwater water riparian wetlands associated with the Deep Branch stream tributary and Marshall's pond bound the eastern boundary of the proposed project area. Headwater riparian wetlands serve to protect water quality which helps maintain the ecological integrity and functions throughout the length of the stream, including the floodplain system and/or water bodies further downstream. Since headwater riparian wetlands serve as natural buffers that protect the water and habitat quality of streams from sediment and nutrient-laden runoff, their protection deserves the highest priority. Therefore, the Watershed Assessment Section strongly recommends that a 100-foot upland buffer be maintained or established from all wetlands bounding the Deep Branch tributary and Marshall's Pond. A literature review of existing buffer research by Castelle et al. (1994) has documented consensus among researchers that a 100-foot upland buffer is the minimum buffer width necessary- under most circumstances - to protect water quality.

Impervious Surfaces and Best Management Practices. Based on the information presented by the applicant in the PLUS application, this project's post-construction estimate for surface imperviousness should not exceed 23%. We estimate that impervious cover in the excellent recharge area (see map below) is close to 60%. When calculating surface imperviousness, it is important to consider all created forms of constructed surface imperviousness (i.e., rooftops, sidewalks, roads, and stormwater management structures) in the calculation for surface imperviousness; otherwise, an inaccurate assessment of this project's environmental impacts will result. Surface imperviousness should be recalculated if the above-mentioned forms of constructed surface imperviousness were not included.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed's overall water quality. We recognize that the applicant plans to implement green-technology best-management practices that will reduce or mitigate some of the most likely adverse impacts. Since this project is a commercial-scale project that will generate a significant amount of post-construction surface imperviousness, it is strongly recommended that at least 50% of the paved surface area contain pervious paving materials in lieu of conventional paving materials.

TMDLs . Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Mispillion watershed. These standards are not yet in the form of a regulation. 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 water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states are charged with

developing and implementing standards to support these desired use goals. In the Mispillion watershed, “target-rate-nutrient reductions” of 57 percent will be required for nitrogen and phosphorus. Additionally, “target-rate-reductions” of 87 percent will be required for bacteria.

The TMDL for the Mispillion Watershed calls for a 57 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for an 87 percent reduction in bacteria from baseline conditions. A pollution control strategy eventually will be used as a regulatory framework to ensure that these nutrient reduction targets are attained. The department has developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional nutrient reductions may be possible through the implementation of BMPs such as increasing the amount of passive, wooded open space (planted with native woody and herbaceous vegetation), use of pervious paving materials to reduce surface imperviousness, and the deployment of green-technology stormwater management treatment technologies as planned for this project. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

Soils, wetlands, subaqueous lands and TMDL comments provided by John Martin, Watershed Assessment Section, (302) 739-9939, John.Martin@state.de.us

Water Supply. The site falls entirely within an excellent ground water recharge potential area for The City of Milford (see map below). The Application states that the development is on TMP 3-30-11.05 218. The site plan shows development on two parcels, TMP 3-30-11.05 218 and 3-30-11.05 217.

The application states that the proposed development would change the impervious cover from 15 to 23%. It appears that this calculation is based on the total area of the two parcels (~32 acres) not just the area within the excellent ground water recharge potential area (~20 acres). This would indicate that we are looking at both parcels.

Based on a calculation using an ArcMap software program, it is estimated that approximately 20 acres of the two parcels are in an area of excellent ground water recharge potential. It is also estimated that there is approximately 5.17 acres of impervious cover present. The site plan indicates that the development will increase the impervious cover to a total of 10.77 acres. Based on the ArcMap calculation the impervious cover within the excellent ground water recharge potential area will increase from 26% to 58%.

The proposed development falls within the municipal boundaries of the City of Milford. The City’s Ordinance No. 2008-2 §230-19.2 D 7) 2; limits impervious cover in excellent ground-water recharge potential areas to 60%. The applicant must submit an environmental assessment report including a climatic water budget that will insure post-development recharge quantity will meet or exceed the existing (pre-development) recharge quantity.

The following clause, §230-19.2 D 7) 3, allows construction to exceed the 60% limit set in §230-19.2 D 7) 2 if the developer uses rooftop drains. It also allows for impervious cover in excess of

60% if an environmental assessment report shows that post-development recharge is less than pre-development. This clause nullifies the impervious cover threshold necessary to protect the resource and does not address water quality.

DNREC's Groundwater Protection Branch recommends:

1. That impervious cover is limited to sixty (60) percent or less. The Climate Budget Report must demonstrate that post-development recharge is greater than or equal to pre-development recharge using the elements outlined in the City of Milford Source Water Protection Ordinance No. 2008-2 §230-19.2 F.
2. In addition, the report must show that water quality as well as water quantity of post development recharge is equal to or greater than pre-development recharge.

Title 7 Chapter 60 Subchapter VI, § 6082 requires that regulations governing land use within excellent ground-water recharge potential areas are designed to protect those areas from activities and substances that may harm water quality and subtract from overall water quantity.

Map of Milford School District (PLUS 2009-01-02) The site plan provided in the PLUS application is overlain the parcels. Excellent ground-water recharge potential area shown in green.



Air and Waste

The Air Quality Management section has no comments.

Hazardous Waste Sites. DNREC's Site Investigation and Restoration Branch (SIRB) has reviewed the proposed project. No SIRB sites or salvage yards were found within a ½-mile radius of the proposed development. However, based on the previous agricultural use of the proposed project site, which may have involved the use of pesticides and herbicides, SIRB recommends that a Phase I Environmental Site Assessment be performed prior to development.

In addition, 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

2009-01-02

Milford School District

Page 7

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.

Tank Management Branch. The Delaware Department of Natural Resources and Environmental Control-Tank Management Branch (TMB) appreciates the opportunity to comment on the proposed development. There is one active Leaking Underground Storage Tank (LUST) site with ongoing remediation located within a quarter mile of the proposed project.

Name: Roberts Service Station

Facility ID: 5-000102

Project: S9406149

Should any underground storage tanks or petroleum contaminated soil be discovered by any person during construction, the DNREC-TMB at (302) 395-2500 and the DNREC Emergency Response Hotline at (800) 662-8802 must be notified within 24 hours.

Should any contamination be encountered, PVC pipe materials would have to be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.

Also, please note that if any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMB. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMB. *Elizabeth Wolff - (302) 395-2500, Elizabeth.Wolff@state.de.us*