STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION

December 26, 2006

Al Thompson
Thompson Elliott Associates
22 Old Rudnick Lane, Ste. 2
Dover, DE 19901

RE: PLUS review – PLUS 2006-11-08; Byler Farm

Dear Mr. Thompson:

Thank you for meeting with State agency planners on November 29, 2006 to discuss the proposed plans for the Byler Farm project to be located on the north side of Denny's Road, 0.3 miles west of Blue Heron Road.

At the time of the PLUS review, this project was for a subdivision including 60 residential units on 61.49 acres located in Investment Level 4. **The comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to construct the development you indicate or any subdivision thereof on these lands.**

On December 14, 2006, this office received notification from you stating that the 60 unit project has been abandoned by the developer. We were informed at that time that the developer intends to resubmit a subdivision plan including 25 units (or less) in accordance with the "low density" provisions of the Kent County Subdivision Ordinance.

According to the PLUS Memorandum of Understanding between our office and Kent County, residential subdivisions of 50 or more units outside of the Kent County Growth

Zone are required to go through PLUS review. The new subdivision containing 25 units (or less) will not require review through PLUS.

We offer the comments in this letter to you and the County as informational comments. We should note that these comments were generated from the review of the 60 unit subdivision and may not apply to the new subdivision plan submitted to the County.

Office of State Planning Coordination – Contact David Edgell 739-3090

This proposal is located in Investment Level 4 according to the Strategies for State Policies and Spending, and is outside the growth zone area according to the Kent County Comprehensive Plan. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed will bring new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100 percent of school transportation and paratransit services, up to 80% of school construction costs, and the cost of police protection in the unincorporated portion of Kent County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

Because the development is inconsistent with the Strategies for State Policies and Spending, the State is opposed to this proposed subdivision.

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

According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested riparian wetlands were mapped along the entire northern boundary of the subject parcel, directly adjoining a headwater tributary known as the Cahoon Branch. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants

and wildlife. DNREC recommends that vegetated buffers of no less than 100 feet be employed around wetlands and water bodies. There should not be any buildings or associated infrastructure within the buffer. To minimize potential homeowner activities within wetlands, no lot lines should contain wetlands, their buffers or other resources of conservation concern.

PLUS application materials indicate that wetlands have been delineated (presumably a field delineation). This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763. Certain drainage ditches may also be jurisdictional either under the U.S. Army Corps of Engineers Program or through the DNREC Wetland and Subaqueous Lands program.

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

As noted previously, this parcel(s) contains SWMP-mapped headwater riparian wetlands (associated with a headwater stream tributary, a.k.a. Cahoon Branch). Headwater riparian wetlands are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system and/or water bodies further downstream. Since such streams are a major avenue for nutrient-laden stormwater and sediment runoff, their protection deserves the highest priority. In recognition of this concern, the Watershed Assessment Section strongly recommends the applicant consider preserving the existing forested riparian buffer in its entirety.

Water Resource Protection Areas

The Water Supply Section has determined that it falls wholly within an excellent ground-water recharge area (see following map and attached map). The review found that the

impervious cover threshold was within accepted limits. The site plan shows storm-water management ponds and a community septic within the recharge area that may or may not affect water quality.

Excellent recharge areas are near-surface areas within which precipitation infiltrates the land surface to the unconfined aquifer at a more rapid rate than other areas. Delaware Geological Survey Report of Investigations No. 66 discussed and mapped the groundwater recharge areas of Kent and Sussex Counties. The intent of the report was to identify areas of excellent recharge to protect them as critical areas. The Report states that the recharge potential "map categories are indicators of how fast contaminants will move and how much water may become contaminated" (Andres, 2004, pg 1). Consequently, land use activities or impervious cover may readily have an adverse affect ground water in these areas.

The Water Supply Section recommends that the portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover. The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies. The proposed development would change the total impervious cover from <1% to approximately 10%. Developer on the PLUS application provided these numbers. The proposed impervious surface falls within DNREC recommendations.

The plans show three storm-water management ponds within the area of excellent ground-water recharge potential. The construction phase of this type of pond 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. 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.

This PLUS document shows a proposed "community septic" area within the excellent ground-water recharge area. From an engineering standpoint, this is an excellent placement of the facility. From a source-water stand point it is unwise. The applicant did not specify what type of septic system is proposed and all systems are prone to small problems. If a problem were to occur in the system that released contaminants, they would pose a likely threat to the quality of water in the unconfined aquifer. A more advanced wastewater treatment system will/may be necessary to assure the public supply wells are not impacted nor made to exceed any drinking water standards.

In addition, if contaminants are spilled or released within the excellent ground-water recharge area, they can quickly affect the underlying aquifer. 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.

Map of Byler Farm (PLUS 2006-11-08) as it impacts excellent groundwater recharge potential protection area. The green area shows the excellent groundwater recharge potential protection area with affected parcel in light blue.

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#nvestigations

Delaware Department of Natural Resources and Environmental Control (2005): Source Water Protection Guidance Manual for the Local Governments of Delaware: Dover, DE., 144 p.
http://www.wr.udel.edu/publications/SWAPP/swapp_manual_final/swapp_guidance_manual_final.pdf

Sediment and Erosion Control/Stormwater Management

Requirements

1. Land disturbing activities in excess of 5,000 square feet are regulated under the Delaware Sediment and Stormwater Regulations. A detailed sediment and stormwater management plan must be reviewed and approved by the Kent Conservation District prior to any land disturbing activity (i.e. clearing, grubbing, filling, grading, etc.) taking place. The review fee and a completed Application for a Detailed Plan are due at the time of plan submittal to the Kent Conservation District. Construction inspection fees based on developed area and stormwater facility maintenance inspection fees based on the number of stormwater facilities are due prior to the start of construction. Please refer to the fee schedule for those amounts.

2. The following notes must appear on the record plan:

    - The Kent Conservation District reserves the right to enter private property for purposes of periodic site inspection.
    - The Kent Conservation District reserves the right to add, modify, or delete any erosion or sediment control measure, as it deems necessary.
    - A clear statement of defined maintenance responsibility for stormwater management facilities must be provided on the Record Plan.

3. Ease of maintenance must be considered as a site design component and a maintenance set aside area for disposal of sediments removed from the basins during the course of regular maintenance must be shown on the Record Plan for the subdivision.

4. All drainage ways and storm drains should be contained within drainage easements and clearly shown on the plan to be recorded by Kent County.

5. A soils investigation supporting the stormwater management facility design is required to determine impacts of the seasonal high groundwater level and soils for any basin design.

Comments:

1. The designer is encouraged to consider the conservation design approach and limit the amount of tree clearing required for the development of the site including the stormwater management facilities shown in the wooded areas.

2. Access to the proposed stormwater facility must be provided for periodic maintenance. This access should be at least 12 feet wide to leading to the facility and around the facility's perimeter.

3. It is recommended that the stormwater management areas be incorporated into the overall landscape plan to enhance water quality and to make the stormwater facility an attractive community amenity.

4. A letter of no objection to re-recordation will be provided once the detailed Sediment and Stormwater Management plan has been re-approved.

5. Proper drainage of developed lots and active open space should be considered in the development of the grading plan for this subdivision.

6. Based on the site characteristics, a pre-application meeting is suggested to discuss stormwater management and drainage for this site.

Drainage

The Drainage Program requests that the engineer take precautions to ensure that the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. The engineer is encouraged to meet with downstream landowners to obtain their concerns of current drainage as well as the additional drainage impact this project will have on the area. Please notify downstream landowners if there will be a change in the volume of water released on them.

The Drainage Program does not support the removal of trees for the creation of stormwater management areas. However, the Drainage Program recognizes that tree

removal is unavoidable in some cases. Where practical, plant native trees and shrubs to compensate for the loss of nutrient uptake and stormwater absorption the removed trees provided.

The Drainage Program does not have a clear understanding how stormwater will convey to the stormwater management areas. The Drainage Program requests that the routing of major stormwater pipes through yards be prohibited.

The Drainage Program encourages the elevation of rear yards to direct water towards the streets where storm drains are accessible for maintenance. However, the Drainage Program recognizes the need for catch basins in rear yards in certain cases. Therefore, catch basins placed in rear yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, kennels, and other structures placed along the storm drains, or within 10 feet of the catch basins, can hinder drainage patterns as well as future maintenance to the storm drains or catch basins. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.

The Drainage Program requests a 15-foot side yard setback on all lots with a drainage easement on the side unless otherwise specified. A 15-foot side yard setback will allow room for equipment to utilize the entire drainage easement and maneuver free of obstructions if the drainage conveyance requires periodic maintenance or future re-construction.

The Drainage Program requests a 10-foot drainage easement around all catch basins located on private property to ensure adequate room for maintenance. The Drainage Program recommends restrictions on fences, sheds, and other structures within the easement to prevent obstructions from being placed within 10 feet of the catch basin.

Record all drainage easements on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction.

Open Space

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Doing so will provide wildlife habitat and it will create recreational opportunities for residents. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

Natural habitat implementation efforts should be targeted to open space areas adjacent to forests and/or wetlands. Natural habitat could consist of reforesting portions of open space or establishing meadow grasses. The developer is encouraged to review "Community Spaces, Natural Places: A guide to restoration, management, and maintenance of community open space". This document provides a reference of practical and successful open space management techniques that emphasize natural landscape alternatives other than turf grass management. The guidebook is available online at: http://www.dnrec.state.de.us/dnrec2000/Divisions/Soil/dcmp/.

In addition, a detailed open space management plan should be recorded on the record plan. This plan should outline how to manage each open space area, as well as invasive species. Open space containing forest and/or wetlands should be placed into a permanent conservation easement or other permanent protection mechanism. Conservation areas should also be demarked to avoid infringement by homeowners.

Department of Education – Contact: John Marinucci 739-4658

DOE also commented that both elementary and secondary schools are at or beyond 100% of current capacity based on September 30, 2005 enrollment. You are strongly encouraged to contact the Capital School District Administration to address the issue of school over-crowding.

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

CC: Kent County