



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
Budget Development, Planning and Administration
State Planning Coordination

October 23, 2008

Mr. Ronald Sutton
Civil Engineering Associates
115 North Broad Street
Middletown, DE 19709

RE: PLUS review – 2008-09-09; Adamo/Wheeler Property

Dear Mr. Sutton:

Thank you for meeting with State agency planners on September 24, 2008 to discuss the proposed plans for the Adamo/Wheeler project to be located on the southeasterly side of Roughley Hill Road, approximately 2,000 feet north of Delaware Avenue within the City of Harrington.

According to the information received, you are seeking rezoning and subdivision plan approval through the City of Harrington for 415 residential units and 14,400 sq. ft. of commercial on 101.48 acres. This PLUS review is for both the rezoning and the subdivision plan.

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

Executive Summary

The following section includes some site specific highlights from the agency comments found in this letter. This summary is provided for your convenience and reference. The full text of this letter represents the official state response to this project. *Our office*

notes that the applicants are responsible for reading and responding to this letter and all comments contained within it in their entirety.

State Strategies/Project Location

- This project is located in Investment Level 2 according to the *State Strategies for Policies and Spending*. This site is also located in the City of Harrington. 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.
- Our office has no objections to the proposed rezoning of this project and its development in accordance with the relevant City codes and ordinances. The rezoning of this property is at the discretion of the Harrington City Council.

Street Design and Transportation

- Raughley Hill Road (Kent Road 405) is classified as a local road. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads.
- DelDOT will also require the developer to provide a 15-foot wide permanent easement along the property frontage for a future shared use path.
- It is recommended that consideration be given to eliminating the proposed commercial entrance on Raughley Hill Road in favor of access by way of the proposed residential development entrance.
- Two of the Active Open Space areas would be surrounded by streets on all four sides. This arrangement can be visually pleasing but it forces visitors to cross a street to enter or exit and it minimizes the area that people will feel comfortable using for recreation or other purposes. Where possible, it is recommended that the plan be modified to minimize the street frontage of such areas

Natural and Cultural Resources

- DNREC has some overriding concerns about this project that are discussed in more detail below, including:
 - An apparent significant underestimation of impervious cover, which could lead to water quality problems and flooding and drainage issues;
 - A portion of the project lies within an Excellent Recharge Area, which adds to the environmental impact of underestimated impervious cover; and
 - A significant increase in forest/habitat loss from 2 acres in the previous application (Fox Meadow Estates) to 25 acres.

- Existing tax ditch rights-of-way should be free from subdivision lots to allow for routine maintenance and periodic reconstruction
- Given the future development potential to the north, south, and west of this project the Drainage Program recommends the developer work with the city of Harrington, the Kent Conservation District, and the Browns Branch Tax Ditch organization to explore a regional stormwater plan for this section of Harrington.
- Preserve existing riparian buffers on this site to aid in the reduction of nutrients, sediment, and other pollutants entering the watershed. Please explore methods to filter excess nutrients in stormwater runoff from this site before releasing the stormwater into the watershed.
- The Drainage Program does not support the removal of trees for the creation of stormwater management areas.
- The site plan should be reconfigured so that a larger area of forest is left intact and connections to adjacent forested areas aren't fragmented. This would entail omitting some lots and infrastructure, especially on tax parcel MN-0017000021900 which was added to this project and is entirely forested.

This office has received the following comments from State agencies:

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

This project is located in Investment Level 2 according to the *State Strategies for Policies and Spending*. This site is also located in the City of Harrington. 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. Our office has no objections to the proposed rezoning of this project and its development in accordance with the relevant City codes and ordinances. The rezoning of this property is at the discretion of the Harrington City Council.

A portion of this project was previously reviewed as “Fox Meadow Estates” (PLUS 2007-10-14). The Fox Meadow Estates plan was for a single family detached residential development. We noted in our PLUS letter that the proposal appeared to be inconsistent with Harrington’s adopted and certified comprehensive plan, which calls for “Mix Density and Service Commercial.” In our letter we recommended that the developer contact their attorney and the City Solicitor before proceeding.

This current application appears to comply with the future land use plan by offering a variety of lot sizes and types of housing units, and also by providing a small commercial component that makes this a mixed use development. We defer to the City of Harrington’s staff and Solicitor to make a formal determination of plan compliance.

State Historic Preservation Office (SHPO) – Contact: Terrence Burns 739-5685

No comments received.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

A different plan for the Adamo portion of the site (about 73.13 acres) was presented at PLUS on October 24, 2007, and DelDOT has not received a response to their comments from that meeting. Therefore they will necessarily repeat some of the comments from that meeting.

- 1) Raughley Hill Road (Kent Road 405) is classified as a local road. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- 2) DelDOT will also require the developer to provide a 15-foot wide permanent easement along the property frontage for a future shared use path.
- 3) A traffic impact study (TIS) was completed and submitted for this development under the name Scenic Acres on July 1, 2008, and has been under review since then. DelDOT anticipates issuing comments, including recommendations for required offsite improvements, to the City in late September or early October.
- 4) DelDOT appreciates the value in providing a service commercial area at the entrance to the development so that residents can purchase convenience items without leaving their development and in some cases without driving. However, it is recommended that consideration be given to eliminating the proposed commercial entrance on Raughley Hill Road in favor of access by way of the proposed residential development entrance.
- 5) DelDOT appreciates the proposed street connections to the developer's other lands (Tax Parcel MN-09-170.00-02-13.00) and the lands of Leon C. Donovan (Tax Parcel MN-00-170.00-02-18.00). It is recommended that a third connection be provided, in the area of Lots 20 and 21, to the Gateway Farm, LLC parcel (Edward M. D'Aloisio property, Tax Parcel MN-09-170.00-02-13.02). Chapter 3 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access details requirements in this regard.
- 6) DelDOT recommends that further attention be given to the design of the two proposed "knuckles" or "elephant ears." Chapter 5 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access details the criteria in this regard.

- 7) The lot layout appears to mix townhouses and single-family detached houses on the same street. DeIDOT is not opposed to such a layout but there is a potential for parking problems. Townhouses typically need additional parking beyond their frontage and residents of single-family detached houses often object to people besides themselves and their guests parking in front of their houses on a regular basis. The plan should be reviewed carefully in this regard.
- 8) Two of the Active Open Space areas would be surrounded by streets on all four sides. This arrangement can be visually pleasing but it forces visitors to cross a street to enter or exit and it minimizes the area that people will feel comfortable using for recreation or other purposes. Where possible, it is recommended that the plan be modified to minimize the street frontage of such areas
- 9) If the rezoning is approved, the developer's site engineer should contact the project manager for Kent County, Mr. Brad Herb, regarding specific requirements for access and off-site improvements. Mr. Herb may be reached at (302) 266-9600.

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

Overall Comments

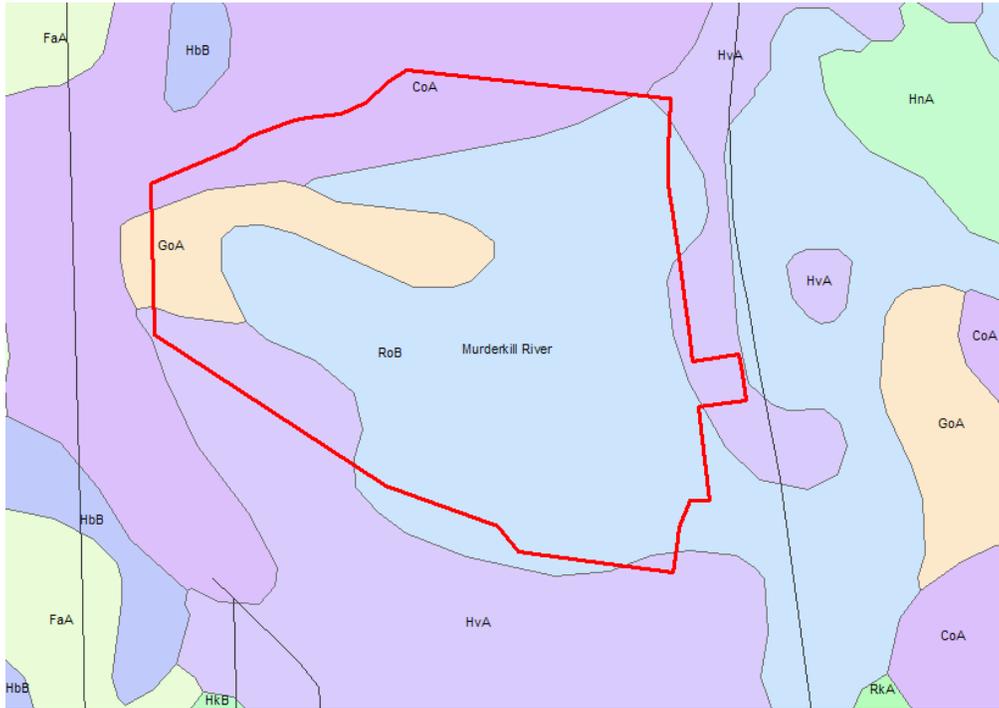
DNREC has some overriding concerns about this project that are discussed in more detail below, including:

- An apparent significant underestimation of impervious cover, which could lead to water quality problems and flooding and drainage issues;
- A portion of the project lies within an Excellent Recharge Area, which adds to the environmental impact of underestimated impervious cover; and
- A significant increase in forest/habitat loss from 2 acres in the previous application (Fox Meadow Estates) to 25 acres.

Soils

According to the NRCS soil survey update, Rosedale (RoB), Glassboro (GoA), Hurlock (HvA), and Corsica (CoA) were mapped in the immediate vicinity of the proposed construction (See figure 1). Rosedale is a well-drained upland soil that, generally, has few limitations for development. Glassboro is a somewhat poorly-drained transitional soil likely to contain both wetland and upland soil components. Hurlock and Corsica are poorly to very poorly-drained wetland associated (hydric) soils that have severe limitations for development and should be avoided. Approximately 15% of the soils mapped on this parcel are mapped as Hurlock and Corsica.

Figure 1: NRCS soil survey mapping update in the vicinity of the Adamo Wheeler Properties



Wetlands

According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested headwater riparian (PFO1A7) wetlands were mapped in the western portion of the proposed project (See figure 2).



Figure 2: SWMP mapping in the vicinity of the Adamo Wheeler Properties

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.

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 Note: The stream and headwater wetlands associated with the Browns Branch Tax ditch on this parcel may be subject to State wetland regulatory requirements. 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 subject to regulatory jurisdiction 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, or "the Corps") manual is the only acceptable basis for making a jurisdictional wetland determination for nontidal wetlands in Delaware. The applicant is forewarned that the Corps 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 Corps 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 Corps 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 Corps 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 Corps; they can be reached by phone at 736-9763.

As mentioned previously, a significant portion of this parcel contains poorly-drained wetland associated (hydric) Hurlock and Corsica soils (approximately 15%) which have a seasonal high water table occurring at or near the soil surface (within one-foot of soil surface or less). Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or "nor'easters." This is in addition to increased flooding probabilities from surface water runoff emanating from future created or constructed forms of structural imperviousness (e.g., rooftops, roads, sidewalks, and stormwater management structures).

As noted previously, the palustrine headwater water riparian wetlands bound the southwestern portion of subject parcel. 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 the stream and headwater riparian wetlands associated with the Browns Branch tax ditch. A literature 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) 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 Cover

Based on a review of the PLUS application form, post-construction surface imperviousness was projected to reach 29 percent. However, given the projected scope and density of this project this estimate appears to understate post-construction surface imperviousness. Using the TR-55 method and applying it to the prevailing residential lot size of less than 1/8 acre, DNREC calculates impervious cover for the project to more in the range of 65 percent. 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. It is strongly recommended that the applicant implement best management practices (BMPs) that reduce or mitigate some of its most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Murderkill River watershed. 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 Murderkill River watershed, "target-rate-nutrient reductions" of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. Additionally, "target-rate-reductions" of 32 percent will be required for bacteria.

TMDL Compliance through the PCS

As indicated above, TMDLs for nitrogen and phosphorus have been proposed for the Murderkill watershed. The TMDL calls for a 30 and 50 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 32 percent reduction in bacteria. A Pollution Control Strategy (PCS) 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), wider vegetated buffers along watercourses, use of pervious paving materials to reduce surface imperviousness, and the deployment of green-technology stormwater management treatment technologies. Contact Lyle Jones at 302/ 739-9939 for more information on the assessment tool.

Water Resource Protection Areas

The Water Supply Section, Groundwater Protection Branch (GPB) has determined that a portion of the project falls within an excellent ground-water recharge area for Kent County (see following map and attached map). 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 is an “indicator of how fast contaminants will move and how much water may become contaminated” (Andres, 2004, pg 1). Land-use activities or impervious cover on areas of excellent groundwater recharge potential may adversely affect the quality and quantity of ground water in these areas.

The Water Supply Section recommends that that portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover. It appears that the amount of impervious cover within the excellent ground-water recharge potential area exceeds 20%.

The Water Supply Section further recommends that if impervious cover exceeds 20% but is less than 50% of that portion of the parcel within an area of excellent recharge methods for augmenting ground-water recharge need be employed. However, the development should not exceed 50% regardless. A water balance calculation will be necessary to determine the quantity of clean water necessary to be recharged via a recharge basin (Kauffman, 2005). 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 (DNREC, 2005).

Recommendations:

- Reduce impervious cover to less than 20% for the portion of the development within the area of excellent recharge.

OR

- If the resulting impervious cover is greater than 20% but less than 50% perform an environmental assessment report, including a Climate Budget, as outlined in the Delaware Ground-Water Recharge Design manual at:

http://www.wr.udel.edu/swaphome/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf

Excellent ground-water recharge potential area is highlighted in green. The site plan overlies the parcels under review.



Water Supply

The information provided indicates that the City of Harrington will provide water to the proposed projects through a public water system. Our files reflect that the City of Harrington does not currently hold a Certificate of Public Convenience and Necessity (CPCN) to provide public water in these areas. They will need to file an application for a CPCN with the Public Service Commission, if they have not done so already.

Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-736-7547. Should an on-site public well be needed, it must 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.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Sediment and Erosion Control/Stormwater Management

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. It is strongly recommended that the owner and consultant contact the Kent Conservation District to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan before going further with the design of this site. There may be opportunities to use the existing wooded wetland area, with some modifications, for the storage of stormwater on this site. Stormwater quality treatment with Green Technology BMPs must occur prior to discharge to the wetlands. 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 Kent Conservation District. Contact Jared Adkins, Program Manager, at the Kent Conservation District at (302) 741-2600, ext. 3 for details regarding submittal requirements and fees.
- Because of the parcel's location in an impaired watershed and the amount of impervious surface, green technology BMPs and low impact development practices should be considered a priority to reduce stormwater flow and to meet water quality goals.

Drainage

- This project is located within the Browns Branch Tax Ditch, which has existing tax ditch rights-of-way. Any modification of the tax ditch or tax ditch right-of-way will require approval of the Tax Ditch Association and a court order change to the tax ditch. Please contact the Drainage Program in Georgetown at (302) 855-1930 as soon as possible to request a review of the tax ditch rights-of-way and to discuss the releasing of stormwater into the tax ditch.
- Existing tax ditch rights-of-way should be free from subdivision lots to allow for routine maintenance and periodic reconstruction. Routine maintenance primarily consists of mowing ditch bank vegetation and the removal of small blockages. Periodic tax ditch reconstruction involves the removal of sediment from the ditch bottom to reestablish the original design grade. The removed sediment, referred to as spoil, is typically disposed of by spreading within the tax ditch right-of-way. To prevent spoil from being spread in residents' yards, the Drainage Program recommends open space along the tax ditch to be 50' wide as measured from the top of bank and running the length of the tax ditch on this property

- The Drainage Program requests that the engineer take precautions to ensure 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. There are known problems with beaver in the area of this project. Notify downstream landowners of the change in volume of water released on them.
- Given the future development potential to the north, south, and west of this project the Drainage Program recommends the developer work with the city of Harrington, the Kent Conservation District, and the Browns Branch Tax Ditch organization to explore a regional stormwater plan for this section of Harrington.
- Have all drainage easements recorded on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction. Future property owners may not be aware of a drainage easement on their property if the easement is only on the record plan. However, by recording the drainage easement on the deed, the second owner, and any subsequent owner of the property, will be fully aware of the drainage easement on their property.
- Preserve existing riparian buffers on this site to aid in the reduction of nutrients, sediment, and other pollutants entering the watershed. Please explore methods to filter excess nutrients in stormwater runoff from this site before releasing the stormwater into the watershed.
- 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.

Forested Habitat Preservation

Note: The land use maps and aerial photograph do not include the entire project area. This project includes a larger area (101.48 acres) than Fox Meadows Estates-PLUS 2008-10-14 (72.4 acres) due to the addition of a forested parcel.

This project will result in even more forest loss than the previous application (Fox Meadow Estates PLUS 2008-10-14) due to this addition. They are now proposing 25 acres of forest loss as opposed to 2. This is a significant change in terms of wildlife habitat loss. The applicant indicated via Question #27 that no environmental impacts were anticipated, but they should be aware that forest loss is considered an environmental impact.

According to State wetland maps, a portion of this forest is mapped as wetlands. Forested wetlands can support an array of plants and animals. The surrounding forested area supports the function and integrity of the wetlands as well as provides breeding habitat for wetland dependent species. Also, larger, connected blocks of forest are essential to many species of wildlife. Forest fragmentation separates wildlife populations, increases road mortality, and increases “edge effects” that leave many forest dwelling species vulnerable to predation and allows the infiltration of invasive species.

Cumulative forest loss throughout the State is of utmost concern to the Division of Fish and Wildlife, which is responsible for conserving and managing the State’s wildlife (see www.fw.delaware.gov and the Delaware Code, Title 7). Because of an overall lack of forest protection, we have to rely on applicants and/or the entity that approves the project (i.e. counties and municipalities) to consider implementing measures that will aid in forest loss reduction.

Recommendations:

1. DNREC recommends the applicant consider preservation of most or all of the forest on these parcels. Incentive-based programs for wildlife management are available to private landowners through our agency. Please contact Shelley Tovell at (302) 735-3605 if the landowner(s) is interested in more information. Also, our botanist, Bill McAvoy (302-653-2880) can assist the applicant in developing a plant list for wildlife habitat restoration efforts on this site if desired.

If preservation is not going to be implemented:

2. The site plan should be reconfigured so that a larger area of forest is left intact and connections to adjacent forested areas aren’t fragmented. This would entail omitting some lots and infrastructure, especially on tax parcel MN-0017000021900 which was added to this project and is entirely forested.
3. Lot lines and infrastructure are within 100 feet of wetlands. DNREC recommends that the site plan be reconfigured so at least a 100-foot buffer is left intact between the wetlands and lot lines/infrastructure. Upland buffers around wetlands protect the function and integrity of the wetlands and provide critical habitat for wetland dependent species. Scientific research indicates that buffers need to be at least 100 feet in width to be effective at protecting water quality.
4. DNREC recommends that trees not be cleared from April 1st to July 31st to minimize impacts to birds and other wildlife that utilize forests for breeding. This recommendation would only protect those species for one breeding season; once trees are cleared the result is an overall loss of habitat.

Nuisance Waterfowl

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

The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Recommendation:

DNREC recommends plantings of native species of tall grasses, wildflowers, shrubs, and trees at the edge and within an adequate buffer (15-30 feet in width) around the ponds. When the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to congregate and nest in the area of the pond.

At this time, DNREC does not recommend using monofilament grids due to the potential for birds and other wildlife to become entangled if the grids are not properly installed and maintained. In addition, the on-going maintenance (removing entangled trash, etc.) may become a burden to the homeowners association or land manager.

Recreation

In May and June of 2008, the Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information on outdoor recreation patterns and preferences as well as other information on their landscape perception. These findings will be the foundation of the 2008-2011 Statewide Comprehensive Outdoor Recreation Plan (SCORP) providing guidance for investments in needed outdoor recreation facilities. Eighty-eight percent of Kent County residents indicated that outdoor recreation was very or somewhat important to them. Because of the importance of outdoor recreation in Kent County, the incorporation of active open space in this community is appreciated. However, as shown, the plan does not indicate what type of active recreation facilities will be provided in these areas. Based on the public opinion survey, the most needed active recreation facilities in Kent County include: walking and jogging paths, bicycle paths, fishing areas, playgrounds, and picnic areas. The moderate facility needs include basketball courts, baseball and softball fields, horseshoe pits, soccer fields, and football fields. Consideration should be given to incorporating some of these recreational facilities within the active open space areas of the proposed plan.

Under/Aboveground Storage Tanks

There are no LUST sites located within a quarter mile from the proposed project.

No environmental impact is expected; however, 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 will 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.

Site Investigation and Restoration

The 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 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.

Air Quality

Housing developments may unnecessarily emit, or cause to be emitted, significant amounts of 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 housing developments include emissions from:

- Area sources like painting, lawn and garden equipment and the use of consumer products like roof coatings and roof primers.
- The generation of electricity needed to support the homes in your development, and

- Car and truck activity associated with the homes in your new development.

These three air emissions components (i.e., area, electric power generation, and mobile sources) are quantified below, based on a per household/residential unit emission factor that was developed using 2002 Delaware data. These emissions in the table represent the actual impact the Adamo Wheeler Properties development may have.

Emissions Attributable to Adamo Wheeler Properties Subdivision (Tons per Year)

	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Direct Residential	12.8	1.4	1.2	1.5	52.1
Electrical Power Generation	ND*	5.1	17.7	ND*	2,612.1
Mobile	31.8	26.4	19.5	1.7	2,664.1
Total	44.6	32.9	38.4	3.2	5,328.3

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the subdivision, 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.

Recommendations:

The applicant shall comply with all applicable Delaware air quality regulations. These regulations include:

Regulation 6 - Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> • Using dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. • Using covers on trucks that transport material to and from site to prevent visible emissions.
Regulation 1113 – Open Burning	<ul style="list-style-type: none"> • Prohibiting open burns statewide during the Ozone Season from May 1-Sept. 30 each year. • Prohibiting the burning of land clearing debris. • Prohibiting the burning of trash or building materials/debris.
Regulation 1145 – Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> • Restricting idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:

- **Constructing only energy efficient homes.** Energy Star qualified homes are up to 30% more energy efficient than typical homes. These 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 increased 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.
- **Funding a lawnmower exchange program.** New lawn and garden equipment emits significantly less than equipment as little as 7 years old, and may significantly reduce emissions from this new development. The builder could fund such a program for the new occupants.

Additionally, the following measures will reduce emissions associated with the actual construction phase of the development:

- **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 at residential units and in vegetative buffer areas.** Trees reduce emissions by trapping dust particles and by 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 on air quality. The applicant should submit a plan to the DNREC Air Quality Management Section which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Adamo Wheeler Properties development. Air Quality Management Section points of contact are Phil Wheeler and Deanna Morozowich, and they may be reached at (302) 739-9402.

State Fire Marshal's Office – Contact: Duane Fox 856-5298

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. 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):

a. **Fire Protection Water Requirements:**

- Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required. For the two small proposed commercial buildings, the water distribution system shall be capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure and the fire hydrant spacing shall not exceed 800 feet on center.
- The infrastructure for fire protection water shall be provided, including the size of water mains.

b. **Accessibility:**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision must be constructed so fire department apparatus may negotiate it. If a "center island" is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

c. **Gas Piping and System Information:**

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

d. 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”
- Name of Water Supplier
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.statefiremarshal.delaware.gov, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Scott Blaier 739-4811

The Delaware Department of Agriculture has no objections to the proposed development. The project is located within the City of Harrington, and the *Strategies for State Policies and Spending* encourages environmentally responsible development in Investment Level 2 areas.

Right Tree for the Right Place

The Delaware Department of Agriculture Forest Service encourages the developer to use the “Right Tree for the Right Place” for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

Do Not Plant List

Due to the high risk of mortality from insects and disease, the Delaware Forest Service does not recommend planting any of the following species:

Callery Pear
Leyland Cypress
Red Oak (except for Willow Oak)
Ash Trees

Please contact the Delaware Forest Service for more information at (302) 698-4500.

Native Landscapes

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

Public Service Commission - Contact: Andrea Maucher 739-4247

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Delaware Division of Public Health- Health Promotion Bureau- contact Michelle Eichinger (302) 744-1011

Ensuring that new residential and commercial development incorporates pedestrian- and bicycle-friendly features allows people to travel by foot or by bicycle and promotes physical activity as part of daily routines. Regular physical activity offers a number of health benefits, including maintenance of weight and prevention of heart disease, type 2 diabetes and other chronic diseases.¹ Research shows that incorporating physical activity into daily routines has the potential to be a more effective and sustainable public health strategy than structured exercise programs.² This is particularly important considering about 65% of adult Delawareans are either overweight or obese.³ This current obesity crisis is also affecting children. Approximately 37% of Delaware's children are overweight or obese⁴, which places them at risk for a range of health consequences that include abnormal cholesterol, high blood pressure, type 2 diabetes, asthma, depression and anxiety.¹

In Delaware, as in other states across the nation, certain patterns of land use can act as a barrier to physical activity and healthy eating for children and adults alike. Examples of such barriers include neighborhoods constructed without sidewalks or parks and shopping centers with full-service grocery stores situated too far from residential areas to allow for walking or biking between them.

This proposed development is in a Level 2 area. Developing in such an area is consistent with the *Strategies for State Policies and Spending*. DPH is committed to the *Strategies* and therefore, does support development in the proposed area.

DPH supports new development in and around existing towns and municipalities where compact and mixed land use patterns facilitate physical activity. As a way to promote physical activity and access to healthy foods, we recommend that the following amenities be included in the Adamo/Wheeler plan:

Amenities to encourage active transportation

- Ensure there are sidewalks and walking paths connecting the public destinations (i.e. proposed community center and proposed commercial center) and active open space areas within the residential development. Designate bike paths to supplement the sidewalks already proposed in the plan so that residents can travel by foot or by bicycle. In addition, install bike racks in convenient locations throughout the development.

Amenities to encourage active recreation

- Incorporate playground areas in order to offer active recreation opportunities for children. If feasible, consider including a walking path around the playground areas so that adults and children can participate in recreational activities in the same space.

Increase opportunities for healthy eating

- Utilize some of the open space outside of the proposed community center to host a seasonal farm stand or mini farmer's market to promote the sale of fruits and vegetables.

¹Nemours Health and Prevention Services (2005). *Delaware Children's Health Chartbook*, Newark, DE.

²Active Living by Design. *Transportation Fact Sheet*. Retrieved May 17, 2007, from http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/Transportation_Factsheet.pdf.

³Delaware Health and Social Services (2008), *Division of Public Health, Behavioral Risk Factor Surveillance System (BRFSS), 1990-2007*.

⁴Nemours Health and Prevention Services (2007). *2006 Delaware Survey of Children's Health Descriptive Statistics Summary, Volume 1*.

Delaware State Housing Authority – Contact Vicki Powers 739-4263

This proposal is for a site plan review of 415 residential units and 14,400 sq. ft. of commercial property located on Raughly Hill Road, approximately 2,000 feet north of Delaware Avenue in the City of Harrington. According to the State Strategies Map, the site is located in an Investment Level 2 area. DSHA supports this proposal because residents will have proximity to existing services, markets, and employment opportunities. Furthermore, the proposal targets units for first time homebuyers. For informational purposes, the most recent real estate data collected by DSHA shows the median home price in Kent County to be \$221,000. However, households earning respectively 100% of Kent County's median income only qualify for mortgages of \$176,817, thus creating an affordability gap of \$44,183. The provision of units within reach of families earning at least 100% of Kent County's median income would help increase housing opportunities for first time homebuyers.

Department of Education – Contact: John Marinucci 735-4055

No comments received

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

CC: City of Harrington