

MORRIS & RITCHIE ASSOCIATES, INC.

ARCHITECTS, ENGINEERS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS



December 12, 2007

Constance C. Holland, AICP
Director
Office of State Planning Coordination
122 William Penn Street, Suite 302
Dover, DE 19901

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RECEIVED
O.F.C. PLANNING AND SUBSET

Re: The Reserve at Steeplechase
PLUS 2006-12-05
Response Letter

Dear Ms. Holland,

On behalf of our client Mr. Robert Sipple of Tamari Properites, LLC and developer for the proposed subdivision of the Reserve at Steeplechase, we hereby submit this response letter in regards to the PLUS review comments.

Since the Reserve at Steeplechase and Steeplechase subdivision projects are following two separate approvals pathways, it should be noted that this letter is in response to only those PLUS comments, or portions thereof, that are applicable to the Reserve at Steeplechase. All other PLUS comments that pertain solely to the elements of Steeplechase will be addressed in a separate response letter at a later date.

Previously, the Reserve at Steeplechase by-right subdivision project was denied preliminary plan approval by the Kent County Regional Planning Commission (RPC) on January 11, 2007. Subsequently, an appeal was made to the Kent County Levy Court, which on August 7, 2007 remanded the application back to the RPC for reconsideration. The Reserve at Steeplechase will now be reheard for preliminary plan approval by the RPC on February 7 and 14, 2008.

Our responses to the applicable PLUS comments are as follows:

State Strategies/Project Location

Comment:

This project is located in Investment Level 3 according to the Strategies for State Policies and Spending. This site is also located in the Kent County Growth Zone. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments will support growth in these areas, but please be advised that the State may have other priorities in the near term future.

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Response:

The developer is aware of the State's prioritization of infrastructure investment where growth is anticipated. In regards to this, the developer will make an equitable contribution towards various infrastructure improvements in the vicinity of the subdivision project. The 175 single-family residential lots that consist of the Reserve at Steeplechase project are located entirely on the north side of Barratts Chapel Road which bisects the Blessing property. On the south side of the road, two storm water management ponds and a sanitary sewer pump station are proposed as part of the project.

Street Design and Transportation

Comment:

DelDOT anticipates asking the developer to contribute to one significant road improvement project in the area: the Little Heaven Interchange

Response:

The developer will enter into an agreement with DelDOT to make an equitable contribution towards the Little Heaven Interchange project.

Comment:

Barratts Chapel Road is classified as a major collector road. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 40 feet from the centerline on collector roads. Therefore we will require right-of-way dedication along the frontage to provide any additional width needed from this project. This is a change from our previous PLUS comments on this project resulting from the reclassification of the road.

Response:

The required right-of-way width of 40' from the centerline of collector roads will be dedicated to DelDOT where the subject parcel fronts onto Barratts Chapel Road.

Comment:

DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site.

Response:

The required 15-foot wide multi-modal easement with 10-foot wide shared use path has been added to the plan.

Comment:

DeIDOT recommends that driveway easements be provided to allow or the future connection of the three out parcels on the north side of Barratts Chapel Road to the proposed subdivision streets.

Response:

The developer will consider providing driveway easements to the three out parcels on the north side of Barratts Chapel Road for access to the proposed internal subdivision streets.

Comment:

The right-of-way for the easterly entrance road should be 60 feet wide all the way to the southerly loop road.

Response:

This comment is not applicable to this application. Should the property on the south side of Barratts Chapel road one day be developed, a separate application would be submitted and processed.

Comment:

Several reduced right-of-way streets are proposed in the townhouse section. They appear to be alleys, and as such they would not qualify for State maintenance. If they are to be built for State maintenance, the radii of several horizontal curves will need to be increased to meet DeIDOT standards.

Response:

This comment is not applicable to this application. Should the property on the south side of Barratts Chapel road one day be developed, a separate application would be submitted and processed.

Natural and Cultural Resources

Comment:

The Division of Historical and Cultural Affairs would like the opportunity to examine the area prior to any ground-disturbing activities, to learn something about the known archaeological site's nature and extent and to see if there are in fact any other archaeological sites on the parcel and to learn something about their location, nature, and extent. They would also like the opportunity to document the existing house prior to any demolition activities.

Response:

The Division of Historical and Cultural Affairs will be allowed to investigate the Blessing property prior to any ground-disturbing activities. Additionally, opportunities will be provided to document the existing house located on the south side of Barratts Chapel Road.

Comment:

Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Particularly because of this area and its status as a State Resource Area, lots should be removed in their entirety from both the wetland and the forest surrounding it. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex.

Response:

For the Reserve at Steeplechase, no lot lines are proposed that impact the wetland or forested areas located on the south side of the site. The proposed stormwater management ponds will only impact the forested areas at their outfall locations. Also, in an effort to limit forest clearing where the future pump station is to be located (per the Kent County Technical Feasibility Study (TFS)), it will share an access road through the woods with the previously approved Artesian Water Co. water storage tank.

Comment:

Large isolated pockets of open space are rarely used by residents. Eliminating these pockets will be beneficial to onsite natural resources by relocating open space areas adjacent to wetland and forest resources. To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure (such as storm water management ponds) be pulled out of the forest and that areas of community open space be designated along the forested/riparian areas.

Response:

Two strategically located active open space areas are provided within the Reserve at Steeplechase. These active open space areas will be linked to the rest of the development via sidewalks and pathways.

Comment:

*DNREC has records of *Notropis chalybaeus* (iron color shiner) within Pratt Branch at this site, which is also a State Natural Area. There are also records of rare plants just upstream and they may be within the project site as well. There are freshwater tidal scrub-shrub wetlands bordering the stream and this type of habitat is very significant as it is becoming quite rare in Delaware. The current site plan does not provide adequate*

buffers to protect water quality, rare species and the integrity of this freshwater wetland system.

The site plan/application states that a 100-foot buffer from the center of the stream will be maintained; however, 100 feet from the center of the stream only extends to the crest of the slope. The lot lines extend to the crest of the slope. The 100-foot buffer should extend from the crest of the slope to the lot line, not the center of the stream to the crest of the slope as it is currently. In addition, the proposed 50-foot tidal and 25-foot non-tidal wetland buffers are extremely inadequate and should be increased to 100 feet.

Response:

The proposed stormwater management ponds will only impact the forested areas at their outfall locations. Also, where possible, efforts will be made to keep the storm water ponds outside of the recommended 100-foot stream buffer from the crest of the slope. At a minimum, a 25-foot wetlands buffer will be provided per Kent County Code and may be increased where feasible.

Comment:

Due to the importance of the forest on this parcel as a riparian and wetland buffer, a greater effort to maintain the existing forest should be made. Omitting some of the lots and infrastructure, especially in the southern part of the plan, would allow for greater forest preservation.

Response:

This comment is only partially applicable to this application. Should the property on the south side of Barratts Chapel road one day be developed, a separate application would be submitted and processed. Save for their outfall locations, the stormwater ponds proposed by the Reserve at Steeplechase project will not impact the forested areas. The sanitary sewer pump station is being located within a previously cleared forested area.

Comment:

Current site plans indicate that roughly 19 lots are within the existing Natural Area. The Office of Nature Preserves strongly recommends removal of lots in the forested portion of the site and respectfully requests the applicant consider dedicating the Natural Area as a Nature Preserve through a conservation easement or donation of land to the State.

Response:

This comment is not applicable to this application. Should the property on the South side of Barratts Chapel road one day be developed, a separate application would be submitted and processed.

Office of State Planning Coordination

Comment:

This project is located in Investment Level 3 according to the Strategies for State Policies and Spending. This site is also located in the Kent County Growth Zone. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments will support growth in these areas, but please be advised that the State may have other priorities in the near term future. We encourage you to design the site with respect for the environmental features which are present. Please pay particular attention to the environmental design comments found later in this letter.

Our office is encouraged that the developer is taking advantage of the Kent County Transfer of Development Rights (TDR) ordinance. We support equity transfer programs such as TDRs which preserve land in our rural areas while concentrating growth in designated growth zones where infrastructure and services will be available to new residents. In addition, Kent County's ordinance contains high standards for subdivision design and architecture in TDR developments, which will assure that the development is unique, attractive, and of a high quality. Our office has no objections to the development of this parcel in accordance with all relevant Kent County codes and ordinances.

As discussed at the PLUS meeting, we encourage the applicant to take advantage of the flexibility in the Kent County TDR ordinance to preserve additional open space and natural features on the site. One way to do this is to implement "big house" style condo units in place of some of the other unit types. These structures can be designed with the same mass and detailing as large single family homes, yet typically contain two or more condo units. The same unit count desired by the developer can be maintained with a smaller footprint on the site, allowing for more open space, forest preservation, and natural buffers. These units would also diversify the housing offered in the project, and perhaps open a different market segment to the developer.

Response:

The developer is aware of the project's location within the State Strategies' Investment Level 3 zone. Also, since the Reserve at Steeplechase is a by-right project, only single-family lots are allowed per the current Kent County Zoning Code.

Division of Historical and Cultural Affairs

Comment:

This parcel contains a historic house (K-2747) and a prehistoric-period archaeological site (K-589). Both of these are within the south half of the development. Beers Atlas of 1868 shows the P. Grumell House within the north half and the R. Williams House within

or very nears the eastern edge of the north half. There are areas of high potential for other prehistoric-period archaeological sites as well. There are nearby historic houses to the west of the parcel, but they appear to be well screened from this parcel by existing trees. The historic house to the east (K-2744) may be already demolished by planned development there.

Small, rural, family cemeteries often are found in relation to historic farm complexes, such as the Grumell House and the unnamed house now there, usually a good distance behind or to the side of the house. The developer should be aware of Delaware's Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out, and the developer may want to hire an archaeological consultant to check for the possibility of a cemetery here if this development is approved. The Division of Historical and Cultural has indicated that they will be happy to discuss these issues with the developer.

The DHCA would like the opportunity to examine the area prior to any ground-disturbing activities, to learn something about the known archaeological site's nature and extent and to see if there are in fact any other archaeological sites on the parcel and to learn something about their location, nature, and extent. They would also like the opportunity to document the existing house prior to any demolition activities. It is requested that there be sufficient landscaping on the west side of this development to block any noise or visual intrusions on the nearby historic houses.

Response:

The developer is aware of Delaware's Unmarked Human Remains Act of 1987 and the requirements thereof. Also, the developer will provide opportunities to document the existing house and archaeological sites located on the south side of Barratts Chapel Road.

Department of Transportation

Comment:

DelDOT anticipates asking the developer to contribute to one significant road improvement project in the area: the Little Heaven Interchange (construction anticipated to begin in 2009 and end in 2012). Mr. Brad Herb, the project manager for Kent County, may be contacted for more information in this regard. He may be reached at (302) 266-9600. Previously, DelDOT had indicated that the developer would be required to contribute to the widening of Barratts Chapel Road as well. DelDOT has since determined that requiring area developers to fund both the interchange and the Barratts Chapel Road improvements is not reasonable. The developer will be required to make improvements at their site entrances, including the construction of a roundabout at the west entrance, but the widening of Barratts Chapel Road will be done by DelDOT when funds become available

Response:

The developer will enter into an agreement with DelDOT to make an equitable contribution towards the Little Heaven Interchange project.

Comment:

Barratts Chapel Road is classified as a major collector road. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 40 feet from the centerline on collector roads. Therefore we will require right-of-way dedication along the frontage to provide any additional width needed from this project. This is a change from our previous PLUS comments on this project resulting from the reclassification of the road.

Response:

The required right-of-way width of 40' from the centerline of collector roads will be dedicated to DelDOT where the subject parcel fronts onto Barratts Chapel Road.

Comment:

DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site.

Response:

The required 15-foot wide multi-modal easement with 10-foot wide shared use path has been added to the plan.

Comment:

DelDOT recommends that driveway easements be provided to allow or the future connection of the three out parcels on the north side of Barratts Chapel Road to the proposed subdivision streets.

Response:

The developer will consider providing driveway easements to the three out-parcels on the north side of Barratts Chapel Road for access to the proposed internal subdivision streets.

Comment:

The right-of-way for the easterly entrance road should be 60 feet wide all the way to the southerly loop road.

Response:

This comment is not applicable to this application. Should the property on the South side of Barratts Chapel road one day be developed, a separate application would be submitted and processed.

The Department of Natural Resources

Comment:

Please note that the site plan for this project is very similar to the site plan submitted for PLUS 2006-01-02 Blessing Property. However, now there is an increase of 85 lots, a 7.96 acre reduction in open space, and a reduction of 3.16 acres of stormwater management (stats taken from site plans submitted to PLUS). According to the applicant, the current project will result in only 0.9 acres of forest loss as opposed to 6.58 acres for the Blessing Property. DNREC is unsure how this was accomplished given the increase in lots and decreases of open space and recommends the applicant recalculate forest loss. The site plan changes that they recommended for PLUS 2006-01-02 Blessing Property do not appear to have been implemented.

Response:

For the Reserve at Steeplechase project, the amount of forest clearing has been recalculated to be 0.15 AC. This minimal amount of forest clearing is for the outfall areas of the stormwater management ponds and for the sanitary sewer pump station.

Comment:

Portions or all of the lands associated with this proposal are within the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61 that represents a network of ecologically important natural resource lands of special state conservation interest. Green infrastructure is defined as Delaware's natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, productive agricultural and forest land, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. Preserving Delaware's Green Infrastructure network will support and enhance biodiversity and functional ecosystems, protect native plant and animal species, improve air and water quality, prevent flooding, lessen the disruption to natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism. Voluntary stewardship by private landowners is essential to green infrastructure conservation in Delaware, since approximately 80 percent of the State's land base is in private hands. It is in that spirit of stewardship that the Department appeals to the landowner and development team to protect sensitive resources through an appropriate site design.

Response:

The Reserve at Steeplechase will only require very minimal forest clearing at the outfalls of the proposed stormwater management ponds and for the proposed sanitary sewer pump station.

Comment:

Based on the Kent County soil survey update, Sassafras, Downer, Fort Mott, Hambrook, Woodstown, Zekiah, Puckum, and Lenape were mapped in the immediate vicinity of the proposed construction. Sassafras, Downer, Fort Mott, and Hambrook are well-drained upland soils that, generally, have few limitations for development. Woodstown is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Zekiah, Puckum, and Lenape are very poorly-drained (hydric) floodplain soils associated with the existing wetlands, and have severe limitations for development.

Response:

Development will not occur where wetlands exist.

Comment:

According to the Statewide Wetland Mapping Project (SWMP) mapping, nontidal palustrine forested and tidally-influenced palustrine forested/riverine unconsolidated bottom headwater wetlands are immediately adjacent and bound an unnamed (or name unknown) headwater stream tributary and a headwater tributary known as Spring Creek. The wetlands and streams border the entire southern and southwestern boundaries of subject parcel.

These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Particularly because of this area and its status as a State Resource Area, lots should be removed in their entirety from both the wetland and the forest surrounding it. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. The developer should note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

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 preserve the existing forested buffer adjacent to the headwater wetlands and associated stream headwater stream tributaries of Spring Creek - in its entirety. Otherwise, a buffer width of at least 100-foot is

the recommended minimum. In the situation where the natural buffer vegetation has been removed or reduced by past development or farming activities, the developer is encouraged to restore/establish to said buffer width or greater with native herbaceous and/or woody vegetation. A literature review of past research by Castelle et al. (1994), documents consensus among researchers that an upland buffer width of at least 100-foot is necessary to protect water/habitat quality of streams and wetlands from development and its associated impacts.

Response:

Lot lines and/or construction activities for the Reserve at Steeplechase will not encroach upon or impact any field delineated wetland areas. Additionally, in many places the wetland buffer will actually be greater than the 25-foot minimum that is required by Kent County Code.

Comment:

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.

Response:

A field delineated wetland investigation was completed by Geo-Technology Associates Inc. in August 2006.

Comment:

Based on a review of the PLUS application, post-development surface imperviousness is estimated to be about 29 percent. However, given the scope and density of this project, this estimate is clearly an underestimate. The applicant's apparent use of natural areas (wetlands or buffers) and areas of functional utility (stormwater management areas) for meeting the County's open space requirements artificially lowers the amount of this project's post-development projection of surface imperviousness, ultimately underestimating its environmental impacts. Furthermore, the applicant should also realize that all created forms of constructed surface imperviousness (i.e., rooftops, sidewalks, and roads) and their extent should be comprehensively accounted for when calculating surface imperviousness. It is strongly recommended that the applicant address all of the above-mentioned concerns in the finalized calculation for surface imperviousness. 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.

Response:

The impervious cover on the north side of Barratts Chapel Road, where the residential lots for the Reserve at Steeplechase are located, will not exceed the 30% maximum imperviousness as required in the Kent County Code for the AC zoning district.

Comment:

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Murderkill 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 watershed, a post-development TMDL reduction level of 50 and 30 percent will be required for nitrogen and phosphorus, respectively. As stated above Total Maximum Daily loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Murderkill Watershed. The TMDL calls for a 50% reduction for nitrogen and 30% for phosphorus from baseline conditions. The Department developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional reductions may be possible through the implementation of Best Management Practices such as wider vegetated buffers along watercourses, increasing passive, wooded open space, connection to a central sewer (if available), and the use of stormwater

management treatment trains. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

Response:

Comment acknowledged.

Comment:

The project information sheets state water will be provided to the project by Artesian Water Company via a central water system. Our 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 03-CPCN-10. 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.

Response:

The developer will work with Artesian Water Company to ensure that all required permits for any necessary dewatering practices are obtained from the appropriate agencies.

Comment:

The Water Supply Section has determined that the northwest corner of site falls within an excellent ground-water recharge area.

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 ground water in these areas.

The site plan shows a T-intersection connecting to the development on the northern border. This intersection is in the recharge area. Eliminating this egress would protect the

underlying groundwater from this potential source of petroleum hydrocarbons, metals, organic and inorganic compounds associated with this land use.

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>

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/swam_guidance_manual_final.ndf

Steeplechase and Reserve at Steeplechase (PLUS 2006-12-05) 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.

Response:

The proposed "T-intersection" on the northwesterly corner of the site is the result of a required interconnection to an existing stub road from the adjacent Pintail Pointe subdivision. Both Kent County and DelDOT require and/or encourage neighborhood interconnectivity.

Comment:

- 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 our office prior to any land disturbing activity (i.e. clearing, grubbing, filling, grading, etc.) taking place.*
- 2. The review fee and a completed Application for a Detailed Plan are due at the time of plan submittal to our office. 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.*
- 3. 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.*

4. *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.*

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

6. *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.*

Response:

The developer will work with Kent Conservation District to ensure that all State and Local stormwater management regulations and requirements are met.

Comment:

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 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 yards in certain cases. Therefore, catch basins placed in rear and side yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, pools, and kennels can hinder drainage patterns as well as future maintenance to the storm drains or catch basin. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access. Increase the side yard setback to 15 feet on all properties with a drainage easement on the side. The increase will allow room for equipment to utilize the entire easement and maneuver free of obstructions if the drainage conveyance requires periodic maintenance or future re-construction. The side yard setback would only increase on the side with the drainage easement.

All catch basins in rear or side yards should have a 10-foot drainage easement around them on all sides. Place restrictions on fences, sheds, and other structures within the easement to prevent obstructions from being place next to the catch basin. Record the easement on the deed.

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.

This project is within the Murderkill River Watershed, a designated critical area, with a promulgated Total Maximum Daily Load (TMDL). Preserve existing riparian buffers to aid in the reduction of nutrients, sediment, and other pollutants. For the further enhancement of water quality in the Murderkill watershed, the Drainage Program encourages additional widths of vegetated buffers and other water quality measures on this project. Please explore the use of a created wetland to filter excess nutrients in stormwater runoff

Response:

Where feasible, attempts will be made to direct on-lot stormwater run-off towards the street where the storm drain inlets are located. However, where it becomes necessary to place inlets to collect run-off from rear yard swales, several standards have been agreed upon with Kent County Planning Services.

- 1) Longitudinal gradients for swales shall be a minimum of 1% where possible.
- 2) At sump locations at the rear yards of groups of lots, no more than 12 lots can utilize the same inlet.
- 3) Fences that are placed by the future landowner on the lots must have a minimum 4" gap on the underside of the fence to allow for the free passage of runoff.
- 4) Decks, sheds or other structures may not be placed within the side or rear building setback for lots. This is typically where most drainage conveyance systems are located.

Comment:

Portions of this parcel lie within the 100-year floodplain.

Response:

The 100-year floodplain traces the 9-foot elevation contour on the Blessing property and will not be impacted by future development activities.

Comment:

Large isolated pockets of open space are rarely used by residents. Eliminating these pockets will be beneficial to onsite natural resources by relocating open space areas adjacent to wetland and forest resources. To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure (such as storm water management ponds) be pulled out of the forest and that areas of community open space be designated along the forested/riparian areas. Doing so will accomplish two things: it will preserve and expand the existing riparian buffers on site and its value for birds and wildlife and it will create recreational opportunities for residents by allowing them access to and views of the forest and stream.

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

habitat for wildlife 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 wetlands. 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. 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.

Response:

Two strategically located active open space areas have been placed among the residential lots for the Reserve at Steeplechase. They will be linked to the rest of the development via sidewalks and pathways. Except for the construction of the storm water management ponds and a required sanitary sewer pump station, the land on the south side of Barratts Chapel Road will remain undeveloped at this time.

Comment:

*DNREC has records of *Notropis chalybaeus* (iron color shiner) within Pratt Branch at this site, which is also a State Natural Area. There are also records of rare plants just upstream and they may be within the project site as well. There are freshwater tidal scrub-shrub wetlands bordering the stream and this type of habitat is very significant as it is becoming quite rare in Delaware. The current site plan does not provide adequate buffers to protect water quality, rare species and the integrity of this freshwater wetland system. The site plan/application states that a 100-foot buffer from the center of the stream will be maintained; however, 100 feet from the center of the stream only extends to the crest of the slope. The lot lines extend to the crest of the slope. The 100-foot buffer should extend from the crest of the slope to the lot line, not the center of the stream to the crest of the slope as it is currently. In addition, the proposed 50-foot tidal and 25-foot non-tidal wetland buffers are extremely inadequate and should be increased to 100 feet.*

Response:

As previously stated, where feasible, efforts will be made to increase environmental buffer widths above and beyond the required minimum standards found in the Kent County Code.

Comment:

Because of the presence of the species mentioned above and the existence of a State Natural Area, this project lies within a State Natural Heritage Site. This is one of the criteria used to determine the presence of Critical Resource Waters. The final decision regarding Critical Resource Waters, if this is an issue, will be made by the U.S. Army Corps of Engineers (USACE). The information above will aid the Corps in their determination.

Response:

Comment acknowledged.

Comment:

Due to the importance of the forest on this parcel as a riparian and wetland buffer, a greater effort to maintain the existing forest should be made. Omitting some of the lots and infrastructure, especially in the southern part of the plan, would allow for greater forest preservation. This area could then be preserved as a larger area of open space which is more beneficial to 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.

A larger area of open space could be more beneficial to residents as well, as it would be accessible to all residents. Small, fragmented areas of open space behind lots, on corners, and in other irregular places become underutilized, can become a maintenance problem, and are often only accessible to adjacent residents. The current proposed fragmented open spaces could be used for stormwater management, infrastructure and lots relocated from the forested portion of the site. To reduce impacts to nesting birds and other wildlife species that utilize forests for breeding, we recommend that if tree clearing occurs, it not occur April 1st to July 31st.

Response:

As previously stated, the Reserve at Steeplechase project does not require any forest clearing on the northern side of Barratts Chapel Road and only a minimal amount of forest clearing for the outfall of the proposed storm water pond and sanitary sewer pump station.

Comment:

Stormwater management ponds may attract waterfowl like resident Canada geese and mute swans. 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 grasses around ponds provide an attractive habitat for these species. We recommend native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. These plantings should be

completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, property managers or owners 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.

Response:

The developer is aware of the potential for nuisance waterfowl associated with stormwater management ponds. A landscape planting plan for the pond edges will be part of the overall landscape planting plan for the Reserve at Steeplechase subdivision project.

Comment:

Both State designated Natural Areas and State Resource Areas are located on the site. Natural Areas contain lands of statewide significance identified by the Natural Area Advisory Council as the highest quality and most important natural lands remaining in Delaware. State Resource Areas are comprised of lands that contain a variety of natural, cultural and open space resources significant to the state. The forested area located in the southern portion of the property is a part of the Murderkill River Natural Area and the Upper Murderkill State Resource Area.

Current site plans indicate that roughly 19 lots are within the existing Natural Area. The Office of Nature Preserves strongly recommends removal of lots in the forested portion of the site and respectfully requests the applicant consider dedicating the Natural Area as a Nature Preserve through a conservation easement or donation of land to the State.

Nature Preserve status provides the highest level of protection to the resource.

The Natural Area should be viewed as a community asset and managed appropriately. That said stormwater discharge from the stormwater management facilities should be directed away from the Natural Area. Rather, conservation design techniques should be utilized to minimize runoff to the Natural Area.

In summary, the developer is strongly encouraged to preserve, and where possible, enhance forested resources on site. This includes removing lot lines and infrastructure (such as storm water management ponds) from the Natural Area.

Response:

The above reference to 19 lots being located within the existing Natural Area is no longer applicable to this project. As previously stated, the Reserve at Steeplechase is only proposing residential lots for the north side of Barratts Chapel Road where there will be no Natural Area impacts.

Comment:

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State's limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

Response:

Comment acknowledged.

Comment:

Once complete, vehicle emissions associated with this project are estimated to be 41.7 tons (83,344.8 pounds) per year of VOC (volatile organic compounds), 34.5 tons (69,003.9 pounds) per year of NOx (nitrogen oxides), 25.5 tons (50,912.3 pounds) per year of SO2 (sulfur dioxide), 2.3 ton (4,532.1 pounds) per year of fine particulates and 3,485.8 tons (6,971,689.1 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 16.8 tons (33,616.8 pounds) per year of VOC (volatile organic compounds), 1.8 ton (3,698.9 pounds) per year of NOx (nitrogen oxides), 1.5 ton (3,069.5 pounds) per year of SO2 (sulfur dioxide), 2.0 ton (3,961.1 pounds) per year of fine particulates and 68.1 tons (136,274.8 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 6.7 tons (13,323.3 pounds) per year of NOx (nitrogen oxides), 23.2 tons (46,341.8 pounds) per year of SO2 (sulfur dioxide) and 3,417.7 tons (6,835,414.3 pounds) per year of CO2 (carbon dioxide).

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 6.7 tons of nitrogen oxides per year and 23.2 tons of sulfur dioxide per year.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, <http://www.energystar.gov/>:

"ENERGY STAR" qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a

combination of: building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment.

The Energy office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

Response:

Comment acknowledged

State Fire Marshall's Office

Comment:

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).

Response:

Comment acknowledged

Agriculture

Comment:

The Delaware Department of Agriculture has no objections to the proposed application the Sstrategies for State Policies and Spending encourages environmentally responsible development in Investment Level 2 and 3 areas.

This site overlaps with the State's Green Infrastructure Investment Strategy Plan. The Natural Areas layer is present on the site. This designation indicates the land has valuable environmental characteristics and functions which are discussed in Governor Minner's

Executive Order Number 61. They should be preserved as such, and not developed for residential or other incompatible uses.

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.

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.

Tree Mitigation - The Delaware Forest Service encourages the developer to implement a tree mitigation program to replace trees at a 1:1 ratio within the site and throughout the community. This Will help to meet the community's forestry goals and objectives and reduce the environmental impacts to the surrounding natural resources. To learn more, please contact our offices at (302) 349-5754.

Response:

As part of the final landscape design, the proper tree species will be selected that fit the spatial and environmental parameters of their chosen locations. Also, plants and trees deemed invasive by the Kent County Code, Kent Conservation District or other jurisdictional agencies, will not be used. A comprehensive landscape plan in accordance with the Kent County Code will be completed as part of this subdivision project.

Public Service Commission

Comment:

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines.

Response:

Comment acknowledged.

Delaware State Housing Authority

Comment:

This proposal is for a site plan review for 543 residential units on 177 acres located on both sides of Barrett's Chapel Road, east of McGinnis Pond Rd., northwest of Frederica, and adjacent to the confluence of Hudson Branch and Spring Creek. According to the State Strategies Map, the proposal is located in an Investment Level 3 area and inside the growth zone. As a general planning practice, DSHA encourages residential development inside growth zones, where residents will have proximity to services, markets, and employment opportunities. Furthermore, the proposal targets units for first time homebuyers. According to the most recent real estate data collected by DSHA, the average home price in Kent County is \$225,000. However, families earning respectively 100% of Kent County's median income only qualify for mortgages of \$180,115, thus creating an affordability gap of \$44,885. The provision of units within reach of families earning at least 100% of Kent County's median income will ensure housing that is affordable for first time homebuyers. In addition, during the January 3" PLUS meeting, the idea of Big House Design was mentioned by the Office of State Planning. DSHA can provide examples of how the Big House Design has been successfully done.

Response:

This comment is no longer entirely applicable to this project. As previously stated, the current Reserve at Steeplechase project consists of 175 single-family lots on the north side of Barratts Chapel Road. Should the property on the south side of Barratts Chapel road one day be developed, a separate application would be submitted and processed.

Department of Education

Comment:

This proposed development is within the Lake Forest School District boundaries.

DOE offers the following comments on behalf of the Lake Forest School District.

- 1. Using the DOE standard formula, this development will generate an estimated 272 students.*
- 2. DOE records indicate that the Lake Forest School Districts' elementary schools are at or beyond 100% of current capacity based on September 30, 2006 elementary enrollment.*
- 3. DOE records indicate that the Lake Forest School Districts' secondary schools are very close to 100% of current capacity based on September 30, 2006 secondary enrollment.*
- 4. The Superintendent of Lake Forest School District has communicated to the DOE the district's lack of capacity given the number of planned and recorded residential subdivisions within district boundaries.*
- 5. This development will create additional elementary and secondary student population growth which will further compound the existing shortage of space.*
- 6. The developer is strongly encouraged to contact the Lake Forest School District*

Administration to address the issue of school over-crowding that this development will exacerbate.

7. DOE requests developer work with the Lake Forest School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the local school district.

Response:

Using the standard DOE formula of 0.5 students per household, the Reserve at Steeplechase will generate an estimated 88 students for the Lake Forest School District. Given that, the developer is aware of the school capacity issues being faced by the District and will ensure that the project is compliant with the Kent County Adequate Public Facility Ordinance (APFO) for schools.

Should you have any questions or comments regarding these responses to the PLUS review comments for the Reserve at Steeplechase, please feel free to contact me. We look forward to working with your office and the other review agencies on this project.

Very Truly Yours,
MORRIS & BITCHIE ASSOCIATES, INC.



Marco K. Boyce, RLA, ASLA
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