



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF
STATE PLANNING COORDINATION

December 13, 2004

Ms. Julie E. Kirkpatrick
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Ste. 36
Wilmington, De 19720

RE: PLUS review – PLUS 2004-11-12; Roseville Estates

Dear Ms. Kirkpatrick:

Thank you for meeting with State agency planners on November 23, 2004 to discuss the proposed plans for the Roseville Estates project to be located along Roseville Road and Carpenters Bridge Road, southwest of Frederica. According to the information received, you are seeking site plan approval for 472 single family units on 211.9 acres.

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

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 3 according State Strategies for 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. Both of these criteria apply to the subject parcel. This property is on the periphery of the Kent County Growth Zone, and it is adjacent to the Murderkill River. State investments

will support growth in these areas, but please be advised that the State may have other priorities in the near term future. Our office has no objections to the proposed development of this project in accordance with the County codes and ordinances.

Much of the discussion at the PLUS meeting centered around the relationship of the site to the Murderkill River. Specifically, there is a cul-de-sac proposed in the southwestern corner of the site which will involve a significant negative impact on a forested area with steep slopes in order to construct. In addition, the plan proposes stormwater areas adjacent to the river which will involve the removal of even more forest. It was recommended at the meeting that the applicants consider preserving the forest and steep slope areas as natural features in their entirety by deleting this cul-de-sac and the associated lots from the plan and moving the stormwater management features out of the wooded area. In their comments below DNREC underscores the importance of sensitive site design to minimize the impact of new development on the water quality in the Murderkill River. We strongly encourage the applicant and the County to consider making these important design changes in order to protect and preserve the water quality in the Murderkill River.

State Historic Preservation Office (SHPO) – Contact: Anne McCleave 739-5685

There is a high probability for prehistoric and historic sites within this area, especially on the southern part of the development, near the Murderkill River. The State Historic Preservation Office requests permission for their archaeologists to access the property and walk the area to gain a better understanding of the sites and to enable us to better advise the developers on the archaeological sites.

Records indicate that there are (or were) three houses within this property. After a quick drive-by, it appears that the house along Carpenters Bridge Road has been demolished. If other structures exist, and if the plans are for their removal, the SHPO would like permission to access the structures in order to evaluate and document them before they are demolished. Please note that a letter was sent to Ms. Anna Sollenberger of Geo-Technology on November 10th, which includes similar comments. Please contact Anne McCleave at 302-739-5685 to schedule a time her staff can visit the development sites on both sides of Carpenters Bridge Road.

If there is any federal involvement with the project, in the form of permits, licenses, or funds, the federal agency is responsible to comply with Section 106 of the National Historic Preservation Act (36 CFR 800) and consider any effects their project will have on historic resources.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) DelDOT noted that the project was submitted using a now-outdated PLUS form and that the Investment Strategy Level indicated on it is Rural. With the revised Strategies maps, the project is in a Level 3 area.

- 2) On October 6, 2004, a traffic impact study (TIS) was scoped for a project of 1,400 dwellings on a 483-acre assemblage of parcels on both sides of Carpenters Bridge Road. Roseville Estates is the part of that assemblage on the west side of Carpenters Bridge Road. It is the understanding of DelDOT that the part on the east side of the road will be developed as a separate project. DelDOT will comment to Kent County on the results of that study when it is complete and they have reviewed it. At a minimum, the developer should anticipate being required to improve Roseville and Carpenters Bridge Roads in conjunction with the Roseville Estates development.
- 3) DelDOT commends the developer for providing the proposed stub streets to the larger adjacent parcels. The proposed development would wrap around two smaller parcels located on Carpenters Bridge Road just south of the proposed entrance road. The plan appears to show open space wrapping around those parcels on two sides and connection to internal streets in two places. DelDOT recommend that the developer use that space to provide land for driveways from the internal streets to those parcels. From aerial photography the parcels appear to be in agricultural use, but if they were redeveloped residentially DelDOT would prefer that they have access on those streets rather than on Carpenters Bridge Road.
- 4) Roesville and Carpenters Bridge Roads are respectively classified as local and major collector roads. According to the plan presented, they have existing right-of-way widths of about 40 feet. DelDOT's policy is to require dedication of sufficient land to provide minimum right-of-way widths of 30 feet from the centerline on local roads and 40 from the centerline on collector and minor arterial roads. Therefore DelDOT will require right-of-way dedication to provide the additional feet from this project.
- 5) 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.
- 6) DelDOT understands the need for cul-de-sacs near the Murderkill River. However, they recommend changing the site design to eliminate some of the other eight proposed cul-de-sacs, in order to enhance the grid street pattern and provide more of a sense of community.
- 7) The developer's engineer should contact the DelDOT project manager for Kent County, Mr. Brad Herb of Johnson, Mirmiran & Thompson, regarding their requirements for streets and access. Mr. Herb may be reached at (302) 266-9080.

**The Department of Natural Resources and Environmental Control – Contact:
Kevin Coyle 739-3091**

General Comment

This proposed development is within a proposed State Resource Area and has a number of development constraints due to wetland issues. It is strongly recommended that this development not be approved without significant changes.

The southern portion of this parcel lies within the 100 year flood plain. This plan proposes three stormwater management ponds and numerous lots within the wetlands and forested area. This site plan should be redesigned to remove these lots and stormwater management ponds from this area to another more suitable location on site.

There have been five development proposals along the Murderkill since April 2004:

2004-06-08	2004-11-05	2004-09-05
2004-04-07	2004-11-12	

The approval of these developments will add an additional 1,566 homes along the Murderkill River. The presence of these residential units will bring negative cumulative impacts to the River and adjoining waterbodies, unless the impact can be minimized through the use of appropriate buffers and best management practices. DNREC encourages the local jurisdiction and the applicant to take the comments below into serious consideration, and please contact the Watershed Assessment Section for more information about how to minimize water quality impacts through better site design and buffering.

The following web site contains additional information which will be useful to the developer and the applicant:

http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/mk_tat.htm

Soils

The Kent County soil survey mapping indicates that Sassafras, Woodstown, Fallsington, Johnston, and Mixed Alluvial were mapped in the immediate vicinity of the proposed construction. Sassafras is a well-drained upland soil that has few limitations for development. Woodstown is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Fallsington is a poorly-drained wetland associated (**hydric**) soil that has severe limitations for development. Johnston and Mixed Alluvial are wetland associated (**hydric**) floodplain soils.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested wetlands and palustrine tidal forested wetlands along the Murderkill River. Impacts to wetlands should be avoided to the maximum extent practicable. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Lots should be removed in their entirety from the wetland, wetland buffers and the forested areas. Vegetated no-mow 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.

Site plans show over 15 lots and associated infrastructure within the wetland complex. Impacts to the degree shown on the site plan are unlikely to receive permit approvals. All lots within the proposed State Resource Area mapped wetland area and forest should be eliminated or relocated. Impacts to Palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. 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. Impacts to streams and associated riparian wetlands, including road crossings, are regulated by the DNREC Wetlands and Subaqueous Lands Section, and by the Corps of Engineers.

Because there is strong evidence that federally regulated wetlands exist on site, a wetland delineation, in accordance with the methodology established by the Corps of Engineers Wetlands Delineation Manual, (Technical Report Y-87-1) should be conducted. Once complete, this delineation should be verified Corps of Engineers through the Jurisdictional Determination 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) 739-4691 to schedule a meeting.

It is recommended that the Farm Services Agency of the USDA be contacted to assess whether any farmed lands on subject parcel meet the criteria for classification as "prior converted wetlands." Prior converted wetlands are farmed wetlands that have drained or altered before December 23, 1985, and no longer meet the wetland criteria established under the 404 program. Such wetlands are considered exempt from regulatory protection provided that there is no proof of a continuous "fallow period" of five years or greater in that parcel's cropping history. Parcels converted after said date regardless of cropping history are considered jurisdictional by the Army Corps of Engineers (ACOE). The contact person for assessing a parcel's cropping history is Sally Griffin at the USDA – she can be reached at 678-4182.

It should also be noted that this parcel immediately borders sensitive waters of the Murderkill River. Since the protection of water quality is a high priority, it is strongly recommended that the existing forested wetlands and uplands be protected in their entirety. Efforts to maximize or expand the existing natural forested buffer width via planting of native woody or herbaceous vegetation, is further recommended.

Finally, the southern portion of the site may contain Subaqueous Lands under jurisdiction of the State of Delaware. Please contact the Wetlands and Subaqueous Lands Section at 302.739.5726 for a jurisdictional determination.

TMDLs

With the adoption of Total Maximum Daily Loads (TMDLs) as a “nutrient-runoff-mitigation strategy” for reducing nutrients in the Inland Bays Watershed, reduction of nitrogen and phosphorus loading will be mandatory. 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 authorized under federal code, states are charged with developing and implementing standards to support those desired use goals. The Jurisdictional authority for attaining these use goals will fall under the auspices of Section 11.5 of the State of Delaware’s Surface Water Quality Standards (as amended August 11, 1999), and will be achieved via nutrient reductions referred to as “pollution control strategies.”

Nutrient reductions prescribed under TMDLs are assigned to those watersheds or subwatersheds on the basis of recognized water quality impairments. In the Murderkill, the primary source of water quality impairment is associated with nutrient runoff from agricultural and/or residential development. In order to mitigate the aforementioned impairments, a TMDL reduction level of 30 and 50 percent will be required for nitrogen and phosphorus, respectively.

In order for the applicant to verify compliance with the TMDL mandate, a full nutrient accounting process known as nutrient budget should be prepared. The developer/consultant should contact Lyle Jones (739-4590) in the Department’s Watershed Assessment Section for further information regarding the acceptable protocol for calculating a nutrient budget.

The developer is encouraged to employ BMPs (or other pollution control strategies) such as stormwater management and riparian buffers to mitigate any potential nutrient runoff into an adjoining streams or watercourse.

Water Supply

The project information sheets do not indicate the source of water service to the project. Our records indicate that the project is not located in an area where public water service is available. 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 302-739-3665.

Water Resource Protection Areas

A significant portion of the western part of the parcel is located in an excellent recharge area (see map). According to the State law that created the Source Water Protection Program, county and municipal governments will be required to enact ordinances to protect Water Resource Protection Areas. The following language has been excerpted from the draft Source Water Protection Guidance Manual for Local Governments, Supplement 1 - Ground-Water Recharge Design Methodology. While the language is currently draft and the local ordinances are not yet in place, the developer may find the language useful in modifying the site plan to protect the excellent recharge area.

Water Resource Protection Areas (WRPAs) are defined as (1) surface water areas such as floodplains, limestone aquifers, and reservoir watersheds, (2) wellhead areas, or (3) excellent recharge areas. The purpose of an impervious cover threshold is to minimize loss of recharge and protect the quality and quantity of ground and surface water supplies in WRPAs.

New development in WRPAs may exceed the 20 % impervious cover threshold, but be no more than 50 % impervious, provided the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The environmental

assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis.

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

The Department recommends the following (ranked in order of preference):

- 1) Preserve WRPA's as open space and parks by acquisition or conservation easement.
- 2) Limit impervious cover of new development to 20 % by right within WRPA's.
- 3) Allow impervious cover of new development to exceed 20% within WRPA's (but no more than 50% impervious) provided the applicant develops recharge facilities that directly infiltrate rooftop runoff.
- 4) Allow impervious cover of new development to exceed 20% within WRPA's (but no more than 50% impervious) provided the applicant develops recharge facilities that infiltrate stormwater runoff from forested and/or grassed surfaces with pretreatment.

Stormwater Management

Stormwater management is an integral part of the site development infrastructure. The planning and design for stormwater management should begin early. The applicant is encouraged to contact the Kent Conservation District as soon in the planning process as possible in order to receive their preliminary comments. Contact Jared Adkins at (302) 741-2600, ext. 3, for plan submittal and review requirements.

Drainage

The Drainage Section is not aware of any existing drainage associated with this project. The Drainage Section requests that all existing ditches on the property be checked for function and cleaned if needed prior to the construction of homes. Wetland permits may be required before cleaning ditches.

The Drainage Section requests that all precautions be taken 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 Section further requests for any area designated as a drainage/utility easement be left as open space and not owned by the individual landowners. Structures,

decks, buildings, sheds, kennels, fences or trees should not be placed within the drainage easement to allow for maintenance.

Floodplain

Kent County will not allow subdivision of the portion of this site which is in the floodplain.

State Resource Areas/Natural Areas Inventory

This project contains land currently identified as part of a State Resource Area. State Resource Areas are comprised of lands that contain a variety of natural, cultural and open space resources significant to the state. Consideration should be given to protecting these resources along the Murderkill River during design and construction of this project. For more information, please contact Ron Vickers, Land Protection Office, 739-3423.

This project contains land currently listed on Delaware's Natural Areas Inventory. 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. Consideration should be given to protecting the forested buffer along the Murderkill River during design and construction of this project. The developer should investigate dedicating the forested buffer as a Nature Preserve through a conservation easement or donation of land. For more information, please contact the Office of Nature Preserves at 739-3423.

Forests

According to 2002 aerial photos there is a forested area in the southern portion of this parcel; site plans show that this forest will be removed. The forest provides important riparian habitat, wildlife connectors, and air quality and water quality benefits. This forest tract is extremely beneficial to the region. Fragmentation of this forest can have irreversible effects to the regional ecosystem.

Three stormwater management ponds are proposed in the forested tract located at the southern portion of the parcel. These stormwater management ponds should be removed from the forest to a more appropriate area in the parcel.

Lot lines should be redesigned to avoid all impacts to the forested area. Therefore, 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 forested areas to the extent possible and minimizing any clearing activities. The forested areas on-site should be viewed as a community asset and managed appropriately.

Forested areas on-site set aside for conservation purposes should be placed into a permanent conservation easement or other binding protection. These areas should be clearly marked and delineated so that residents understand their importance and so that homeowner activities do not infringe upon these areas.

Open Space

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. 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.

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.

Rare/Threatened/Endangered Species

A review of our database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site. However, there are several rare species within or adjacent to the Murderkill River that could be affected by detrimental changes to water quality. With the number of developments proposed for this area of the Murderkill, cumulative impacts are an issue. Therefore, it is recommended that the existing forested buffer be maintained along the perimeter of the project parcels. They further recommend extending the proposed 25ft wetland buffer to at least 100ft. Buffers are an integral component of aquatic and wetland habitats, reducing the amount of sediments, pollutants, and other non-point source material that may affect the function and integrity of habitat and the condition and survivability of aquatic organisms. Forested buffers also serve as habitat for many terrestrial species that are dependent on aquatic and wetlands habitats for a portion of their annual life cycle. In addition, we recommend leaving the wooded area in the southern section of the western project parcel.

In addition, because of the existence of the Murderkill River state Natural Area, this project lies within a State Natural Heritage Site. However, it does not lie within a Delaware National Estuarine Research Reserve. 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 (ACOE). The information above will aid the ACOE in their determination

Nuisance Species

The ponds scattered throughout the subdivision will likely attract waterfowl like resident Canada geese and mute swans that will create a nuisance for community residents. Although small numbers of these species are enjoyed by residents, geese and swans can quickly multiply and overwhelm the area. 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. Ponds that remain in the subdivision plan should be landscaped to deter nuisance species. Short manicured lawns around ponds provide an attractive habitat for these species. However, native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area around ponds, are not as attractive to geese because they do not feel as safe from predators and other disturbance when their view of the area is blocked. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the homeowners 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 a reduction in the number of ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Revegetation/Landscaping

It is requested that no invasive species be used in the revegetation of disturbed or landscaped areas. A list of species considered invasive in Delaware can be found on the DNHP web site, www.dnrec.state.de.us/fw/invasive.htm. DNHP further encourages, where possible/feasible, the use of native plants for habitat restoration projects on-site and their Botanist, Bill McAvoy can be contacted at (302) 653-2880 to assist you in developing a plant list.

Underground Storage Tanks

There are no LUST site(s) located near the proposed project. However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would be need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized, it will need to be changed to ductile steel in the contaminated areas.

Air Quality

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer in the upper atmosphere, and contribute to the potential for world climate change. Breathing polluted air can have numerous effects on human health, including respiratory problems, hospitalization for heart or lung disease, and even premature death. Some can also have effects on aquatic life, vegetation, and animals.

Once complete, vehicle emissions associated with this project are estimated to be 36.2 tons (72,447.1 pounds) per year of VOC (volatile organic compounds), 30.0 tons (59,981.3 pounds) per year of NO_x (nitrogen oxides), 22.1 tons (44,255.3 pounds) per year of SO₂ (sulfur dioxide), 2.0 ton (3,939.5 pounds) per year of fine particulates and 3,030.1 tons (6,060,105.5 pounds) per year of CO₂ (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 14.6 tons (29,221.2 pounds) per year of VOC (volatile organic compounds), 1.6 ton (3,215.2 pounds) per year of NO_x (nitrogen oxides), 1.3 ton (2,668.2 pounds) per year of SO₂ (sulfur dioxide), 1.7 ton (3,443.2 pounds) per year of fine particulates and 59.2 tons (118,456.2 pounds) per year of CO₂ (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated be 5.8 tons (11,581.2 pounds) per year of NO_x (nitrogen oxides), 20.1 tons (40,282.4 pounds) per year of SO₂ (sulfur dioxide) and 2,970.8 tons (5,941,649.3 pounds) per year of CO₂ (carbon dioxide).

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	36.2	30.0	22.1	2.0	3030.1
Residential	14.6	1.6	1.3	1.7	59.2
Electrical Power		5.8	20.1		2970.8
TOTAL	50.8	37.4	43.5	3.7	6060.1

The Department of Natural Resources and Environmental Control is asking that local jurisdictions consider mitigation to help resolve this issue. Mitigation might involve limiting large new developments to growth zones, focusing development to urban areas capable of providing mass transit services, requiring more energy efficient homes which would lessen air quality impacts, and promoting walkability and bikability within and between developments and town centers.

Because this is proposed in an Investment Level 3 according to the Strategies for State Policies and Spending, the State asks that you consider the development of energy

efficient homes and interconnectivity with the surrounding neighborhoods to promote walkability and bikeability.

Recreation

It is recommended that sidewalks be built fronting every residence and stub streets. A complete system of sidewalks will: 1) fulfill the recreation need for walking and biking facilities, 2) provide opportunities for neighbors to interact in the community, and 3) facilitate safe, convenient off-road access to neighboring communities, public mass transit stops, schools, stores, work, etc.

State Fire Marshal's Office – Contact: John Rossiter 739-4394

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:**

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)
- 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. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**

- All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq.ft., 3-stories or more or over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR

c. **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 from Roseville Road must be constructed so fire department apparatus may negotiate it.
- 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.
- If the use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

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

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

e. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

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.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

Public Service Commission - Contact: Andrea Maucher 739-4247

This project is not in a certificated area. The water service provider selected will need to apply for a CPCN to serve the project.

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.

If wastewater services are provided by a non-governmental entity, and there are more than 50 customers served, the wastewater service provider will need to apply to the PSC for a Certificate of Public Convenience and Necessity (CPCN). Additional requirements may apply if the provider has not previously been awarded a CPCN by the Commission.

Delaware Emergency Management Agency – Contact: Don Knox 659-3362

Due to the large number of residential units being proposed, a significant impact to public safety is foreseen by implementation of this project. The developer should notify the police, fire service, and emergency medical response organization serving this portion of Kent County, to keep them apprised of all development activities.

A portion of the property adjacent to the Murderkill River is located in the Special Flood Hazard Area inundated by the 100-year flood. Routes 12 and 13 are coastal storm evacuation routes and this development will be affected by traffic volume on these routes during a coastal storm event.

Department of Education – Contact: Nick Vacirca 739-4658

472 dwelling units could generate an estimated 236 additional students for the Lake Forest School District.

Kent County does not have school concurrence legislation at this time; however, it is recommended that the developer submit a package to the school district for informational purposes.

If the development is approved and build, please use the following information for school transportation planning. If there are homes more than 1/2 mile from the nearest public road (outside the development), developers should plan wide enough streets so that large school buses can access and turn around (without backing) from the furthest areas within the development while picking up and dropping off students. Should there not be any sites more than 1/2 mile from the nearest public road, provisions for appropriate pick-up and drop-off at the development entrance should be included. The developer should work closely with the school district transportation supervisor.

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: Kent County
Millenium Land Development

Attachment: WRPA map