



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION

June 22, 2016

Mr. Ben Kulp
Merestone Consultants, Inc.
5215 W. Woodmill Drive, Suite 38
Wilmington, DE 19808

RE: PLUS review 2016-05-02; Harmony Ridge

Dear Ben:

Thank you for meeting with State agency planners on May 25, 2016 to discuss the Harmony Ridge project. According to the information received you are seeking review of a rezoning of 1.83 acres from S to ST and a site plan for 5 residential units.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. **The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as the Sussex 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.**

Strategies for State Policies and Spending

This project is located in Investment Level 2 according to the *Strategies for State Policies and Spending*. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas.

Code Requirements/Agency Permitting Requirements

Department of Transportation – Contact Bill Brockenbrough 760-2109

- The proposed entrances on Old Harmony Road must be designed in accordance with DelDOT's Development Coordination Manual (formerly the Standards and Regulations for Subdivision Streets and State Highway Access), which is available at <http://www.delDOT.gov/information/business/subdivisions/changes/index.shtml>. The proposed use of a shared driveway with an access and utility easement to serve four of the five lots is acceptable. However, if a public street were proposed, it would need to be designed in accordance with the Manual as well.

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- Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review. This fee is \$100 for a record minor plan of 5 lots or less.
- We estimate that the proposed development would generate 67 vehicle trip ends per typical weekday and 16 vehicle trip ends per hour in the peak hour of that day. Per Section 2.2.2.3 of the Manual, new developments generating fewer than 500 vehicle trip ends per day and fewer than 50 vehicle trip ends per hour warrant Traffic Impact Studies (TIS) only if a TIS is required by the local jurisdiction based on their warrants. Our understanding is that New Castle County requires TIS only for developments generating more than 50 vehicle trip ends per hour. Therefore we do not anticipate requiring a TIS.
- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Old Harmony Road. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section. The subject property also fronts on Green Ridge Road and North Harmony Road. We recommend but do not require placement of monuments along those rights-of-way.
- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way as necessary along the site's frontage on Old Harmony Road. The standard dedication on two-lane local roads is 30 feet from the road centerline. If a dedication is needed to achieve this distance, then the following right-of-way dedication note is required on the record plan, "**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**" The plan accompanying the PLUS application meets this requirement with respect to the width dedicated but the wording of the note should be changed.
- Section 3.2.5.1.1 of the Manual provides DelDOT's requirements regarding easements for signs and structures at neighborhood entrances. In accordance with this section, if this development is proposing a neighborhood sign or structure, then a permanent easement shall be established at the entrance. The easement shall be located outside of any existing and/or proposed right-of-way. It will also need to be verified that the sign or structure does not pose a sight distance and/or safety hazard.
- In accordance with Section 3.3 of the Manual, a record plan shall be prepared prior to issuing "Letter of No Objection". The following information will be required for the "Letter of No Objection" review:
 - Initial Stage Fee Calculation Form
 - Initial Stage Review Fee
 - Minor Subdivision Checklist

- The Minor Subdivision Checklist is available at http://www.deldot.gov/information/business/subdivisions/Minor_Subdivision_Checklist.pdf?012916.
- Section 3.5.4.2 of the Manual addresses requirements for shared-use paths and sidewalks. Projects located in Level 1 Investment Areas are required to install a shared-use path or sidewalk along the State-maintained road frontage. The Subdivision Engineer may waive the requirement where a physical impossibility exists. This property is unusual in that it fronts on three roads, Old Harmony Road, Green Ridge Road and North Harmony Road. DelDOT will require installation of a sidewalk along the property frontage on Old Harmony Road at least as far as the drainage course at the east end of that frontage. The developer's engineer should contact DelDOT's New Castle County Review Coordinator, Mr. Jeffrey Van Horn, to determine our requirements in the area of the drainage course and along Green Ridge Road and North Harmony Road. Mr. Van Horn may be reached at (302) 760-2128.
- In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/information/business/subdivisions/Intersection-Sight-Distance.xls>.
- In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.
- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.

Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352

Executive Summary.

The proposed development will result in increased impervious surface and new sources of greenhouse gas emissions. Opportunities exist to preserve natural resources while reducing the environmental impact on-site and providing additional energy efficiency alternatives to homeowners.

This project falls entirely within a Level 2 and partially within a Level 1 Source Water Protection Area (SWPA); therefore, land use within these areas has the potential to negatively impact water

quality or quantity in the public drinking water system. The applicant should refer to the New Castle County Unified Development Code for regulations regarding development.

As discussed at the May 25th PLUS meeting, DNREC has identified some variation between our soil map, showing well-drained soils, and the statewide wetlands mapping project (SWMP) map, showing possible hydric soils, within this parcel. Additional evidence includes two drainage complaints received by DNREC concerning properties adjacent to the project parcel. DNREC recommends that the applicant contact a licensed soil scientist to delineate the existing wetlands and/or clear up any discrepancy prior to construction.

The State of Delaware is threatened by climate change and has a goal of reducing greenhouse gas emissions by 30% by 2030. Appropriate development and re-development that provides access to public transportation, opportunities to walk and bike to shopping and recreation, and that employs energy efficient building standards are among key strategies to meet these goals. We encourage the use of high performance energy efficiency building standards (with consideration for alternative energy sources), and the use of green infrastructure to help protect water quality and adapt to the effects of climate change. We also recommend an abundant use of native vegetation and shade trees throughout the landscape, and pedestrian connections to adjacent parcels.

The following pages provide applicable regulations and detailed recommendations associated with this project from various DNREC Divisions. We would like to be a partner in creating appropriate development that highlights the environment as a natural amenity of the landscape. The Department has resources and expertise that are available to help make this a reality, often at no expense to the landowner.

TMDLs and Water Quality.

- This project is located in the greater Piedmont drainage area, specifically within the greater Christina River Basin. In the Christina River Basin, post-development nitrogen and phosphorus loading must be capped at the pre-development or baseline loading rate (or a 0 percent post-construction increase in N & P in Delaware's portion of the Christina River Basin) to meet the required Total Maximum Daily Loads (TMDL) for each nutrient. Moreover, reductions in bacteria that range from 29 percent to 95 percent (High Flow) is also required (depending upon location). TMDLs for nitrogen, phosphorus, and bacteria have been promulgated through regulation in most of the State of Delaware's water bodies.

A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited waterbody" can assimilate and still meet State water quality standards (e.g., dissolved oxygen, nutrients, and bacteria; *State of Delaware Surface Water Quality Standards, as amended July 11, 2004*) to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. TMDLs are required by federal law (Section 303(d) of the 1972 Clean Water Act), and the states are charged with developing and implementing specific land use practices that support

these goals. The specific required nutrient and bacterial requirements for the various stream segments in the Basin, and background information is outlined in the report entitled "*Christina River Basin High-Flow TMDL*," by the EPA, and can be viewed here: <http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessmentTMDLs.aspx>

Flood Management.

- A portion of this property is located in the floodplain per FEMA map panel 0130K, dated February 4th, 2015. The base flood elevation utilized in the site plan is to be established using the FEMA Flood Insurance Study and not taken directly from the map, as this stream has a floodway. Also, the FEMA map is the regulatory depiction of the floodplain boundary. The developer cannot choose to display the floodplain boundary along a chosen contour line on the site plan, unless that change has been approved by FEMA through the Letter of Map Revision process.

Water Supply.

- The information provided indicates that Artesian Water Company will provide water to the proposed project through a public water system. However, our files reflect that Artesian Water Company does not currently hold a Certificate of Public Convenience and Necessity (CPCN) to provide public water in these areas. The developer will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at (302) 736-7547.

Should an on-site public/miscellaneous public well be needed, a minimum isolation distance of 150 feet is required between the well and any potential source of contamination, such as a septic tank and sewage disposal areas, and at least 150 feet from the outermost boundaries of the project. The Division of Water 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 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.

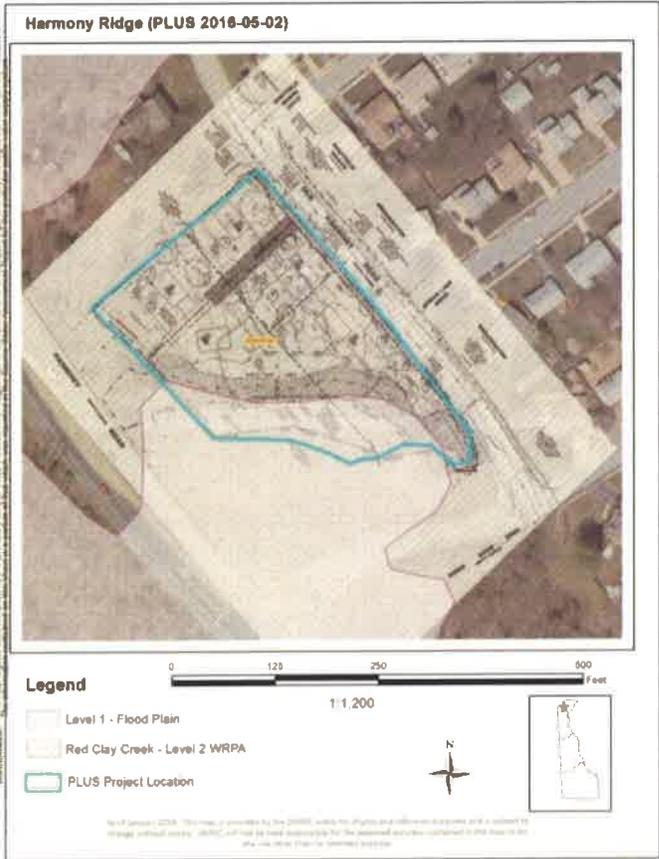
Source Water Protection.

- The DNREC Ground-Water Protection Branch (GPB) has determined that the project does not fall within any wellhead protection or excellent groundwater recharge potential areas. However, the parcel falls entirely within the Red Clay Creek Drinking Water Watershed. This area is s a Level 2 source water protection area for New Castle County (NCC). In addition, the project falls partially within areas of flood plains protected as Level 1 Source Water Protection Area for NCC (see map).

Level 2 Source Water Protection Areas are the delineated watershed upstream from public drinking water supply intakes. Land use or land activity within these areas has the potential to influence water quality or quantity to the public drinking water system.

Level 1 Source Water Protection Areas are defined as flood plains. Land use or land activity within this area has the potential to influence water quality or quantity to the system.

GPB recommends referring to NCC Unified Development Code for regulations regarding development in these water resource protection areas.



Sediment and Erosion Control/Stormwater Management.

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Contact the reviewing agency to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the New Castle County Department of Land Use Engineering Section. Contact the Department of Land Use at (302) 395-5470 for details regarding submittal requirements and fees.

Air Quality.

- The applicant shall comply with all applicable Delaware air quality regulations. Please note that the following regulations in Table 1 – Potential Regulatory Requirements may apply to your project:

Regulation	Requirements
7 DE Admin. Code 1106 - Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> • Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. • Use covers on trucks that transport material to and from site to prevent visible emissions.
7 DE Admin. Code 1113 – Open Burning	<ul style="list-style-type: none"> • Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year. • Prohibit the burning of land clearing debris. • Prohibit the burning of trash or building materials/debris.
7 DE Admin. Code 1135 – Conformity of General Federal Actions to the State Implementation Plan	<ul style="list-style-type: none"> • Require, for any “federal action,” a conformity determination for each pollutant where the total of direct and indirect emissions would equal or exceed any of the de minimus levels (See Section 3.2.1)
7 DE Admin. Code 1141 – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products	<ul style="list-style-type: none"> • Use structural/ paint coatings that are low in Volatile Organic Compounds. • Use covers on paint containers when paint containers are not in use.
7 DE Admin. Code 1144 – Control of Stationary Generator Emissions	<ul style="list-style-type: none"> • Ensure that emissions of nitrogen oxides (NO_x), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO₂), carbon monoxide (CO), and carbon dioxide (CO₂) from emergency generators meet the emissions limits established. (See section 3.2).

	<ul style="list-style-type: none"> • Maintain recordkeeping and reporting requirements.
<p>7 DE Admin. Code 1145 – Excessive Idling of Heavy Duty Vehicles</p>	<ul style="list-style-type: none"> • Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

Please see a complete listing of all Delaware applicable regulations, here:

<http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

State Historic Preservation Office – Contact Terrence Burns 736-7404

- The Rotherham Mill Complex (N-6766) was on this parcel. Although the Mill Complex may not be there; there may be archaeological resources associate with it. On the next to the parcel, towards the north is The Rotheram Mill House (N-247), and it is listed on the National Register of Historic Places. The Rotheram Mill House (N-247), is also a part of the White Clay Creek Hundred Multiple Resource Area (N-6762) National Register nomination.
- If any development proceeds on the parcel, the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law, Chapter 54 of Title 7 of the Delaware Code.
- Abandoned or unmarked family cemeteries are very common in the State of Delaware. They are usually in rural or open space areas, and sometimes near or within the boundary of an historic farm site. Even a marked cemetery can frequently have unmarked graves or burials outside of the known boundary line or limit. Disturbing unmarked graves or burials triggers the Delaware’s Unmarked Human Burials and Human Skeletal Remains Law (7 Del. C. Ch. 54), and such remains or discoveries can result in substantial delays while the procedures required under this law are carried out. If there is a discovery of any unmarked graves, burials or a cemetery, it is very costly to have them archaeologically excavated and the burials moved. The Division of Historical & Cultural Affairs recommends that owners and/or developers have a qualified archaeological consultant investigate their project area, to the full extent, to see if there is any unmarked cemetery, graves, or burial sites. In the event of such a discovery, the Division of Historical & Cultural Affairs also recommends that the plans be re-drawn to leave the full extent of the cemeteries or any burials on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with the landowner association or development. If you would like to know more information pertaining to unmarked human remains or cemeteries, please go to the following websites for additional information: www.history.delaware.gov/preservation/umhr.shtml and www.history.delaware.gov/preservation/cemeteries.shtml.

Therefore, prior to any demolition or ground-disturbing activities, the developer should hire an archaeological consultant, to examine the parcel for archaeological resources or unmarked human remains. The developer should put landscaping between the development and Rotheram Mill House (N-247), which will block adverse noise or visual effects.

- Furthermore, if there is any federal involvement with the project, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential cultural or historic resources. Owners and developers who may plan to apply for an Army Corps of Engineers permit or for federal funding, such as HUD or USDA grants, should be aware of the National Historic Preservation Act of 1966 (as amended). Regulations promulgated for Section 106 of this Act stipulate that no ground-disturbing or demolition activities should take place before the Corps or other involved federal agency determines the area of potential effect of the project undertaking. These stipulations are in place to allow for comment from the public, the Delaware State Historic Preservation Office, and the Advisory Council for Historic Preservation about the project's effects on historic properties. Furthermore, any preconstruction activities without adherence to these stipulations may jeopardize the issuance of any permit or funds. If you need further information or additional details pertaining to the Section 106 process and the Advisory Council's role, please review the Advisory Council's website at www.achp.gov.

Recommendations/Additional Information

This section includes a list of site specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site design, and it is hoped (**but in no way required**) that the applicant will open a dialogue with the relevant agencies to discuss how these suggestions can benefit the project.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Chapter 1 of the Manual provides general guidance on the location of entrances and Section 3.5 of the Manual provides DelDOT's requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT maintained public road for subdivisions. We would encourage the developer to coordinate with the owner of the Marra property (Tax Parcel No. 09-009.00-002) regarding the feasibility of a combined access opposite Sheffield Manor Drive. If the owner of the Marra property is not amenable to a combined access, then the access presently proposed appears feasible.

- DelDOT recognizes the developer's right to develop four residential lots served by a shared driveway located in an access and utility easement. However, most homebuyers in New Castle County expect to access a public street and have public maintenance, and once the lots have been sold it can be difficult for homeowners to convert from a common driveway to a public street. We would urge the developer to consider building a public street to DelDOT standards. The cost would be higher but it would add value to the lots.
- Please be advised that DelDOT adopted an update of the Development Coordination Manual effective April 11, 2016. While in most respects, the changes are incremental, they are located throughout the Manual and could have some effect on entrance and subdivision street designs.
- Please be advised that as of August 1, 2015, all new plan submittals and re-submittals, including major, minor and commercial plans, shall be uploaded via the PDCA (Planning Development Coordination Application) with any review fee paid online via credit card or electronic check. Guidance on how to do this is available on our website at <http://www.deldot.gov/information/business/subdivisions/>.
- Be advised that the Standard General Notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision date of January 28, 2016. The notes can be found at http://www.deldot.gov/information/business/subdivisions/DelDOT_Development_Coordination_Plan_Sheet_Notes.pdf.

Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352

Soils Assessment.

- Based on soils survey mapping update, Elsinboro-Delanco- Urban land complex (ErB) is the primary soil mapping unit mapped on the subject parcel. Elsinboro-Delanco- Urban land complex is a well-drained soil mapping units that, generally, has few limitations for development (Figure 1). However, wetland mapping (Figure 2; within yellow polygon of map (PF01A)) suggests that the soils may be wetter (i.e., potentially hydric) than what the soil mapping indicates. Therefore, we strongly recommend that the applicant contact a licensed (Delaware Class D) soil scientist to make a site-specific assessment (i.e., soil survey mapping) of the soils on this site as a means of delineating the existing wetlands and/or clearing up the discrepancy between the soil mapping and the statewide wetlands mapping project (SWMP) mapping. A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch at (302) 739-9947. Alternatively, a list of licensed Class D soil scientists can also be obtained here: <http://www.dnrec.delaware.gov/wr/Information/GWDInfo/Pages/GroundWaterDischargeSLicensesandLicensees.aspx>

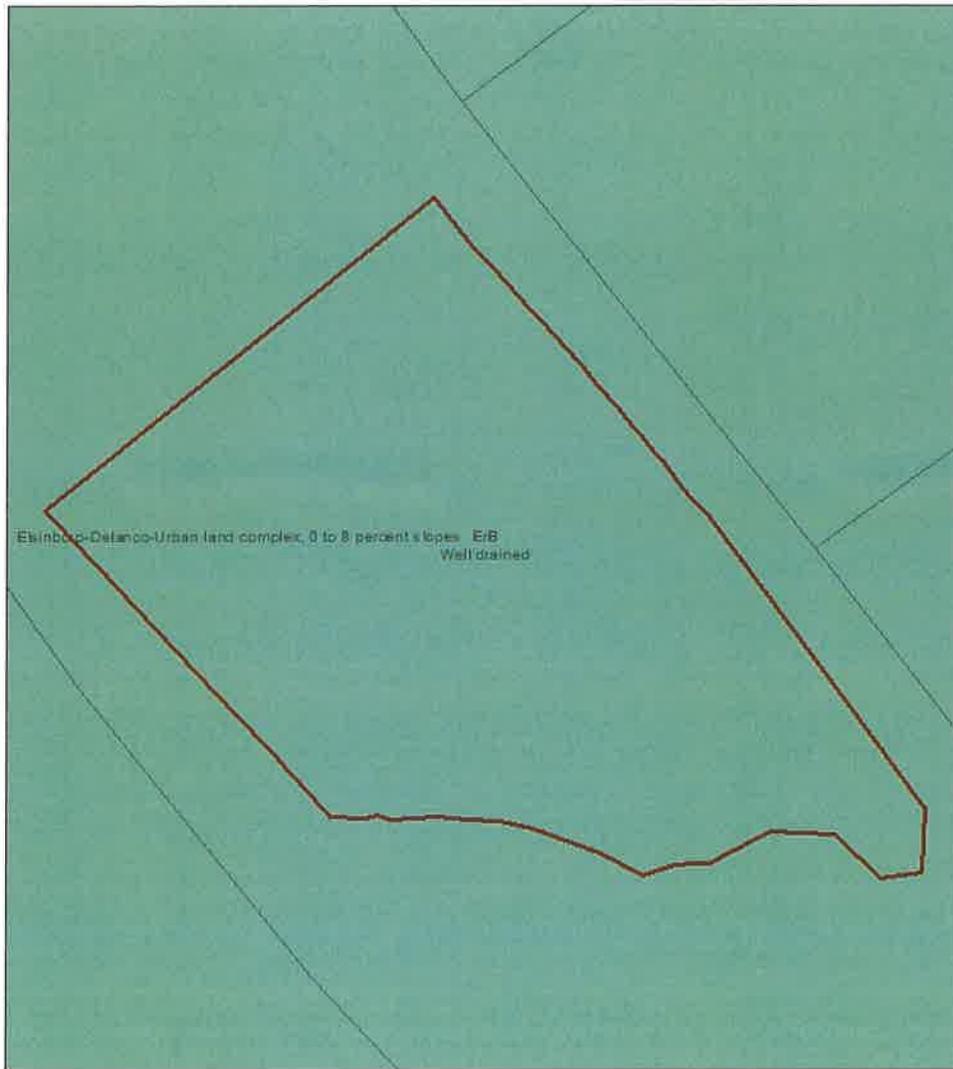
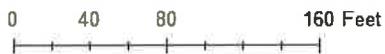


Figure 1: NRCs soil survey mapping update in the immediate vicinity of the proposed construction



Legend

Drainage Class

<all other values>

DrainClass

- <Null>
- Moderately well drained
- Poorly drained
- Somewhat poorly drained
- Very poorly drained
- Well drained





Figure 2: Wetland mapping (SWMP) in the immediate vicinity of the proposed construction

Bog Turtle Habitat

- The proposed project is located between potential, but unconfirmed, Bog Turtle wetland habitats. Therefore, if Bog Turtles are using these surrounding habitats, it is possible that they could enter the work area if the work is conducted when bog turtles are most active; specifically April 1 – June 30, however activity periods vary among years. Bog Turtles react to environmental conditions and if work is not conducted during the above-mentioned activity period and no equipment enters wetlands considered potential bog

turtle habitats, then no bog turtles are likely to be impacted as a result of the proposed project.

TMDL compliance and the PCS

- A Pollution Control Strategy (PCS) to achieve the required TMDL nutrient and bacterial load reduction requirements has been established for the Christina Basin. The web link for the Christina watershed PCS strategies is as follows:
<http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx>
 - We suggest that the applicant maintain as much of the existing forest cover and open space as possible; we further suggest additional native tree, shrub and/or native herbaceous vegetation plantings in this parcel, wherever possible.
 - Conduct a United States Army Corps of Engineers (USACE) approved onsite wetlands delineation. Based on the information presented in the PLUS application, a wetland delineation was conducted but not approved by the USACE. The wetland delineation has also not been submitted to DNREC to date.
 - Maintain a vegetated buffer of at least 100 feet from the adjoining wetlands and waterbodies. Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J. Environ. Qual. 23: 878-882.), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. The 50-foot buffer proposed by the applicant is well-short (i.e., insufficiently protective of water quality) of the recommended 100-foot buffer width. We suggest that the applicant reconsider their proposal and implement the 100-foot buffer that we recommend.
 - Calculate post-construction surface imperviousness with all forms of created (or constructed) surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, ponds, and roads) included in the calculation. Omission of any of the above-stated forms of surface imperviousness will result in an underestimate of the actual post-development surface imperviousness and the associated environmental impacts.
 - Employ green-technology stormwater management and rain gardens (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant runoff. Please contact Lara Allison at (302) 739-9939 for further information about the possibility of installing rain gardens on this parcel.
 - Use pervious paving materials instead of conventional paving materials (e.g., asphalt or concrete) wherever possible, to help reduce the amount of water and pollutant runoff draining to adjoining streams and wetlands within the greater Christina River Basin.

- Assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the “Nutrient Load Assessment protocol.” The protocol is a tool used to assess changes in nutrient loading (e.g., nitrogen and phosphorus) resulting from the conversion of individual or combined land parcels to a new land use category; thus providing applicants and governmental entities with quantitative information about the project’s impact(s) on baseline water quality. We strongly encourage the applicant/developer to use this protocol to help design and implement the most effective BMPs. Please contact John Martin or Jen Walls of the Division of Watershed Stewardship, at (302) 739-9939 for more information on the protocol.

Information on tank management.

- If a release of a Regulated Substance occurs at the proposed project site, compliance of 7 Del.C., Chapter 60; 7 Del.C., Chapter 74; and DE Admin. Code 1351, State of Delaware *Regulations Governing Underground Storage Tank Systems* (the UST Regulations) is required. No environmental impacts are anticipated in the scope of this project, however, per the UST Regulations: Part E, § 1. Reporting Requirements- any indication of a release of a regulated substance that is discovered by any person, including but not limited to environmental consultants, contractors, utility companies, financial institutions, real estate transfer companies, UST owners or operators, or responsible parties shall be reported within 24 hours to:
 - The Department’s 24-hour Release Hot Line by calling (800) 662-8802; and
 - The DNREC Tank Management Section (TMS) by calling (302) 395-2500.

When contamination is encountered, PVC pipe materials should be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.

If any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMS. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMS.

For more information, please visit online:

<http://www.dnrec.delaware.gov/tanks/Pages/default.aspx> or contact Ross D. Elliott at DNREC-TMS with further questions at (302) 395-2500, or by email: Ross.Elliott@state.de.us

Information on hazardous waste sites.

- DNREC strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Environmental Site Assessment (including a title search to identify environmental covenants) in accordance to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from

being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA.

Additional remediation may be required if the project property or site is re-zoned by the county.

Should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency number (800) 662-8802. SIRS should also be contacted as soon as possible at (302) 395-2600 for further instructions.

Additional information on air quality.

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, and we believe that the air quality impacts associated with the project should be completely considered. Although GIS street views of this project indicate that Old Harmony Road does have a sidewalk system in place running the greater portion of the road, the existing property is generally lacking in access to multimodal transportation. The nearest bus stop facility is located roughly 2 miles away at the entrance of Delaware Park. Upon further satellite observation of the project location, it would seem that residences will be built in an area that currently contains no bike paths. In addition, there are no proposed sidewalks or bike paths present within the plan as it currently stands. The developer specifies that there are no opportunities to connect to a larger transit network, but imagery reflects that there is a bike path on North Harmony Road off of Green Ridge Road where the option for bicycle/pedestrian connectivity exists.

New homes and businesses may emit, or cause to be emitted, additional air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:

- Emissions that form ozone and fine particulate matter; New Castle currently violates federal health-based 2008 air quality standards for ozone and is considered maintenance for the particulate matter (PM) standard.
- The emission of greenhouse gases which are associated with climate change, and
- The emission of air toxics.

Air emissions generated from new homes and businesses include emissions from the following activities:

- Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
- The generation of electricity, and
- All transportation activity.

Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact that the development Harmony Ridge may have on air quality.

Emissions Attributable to Peninsula Square (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Area source emissions	0.2	0.0	0.0	0.0	0.6
Power emissions	*	0.1	0.2	*	31.5
Mobile emissions	0.2	0.2	0.0	0.0	147.8
Total emissions	0.4	0.3	0.2	0.0	179.9

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the apartment community, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the table above.

Recommendations:

DNREC encourages sustainable growth practices that:

- Control sprawl;
- Preserve rural and forested areas;
- Identify conflicting land use priorities;
- Encourage growth on previously developed sites and denser communities while at the same time protect our diminishing land base;
- Coordinate transportation, housing, environment, and climate protection plans with land use plans; and
- Demonstrate that communities can achieve the qualities of privacy, community, and contact with nature without degrading the natural environment or generating unacceptable environmental costs in terms of congestion, use of natural resources, or pollution.

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

- **Constructing with only energy efficient products.** Energy Star qualified products are up to 30 percent more energy efficient. Savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of energy efficiency translates into a percent reduction in pollution. The Energy Star Program is an excellent way to save on energy costs and reduce air pollution.
- **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation and from the use of oil or gas heating equipment.
- **Constructing with high albedo, high solar reflectance materials.** This includes roofing and hardscape. These materials help to reduce heat island impacts and, by extension, help to minimize the potential for localized ground-level ozone formation. These materials also help reduce demands on air conditioning systems and save on energy costs.
- **Providing shade for parking areas.** Approaches may include architectural devices, vegetation, or solar panels. Providing shade for parking areas helps to reduce heat island impacts, and, by extension, helps to minimize the potential for localized ground-level ozone formation. Such measures can also have the additional benefit of channeling or infiltrating stormwater.
- **Providing charging stations for plug-in electric vehicles.** This measure helps to reduce localized air pollution by supporting the use of non-gasoline powered vehicles. Please refer to the US Department of Energy's website for electric vehicle readiness information:
http://www1.eere.energy.gov/cleancities/electric_vehicle_projects.html. Several charging stations exist nearby in Millsboro, Lewes, and Rehoboth Beach.
- **Encouraging the use of safe multimodal transportation.** This measure can significantly reduce mobile source emissions. **For every vehicle trip that is replaced by the use of a sidewalk or bike path, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.**
- **Using retrofitted diesel engines during construction.** This includes equipment that is on-site as well as equipment used to transport materials to and from site.
- **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
- **Planting trees in vegetative buffer areas.** Native trees reduce emissions by trapping dust particles and replenishing oxygen. Trees also reduce energy emissions

by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

This is a partial list, and there are additional things that can be done to reduce the impact of the development. The applicant should submit a plan to the DNREC Division of Air Quality (DAQ) which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Harmony Ridge project. The DAQ point of contact is Lauren DeVore, and she may be reached at (302) 739-9437 or lauren.devore@state.de.us.

Department of Public Health – Contact Laura Saperstein 744-1011

The Delaware Division of Public Health (DPH) is pleased to be able to participate in the PLUS application process. In keeping with its mission to protect and promote the health of all people in Delaware, DPH looks for opportunities to encourage and enhance our population's health behaviors that will result in healthy people and healthy communities.

Community design can impact the health of a population. Studies show that persons in lower-income communities, the elderly, and children often suffer more from consequences of inadequate land-use and transportation. Additionally, we know physical activity has a direct correlation to many chronic diseases, including hypertension, diabetes and obesity. In 2013, 33.6% of Delawareans reported a BMI of "overweight;" and an additional 31% reported a BMI as "obese." To that end, DPH looks to make recommendations for land-use that can empower Delawareans to make good health behaviors a part of their daily lives. A recent study by Sallis, et.al., "Is your Neighborhood Designed to Support Physical Activity? A Brief Streetscape Audit Tool," identified that modifiable microscale elements of the environment may affect an individual's physical activity levels. An example of a microscale environment factor might be including crosswalks, or curb cuts at crossings and intersections, and/or including streetscape characteristics like street lights, benches, sidewalk buffers, trees and overhead coverage as part of the community design. Community spaces that promote walking can draw people together safely and provide more opportunities for people of all ages and abilities to stay socially connected and engaged. Local areas with good pedestrian networks can also have substantial economic and environmental benefits to a local area.

DPH would offer the following recommendations for consideration to the Harmony Ridge plan for development:

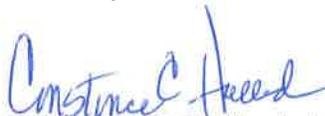
- DPH recommends incorporating sidewalks and internal walkways including marked crosswalks.
 - The presence of these attributes could be particularly important for improving the experience of pedestrians, and according to recent research, are indicators of a broader pattern of activity-supportive design features.
 - Sidewalks are basic attributes for supporting pedestrian activity. Additionally, curb cuts improve this access for older adults, people with disabilities, and parents with baby strollers.

- Include lighting features such as streetlights, lit open spaces and low-level lighting for sidewalks and/or paths.
 - Street lighting is needed for safety during nighttime activity and increased feelings of security.
 - multi-use pathways and internal connections to adjacent land, proposed open spaces, or future land developments to accommodate pedestrians and bicycles

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,



Constance C. Holland, AICP

Director, Office of State Planning Coordination

CC: New Castle County