



**STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION**

July 22, 2013

Mr. Tim Anderson
Karins and Associates
17 Polly Drummond Center
Suite 201
Newark, DE 19711

RE: PLUS review 2013-06-03; Village of Llangollen

Dear Mr. Anderson:

Thank you for meeting with State agency planners on June 26, 2013 to discuss the proposed plans for the Village of Llangollen, located in New Castle County.

According to the information received, you are seeking to resubdivide an existing site to remove age-restricted status and the clubhouse in New Castle County.

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 New Castle 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 Levels 2 and 3 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. 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.

Code Requirements/Agency Permitting Requirements

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There are no known historic or cultural resources such as an archaeological site or National Register-listed property on this parcel. However, it is still important that the developer be aware of the Delaware Unmarked Human Burials and Human Skeletal Remains Law, which is outlined in Chapter 54 of Title 7 of the Delaware Code.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- The proposed development’s subdivision plan and subdivision street construction plan must be designed in accordance with DelDOT’s Standards and Regulations for Subdivision Streets and State Highway Access. DelDOT will review the subdivision plan for necessary changes, due either to the lifting of the deed restrictions or to changes in our regulations since the current plan was recorded. Preliminarily, a right turn lane may be required at the site entrance.
- The proposed development would not meet DelDOT’s volume-based criteria, found in Section 2.3.2 of the Standards and Regulations for Subdivision Streets and State Highway Access, for recommending that a Traffic Impact Study (TIS) be required (400 vehicle trips per day or 50 vehicle trips per hour). The table below compares the expected trip generation of the development as currently recorded and as proposed.

			Daily	AM Peak	PM Peak
Dwellings	Land Use	ITE Code	(vpd)	(vph)	(vph)
51	Proposed Townhouses	230	358	30	25
51	Recorded, Age-Restricted Townhouses	252	175	9	10
0	Increase	N/A	183	21	25

Department of Natural Resources and Environmental Control – Contact Kevin Coyle 735-3495

Wetlands

- State regulated wetlands **ARE NOT** located on this property based on a review of the State wetland maps. State regulated wetlands are those wetlands identified on the State's official State Regulated Wetland Maps. Additional information about State regulated wetlands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at <http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx>.
- State regulated subaqueous lands **ARE NOT** likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. State subaqueous lands include all tidal waters (up to the mean high water line), most non-tidal rivers, streams, lakes, ponds, bays and inlets (up to the ordinary high water line), most perennial streams and ditches and many intermittent streams and ditches. Additional information about State regulated subaqueous lands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at <http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx>.
- Waters of the U.S. regulated by the U.S. Army Corps of Engineers **ARE** likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. According to the GIS SWMP maps, there are considerable wetlands regulated by the U.S. Army Corps of Engineers. DNREC suggests contacting them for an on-site inspection. The entire parcel of land looks to be wooded fresh water wetlands according GIS maps. This is one of few wooded wetland areas left in this area and is most likely a vital source for habitat. Waters of the United States include the following: navigable waters of the United States; wetlands; tributaries to navigable waters of the United States, including adjacent wetlands and lakes and ponds; interstate waters and their tributaries, including adjacent wetlands; and all other waters of the United States not identified above, such as isolated wetlands, intermittent streams, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, where the use, degradation or destruction of these waters could affect interstate or foreign commerce. The extent of Federal jurisdiction over Waters of the United States is determined by the U.S. Army Corps of Engineers and is based on site specific conditions. Therefore, an on-site inspection by an environmental consultant is recommended to determine if Waters of the U.S. are located on the property and the limits of Federal jurisdictional. The U.S. Army Corps of Engineers can be contacted at (215) 656-6728 or online at <http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm>.

TMDLs

- The project is located in the greater Delaware River and Bay drainage area; specifically, within the C & D Canal and Red Lion Creek watersheds. In the Red Lion Creek watershed, the State of Delaware has developed specific Total Maximum Daily Load (TMDL) pollutant reduction targets for nutrients (e.g., nitrogen, phosphorus), and bacteria (under the auspices of Section 303(d) of the Federal Clean Water Act). 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 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. The TMDL for the Red Lion Creek watershed calls for a 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 38 percent reduction in bacteria from baseline conditions. Although a TMDL has not been developed for the C&D Canal watershed to date, the existing TMDL developed for the Red Lion Creek should apply to the entirety of the project area.
- A nutrient management plan is required under the *Delaware Nutrient Management law (3 Del. Chapter 22)* for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. This project’s open space may exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at 739-4811 for further information concerning compliance requirements or view the following web link for additional information: <http://dda.delaware.gov/nutrients/index.shtml>.

Water Supply

- The project information sheets state water will be provided to the project by Artesian Water Company via a public 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 85-WS-03.
- 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.
- Potential Contamination Sources exist in the area, and any well permit applications will undergo a detailed review that may increase turnaround time and may require site

specific conditions/recommendations. In this case, there is a Landfill associated with Weaver Pole-DURECO Denton located within 1000 feet of the proposed project.

Water Resource Protection Areas

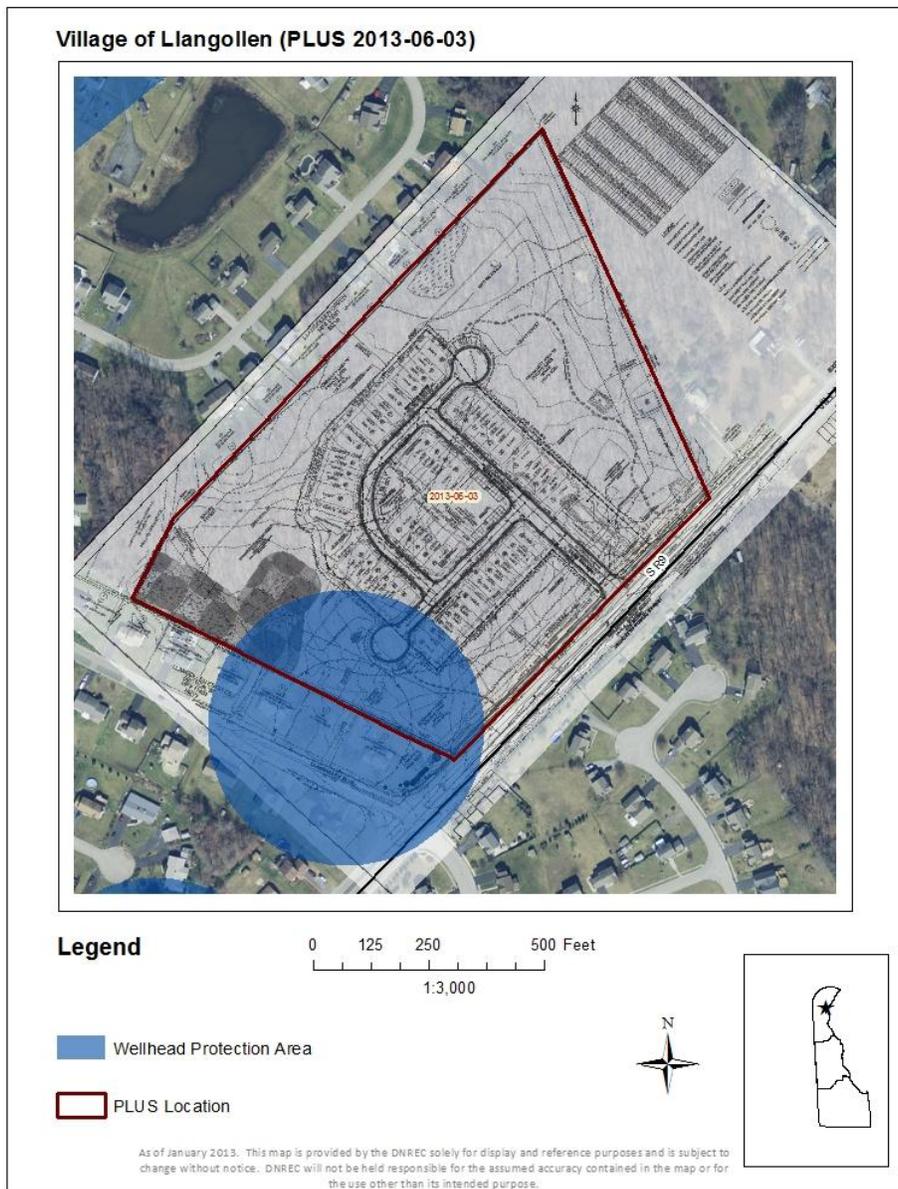
- The DNREC Ground-Water Protection Branch (GPB) has determined that it falls partially within a wellhead protection area for Artesian Water Company, (Llangollen Estates; map below). New Castle County's Unified Development Code (UDC) regulates these areas.

Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where land use activities or impervious cover may adversely affect the quantity and quality of ground water moving toward such wells.

The site plan submitted with the application shows a wellhead protection area with a one-hundred fifty foot radius for a confined well. This distance is consistent with State regulations regarding the construction of wells. However, New Castle County has regulations more stringent than the State, opting for a three-hundred foot radius to protect their sources of drinking water.

DNREC recommends the applicant consult the New Castle County Unified Development Code and follow the standards as set by New Castle County.

- In addition, because the wellhead protection area is an existing source of public drinking water and the excellent ground-water recharge area so readily affects the underlying aquifer, the storage of hazardous substances or wastes should not be allowed within these areas unless specific approval is obtained from the relevant state, federal, or local program.



Sediment and Stormwater Program

- A sediment and stormwater plan will be required for the site. Contact the reviewing agency to schedule a project application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as possible. 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. (Title 7, Delaware Code, Chapter 40 and Delaware Regulations, Title 7, Administrative Code, 5101)

Hazardous Waste Sites

- If it is determined by the Department that there was a release of a hazardous substance on the property in question and the Department requires remediation pursuant to the Hazardous Substance Cleanup Act, the provisions of 7 Del.C., Chapter 91, Delaware Hazardous Substance Cleanup Act and the Delaware *Regulations Governing Hazardous Substance Cleanup* shall be followed.

There are six SIRS sites within a ½ miles radius of the property in question:

- Denton Landfill (DE-0015) is located 0.03 miles to the east of the project property. A Preliminary Assessment (PA) on April 16, 1980. Recommendation was for a low priority Site Inspection (SI) to be conducted at the site. A second PA was conducted on the Site in 1984. The Site was given a No Further Action designation. A Certificate of Completion of Remedy (COCR) was issued on September 2004. The COCR includes institutional control on groundwater use and development of the Site.
- Riverwalk at Deemers Site (DE-1324) is located 0.14 miles east of the project property. The Site operated from 1966 to 1972 by Synvar Corp, who operated a chemical plant on site. The Site was later used by a sheet metal company and Industrial Products who used the site to store pallets and drums. A SI was conducted on the Site in 1987 and again in 2002. The Site was given a No Further Action designation for a commercial/industrial property.
- Delaware Brick Pit (DE-1151) is located 0.15 miles south-west of the project property. The Site was the location of a former brick and waste dumping pit used by the Former Amoco Plant. A Facility Evaluation was performed in October, 1999. The FE recommended that site soil should not be used as clean fill and the groundwater should not be used for drinking without further characterization. The Site is recommended for a No Further Action designation in 2000.
- New Castle National Guard Rifle Range (DE-0333) is located 0.26 miles south of the project property. The Site historically has been used for field exercises, training encampments, and live-fire exercises for groups such as the New Castle City and County police, SWAT teams, and related military and paramilitary police organizations. The National Guard is currently performing a Remedial Investigation of the former rifle range.

- Former Amoco Polymer Plant (Dureco) (DE-0084) is located 0.27 miles north of the project property. The Amoco Polymer Plant (Dureco) collected and processed polypropylene from nearby landfills and to process these materials on the site for resale. From 1961, until 1980 when Plant operations ceased, treated process waters were discharged to a nearby marsh. Those process waters at times included solids that settled into the marsh. A Final Plan of Remedial Action (FPRA) was issued for OU-1 in October 2002, followed by OU-2 in December 2003. A COCR was issued for OU-1 in July 2003; OU-2 received a COCR in December of 2012.

- Delaware Sand & Gravel (DE-0017) is located 0.32 miles north-west of the project property. The Site was placed on the National Priority List (NPL) in 1972 due to dumping of industrial waste in the former pit. The site was closed as a landfill in 1976. Between 1983 and 1984, EPA removed over 1,600 drums from the Drum Disposal Area. The Drum Disposal Area continues to be a source of contamination in the groundwater. Several cleanup measures have been implemented, including:
 1. Installation of an underground slurry wall;
 2. Excavation of drums and contaminated soil;
 3. Construction of a bio-venting system;
 4. 2004, groundwater extraction wells have been installed on site, to capture contaminants that have already been released

As of 2009, contaminated groundwater from the Drum Disposal Area is being pumped to a New Castle County wastewater treatment plant. The Site is in the Operation and Maintenance phase which includes landfill cover maintenance, groundwater extraction, quarterly groundwater and vapor testing. Remedial Investigation activities are currently being conducted around the Drum Disposal Area for additional cleanup options and groundwater contamination.

- Army Creek Landfill (DE-0001) is located 0.55 miles north of the project property. The Site is an abandoned sand and gravel quarry that was operated by New Castle County from 1960 through 1968 for the disposal of municipal and industrial waste. The Site was placed on the NPL because of the contaminated groundwater, and many groundwater extraction wells were installed to stop the contamination from flowing to public water wells. Construction of a multi-layer cap over the 50-acre landfill and an on-site water treatment facility was completed in 1993. The groundwater extraction system was designed to capture the contaminant plume migrating from both the Army Creek and Delaware Sand & Gravel NPL sites. In 2004, the treatment plant was shut down and groundwater recovery operations were shifted to the Delaware Sand & Gravel Landfill site. The Site is currently going through the O&M phase. Site monitoring has shown that the Army Creek Landfill remedy is performing as

designed, and the waste material managed on-site is not impacting drinking water supplies.

Tank Management Branch

Please be aware:

- If a release of a Regulated Substance occurs at the proposed project site, compliance with 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.
- The following confirmed leaking underground storage tank (LUST) projects are located within a quarter mile from the proposed project area:
 - Osterheld Property, Facility: 3-001453, Projects: N9207179 (Inactive)
- 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 by calling 302-395-2500.

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:

Table 1: Potential Regulatory Requirements	
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.

<p>7 DE Admin. Code 1135 – Conformity of General Federal Actions to the State Implementation Plan</p>	<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)
<p>7 DE Admin. Code 1141 – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products</p>	<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.
<p>7 DE Admin. Code 1144 – Control of Stationary Generator Emissions</p>	<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). • 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.

For a complete listing of all Delaware applicable regulations, please look at our website:
<http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

Delaware State Fire Marshall’s Office – Contact Duane Fox 739-4394

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:

- **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.
 - Where a water distribution system is proposed for townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains.
- **Fire Protection Features:**
 - For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan

- **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 the main entrance off of the main thoroughfare must be constructed so fire department apparatus may negotiate it. If a “center island” is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision.
 - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
 - Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. The display of, and dimensions for cul-de-sac is also applicable to the “round-about(s)” in the center of the subdivision. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
 - The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
 - The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

- **Gas Piping and System Information:**
 - Provide type of fuel proposed, and show locations of bulk containers on plan.

- **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
 - Square footage of each structure (Total of all Floors)
 - National Fire Protection Association (NFPA) Construction Type
 - Maximum Height of Buildings (including number of stories)
 - Name of Water Provider
 - Letter from Water Provider approving the system layout
 - Townhouse 2-hr separation wall details shall be shown on site plans
 - Provide Road Names, even for County Roads

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.

State Historic Preservation Office – Contact Terrence Burns 736-7404

- 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 (Delaware Code Title 7, Chapter 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 that pertains to unmarked human remains or cemeteries, please check 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 consider hiring an archaeological consultant to examine the parcel for potential historic or cultural resources, such as a potential archaeological site, a cemetery or unmarked human remains. 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 .

Department of Natural Resources and Environmental Control – Contact Kevin Coyle 735-3495

Soils Assessment

- According to the NRCS soil survey update, Othello (OtA) is the primary mapping unit mapped on subject parcel. Othello is a poorly-drained wetland associated (hydic) soil that has severe limitations for development (Figure 1). DNREC does not recommend building in the Othello map unit because of the increased potential for on-site and off-site flooding possibilities (figure 2).
- The Statewide Wetland Mapping Project (SWMP) often uses the soil survey as the basis for mapping and delineating wetlands. The presence of a hydric soil is one of three parameters that must be met in order to meet jurisdictional wetland requirements (as specified by the USACE). The other parameters are hydrophytic vegetation and hydrology. Therefore, the presence of hydric soils is a correlate with wetland presence (Figures 1 &2). Building on hydric soils is likely to increase the potential for on-site and off-site flooding potentials (figure 2). DNREC strongly recommends avoiding those areas containing hydric soil mapping units.



Figure 1: SWMP mapped wetlands in the vicinity of the proposed project



Figure 2: NRCS soil survey mapping update in the immediate vicinity of the proposed project

Additional information on water quality

The applicant is strongly urged to reduce nutrient and bacterial pollutants through voluntary commitment to the implementation of the following recommended BMPs:

- Please maximize open space by retaining as much of the existing native tree cover as possible. DNREC also strongly recommends the planting of additional native trees and /or native herbaceous cover, wherever possible.
- A United States Corps of Engineers (USACE) approved wetlands delineation is recommended. According to information presented in the PLUS application, an approved wetlands delineation was conducted; however, it was not made available to DNREC at the time of review. The USACE can be reached by phone at 736-9763. It should also be noted that compliance with USACE regulations does not preclude compliance with State wetland-regulatory requirements.

- 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. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from all water bodies (including ditches) and wetlands (field delineated and approved by the USACE).
- DNREC recommends that the applicant 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, and roads) included in the calculation.
- Since this project that will likely generate large amounts of impervious cover, DNREC advises, wherever practicable, the use of pervious paving materials (instead of conventional asphalt and concrete) as a BMP(s) to reduce the impacts from all forms of created surface imperviousness.
- DNREC encourages the use of rain gardens, and green-technology storm water management structures (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant impacts via runoff from impervious surfaces.
- The applicant should voluntarily 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) that result from the conversion of individual or combined land parcels to a different land use(s), while providing applicants with quantitative information about their project’s impact(s) on baseline water quality. We strongly encourage the applicant/developer use this protocol to help them design and implement the most effective BMPs. Please contact the Watershed Assessment Section at 302-739-9939 for more information on the protocol.

Forest Preservation

- Cumulative forest loss throughout the State is of utmost concern to the Division of Fish and Wildlife which is responsible for conserving and managing the State’s wildlife. Developments that occur within wooded areas significantly reduce the habitat value for wildlife due to clearing, fragmentation, and subsequent landowner activities. Actual forest loss may be higher than initial estimates once this site is built out and homes, driveways, sidewalks, roadways, and stormwater management ponds are constructed. In addition, residents may clear additional trees for play areas, dog kennels, sheds,

swimming pools, etc. Species that can tolerate habitat loss and fragmentation may attempt to co-exist with residents, while more sensitive species will likely be extirpated from the site and be forced into surrounding areas. Either scenario can result in an increase in human/animal conflicts. If tree clearing occurs it will have the most impact on forest dependent wildlife during breeding and nesting periods. The most vulnerable time of year for most species of birds is April 1st to July 31st and clearing should not occur during this time. This clearing recommendation would only protect those species during one breeding season; because once trees are cleared the result is an overall loss of habitat.

Site Visit Request

- DNREC Division of Fish and Wildlife scientists have not surveyed the project area and in order to provide more informed comments, request the opportunity to conduct a survey to evaluate habitat and map vegetation communities. Please note that the scientists have extensive knowledge of the flora and fauna of the state. The survey will be conducted at no expense to the landowner. Please contact Matt Bailey at (302) 735-8651 or at Matthew.Bailey@state.de.us if the landowner will grant a site visit.

Additional 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 tank management

- 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.

Additional information on air quality

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, but we believe, however, that the air quality impacts associated with the project should be completely considered. New homes may emit, or cause to be emitted, air contaminants into Delaware’s air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:
 - Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
 - The emission of greenhouse gases which are associated with climate change, and
 - The emission of air toxics.

- Air emissions generated from new homes 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 needed to support your homes, 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 the Village of Llangollen may have on air quality.

Table 2: Projected Air Quality Emissions for Village of Llangollen					
Emissions Attributable to Village of Llangollen (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NO _x)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Area Source emissions	1.6	0.2	0.1	0.2	6.4
Power Source emissions	*	0.6	2.2	*	321.0
Mobile Source emissions	2.3	2.4	0.1	0.0	1507.3
Total Emissions	3.9	3.2	2.4	0.2	1834.7

(*) Indicates data is not available.

- Note that emissions associated with the actual construction of the road, 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. 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;
 - 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 which include:
 - **Constructing with only energy efficient products.** Energy Star qualified products are up to 30% 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 excellent way to save on energy costs and reduce air pollution.

 - **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation, and from the use of oil or gas heating equipment.

 - **Providing tie-ins to the nearest bike paths and links to any nearby mass transport system.** These measures can significantly reduce mobile source emissions. **For every vehicle trip that is replaced by the use of a sidewalk, a bike path or mass transit, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.**

 - **Using retrofitted diesel engines during construction.** This includes equipment that are on-site as well as equipment used to transport materials to and from site.

 - **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.

 - **Planting trees in vegetative buffer areas.** 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 project. 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 Village of Llangollen.

Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

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

Delaware State Housing Authority – Contact Karen Horton 739-4263

- DSHA supports the Village of Llangollen proposal to re-subdivide an existing site to remove the age restricted status and remove clubhouse for a 52-unit townhome community south of the City of New Castle for the following reasons:
 - Removing the age restriction will enable more residents to live in a location with proximity to existing services, markets, and employment opportunities. In addition, townhomes tend to be an affordable homeownership option for low- and moderate-income residents.
 - In July 2011, the Cities of Wilmington and Dover, New Castle County and DSHA collaborated to conduct the *Statewide Analysis of Impediments to Fair Housing Choice*. (<http://www.destatehousing.com/FormsAndInformation/pubs.php>). The Analysis contains several recommendations to expand fair housing choice and break down historic patterns of segregation. One recommendation includes promoting homeownership in impacted areas that are considered to be racially- or ethnically-concentrated and/or low-and moderate-income. This area is considered to be impacted and therefore DSHA encourages homeownership in this area.
 - DSHA does recommend moving the parking for the townhomes to the rear of the buildings instead of the front. This will ensure that vehicles are not the dominant feature and thereby enhance the streetscape appeal. Simple design components can create a friendlier environment improving the quality of life for residents.

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". The signature is written in black ink and is positioned above the typed name and title.

Constance C. Holland, AICP
Director, Office of State Planning Coordination

CC: New Castle County