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February 20, 2007

Ms. Constance C Holland, AICP
Director
Delaware Office of State Planning and Coordination
540 S. DuPont Highway – Third Floor, Suite 7
Dover, DE 19901

RE: Response to PLUS Comments / Re-Application
Old Shawnee Road Property (PLUS 2005-11-13)
McCrone Project# D5050052

Dear Ms. Holland:

We are in receipt of State PLUS Comments, dated December 16, 2005, for the above referenced project. Accordingly, we have made major revisions to the above-referenced plan pursuant to these comments. Our point-by-point responses to these previous comments are enclosed below:

State Strategies/Project Location
The proposal is located in an Investment Level 3 area according to the *Strategies for State Policies and Spending*. These areas largely are comprised of longer term growth areas and growth areas with sensitive natural resources on or surrounding the site. Because of the site's proximity to the City of Milford, it is recommended that the developer coordinate with the City on the project's design and other issues that may impact the City.

- **The developer has been coordinating with the City of Milford**

Street Design and Transportation
A driveway easement should be provided to allow for a future connection from the Greenlee Property to Road 1.

- **A driveway easement will be provided adjacent to the Greenlee Property in order to facilitate a future connection to Road D (Now known as Greathouse Lane)**

Natural and Cultural Resources
Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine wetlands on the parcel. These wetlands provide water quality benefits, attenuate flooding

McCrone, Inc. • 111 South West Street • Suite 6 • Dover, Delaware 19904
302-730-4600 • Fax 302-730-0608
www.mccrone-inc.com • dover@mccrone-inc.com

sand provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. The parcel borders or contains headwater or near headwater riparian wetlands associated with Bowman Branch which eventually drains to the environmentally-sensitive Mispillion River watershed and thence to the Delaware Bay. In recognition of this concern, DNREC strongly recommends that the applicant preserve the existing riparian buffer (where it still exists) in its entirety. Otherwise, a 100-foot buffer width is considered the minimum acceptable distance from all the wetlands and water bodies (including ditches).

- **The developer understands the Departments position and desire for vegetative buffers. However maintaining a 100-foot buffer from the wetlands is not feasible given the tight geometry of the site. The developer is therefore proposing a minimum of a 50-foot riparian buffer in addition to a no clear zone at the rear of lots 17 through 31. This no clear zone ends at the back of the lots, and will subsequently create a buffer that varies between 80 and 150 feet to the wetlands. This buffer will meet or exceed the current code requirements.**

The eastern edge of the proposed development falls within an area of excellent groundwater recharge. Guidelines for addressing this issue are included in the "Water Resource Protection Areas" section of the letter. PLUS materials indicate that more than half of the forest will be removed by this project. The amount might actually be higher once the site is built out. Efforts should be made to minimize clearing of forest.

- **The revised preliminary site layout incorporates a new single entrance, road layout and lot configuration that reduce the impervious surfaces within the excellent recharge area. In addition, the developer has proposed a 30 ft no-clear zone at the rear of lots 17 thru 31. The developer has also proposed limited clearing where possible to preserve trees.**

The following is a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: Ann Marie Townshend 739-3090
The proposal is located in an Investment Level 3 area according to the *Strategies for State Policies and Spending*. These areas largely are comprised of longer-term growth areas and growth areas with sensitive natural resources on or surrounding the site. In these areas, State policies support long term, phased growth that is consistent with the character of the area and the relevant County and municipal comprehensive plans. The site cannot be annexed into Milford at this time. Because of the site's proximity to the City, the developer should coordinate with the City on the project's design and other issues that may impact the City. We note that while comments from Sussex County suggest that the developer should annex into the City of Milford, the project site is not currently within the City's annexation area, so annexation is not an option at this time.

- **The developer will continue to coordinate with the City of Milford on the project's design and any other issues that may impact the city.**

Division of Historic and Cultural Affairs – Contact: Alice Guerrant 739-5685
The parcel contains an early 20th-c. historic farmstead (S-3681). It is across the road from a mid-20th c. house (S-3693). While there is only a low potential for historic period archaeological sites earlier than the farmstead, there is good potential for a prehistoric-period archaeological site near the stream area. DHCA would appreciate the opportunity to document the historic buildings prior to any demolition activities. DCHA would also like the opportunity to check to see if there is in fact a prehistoric-period site to learn something about its location, size, and nature prior to any construction.

- **The developer understands the Departments position, and would be willing to allow time for documentation of historic buildings.**

Department of Transportation – Contact: Bill Brockenbrough 760-2109

1) DelDOT appreciates the proposed stub street to the Buehler property and suggests that a similar street be provided for a connection to the Marshall property.

   - **The Marshall property consists of a small, oddly shaped parcel. It is our opinion that a stub road to this parcel would not constitute efficient use of the limited land. In addition, a stub connection to the Marshall Property would create more impervious area within the excellent recharge area. In an effort to minimize the development of impervious surfaces within this area we feel it is best to forego the creation of a stub road to this parcel.**

2) DelDOT asks that a driveway easement be provided to allow for a future connection from the Greenlee Property to Road 1.

   - **A 20 ft wide driveway easement will be provided adjacent to the Greenlee Property in order to facilitate a future connection to Road 1.**

3) Ordinarily, DelDOT will not permit two access points for a subdivision with less than 1,000 feet of frontage, but given the number of units proposed, an exception may be appropriate in this case. The developer's site engineer should contact Mr. John Fiori, our Subdivision Manager for Sussex County, regarding specific requirements for access. He may be reached at (302) 760-2260.

   - **The plans have been revised to incorporate the use of a single entrance.**

4) There are two outlots proposed, to accommodate the existing houses with driveways on Old Shawnee Road. The driveway for the north lot should be closed at Old Shawnee Road and connected to Road 1. It may be acceptable to keep the existing Driveway for the south lot temporarily, but a driveway easement should at least be provided so that the property can be accessed for Road 4 if that lot is ever redeveloped. Also, the south lot has a U-shaped driveway, which would not be permitted under current DelDOT standards. DelDOT may require that one end of it be closed. Mr. Fiori will provide final decisions in these matters.

- **The two outlots mentioned have now been incorporated into the subdivision on the revised plans. The U-shaped driveway is on one of these lots and will be closed accordingly.**

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

Soils
According to the Sussex County soil survey Evesboro, Rumford, Fallsington, and Johnston soils were mapped in the immediate vicinity of the proposed project. Evesboro is an excessively-well drained upland soil that has limitations associated with rapid permeability. Rumford is a well-drained upland soil that has few limitations for development. Fallsington is a poorly-drained wetland associated (hydric) soil that has severe limitations for development. Johnston is a very poorly-drained wetland associated (hydric) floodplain soil that has severe limitations for development.

Although most of the soils on subject parcel may be fairly well drained, they have limitations associated with rapidly permeable sandy surface and subsurface horizons. Such soils are conducive to nutrient leaching via groundwater or surface runoff into the surrounding watershed. In soils containing shallow water tables or found in close proximity to water bodies, these impacts are greatly intensified.

- **The developer thanks the Department for this information and will consider this during the design and engineering phase.**

Wetlands
Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine wetlands on the parcel. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. The developer should note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

It should also be noted that this parcel borders or contains headwater or near headwater riparian wetlands associated with Bowman Branch which eventually drains to the environmentally-sensitive Mispillion River watershed and then to the Delaware Bay. Headwater riparian wetlands are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system and/or water bodies further downstream. Since such streams are a major avenue for nutrient-laden stormwater and sediment runoff, their protection deserves the highest priority. In recognition of this concern, the Department strongly recommends that the applicant preserve the existing riparian buffer (where it still exists) in its entirety. Otherwise, a 100-foot buffer width is considered the minimum acceptable distance from all wetlands and water bodies (including ditches). In cases where natural buffer vegetation has been removed or reduced by past development or

farming activities, the developer is encouraged to restore/establish to said buffer width or greater with native herbaceous and/or woody vegetation.

- **The developer understands the Departments position and desire for vegetative buffers. As reflected in the revised plans, it is the intent of the developer to keep all lots outside the limit of any delineated wetlands. In addition, a minimum of a 50-foot buffer will be maintained along the wetlands. As shown a buffer (including the no-clear area) of approximately 80 to 150 feet will be in place. These vegetative buffers will meet or exceed current code requirements.**

Wetland Permitting Information

PLUS application materials indicate that wetlands have been delineated (presumable a field delineation). This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached at 302-736-9763.
In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process. To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

- **The developer thanks the Department for this information, and will continue to develop the project in accordance with all applicable codes and regulations, and with all applicable permits.**

Impervious Cover

Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline. Based on analyses of 2002 aerial photography by the University of Delaware, the Mispillion watershed had about 8.5 percent impervious cover. Although this data is almost 4 years old and likely underestimated, it illustrates the importance of a proactive strategy to mitigate for predictable and cumulative environmental impacts. Since the amount of imperviousness generated by this project (approximately 40%) will far exceed the desirable watershed threshold of 10 percent, the applicant is strongly advised to pursue best management practices (BMPs) that mitigate or reduce some of the most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials in lieu of asphalt or concrete in conjunction with increasing forest cover via

preservation or additional tree plantings, are examples of practical BMPs that could easily be implemented to reduce surface imperviousness.

- **The developer will make an effort to include BMPs into the design of this project. Furthermore, alterations to the plans have been made in an effort to reduce impervious cover and protect environmentally sensitive areas. The revised entrance reduces the overall impervious cover, and more specifically reduces the impervious cover in the excellent groundwater recharge area.**

TMDLS

A Total Maximum Daily Load (TMDL) is the maximum level of pollution for which a water quality limited water body can assimilate without compromising use and recreational goals such as swimming, fishing, drinking water, and shell fish harvesting. TMDLs as a "pollution runoff mitigation strategy" to reduce nutrient loading have not yet been developed for the Mispillion River watershed to date. Work is continuing on their development and they should be completed by December 2006. Until the specified TMDL reductions and pollution control strategies are adopted, it shall be incumbent upon the developer to employ best available technologies (BATS) and/or best management practices (BMPs) as "methodological mitigative strategies" to reduce degradative impacts that might be associated with the proposed project. Reducing imperviousness, planting/preservation of trees, and maintaining 100-foot minimum upland buffers from wetlands/streams – are some examples of proactive mitigative strategies that will help reduce excessive nutrient runoff and it impacts on water quality, while ensuring State compliance with imminent Federal TMDL regulatory requirements.

- **The developer is proposing a 30-foot no clear zone and riparian buffer along the wetlands and the northern border of the site. This buffer will help reduce nutrient runoff as well as maintain more of the native trees. Also as mentioned above, efforts are being made to reduce the impervious cover on the site. This project will be developed within all current rules and regulations and under all applicable laws. The developer will work with the Department to achieve the required TMDL's.**

Water Supply

The project information sheets indicate that the source of water service to the project is yet to be determined. DNREC records indicate that the project is not located in an area where public water 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. For questions concerning these comments, please contact Rick Rios at 302-739-9944.

- **Water service for the site shall be provided by the City of Milford. If dewatering is necessary during any phase of construction, the proper permits will be secured, and the pumping shall be metered to be sure pumping rates are not exceeding the 50,000 gallons per day threshold.**

Water Resource Protection Areas

The DNREC Water Supply Section has determined that the eastern edge of the site falls within an area of excellent groundwater recharge (see following map and attached map). The proposed development would change the total impervious cover from 1% to approximately 40% and impact the excellent recharge area. The numbers were provided by the developer on the PLUS application. The eastern edge of the site is proposed to be single family home lots and some open space. If possible, the amount of open space in this area should be increased to decrease the amount of excellent recharge area that is impacted by development. The DNREC Water Supply Section recommends that the portion of the new development within the excellent recharge area not exceed 20% impervious cover. Further, some allowance for augmenting ground-water recharge should be considered if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within this area.

- **The project contains approximately 5.49 acres of excellent recharge area (16% of the total site area) as adapted from Sussex County Maps. The revised plan will have approximately 29% of impervious cover within the excellent recharge area. The estimate was calculated assuming that each lot was comprised of 35% impervious cover. This estimate demonstrates a significant reduction in impervious cover from the original plan submitted for review.**

For more information refer to the Final Source Water Protection Guidance Manual for the Local Governments of Delaware
http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html

And

Ground-Water Recharge Design Methodology
http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_fnal/swapp_guidance_manual_supp_1_2005_05_02.pdf

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction

inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson, Program Manager, at (302) 856-7219 for details regarding contact Sussex Conservation District 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. A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to DNREC Division of Soil and Water Conservation along with the $195 NOI fee prior to plan approval.

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces and forested areas, should be considered in the overall design of the project as a stormwater management technique. It is unlikely that this project will be eligible for a waiver of stormwater quantity management, so a pond may be necessary; however, SCD recommends over managing in the pond located in the open field area of the project and providing biofiltration swales between lots or other green technology best management practices in the wooded area that will necessitate less clearing of trees. Be advised that locating the pond on the slope will qualify the pond as an embankment pond, requiring much more stringent construction standards than an embankment pond.

Each stormwater management facility should have an adequate outlet for release of stormwater. Any drainage conveyed onto this site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption. The applicant must verify that the existing stream that the site will discharge to has no blockages on site of downstream that will prevent stormwater from discharging.

- **The developer will contact the Sussex Conservation District to schedule a pre-application meeting. A Sediment and Stormwater Management Plan (SSMP) will be prepared for the site in accordance with all current applicable laws and regulations. BMP's will be utilized for the project where possible.**

Forest Preservation

According to the application, 9.76 acres of forest out of 18.16 acres is going to be removed. In reality, the amount may be higher once the site is built out and homes, driveways, sidewalks, roadways, stormwater management ponds, and the community swimming pool are constructed. Future landowner activites (construction of playgrounds, sheds, swimming pools, etc.) also result in further clearing.

Although leaving a forest intact is usually more beneficial to the existing wildlife and is preferential to clearing, DNREC offers the following recommendations:

1) Consideration should be given for a reduction in the number of lots and

infrastructure. Then a greater area of forested open space could remain intact. Larger connected areas are more beneficial to wildlife than smaller, disconnected spaces. Forest fragmentation separates wildlife populations, increases road mortality, and increases "edge effects" that leave many forest dwelling species vulnerable to predation and allows the infiltration of invasive species.

2) There is a stormwater management pond proposed in the wooded area. This pond should be moved to an area that is already cleared or an alternative method of stormwater management employed. Trees provide erosion control and function in flood abatement so they shouldn't be removed for a stormwater management pond.
3) Unless minimal clearing is planned, moving the community swimming pool and parking lot to a non-forested area of the project could result in greater tree preservation. The space could then be used for lots displaced by the move or more preferably left as forested open space.
4) To reduce impacts to nesting birds and other wildlife species that utilize forests for breeding, clearing should not occur April 1st to July 31st.

- **The proposed 30-foot no clear zone at the rear of lots 17 through 31 will result in saving approximately 1.14 acres from being cleared. The clubhouse and pool have been eliminated and the stormwater pond in the wooded area has been moved to a centralized location. The area that the stormwater pond previously occupied has been replaced with lots that will require less clearing. Along with these measures, the developer will attempt to minimize the clearing of forested areas, and will practice selective/limited clearing to create wooded lots wherever possible. From the original PLUS submission, we have saved approximately 8% more of the original forested area by the methods described above. The original design had 24% forested area remaining and the current design increased the forested area remaining to 32%. The developer reiterates that the project will be completed in accordance with current codes and regulations.**

Open Space

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that the developer minimize the amount of forest removal by relocating infrastructure to areas outside of the forest and designating community open space along the forested areas. Doing so will preserve and expand the existing buffers on site and its value for birds and wildlife and it will create recreational opportunities for residents.

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.

- **The developer thanks the Department for this information. Efforts are being made to save existing trees, and include the planting of new native species of trees into the landscape design.**

Rare Species and Wetland Buffers
DNREC has not surveyed the parcel, but there is a potential for the federally threatened swamp pink (Helonias bullata) to occur within the forested wetlands. The project site should be surveyed for the presence of this federally protected plant. Contact the program botanist, Bill McAvoy, at (302) 653-2880 to set up a site visit.

In addition, there are rare plant and animal species within Haven Lake downstream that could be affected by run-off from the development. According to the application, the percentage of impervious surface is going to be 40%; therefore, adequate wetland buffers are extremely important for protection of water quality. DNREC recommends that at least a 100-foot (preferably 300 feet) forested buffer be left intact along Bowman Branch and any associated wetlands. This buffer should not contain lot lines, roadways or stormwater management ponds. In addition, the buffer should be placed in permanent conservation to reduce the likelihood that future clearing will occur.

- **The developer will work with the Department to ensure proper protection for rare species and wetlands in accordance with current codes and regulations. The applicant has retained the services of a qualified professional, James C. McCulley, IV to evaluate the site.**

Potential Hunting Issue
Because the parcels are part of a larger forest block, legal hunting activities may take place on adjacent properties. Hunting within 100 yards of a dwelling is prohibited and the applicant may want to contact adjacent landowners to determine if this is going to be an issue. In effect, the adjacent landowner will be losing 100 yards of their property for hunting if there is not a buffer between lot lines and the adjacent property line.

- **The developer will consider public notification pertaining to the development as required by code.**

Nuisance Waterfowl
Stormwater management ponds that remain in the site plan may attract waterfowl like resident Canada geese and mute swans. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns around ponds provide an attractive habitat for these species. DNREC recommends native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (50 feet) around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for

possible predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

- **The developer thanks the Department for its comments. An open space management plan will be created which will include appropriate landscaping techniques to be used at these ponds.**

Underground Storage Tanks
There is one inactive LUST site located near the proposed project: Allen's Market, Facility # 5-000804, Project # S9501026. No environmental impact is expected from this inactive LUST site. 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 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 with nitrile rubber gaskets in the contaminated areas.

- **The developer thanks the Department for this information.**

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

- **The developer understands the Departments concerns and will attempt to minimize construction waste.**

Air Quality
Once complete, vehicle emissions associated with this project are estimated to be 5.3 tons (10,590.8 pounds) per year of VOC (volatile organic compounds), 4.4 tons (8,768.4 pounds) per year of NOx (nitrogen oxides), 3.2 tons (6,469.5 pounds) per year of SO2 (sulfur dioxide), 0.3 ton (575.9 pounds) per year of fine particulates and 44.03 tons (885,905.3 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 2.1 tons (4,271.7 pounds) per year of VOC 9volatile organic compounds), 0.2 ton (470.0 pounds) per year of NOx (nitrogen oxides), 0.2 ton (390.1 pounds) per year of SO2 (sulfur dioxide), 0.3 ton (503.3 pounds) per year of fine particulates and 8.7 tons (17,316.7 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 0.8 tons (1,693.0 pounds) per year of NOx (nitrogen oxides), 2.9 tons (5,888.7 pounds) per year of SO2 (sulfur dioxide) and 434.3 tons (868,588.6 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO2	PM2.5	CO2
Mobile	5.3	4.4	3.2	0.3	443.0
Residential	2.1	0.2	0.2	0.3	8.7
Electrical Power		0.8	2.9		434.3
TOTAL	7.4	5.4	6.3	0.6	886.0

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 0.8 tons of nitrogen oxides per year and 2.9 tons of sulfur dioxide per year. A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, http://www.energystar.gov/: "ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

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

The energy office in DNREC is in the process of training builders to make structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. DNREC highly recommends this project and other residential proposals increase the energy efficiency of homes and that home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for new occupants.

- **The developer will consider the Department's comments in evaluating and making decisions regarding the energy efficiency of the project. It should be noted that Ameri-star Homes is a certified Master Builder. It is the intention of the developer/builder that these homes be Energy Star compliant.**

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

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**
   - 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 of 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 Old Shawnee 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.

- 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.

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

- **The project will be designed in accordance with all applicable codes and regulations, and in coordination with the State Fire Marshal's office in Sussex County.**

Department of Agriculture – Contact: Milton Melendez 698-4500

Neither the Delaware Department of Agriculture nor the Delaware Forest Service has any objections to the Old Shawnee Road application. The site is located on a long-range designated controlled development area. The *Strategies for State Policies and Spending*

encourages responsible development in areas within Investment Level 3 areas. DDA recommends that the applicant limit impervious cover as much as possible when designing the site. This area is a part of an "excellent recharge" area. The State of Delaware has mapped all ground water potential recharge areas. An "excellent" rating is the highest rating and designates an area as having important groundwater recharge qualities. Maintaining pervious cover in "Excellent" and "Good" recharge areas is crucial for the overall environmental health of the State and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as "excellent" and "good" recharge areas adversely impacts the future prospects for agriculture in Delaware.

Right Tree for the Right Place

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

Native Landscapes

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

Tree Mitigation

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

- **The developer thanks the Department for their comments and will take this information into consideration while developing the proposed landscaping for the site.**

Public Service Commission – Contact: Andrea Maucher 739-4247

The project is not in a certificated service area. The utility selected will need to apply to the Commission for a CPCN. 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.

- **The selected utility will secure the necessary CPCN's with your office, and the developer will be responsible to coordinate the provision of all utility connections.**

Sussex County – Contact: Richard Kautz 855-7878

If Milford provides the sewer the developer is encouraged to annex. The City is encouraged to avoid the creation of new enclaves and to eliminate existing enclaves during its negotiation of the annexation agreement. In order to avoid adversely impacting the n/f Greenlee property, the proposed pump station should be either relocated or buffered to prevent visual and odor impact.

The Sussex County Engineer Comments: the project is located southwest of the City of Milford and does not adjoin the city boundary. The project proposes to develop using a central community wastewater system with the City of Milford as the service provider. The project is located in Sussex County's North Coastal Planning Area and within a Developing Area of the City of Milford. The project is not in an Environmentally Sensitive Developing Area and Sussex County does not expect to provide sewer service in the foreseeable future. Sussex County recommends the developer contact the City of Milford for connection to the Milford wastewater system. Sussex County opposes private treatment facilities when municipal sewer is available.

If the site is not annexed into Milford or does not receive sewer service from the City of Milford, Sussex County requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications. Alternately, if a community treatment system is utilized, we recommend that the wastewater system be operated under a long-term contract with a capable wastewater utility. In addition, we recommend they have a wastewater utility provider prior to approving the project. A review and approval of the treatment and disposal system by the Sussex County Engineering Department is also required and plan review fees may apply. Disposal fields should not be counted as open space. Wastewater disposal fields should be clearly identified on recorded plots.

- **The pump station has been moved away from the Greenlee property, and will be adequately buffered to prevent visual and odor impact in its current location. The project proposes to create a separate enclave and proposed pump sewer to the City of Milford. Due to the excellent groundwater recharge area and palustrine wetlands on and adjacent to the site, a septic system would not be advisable. The pump station and sewer will be constructed and maintained to meet Ordinance 38 and City of Milford standards and specifications.**

We believe we have adequately addressed the PLUS comments for this project, and are excited to move forward. If you have any questions, please do not hesitate to contact me or Brian Pinkerton P.E., at 302-730-4600.

Sincerely,
McCrone Inc.

Keith A. Rudy, P.E.
Project Manager