



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION

June 29, 2008

Mr. Ed Hastings Parker & Associates 528
Riverside Drive Salisbury, MD 21801

RE: PLUS 2008-06-01; Cypress Creek Garden Apartments

Dear Mr. Hastings:

Thank you for meeting with State agency planners on June 25, 2008 to discuss the proposed plans for the Garden Apartments for Cypress Creek project to be located on DE Route 14, 3,000 ft. from route 13.

According to the information received, you are seeking site plan approval through Kent County for 38 3-story multi-family dwellings with 8 units each and a community building.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Kent County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

Executive Summary

The following section includes some site specific highlights from the agency comments found in this letter. This summary is provided for your convenience and reference. The full text of this letter represents the official state response to this project. ***Our office notes that the applicants are responsible for reading and responding to this letter and all comments contained within it in their entirety.***

State Strategies/Project Location

- The project is located in Investment Level 2, and from the perspective of the *Strategies for State Policies and Spending* our office has no objections to this development proposal.
- The development proposal appears to be inconsistent with the City of

Harrington's adopted and certified comprehensive plan. Comprehensive plans have the force of law in Delaware. A comprehensive plan amendment may be required. The applicant is advised to consult with the City of Harrington and their own legal counsel before proceeding with this project.

R: Concurrent with our preliminary plan submittal, we will petition the town for a comprehensive plan amendment, should they deem one required.

Street Design and Transportation

- The plan provided with the PLUS application does not provide dimensions for the right-of-way of Delaware Route 14. Because this road is classified as a minor arterial highway, DelDOT will require the applicant to dedicate sufficient land to provide 40 feet of right-of-way from the centerline if the existing right-of-way is not that wide.

R: The enclosed plan dedicates the requisite frontage to achieve the desired width.

- If parking must be located in front of the buildings and the buildings must be along the main driveway, it is suggested that diagonal back-in parking would be best.

R: Many different sketches and parking alternatives were evaluated. However, the 90 degree parking scenario was best suited for this site. Given the unique constraints and dimension of this site, any other parking configuration yield significantly less spaces and decimates the proposed plan. As an additional revision, we have also eliminated several spaces flanking the entrance to provide a greater unimpeded traffic flow lengths from either side of the entrance.

Natural and Cultural Resources

- The Watershed Assessment Section strongly recommends that the applicant maintain a minimum 100-foot upland buffer from all wetlands and/or water bodies (including ditches). Buffer widths less than 100 feet have been found to be insufficient to mitigate impacts to water quality.

R: A 25' wetlands buffer has been provided in accordance with Delaware written wetlands legislation.

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. It is strongly recommended that the owner and consultant contact the Kent Conservation District to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan before going further with the design of this site.

R: We will setup the meeting with Kent Conservation District prior to commencing design on this project.

This office has received the following comments from State agencies:

Office of State Planning Coordination – Contact: David Edgell 739-3090

This project is located in Investment Level 2 according to the *Strategies for State Policies and Spending*. A portion of the site is identified as Investment Level 3. This site is also located in the City of Harrington. 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. Based upon our review of the *Strategies*, Our office has no objections to the proposed development of this project in accordance with the relevant City codes and ordinances.

With this having been said, please be aware that in Delaware comprehensive plans have the force of law and no development is permitted unless it is consistent with the adopted comprehensive plan (see Title 22, Section 702 of the Delaware Code). Based upon a review of the City of Harrington's certified comprehensive plan, it appears that a plan amendment may be required. The plan designates the future land use as "Commercial / Residential Mix". This is not a mixed use project. It is strongly recommended that the applicant consult the City of Harrington, the City Solicitor, and their own private legal counsel before proceeding with this project. Harrington is known to be working on an update to their Comprehensive Plan, and an amendment to the future land use category could conceivably be incorporated into the plan update.

R: Concurrent with our preliminary plan submittal, we will petition the town for a comprehensive plan amendment, should they deem one required.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) The plan provided with the PLUS application does not provide dimensions for the right-of-way of Delaware Route 14. Because this road is classified as a minor arterial highway, DelDOT will require the applicant to dedicate sufficient land to provide 40 feet of right-of-way from the centerline if the existing right-of-way is not that wide.

R: The enclosed plan dedicates the requisite frontage to achieve the desired width.

- 2) Under DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access, the proposed development warrants a traffic impact study (TIS) and one would be required as a precondition for any DelDOT approvals. From the discussion at the PLUS meeting, however, DelDOT understands that an application pertaining to the development may have been accepted for review by the Town before April 1, 2008. If that is the case, the development is grandfathered with respect to the regulations just mentioned and a TIS would not be required. DelDOT has requested a letter from the Town in this regard. As necessary, the developer

may have their traffic engineer contact Mr. Troy Brestel of this office to arrange a scoping meeting for the study. Mr. Brestel may be reached at (302) 760-2167.

R: Concurrently with this submission, we also respectfully ask the town to forward you the requested letter.

- 3) Where would the parking be located for the buildings along the east and west edges of the site? While it is not shown on the plan accompanying the PLUS application, DelDOT's impression is that perpendicular head-in parking along the main driveway is proposed. For safety and operational reasons, DelDOT recommends that alternatives be considered. If parking must be located in front of the buildings and the buildings must be along the main driveway, it is suggested that diagonal back-in parking would be best.

R: Many different sketches and parking alternatives were evaluated. However, the 90 degree parking scenario was best suited for this site. Given the unique constraints and dimension of this site, any other parking configuration yields significantly less spaces and decimates the proposed plan. As an additional revision, we have also eliminated several spaces flanking the entrance to provide a greater unimpeded traffic flow lengths from either side of the entrance.

- 4) The applicant's site engineer should contact the DelDOT project manager for Kent County, Mr. Brad Herb of Johnson, Mirmiran and Thompson for more detailed comments on the proposed access. Mr. Herb may be reached at (302) 266-9600. **We will setup the meeting with Kent Conservation District before commencing design on this project.**

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

Green Infrastructure

Portions or all of the lands associated with this proposal are within the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61 that represents a network of ecologically important natural resource lands of special State conservation interest.

Green infrastructure is defined as Delaware's natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, productive agricultural and forest land, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. Preserving Delaware's Green Infrastructure network will support and enhance biodiversity and functional ecosystems, protect native plant and animal species, improve air and water quality, prevent flooding, lessen the disruption to natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism.

Voluntary stewardship by private landowners is essential to green infrastructure

conservation in Delaware, since approximately 80 percent of the State's land base is in private hands. It is in that spirit of stewardship that the Department appeals to the landowner and development team to protect sensitive resources through an appropriate site design.

Soils

According to the Kent County soil survey, Pepperbox-Rosedale complex, Rosedale, and Longmarsh were mapped in the immediate vicinity of the proposed construction. Pepperbox Rosedale complex is a moderately well-drained upland soil that has moderate to few limitations for development. Rosedale is a well-drained upland soil that, generally, has few limitations for development. Longmarsh is a very poorly-drained wetland associated (hydric) soil that has severe limitations for development and should be avoided.

R: All unsuitable and hydric soils are slated to be conserved.

Wetlands

According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested headwater riparian headwater wetlands were mapped over the entire southern portion of the parcel.

The applicant is responsible for determining whether any State-regulated wetlands (regulated pursuant to 7 Del.C. Chapter 66 and the Wetlands Regulations) are present on the property. This determination can only be made by contacting the Division of Water Resources' Wetlands and Subaqueous Lands Section at 302/739-9943 and consulting the State's official wetland regulatory maps, which depict the extent of State jurisdiction.

The area regulated by State law may be very different from the area under federal authority. No activity may take place in State-regulated wetlands without a permit from DNREC's Wetlands Section.

In addition, most perennial streams and ditches and many intermittent streams and ditches are regulated pursuant to the Subaqueous Lands Act (7 Del.C. Chapter 72) and the Regulations Governing the Use of Subaqueous Lands. Ponds which are connected to other waters are also regulated, while isolated ponds are not. Any work in regulated streams, ditches or ponds requires a permit from the Wetlands and Subaqueous Lands Section. An on-site jurisdictional determination is recommended in order to determine whether any regulated watercourses exist on the property. Please contact the Wetlands and Subaqueous Lands Section at 302/739-9943 to schedule an on-site visit. Such appointments can usually be scheduled within 2 to 3 weeks.

The applicant should also be reminded that they must avoid construction/filling activities in those areas containing wetlands or wetland associated hydric soils as they are subject to regulatory jurisdiction under Federal 404 provisions of the Clean Water Act. A site-specific field wetlands delineation using the methodology described in the 1987

United States Army Corps of Engineers (USACE, or “the Corps”) manual is only acceptable basis for making a jurisdictional wetland determination for nontidal wetlands in Delaware. The applicant is forewarned that the Corps views the use of the National Wetlands Inventory (NWI) mapping or the Statewide Wetlands Mapping Project (SWMP) mapping as an unacceptable substitute for a field-based jurisdictional wetland delineation (i.e., 1987 USACE manual). To ensure compliance with said Corps regulatory requirements, it is strongly recommended that a field wetlands delineation using the above-referenced methodology be performed on this parcel before commencing any construction activities. It is further recommended that the Corps be given the opportunity to officially approve the completed delineation. In circumstances where the applicant or applicant’s consultant delineates what they believe are nonjurisdictional isolated (SWANCC) wetlands (as asserted by the applicant in the PLUS application), the Corps must be contacted to evaluate and assess the jurisdictional validity of such a delineation. The final jurisdictional authority for making isolated wetlands determinations rests with the Corps; they can be reached by phone at 736-9763.

As noted previously, the palustrine headwater water riparian wetlands bound the southwestern boundary of subject parcel. Headwater riparian wetlands serve to protect water quality which helps maintain the ecological integrity and functions throughout the length of the stream, including the floodplain system and/or water bodies further downstream. Since headwater riparian wetlands serve as natural buffers that protect the water and habitat quality of streams from sediment and nutrient-laden runoff, their protection deserves the highest priority. The Watershed Assessment Section strongly recommends that the applicant maintain a minimum 100-foot upland buffer from all wetlands and/or water bodies (including ditches). Buffer widths less than 100 feet have been found to be insufficient to mitigate impacts to water quality. A literature review of existing buffer research by Castelle et al. (1994) has documented consensus among researchers that a 100-foot upland buffer is the minimum buffer width necessary, under most circumstances, to protect water quality.

R: We have retained the service of Hickory Environmental Consultants to assist us in the development of this project. They have formally and physically delineated all wetlands on the site and are in the process of obtaining verification from the corps. On behalf of our client, they will ensure that the proper procedure is followed and that all requisite permits will be acquired prior to the commencement of any construction activities.

Impervious Cover

Based on a review of the PLUS application form, post-construction surface imperviousness was projected to reach 20 percent. However, given the projected scope and density of this project, this estimate appears to understate post-construction surface imperviousness. When calculating surface imperviousness, it is important to consider all created forms of constructed surface imperviousness (i.e., rooftops, sidewalks, roads, and stormwater management ponds) in the calculation for surface imperviousness; otherwise, an inaccurate assessment of this project’s environmental impacts will result. Surface

imperviousness should be recalculated with all of the above-mentioned forms of constructed surface imperviousness included.

R: The impervious area has been recalculated as requested. There is slated to be 7.8 acres or 43% of the site will be impervious surface.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed's overall water quality. It is strongly recommended that the applicant implement best management practices (BMPs) that reduce or mitigate some of its most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

R: A BMP will be utilized to reduce any adverse impacts to this watershed if feasible.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Murderkill River watershed. A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited water body" can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states are charged with developing and implementing standards to support these desired use goals. In the Murderkill River watershed, "target-rate-nutrient reductions" of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. Additionally, "target-rate-reductions" of 32 percent will be required for bacteria.

R: We will comply with all required reductions of pollutant loads to our watershed.

TMDL Compliance through the PCS

As indicated above, TMDLs for nitrogen and phosphorus have been proposed for the Murderkill watershed. The TMDL calls for a 30 and 50 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 32 percent reduction in bacteria. A Pollution Control Strategy (PCS) will be used as a regulatory framework to ensure that these nutrient reduction targets are attained. The Department has developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional nutrient reductions may be possible through the implementation of BMPs such as increasing the amount of passive, wooded open space (planted with native woody and herbaceous vegetation), wider vegetated buffers along watercourses, use of pervious paving materials to reduce surface imperviousness, and the deployment of green-technology stormwater management treatment technologies. Contact

Lyle Jones at 303/ 739-9939 for more information on the assessment tool. **Item noted.**
Thank you.

Water Resource Protection Areas

The Ground Water Protection Branch (GWPB) has determined that the northeast corner falls within excellent ground-water recharge areas for the City of Harrington (see following map and attached map). The City of Harrington does not have a source water protection ordinance as mandated by Title 7, Delaware Code, Chapter 60, Subchapter VI, § 6082.

Excellent Ground-Water Recharge Areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect ground water in these areas.

The Water Supply Section recommends that the portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover (DNREC, 2005). The site plan submitted by the developer shows a landscaped berm in the area of excellent ground-water recharge potential. No impervious surfaces were found within the area of excellent ground-water recharge potential.

R: The excellent ground water recharge area on this site is at the Northeast corner of this site. It is slated to be pervious in its entirety.

References

Andres, A. Scott, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware: Delaware Geological Survey Report of Investigations No. 66, p. 14.

<http://www.udel.edu/dgs/Publications/pubform.html#investigations>

Delaware Department of Natural Resources and Environmental Control (2005): *Source Water Protection Guidance Manual for the Local Governments of Delaware*: Dover, DE. 144 p.

<http://www.wr.udel.edu/swaphome/Publications/SWPguidancemanual.html>

Cypress Creek Apartments (PLUS 2008-06-01)

Excellent ground-water recharge potential area is highlighted in green. The site plan overlies the parcels under review.



Water Supply

The project information sheets state water will be provided to the project by the City of Harrington via a public water system. DNREC records indicate that the project is located within the public water service area granted to the City of Harrington under Certificate of Public Convenience and Necessity 92-CPCN-07.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at

302-739-9944.

R: Item noted. Thank you.

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. It is strongly recommended that the owner and consultant contact the Kent Conservation District to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan before going further with the design of this site. There may be opportunities to use the existing wooded wetland area, with some modifications, for the storage of stormwater on this site. Stormwater quality treatment with Green Technology BMPs must occur prior to discharge to the wetlands. 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 Kent Conservation District. Contact Jared Adkins, Program Manager, at the Kent Conservation District at (302) 741-2600, ext. 3 for details regarding submittal requirements and fees.

R: The meeting will be setup before commencing design of the site.

• Because of the parcel's location in an impaired watershed and the amount of impervious surface, green technology BMPs and low impact development practices should be considered a priority to reduce stormwater flow and to meet water quality goals.

R: BMP's will be utilized, where feasible to their maximum extent to reduce stormwater flow & pollutant discharge.

Drainage

•The property is located along the north side of Jacksons Tax Ditch. There are existing tax ditch rights-of-way for the tax ditch. Please contact the Drainage Office in Georgetown at 302-855-1930 to request a review of the tax ditch rights-of-way on the property. The Drainage Program requests that the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. Notify downstream landowners of the change in volume of water released on them.

R: The proposed design of this stormwater management system incorporates an elevated level of safety and management of storms with greater intensity than that which is required. Careful consideration will be given to all properties and structures, both upstream and downstream from the site to ensure that they are not detrimented by the construction of this project.

•Any pipe within the tax ditch right-of-way will require sufficient cover to allow for heavy equipment to cross over without damage to the pipe.

R: As designed, the pipe has significant cover

•The tax ditch right-of-way shall be unobstructed by structures, pipes, or ditches.

R: We do not plan to create any obstructions.

Forested Habitat Preservation

Cumulative forest and wildlife habitat 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 (see www.fw.delaware.gov and the Delaware Code, Title 7). Because of an overall lack of habitat protection, we have to rely on applicants and/or the entity that approves the project (i.e., counties and municipalities) to consider implementing measures that will aide in habitat loss reduction.

The forest loss being proposed is relatively small, but cumulative impacts are still a concern. There are a few measures that could minimize impacts to wildlife.

Recommendations:

1. Efforts could be made to explore alternative configurations of the project and alternative methods of stormwater management (that do not require tree clearing) so that the overall footprint in the forested area is reduced.

R: Most of what is to be cleared is that scrub vegetation. The majority of the quality woodland and viable forested habitats are slated to be conserved.

2 There should be at least a 100-foot upland buffer between site plan features (including stormwater ponds) and wetland boundaries. The current site plan only a 25-foot buffer. A minimal 25 foot buffer does not recognize ecological needs, which are supported by scientific research. Upland buffers not only protect the function and integrity of wetlands, but also provide critical breeding habitat for wetland dependent species during a portion of their life cycle. A 25-foot buffer width is inadequate for these purposes.

R: The required 25' wide wetlands buffer has been provided and maintained. Please recognize that the wetlands on this site are located adjacent to the tax ditch. They extend into this site to the bottom of a small slope. Our 25' buffer carries the protection past this ridge and protects soils and the quality habitat within. At the top of the ridge lie soils, vegetation, and conditions that are consistent with the rest of the site.

3. To minimize impacts to birds and other wildlife that utilize forested areas for breeding, we recommend that tree clearing not occur April 1st to July 31st. This recommendation would only protect those species for one breeding season; because once the trees are cleared there is an overall loss of habitat.

R: Item noted. Thank you.

Nuisance Waterfowl

The applicant indicated that tall grasses, wild flowers, shrubs and trees would be utilized

around the stormwater management pond to deter geese. These plantings should be comprised of plant species native to Delaware if possible and be planted to a width of 1530 feet or greater. When the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to reside and nest in the area of the pond. The vegetation also blocks the ability to easily move between land and water. The plantings should be conducted as soon as possible as it is easier to deter geese than to remove them once they become plentiful.

R: Plantings will be specified where practical and/or necessary.

The Division of Fish and Wildlife does not provide goose control services, and if problems arise, the property owner/land manager 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.

Air Quality

Housing developments may unnecessarily emit, or cause to be emitted, significant amounts of 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 housing developments include emissions from:

- . • Area sources like painting, lawn and garden equipment and the use of consumer products like roof coatings and roof primers.
- . • The generation of electricity needed to support the homes in your development, and
- . • Car and truck activity associated with the homes in your new development.

These three air emissions components (i.e., area, electric power generation, and mobile sources) are quantified below, based on a per household/residential unit emission factor that was developed using 2002 Delaware data. These emissions in the table represent the actual impact the Cypress Creek Garden Apartments development may have.

Emissions Attributable to Cypress Creek Garden Apartments Subdivision (Tons per Year)

	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Direct Residential	9.2	1.0	0.8	1.1	37.1
Electrical Power Generation	ND*	3.6	12.6	ND *	1,863.1
Mobile	22.7	18.8	13.9	1.2	1,900.2
Total	31.9	23.4	27.3	14.6	3,800.4

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the subdivision, 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:

The applicant shall comply with all applicable Delaware air quality regulations. These regulations include:

Regulation 6 Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> • Using dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. • Using covers on trucks that transport material to and from site to prevent visible emissions.
Regulation 1113 – Open Burning	<ul style="list-style-type: none"> • Prohibiting open burns statewide during the Ozone Season from May 1-Sept. 30 each year. • Prohibiting the burning of land clearing debris. • Prohibiting the burning of trash or building materials/debris.
Regulation 1145 – Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> • Restricting idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

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

- **Constructing only energy efficient homes.** Energy Star qualified homes are up to 30% more energy efficient than typical homes. These 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 increased 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.

. **R: This is likely not an option for this project.**

. • **Providing tie-ins to the nearest bike paths and links to any nearby mass transport system.** These measures can significantly reduce mobile source emissions.

. **R: We will provide pedestrian interconnectivity to the adjacent church, if allowed. We also have provided interior mass transit bus stops.**

. • **Funding a lawnmower exchange program.** New lawn and garden equipment emits significantly less than equipment as little as 7 years old, and may significantly reduce emissions from this new development. The builder could fund such a program for the new occupants.

. **R: Item noted. Thank you.**

. • **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.

. **R: This recommendation has been forwarded to the owner for consideration.**

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

. **R: Item noted. Thank you.**

. • **Planting low VOC emitting trees at residential units and in vegetative buffer areas.** Certain varieties of trees reduce emissions by trapping dust particles and by 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.

R: Item noted. Thank you.

Additionally, the following measures will reduce emissions associated with the actual construction phase of the development: There are additional things that can be done to reduce the impact of the development on air quality. To get a list of low VOC trees and additional information, the applicant should submit a plan to the DNREC Air Quality Management Section which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Cypress Creek Garden Apartments development. Air Quality Management Section points of contact are Phil Wheeler and Deanna Morozowich, and they may be reached at (302) 739-9402.

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.

R: The fire hydrants have been provided to meet the required criteria. Please refer to the plans.

Where a water distribution system is proposed for multi-family residential sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

R: The sprinkler system and water main size will be formally designed and provided on the engineered construction drawings for this project. We will forward them for review upon completion.

b. **Fire Protection Features:** . All structures over 10,000 Sq.

Ft. aggregate will require automatic sprinkler protection installed.

Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.

R: Fire department connection and key boxes have been shown.

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 DE Route 14 must be constructed so fire department apparatus may negotiate it.

R: The access to the site by fire apparatus was considered in this design. All fire equipment should not have difficulty accessing and navigating through this site.

. 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. . 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.

R: There are no gates or other means being proposed that would limit fire department accessing and out of the site.

d. **Gas Piping and System Information**

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

R: No gas is being proposed at this time.

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”

R: The note has been added. Please refer to general note # 8.

- Proposed Use

R: The multifamily residential is proposed on this project. Please refer to general note #9.

- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units

R: The labels have been provided. Please refer to the sheet 1 of 5.

- Square footage of each structure (Total of all Floors).

R: The square footage has been provided on each structure.

- National Fire Protection Association (NFPA) Construction Type

R: 3 stories buildings are proposed on this project. Please refer to general note # 10.

- Maximum Height of Buildings (including number of stories)

R: The maximum height of buildings will be 35'. Please refer to general note # 11.

- Note indicating if building is to be sprinklered

R: The building is to be sprinklered, and the note has been provided on general note # 12.

- Name of Water Provider

R: The water provider will be City of Harrington, and the note has been added to general note # 13.

- Letter from Water Provider approving the system layout .

R: The letter will be provided once the construction drawings are approved.

- Provide Lock Box Note (as detailed in DSFPR) if Building is to be

Sprinklered.

R: The note has been added as requested. Please refer to sheet 4 of 5 near community recreational office building.

Provide Road Names, even for County Roads.

R: The road name has been provided. Please refer to the plans.

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.

Department of Agriculture - Contact: Scott Blaier 739-4811

The Delaware Department of Agriculture has no objections to the proposed project. The project is located within the City of Harrington, and the *Strategies for State Policies and Spending* encourages environmentally responsible development in Investment Level 2 and 3 areas.

This site overlaps with the State's Green Infrastructure Investment Strategy Plan. The Natural Areas layer is present on the site. This designation identifies areas of the state that have viable and valuable agricultural cropland, as discussed in Governor Minner's Executive Order Number 61. Areas such as these should be preserved as such, and not developed for residential use.

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. To further support this concept the Delaware Forest Service does not recommend the planting of the following species due to the high risk of mortality from insects and disease:

Callery Pear Ash Trees

Leyland Cypress Red Oak (except for Willow Oak)

If you would like to learn more about the potential problems or impacts associated with these trees, please contact the Delaware Forest Service for more information at (302) 698-4500.

Native Landscapes

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

Public Service Commission - Contact: Andrea Maucher 739-4247

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.

Delaware Division of Public Health- Health Promotion Bureau- contact Michelle Eichinger (302) 744-1011

Ensuring that new residential and commercial development incorporates pedestrian- and bicycle-friendly features allows people to travel by foot or by bicycle and promotes physical activity as part of daily routines. Regular physical activity offers a number of health benefits, including maintenance of weight and prevention of heart disease, type 2 diabetes and other chronic diseases.¹ Research shows that incorporating physical activity into daily routines has the potential to be a more effective and sustainable public health strategy than structured exercise programs.² This is particularly important considering about 65% of adult Delawareans are either overweight or obese.³ This current obesity crisis is also affecting children. Approximately 37% of Delaware's children are overweight or obese,⁴ which places them at risk for a range of health consequences that include abnormal cholesterol, high blood pressure, type 2 diabetes, asthma, depression and anxiety.¹

In Delaware, as in other states across the nation, certain patterns of land use can act as a barrier to physical activity and healthy eating for children and adults alike. Examples of such barriers include neighborhoods constructed without sidewalks or parks and shopping centers with full-service grocery stores situated too far from residential areas to allow for walking or biking between them.

This proposed development is in a Level 2 area. Developing in such an area is consistent with the *Strategies for State Policies and Spending*. DPH is committed to the *Strategies* and therefore, does support development in the proposed area.

DPH supports new development in and around existing towns and municipalities where compact and mixed land use patterns facilitate physical activity. As a way to promote physical activity and access to healthy foods, we recommend that the following amenities

be included in the Cypress Creek Garden Apartments:

Amenities to encourage active transportation

- Ensure that there are sidewalks and walking paths connecting the public destinations within the residential development.

R: The sidewalk will be connected to the adjacent church, if allowed, other than that; there are no other existing points to connect to.

- Include amenities such as sidewalks and cross walks that will enable residents from neighboring areas to walk, bike or use other means of non-motorized transportation to access commercial development such as the grocery store that is in close proximity to this project. In addition, a pedestrian path to the neighboring church is recommended.

R: Sidewalk walking trail, bike racks, and bus stops have been provided on this site. Currently there are no realistic means of non motorized transportation to reach the grocery store, as Rt 14 currently does not have sidewalks and is a very busy highway. Promoting non motorized transportation on this highway should not be encouraged.

- Install bike racks in convenient locations throughout the development.

R: The bike racks have been provided. Please refer to the plans.

These amenities would encourage residents of the residential development to walk between destinations within the development, and also enable local residents to travel to the commercial development and other public destinations by foot or by bicycle. Studies have shown that people who have access to sidewalks are more likely to walk and also to meet the Surgeon General's recommendations for physical activity.² A recent study cited by Active Living by Design showed that integrated land use can increase the number and percentage of walking and biking trips.⁵ Recent public opinion surveys reveal that people want more opportunities to incorporate walking into their day. A survey by the Surface Transportation Policy Project found that 55% of Americans want to walk more on a daily basis to get exercise or to travel to specific destinations, and 63% want to walk more to stores and other locations to take care of errands.⁶

Amenities to encourage walking and physical activity for recreation

- Designate a portion of the open space area for recreational walking: for example include walking paths constructed of pervious materials affording minimal disturbance to the open space area. However, it is not recommended to incorporate a walking path/trail in wetlands.

R: No trail is currently proposed in the wetlands. The interior walking loop was designed to promote recreational walking.

¹ Nemours Health and Prevention Services (2005). *Delaware Children's Health Chartbook*, Newark, DE.

² Active Living by Design. *Transportation Fact Sheet*. Retrieved May 17, 2007, from http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/Transportation_Factsheet.pdf.

¹ Delaware Health and Social Services (2008), *Division of Public Health, Behavioral Risk Factor Surveillance System (BRFSS), 1990-2007*.

⁴ Nemours Health and Prevention Services (2007). *2006 Delaware Survey of Children's Health Descriptive Statistics Summary, Volume 1*.

⁵ Active Living by Design. *Land Use Fact Sheet*. Retrieved May 17, 2007, from http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/LandUse_Factsheet.pdf.

⁶ Surface Transportation Policy Project (2003). *Americans' Attitudes Toward Walking and Creating Better Walking Communities*. Retrieved February 12, 2008, from http://www.transact.org/library/reports_pdfs/pedpoll.pdf.

Delaware State Housing Authority – Contact Vicki Powers 739-4263

This proposal is for a site plan review of 296 apartments on 18.35 acres located on Delaware Route 14, approximately 3,000 feet east of US 13 in Harrington. DSHA supports proposals for multi-family housing. These developments can be the most economical to construct, and are needed to meet the needs of low- and moderate-income families. Furthermore, rental communities give residents housing options and create a balanced housing stock for the community. DSHA's Statewide Housing Needs Assessment has identified a growing need for rental housing, particularly for the senior population.

While it is unclear at this time what income level this community will be marketed toward, it would be beneficial if some units were set aside for the low- and moderate-income segment.

Department of Education – Contact: John Marinucci 735-4055

This proposed development is within the Lake Forest School District boundaries. DOE offers the following comments on behalf of the Lake Forest School District. Using the DOE standard formula, this development will generate an estimated 148 students.

1. DOE records indicate that the Lake Forest School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2007 elementary enrollment. However, upon completion of the elementary school currently under construction, the Districts' *elementary schools will NOT be beyond 100% of current capacity* based on September 30, 2007 elementary enrollment.
2. DOE records indicate that the Lake Forest School Districts' *secondary schools are at or beyond 100% of current capacity* based on September 30, 2007 secondary enrollment.
3. Further, the superintendent of the Lake Forest School District has communicated to DOE the district's lack of capacity given the number of planned and recorded residential subdivisions within district boundaries.
4. This development will create additional elementary school and middle school student population growth which will further compound the existing shortage of space. The

developer is strongly encouraged to contact the Lake Forest School District Administration to address the issue of secondary school over-crowding that this development will exacerbate.

R: The developer has indicated that he will do so.

5. DOE recommends that playgrounds be constructed and maintained in accordance with ASTM Designation F-1487 and CPSC PUB 325 in order to assure the safest playgrounds possible and to reduce playground owner potential liability.

R: We proposed and abundant of play apparatus and open active recreational areas.

6. The DOE appreciates that the developer has addressed bus stop ROW and shelters within the project design.

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.

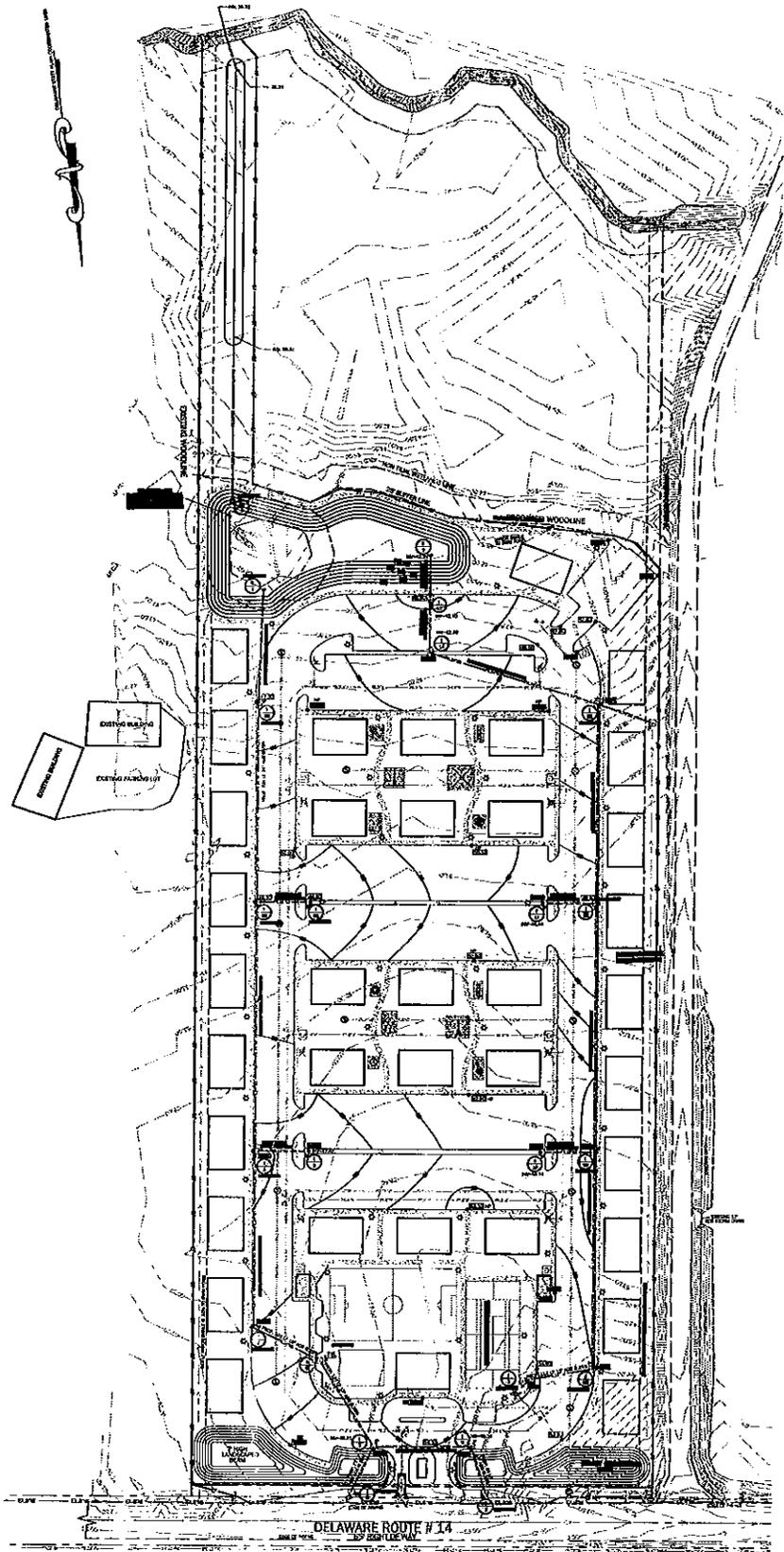
Sincerely,


Constance C. Holland, AICP Director

CC: City of Harrington

**Cypress Creek Garden
Apartments** 2008-06-01

<p>This map was produced by the Delaware Department of Natural Resources and Environmental Control.</p>	



LEGEND

- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPOSED CURBING
- EXISTING EDGE OF PAVEMENT
- NORTH-SOUTH WETLAND LINE
- 25 FOOT WETLAND WETLAND BUFFER LINE
- BUILDING SETBACK LINE
- PROPOSED HARDSCAPE
- EXISTING HARDSCAPE
- PROPOSED UTILITY FENCE
- EXISTING CONTOUR
- PROPOSED 24" STORM DRAIN
- PROPOSED SEWER
- PROPOSED INLET PROTECTION
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE

NOTE: TOTAL IMPERVIOUS AREA = 7.80 AC.

NOTE: CONTRACTOR TO CHECK ALL DOWN STREAM DITCHES AND PIPES FOR BLOCKAGES PRIOR TO COMMENCING STORM DRAIN CONSTRUCTION.

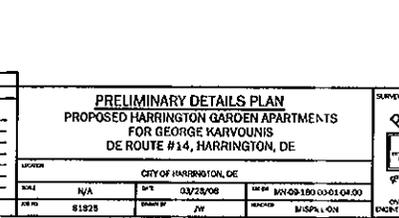
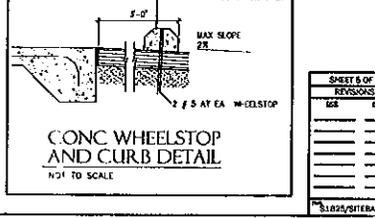
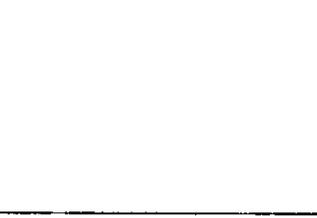
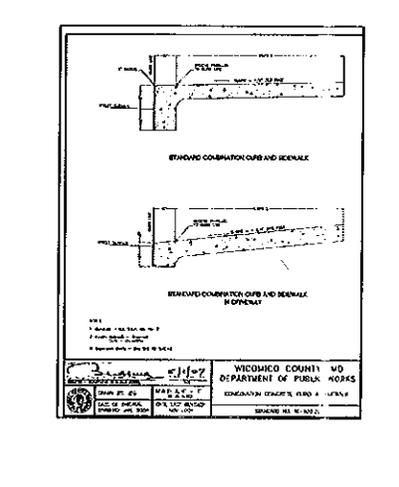
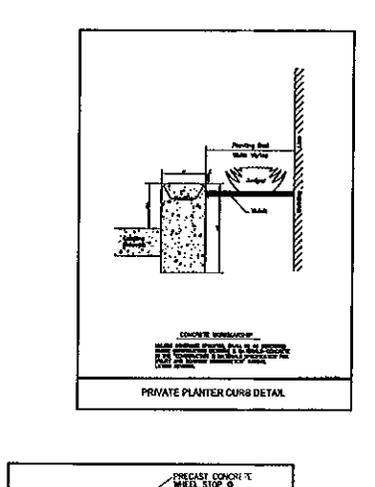
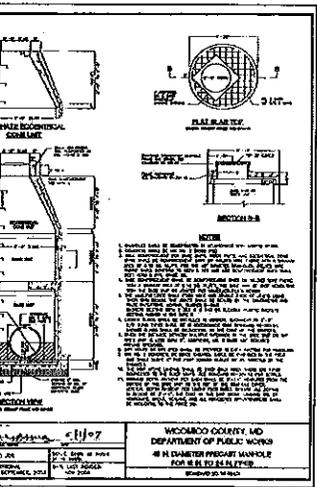
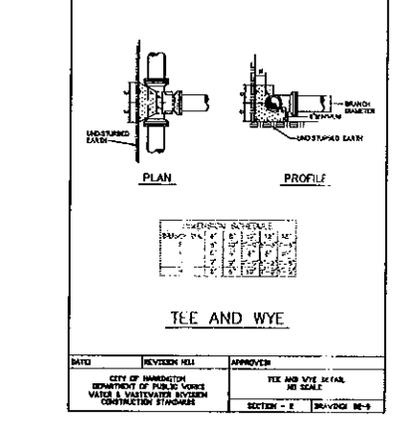
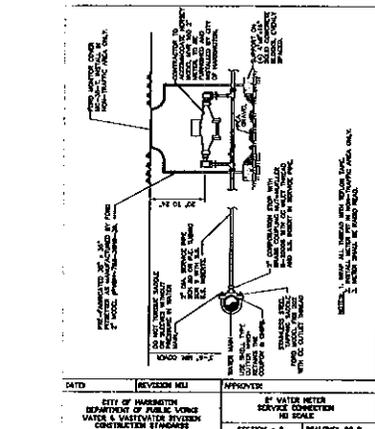
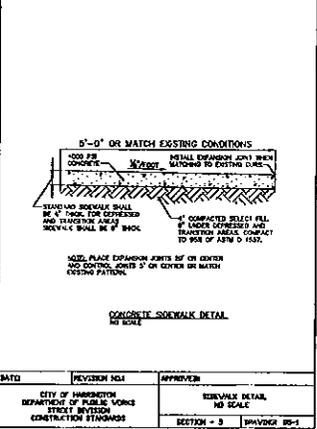
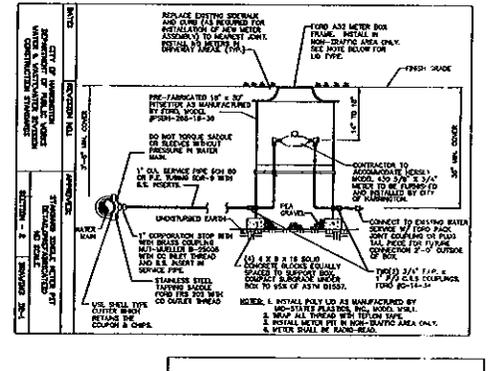
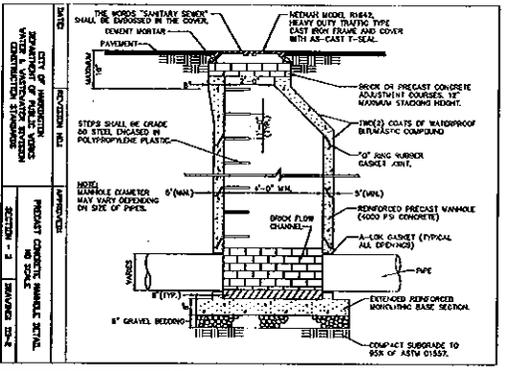
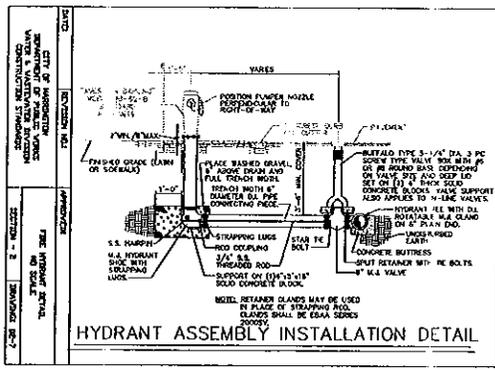
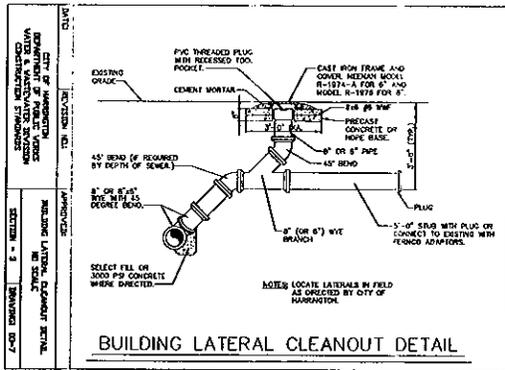


SHEET 3 OF 3		REVISIONS		DATE		BY		CHECKED		DATE		BY		CHECKED		DATE	
<p align="center">PRELIMINARY GRADING AND SEDIMENT CONTROL PLAN PROPOSED HARRINGTON GARDEN APARTMENTS FOR GEORGE KARVOUNIS DE ROUTE #14, HARRINGTON, DE</p>																	
<p align="center">CITY OF HARRINGTON, DE</p>																	
<p align="center">DATE: 11-27-14</p>																	
<p align="center">PROJECT NO: 14-09-180-00-01-04-00</p>																	
<p align="center">DRAWN BY: JH</p>																	
<p align="center">CHECKED BY: HJ</p>																	
<p align="center">DATE: 11-27-14</p>																	
<p align="center">SCALE: 1" = 50'</p>																	
<p align="center">SHEET NO: 3 OF 3</p>																	





LOCATION MAP - VILLAGE BROOKE WEST



SHEET # OF 3		REVISIONS	
NO.	DATE	BY	DESCRIPTION

PRELIMINARY DETAILS PLAN
 PROPOSED HARRINGTON GARDEN APARTMENTS
 FOR GEORGE KARVOUNIS
 DE ROUTE #14, HARRINGTON, DE

CITY OF HARRINGTON, DE
 DEPARTMENT OF PUBLIC WORKS
 WATER & WASTEWATER SYSTEMS
 CONSTRUCTION STANDARDS

SECTION - 2 DRAWING 85-3

WILCOX COUNTY, MD
 DEPARTMENT OF PUBLIC WORKS
 48 N. QUINCY STREET, BALTIMORE, MD 21201
 (410) 552-1000

PARKER & ASSOCIATES
 1000 N. WASHINGTON ST., SUITE 100
 WASHINGTON, DC 20002
 (202) 462-1000