

COMMUNITY & ENVIRONMENTAL DEFENSE SERVICES

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July 7, 2008

Terry P. Carlson, P.E.
Department of Public Works
County Services Plaza
150 Main Street
Prince Frederick, Maryland 20678

RE: Shoppes @ Apple Green Stormwater Management

Dear Mr. Carlson:

I am assisting the Apple Greene Civic Association with concerns regarding a proposed commercial development project known as the Shoppes at Apple Green. Stream channel erosion and stream ecosystem damage are a primary concern of Apple Greene residents. The plans for this project indicate that no stormwater management will be provided in upland areas on the site. For the reasons outlined in this letter I believe the lack of onsite management will exacerbate these damages. I would appreciate an opportunity to meet with you to discuss the concerns of the residents in detail and how full compliance with applicable stormwater management requirements could go a long way towards resolving these concerns.

STREAM CHANNEL EROSION & STREAM ECOSYSTEM DAMAGE

The concerns of Apple Greene residents regarding stream channel erosion and stream ecosystem damage is prompted by the following past damages to their property.

Northern Stream

An unnamed tributary to Hall Creek drains the northern portion of the development site. This stream also flows past homes located on Winesap Court within the Apple Greene community. These property owners have noted a substantial increase in the width of the stream channel, the muddiness of the stream during runoff periods, and the amount sediment deposited along the channel. Several of these residents are original owners of homes built in the mid-1970s. They recall that these problems began after the CVS pharmacy was built (ca. 2000).



I walked the stream channel from Winesap Court up to the CVS store several weeks ago. I found a number of unstable, poorly vegetated point bars along the channel which is a strong indicator of recent sediment deposition. It also appears that the head of this deeply incised stream valley has moved west towards the pharmacy since the Shoppes @ Apple Green site plan was drafted. The stream valley is now about 20 feet deep at the point where project plans indicate the head of gulying was formerly located.

It also appears that the head of stream (Waters of the U.S.) have moved at least 40 feet further upstream. This movement is in the direction of the outfall for the storm drain system serving the 1.2-acres of building, parking lot, and other impervious area comprising the CVS pharmacy. The head of gulying is now 63-feet from the CVS outfall. I presume the head-cutting will continue until it reaches the outfall.

I could not find any evidence of stormwater management facilities serving the pharmacy. During our meeting I would like to learn if such a facility - perhaps something underground - is present.

Southern Stream

A second unnamed tributary to Hall Creek drains the southern portion of the proposed development site. A number of Apple Greene residents own property along this stream and below Apple Way. These residents have noted a substantial increase in erosion rates along their property.

I also walked this stream several weeks ago. The channel has a very steep gradient so sediment deposition along the channel is minimal until one arrives at a very poorly maintained stormwater facility located 1800-feet downstream of Apple Way. This pond lacks a riser and tree-size vegetation is growing over the entirety of the earth embankment, including the emergency spillway. It appears that this facility has never been maintained.

There is an abundance of very unstable sediment upstream of this facility. Far more unstable sediment is present downstream all the way to Hall Creek. These unstable sediments indicate a large volume of eroded soil has been deposited from upstream areas. I assume these sediments mostly resulted from channel erosion.

Of particular concern is that the valley appears to be growing deeper and wider. In fact it appears that a large portion of a steep hillside behind a home on Cortland Lane may be in danger of slipping into the channel. However, I lack the technical expertise to make such a determination. When we meet I'd like to discuss how the County can ensure that this issue is promptly investigated by a qualified professional.

According to a report by the applicant's consultant, *Wetland Evaluation Report for Apple Greene*, the head of the southern stream was at Apple Way in 2001. I walked the area above

(north) of Apple Way and found that the head of stream has moved 220-feet upstream. If this is correct then the rate of channel erosion is astounding.

The channel is about five feet deep at the nickpoint which, again, is 220-feet above Apple Way. Above the nickpoint there is a shallow, somewhat braided channel which can be traced to a storm drain outfall serving the northern half of the Howlin Building and parking lot. Like the CVS pharmacy it appears that this building lacks onsite stormwater management.

When we meet I'd like to learn if quantity or quality stormwater facilities do serve the Howlin Building.

ANTIQUATED STORMWATER MANAGEMENT

I obtained a copy of the 34-sheet Site Plan for the Shoppes @ Apple Green. I believe I have the most recent plans, which are dated March, 2005 with the last revision given as June, 2008. These plans do not show any quantity or quality stormwater management facilities located anywhere on the 41.7-acre site. The plans do show the existing stormwater pond located 1800-feet downstream of Apple Way and imply that this facility will serve as the sole management for the site.

On June 24th I meet with Mr. Mighel Jackson who, of course, is reviewing stormwater management for the Shoppes @ Apple Green on behalf of your department. Mr. Jackson provided me with another document, *Shoppes at Apple Greene Subdivision - Preliminary Stormwater Management Design*, dated November 16, 2007.

In the *Summary and Conclusions* section of this document it is stated that:

The purpose of this summation is to provide the preliminary water quality, recharge storage volumes and the channel protection volumes for Lots 2&8 and to give an overview of stormwater mitigation for the entirety of The Shoppes at Apple Green Subdivision.

The document I received from Mr. Jackson only addresses Lots 2 and 8, which account for 19% of the 41.7-acre site. The *overview of stormwater mitigation for the entirety of The Shoppes at Apple Green Subdivision* was missing. This document implies that computations were previously submitted for other portions of the Shoppes @ Apple Green.

I would appreciate a copy of the previously submitted computations. If the overview is also present in the Department's files then I would appreciate a copy of this document as well.

Again, the most recent site plan does not show any quantity or quality stormwater management facilities on the 41.7-acre site. The only facility is the existing stormwater pond located 2000-feet downstream of the site. I have not seen this regional approach to stormwater management used in Maryland since the early 1980s. In fact, the project cannot comply with the

current *2000 Maryland Stormwater Design Manual* nor the prior stormwater regulations without onsite facilities. The project also cannot comply with the Water Quality Certification issued by the Maryland Department of the Environment without onsite facilities¹.

Even if these regulatory requirements did not compel onsite measures then this approach would be dictated by responsible environmental practice. As stated earlier in this letter, area residents have observed severe and dramatic stream channel erosion and damage to their properties. The erosion appears to result from past development lacking onsite control measures. This indicates area stream channels are highly susceptible to erosive forces. Allowing the Shoppes @ Apple Green to also develop without onsite control measures will exacerbate erosion, environmental degradation, and property damage.

Particularly disturbing is the outfall shown on Site Plan Sheet 7 of 34. This sheet shows that much of the development encompassed by Ward Road, MD Route 4, and Dunkirk Way will drain to a storm drain system discharging at a single outfall. This outfall is located a hundred feet upslope from the nickpoint above Apple Way. The proposed outfall will convey runoff from an area many times greater than that which has caused this nickpoint (head of stream channel) to move 220-feet upstream of Apple Way since 2001. The erosive force of the discharge would not be attenuated until it reached the existing stormwater pond 1800 feet downstream of Apple Way. In other words, more than 2,000 feet of stream channel would be exposed to a large increase in erosive force. Those who own property along the channel would likely see a substantial increase in the losses they have already suffered. Of particular concern are the yards and homes sitting disturbingly close to the steeper valley walls which appear in danger of slippage should further channel widening occur.

I assume that the measures needed to achieve compliance with responsible environmental practice, including the requirements set forth in the *2000 Maryland Stormwater Design Manual*, would consume 5% to 15% of the 41.7 acres site. It is unlikely that all of these measures could be placed beneath parking lots, buildings, and other proposed structures. Some would surely need to be placed above ground.

The current site plan shows that the 41.7-acre area is already tightly packed. I do not understand how the measures needed to properly manage stormwater runoff could be shoe-horned into this site plan at some point in the future. This issue is exacerbated by the drip-irrigation wastewater treatment system proposed for the site. The *2000 Maryland Stormwater Design Manual* calls for a minimum setback of 50-feet between stormwater facilities and facilities designed to apply treated wastewater to soil.

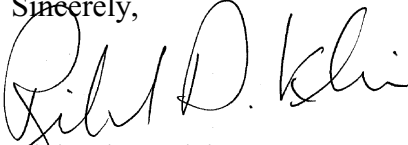
In summary, it would seem prudent to require the applicant to demonstrate how stormwater management requirements will be met onsite. Additionally, given the apparent

¹ See Condition 13 of WQC 89-WQ-0773.

uniquely sensitive nature of the stream channels draining the site it would be prudent to require an analysis demonstrating how these waterways and adjoining properties will be safeguarded.

I look forward to discussing these questions with you when we meet. I will call in a few days to schedule a meeting.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard D. Klein". The signature is written in a cursive style with a large initial "R".

Richard D. Klein

cc: Ms. Lisa Yankanich, Apple Greene Citizens Association
Mr. Edward B. Howlin, Jr.
Mr. Gregory A. Bowen, Department of Planning & Zoning
Ms. Amanda Sigillito, Maryland Department of the Environment
Dr. Ching-Tzone Tien, Maryland Department of the Environment