Appendix A: Citizen Advisory Committee Meeting Minutes

Popes Head Creek Watershed Study
Meeting Minutes

Date:	September 16, 2003	Time:	7:00 pm
Location:	Clifton Elementary School		

Recorder Lynne Mowery, P.E.

Meeting: Advisory Group/Steering Committee Kickoff

Project Team Attendees:	Fred Rose, DPWES Paul Shirey, DPWES Matt Meyers, DPWES Tim Lormand, AMEC David Bulova, AMEC Doug Moseley, AMEC Lynne Mowery, AMEC Mark Preston, AMEC	Advisory Group Attendees:	David Pena Cliff Fairweather Gary Anderson Taya Abbott Lawrence Hensle Jeremy Epstein Ronni McCrohan Jeannie Jirucha Wilma Kime Don Kelso Jim Bonhivert Bob Krajeski

Paul Shirey, Fairfax County DPWES, Stormwater Management Division, opened the meeting with an introduction to the watershed study process.

Fred Rose, Fairfax County DPWES, Stormwater Management Division, outlined the challenges facing the County with its stormwater management program. The County faces increasing development pressures on the environment and more stringent environmental regulatory requirements. These, coupled with funding limitations, create a difficult challenge for the County to deliver the level of service dictated by regulations and expected by citizens. The watershed plans being developed will rely on meaningful involvement by the public to ensure that they are implementable and that there is community support for devoting the necessary resources to meet citizen expectations. The County desires that the development of the watershed management plan be a partnership between the County and the watershed community.

David Bulova of AMEC Earth & Environmental presented an overview of the Popes Head Creek watershed, the watershed planning process, and the role of public involvement in the watershed plan development process. Paul Shirey also participated in the presentation, outlining the County's overall approach to the development of watershed management plans and the role of watershed management plans in the overall County stormwater management program.

Participants raised the following questions, both during and after the presentation:

Question: How does Popes Head Creek rank in terms of quality with the other Fairfax watersheds? Does the County have a priority or ranking system for the County's streams?

Answer: *The County's Stream Protection Strategy report (2001) does include some ranking/priority setting information. The Popes Head Creek has relatively good water quality compared to other watersheds in the County.*

Question: Why was Piney Branch identified as a Restoration Level 1 area and other parts of the Popes Head Creek watershed were not?

Answer: *The Stream Protection Strategy was based on observed stream conditions. Stream systems that would derive the greatest benefit from restoration efforts in the short term were classified as Restoration Level 1. In general, these watersheds hold the potential for significant stream quality enhancement and were given the highest priority for watershed planning efforts.*

Question: How much broader will participation be in the public forums?

Answer: *The steering committee will be instrumental in identifying constituencies to participate in the public forums and in identifying effective public outreach methods in the watershed to inform citizens about the public forums.*

Question: What is the timeframe for completion of the study?

Answer: *The study timeframe is 18 months – this study should last another 15 months as it began 3 months ago.*

Question: Will the results of the study be presented to the County Board of Supervisors?

Answer: *The final approval process has not been defined. The study may be presented to the Planning Commission with some items forwarded to the Board of Supervisors.*

Question: Is the public involvement process mandatory or voluntary for the County?

Answer: *Fred Rose explained that the County elected to include public participation in the watershed planning process in order to develop a plan that can be supported by citizens of the watershed and their elected officials. Cliff Fairweather, Audubon Naturalist Society (ANS), affirmed the sincerity of the County's public involvement process, noting that his organization has seen a major shift in the County's water quality management processes and feels that the County has a genuine interest in public input.*

Question: What happens if the community and the County disagree on components of the watershed plan?

Answer: *The goal is to reach consensus on the issues. There is no guarantee that everyone will be 100% satisfied, but through the meeting/discussion process, it is more likely that a consensus can be reached. Everyone, however, should feel as though they had a voice in the plan development.*

Question: Is groundwater part of the scope of the study?

Answer: *Groundwater is a key piece of stream health; thus, it is an important factor.*

Question: What about failing septic systems?

Answer: *To the extent that this is identified as a concern, it will be factored into the study.*

The following questions were posed to the advisory / steering committee participants:

Question: Who else should be considered for the Advisory / Steering Committee?

Answer: *The following organizations/potential members were brought forth:*

- *Developers in the watershed*
- *Country Club of Fairfax – board members or staff*
- *Schools / science teachers – Cindy Borror of Clifton Elementary cited as a resource*
- *Commercial entities / businesses in the watershed*
- *Churches – Kings Chapel and 2nd Baptist mentioned*
- *Town of Clifton*
- *City of Fairfax*
- *Fairfax County Park Authority*
- *Fairfax County Water Authority*

Question: When should the advisory / steering committee meetings be held?

Answer: *The participants were asked about the best day to meet. It was determined that there wasn't one day of the week that was a fit for all members. It was suggested that the day be rotated to give all members a chance to attend some of the meetings. No date was selected for the next meeting.*

Question: Where should the advisory / steering committee meetings be held?

- *Clifton Town Hall – availability may be limited*
- *Hemlock Overlook Park meeting rooms*
- *Fairfax Country Club*
- *Fairfax Villa Elementary School*
- *Fairfax Station Railroad Museum*
- *Fairfax County Police Association Hall*
- *Regional Park Authority Headquarters*

At the close of the presentation, Cliff Fairweather, ANS announced a citizen's water quality workshop that will be held on Saturday, October 4 at Manassas National Battlefield Park.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	October 28, 2003	Time:	7:00 pm
Location:	Fairfax Station Railroad Museum		

Recorder Lynne Mowery, P.E.

Meeting: Advisory Group/Steering Committee Kickoff

Project Team Attendees:	Paul Shirey, DPWES Tim Lormand, AMEC David Bulova, AMEC Doug Moseley, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Gary Anderson Todd Bolton Bernie Carr Sue Clairemont Jeremy Epstein Peter Ficken Art Foster Traci Kammer Goldberg George Jennings Jeannie Jirucha Don Kelso Wilma Kime Stella Koch Eva Leahy Mark Leahy John Lotito Ronni McCrohan David Pena Mervine Rosen Charlie Smith Kevin Warhurst

Paul Shirey, Fairfax County DPWES, Stormwater Management Division, opened the meeting with an introduction to the watershed study process and the AMEC project team.

David Bulova of AMEC Earth & Environmental (AMEC) presented a recap of the last meeting with an overview of the Popes Head Creek watershed and the watershed planning process. Paul Shirey discussed the County's goals in the development of the watershed plans. David Bulova continued with a discussion of previous studies conducted in the Popes Head Creek watershed and a brief discussion of the Total Maximum Daily Load (TMDL) requirement for Popes Head Creek.

Doug Moseley of AMEC presented a brief primer on the impact of human behaviors on watersheds. In this primer, Doug presented examples of potential negative impacts from common activites, including: lawn fertilization, leaf disposal, household chemical disposal, septic system maintenance, animal waste management, pasture/land management, and vehicle maintenance and fueling.

A roundtable discussion followed to obtain input on what are perceived behavioral impacts on the Popes Head Creek watershed. This discussion ultimately converged on the focus areas: lawn care, septic systems, animal waste, new construction, litter, and maintenance:

Lawn Care:

Discussion focused on the proper use and application of fertilizer. Soils testing kits to determine the amount of fertilizer needed are available from public libraries; however a concern was voiced about the result received from the labs from the soils analysis and their usefulness to the average homeowner. A participant had a soils test conducted on his lawn and the results received were difficult to understand. A solution may be to contact the soils testing labs and discuss ways to make the results usable by the average homeowner. It was also suggested that homeowners be directed to the Master Gardener resources available at public libraries to help with understanding the soils test results.

A question was raised about the use of slow release fertilizer and if any studies on the impact of these products on water quality had been conducted. No one had any knowledge of studies in this area.

The need for public education about this issue was also discussed, particularly public education for homeowners who purchase lawn care products at larger retail outlets where minimal education resources are available. Possible solutions discussed were: targeting educational newsletters in the watershed, distributing educational flyers at retail outlets, providing marketing incentives to retail outlets that participate in an educational program and distributing a monthly calendar that addresses water quality issues. It was also suggested that educational programs be targeted at lawn care services.

Some other behaviors mentioned were: shifting the landscaping paradigm towards more natural landscaping would benefit water quality; herbicide and pesticide use; misdirected rainwater from residences directly into streams and storm sewers and maintaining buffer areas along streams.

Septic Systems:

A brief discussion occurred on the water quality impact of septic systems. Participants asked if septic systems had an impact on water quality. The project team responded that the impact of a properly operating septic system is negligible. However, septic systems are an “out of sight – out of mind issue.” Often, instead of regularly scheduled maintenance and pump-outs, septic system are often serviced once a backup is observed. Once a backup occurs, the septic system has not been operating properly for a while, degrading water quality.

Animal Waste:

The initial discuss focused on the waste and waste disposal practices of large and small areas. In other watersheds, dog feces have been found to be a significant cause of water quality impairment.

Some homeowners expressed that the large deer population may contribute more to water quality problems than dogs or horses. The impact of wildlife on stream water quality in the Four Mile Run watershed has been documented. It was found that raccoons contributed the most to fecal coliform loads, due to their proximity to streams and storm sewers. Humans and dogs were the next highest contributors. It was suggested that deer might not be large contributors because they are free ranging and roam throughout the area. Therefore, their waste products are often deposited far enough away from the stream to decompose naturally and replenish the soil.

New Construction:

The impacts on new construction were discussed, especially the impacts of tree clearing on lots after construction. During construction, the County has limitations on the amount of trees that can be cleared. However, after the construction is complete, the property owner has less restrictions and the County is limited in its enforcement capabilities.

Litter:

Participants expressed concern at the amount of trash that is carried by the creek during storm events. Litter along roadways and parking lots was also a concern. The presence of litter creates a perception that the watershed is dirty and additional litter won't make any difference. The prompt removal of dead deer and other road kill was discussed.

Maintenance:

The railroad culverts in the Clifton area were mentioned as a maintenance problem. The culverts are often clogged with debris. It was suggested that a representative from the railroad be included on the committee. Maintenance of buffer areas along streams and pasture maintenance were other items mentioned. Automotive maintenance was also an issue of concern.

Some general comments discussed were that the approach to watershed issues should be comprehensive and proactive and that behaviors should be associated with land use.

Tim Lormand of AMEC presented a proposed schedule of committee meetings and topics. It was suggested that the April meeting be moved from April 6 to April 13 to avoid a conflict with spring break.

The Issues Scoping Forum was discussed. A press release for this forum will be available at the next meeting.

The participants were asked about local media outlets, association newsletters and distribution lists for advertising the Issues Scoping Forum:

- *Schools*
- *Posters in stores*
- *Centreville Times*
- *South County Chronicle*
- *Parks Network*
- *Stella Koch, Audubon Naturalist Society, has a distribution list for environmental groups*
- *Fairfax Trails and Streams*
    - *Bob Jordan*
    - *Crystal Kearns*
- *Regional Park Authority*
    - *Claire Blanchard*

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	November 19, 2003	Time:	7:00 pm
Location:	Merrifield Garden Center		

Recorder Lynne Mowery, P.E.

Meeting: Citizens Advisory Committee Meeting #3

Project Team Attendees:	Paul Shirey, DPWES Tim Lormand, AMEC Doug Moseley, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Taya Abbott Todd Bolton Jim Bonhivert Bernie Carr Amy Conrick Jeremy Epstein Cliff Fairweather Art Foster Traci Kammer Goldberg Peter Hogarth George Jennings Jeannie Jirucha Robert Jordan Wilma Kime Mervine Rosen Charlie Smith Kevin Warhurst

Paul Shirey, Fairfax County DPWES, Stormwater Management Division, opened the meeting and asked if members of the committee would object if their contact information is added to a County database. The County's database would not be used often – just to notify about County events concerning stormwater issues. No objections were made.

Doug Moseley of AMEC Earth & Environmental (AMEC) presented a recap of the last meeting with an overview of previous studies conducted in the watershed and how human behavior impacts watersheds. Doug Moseley continued with brief primer on the impacts of the built environment on watersheds. In this primer, Doug presented the negative impacts of the built environment such as increased flow volume, decreased infiltration, increase in stream temperature and increased pollutants.

Tim Lormand of AMEC presented an overview of the changing landscape in the Popes Head Creek watershed using aerial photographs taken over the past 35 years. Tim also presented a breakdown of the imperviousness in the Popes Head Creek watershed and how this relates to stream quality.

A roundtable discussion followed concerning the impacts of the built environment. Items discussed included: groundwater recharge, impacts of road construction, downzoning vs. cluster development, changing paradigm of stormwater management, methods to measure health of a stream, use of Homeowners Associations to obtain

stormwater management goals, and the impact of development on the Occoquan Reservoir.

Groundwater Recharge:
A question was posed about whether certain areas of the watershed are more critical for groundwater recharge than other areas. This led to a discussion of the different hydrologic soil types – A, B, C, and D – with A having the most infiltration (e.g. sand) and D having the least (e.g. clay). The Popes Head watershed has primarily B soils. The sensitivity of certain areas would have to be determined based on the soils, the geomorphology of the area and the nature of the development in the area.

Impact of Road Construction:
A brief discussion occurred on the impact of road construction, especially in recently paved areas. Some of the oils in the asphalt may runoff off of a recently paved roadway during the first storm event after the pavement is laid, especially if the roadway has not had time to "cure" – the oils in the asphalt bind with the gravel and harden. However, it was reiterated that road surfaces accumulate pollutants such as tire rubber and brake dust and these wash off with each rainstorm.

Downzoning vs. Cluster Development:
The benefits of downzoning in the Popes Head Creek watershed have been evidenced by the relative good quality of the watershed. However, some studies have shown that cluster development is another beneficial method of developing while maintaining aspects of the natural environment. Cluster development involves concentrating development in certain areas of the watershed where transportation and access to services is available and protecting the remaining area as a natural resource. For example on a hundred acre site, 20 acres may be developed and the rest left in a natural state. It was also mentioned that forest management is more difficult on many larger lots where property owners make the tree maintenance decisions as opposed to a larger protected forested area.

Changing Paradigm of Stormwater Management:

A brief discussion occurred concerning the shifting paradigm in stormwater management over the past 40 years. In the 60s and 70s, communities were primarily concerned with moving the stormwater away from houses and roads as quickly as possible to avoid structure and road flooding. This meant more constructed channels and storm sewer pipe systems to move the water quickly and efficiently.

In the 1980s, the paradigm shifted to controlling the volume of stormwater runoff from newly developed areas so that the post-developed flows would be the same as the pre-developed flows. To manage the increased runoff, detention ponds were usually constructed to detain the peak flows and release these flows at a lower rate but over a longer period of time.

In the 1990s, water quality issues became a concern in this area with the passing of the County's Chesapeake Bay Preservation Ordinance in 1993. Some of the methods used to mitigate the water quality impacts of development were to construct extended detention dry ponds and wet ponds that would hold the polluted stormwater for a certain period of time to enable pollutants to settle out or to install infiltration trenches or sand filters that would filter out the pollutants.

Low impact development (LID) techniques, such as the use of rain barrels and rain gardens, reflect current ideas about stormwater management by managing stormwater at the source or on individual lots.

Methods to Measure the Health of a Stream:

A question was posed as to how the health of a stream is measured. In the past, specific levels of pollutants were measured – levels of phosphorus, nitrogen and other pollutants were measured. This has shifted to a focus on biological indicators of stream health – number and diversity of fish and aquatic insects. This also includes a greater focus on measuring other water variables that impact the fauna in the stream such as dissolved oxygen, ph and stream temperature.

Use of Homeowners Associations to Obtain Stormwater Management Goals:

A suggestion to use Homeowners Associations as an agent to obtain stormwater goals was discussed. It was suggested that Homeowners Associations could expand their focus from architectural considerations to include maintenance of buffer areas and education on proper fertilization and the benefits of using rain barrels. It was unknown how this would impact association bylaws. This idea will be discussed further as we develop the watershed plan.

Impact of Development on the Occoquan Reservoir:

The impact of development on the Occoquan Reservoir was briefly discussed. The downzoning of a portion of the Popes Head Creek watershed was enacted to protect the quality of the drinking water in the Occoquan Reservoir. Areas from many different jurisdictions flow into the Occoquan and some of these areas of the watershed do not have the level of protection that Fairfax County has enacted. Significant development in other areas of the watershed would have a greater impact than the development of available land in the Popes Head Creek watershed. The main impact may not be the quality of the drinking water but the cost to treat the water and to maintain the reservoir.

Lynne Mowery of AMEC closed with a discussion of media outlets and other venues for informing residents of the watershed of the Issues Scoping Forum on January 13. Cliff Fairweather of the Audubon Naturalist Society has prepared an article on the study for his column. The George Mason email system may be a good resource. Postcards were distributed requesting information on the type of electronic data and the number of posters and flyers that participants will need to notify people of the upcoming meeting. A brief discussion on possible venues for the Issues Scoping forum and ideas for the presentation occurred. It was suggested that Robinson Secondary School and Liberty Middle School be contacted as possible meeting venues. For the Issues Scoping Forum, some focus areas should be that the Popes Head Creek watershed is on the cusp of trouble and for citizens to voice what the Popes Head Creek watershed means to them or what its value is to them.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	December 16, 2003	Time:	7:00 pm
Location:	Clifton Community Hall		

Recorder Lynne Mowery, P.E.

Meeting: Citizens Advisory Committee Meeting #4

Project Team Attendees:	Paul Shirey, DPWES Tim Lormand, AMEC David Bulova, AMEC Lynne Mowery, AMEC Matt Breen, AMEC Michael Sullivan, Limno-Tech Heather Bourne, Limno-Tech	Advisory Group Attendees:	Taya Abbott Gary Anderson Amy Conrick Jeremy Epstein George Jennings Krystal Kearns Wilma Kime Jim McIntyre Greg Prelewicz Mervine Rosen David Schnare Marlae Schnare Martha Slover Kevin Warhurst Bill Watts

Paul Shirey, Fairfax County DPWES, Stormwater Management Division, opened the meeting with an introduction to the project and the project team members.

David Bulova of AMEC Earth & Environmental (AMEC) discussed the outreach efforts and volunteer needs for the upcoming Issues Scoping Forum on January 13 which will be at the Clifton Community Hall. David briefly presented the outreach material that had been prepared for the Issues Scoping Forum and encouraged participants to help distribute the outreach materials. Volunteers are needed to help set-up the meeting hall, to assist with registering forum participants, and to assist with moderating / facilitating discussions of watershed issues. Taya Abbott and Mervine Rosen volunteered to assist with the Issues Scoping Forum.

David then presented a recap of the previous meetings with an overview of previous studies conducted in the watershed and how human behavior and the built environment impacts watersheds. Michael Sullivan of Limno-Tech, Inc. (LTI) presented a brief primer on how watersheds react to changes. David Bulova then presented information from stream assessments performed in the Popes Head Creek watershed showing degree of embeddedness, stream bank vegetation, stream bank stability, and vegetated buffers.

During the presentation, several issues were discussed:

Impacts of a wet year vs. a drought year: Wet years and drought years affect streams differently. The main problem associated with drought is lack of stream baseflow that could adversely affect in-stream aquatic life. Mike Sullivan of LTI felt that, in general, wet years have a greater impact on the stream system because the frequently wet conditions could accelerate stream erosion.

Goals of the watershed plan: In the next phase of the project, the committee will develop goals and objectives. The watershed goals and objectives will include, at a minimum, state and federal requirements, but watershed citizens are encouraged to develop goals and objectives that meet the needs of the watershed community as well, i.e., develop goals and objectives that support the standard of living expected by those who live and work in the watershed. At the public meeting, it is important to discuss why people should care about the stream health in order to identify expectations of the community and to generate community support.

Imperviousness of the watershed: Several issues related to the impacts of imperviousness on the watershed were discussed. Currently, the Popes Head Creek watershed has approximately 9-10 % impervious cover. Participants asked what the impact would be if impervious cover increased to, say 15%. The stream impacts for 5% and 15% imperviousness are not discrete – different watersheds react to imperviousness differently, dependent on several factors, including the location / concentration of impervious surfaces and the stormwater management practices. A largely impervious subbasin in a large watershed will be impacted more severely at the subbasin level, however, the impacts may be less severe on entire watershed as the source(s) of the impact are dissipated or diluted.

Fuel oil odor in Popes Head Creek in the Town of Clifton: Source may not be adjacent to the outfall. Participants mentioned that watershed residents might not understand that actions in upstream areas flow down and affect other areas.

Bank Stability: Stream assessment shows areas of bank erosion in sparsely developed areas. This could be due to localized geomorphology or inadequate bank vegetation to stabilize the stream bank soils. It was mentioned that citizens might not understand the importance of vegetative bank cover to prevent stream erosion.

Use of Stream Assessment Data: The stream assessment data can be used to determine areas of concern that should be a focus of the watershed plan. It was also suggested that the data be available to the public in some fashion at the Issues Scoping Forum.

A roundtable discussion followed to generate committee response to four questions about the Popes Head Creek Watershed:

What do you value most about the Popes Head Creek watershed?

1. It is a place where rain should fall and flow through tree litter for natural cleaning – it acts as a natural BMP.
2. It is a place for kids to play without worrying about bacteria or trash.
3. It is pleasing to the senses.
4. It has intrinsic natural quality – functional and aesthetic.
5. It is important for the animal life in the watershed – source of water for animals.
6. It has recreational value – for hikers and riders – peaceful and relaxing for adults.
7. It has a network of trails along stream for recreational uses such as horseback riding.
8. People move here for quality of life – it's more peaceful. Same for park visitors – value of area feeling like a forest.
9. It provides protection for a major drinking water source.
10. It provides an educational resource for people in other areas of the county.
11. This watershed is a relatively undeveloped area of the county with potential for development. Part of its value is its development potential.

What do you see as a threat to the watershed's quality?

1. Its status as a potential development area. While currently "downzoned", development pressures may eventually lead to discussions of changing / removing the restrictions imposed by the downzoning.
2. The threat of development vs. threat of bad development.
3. Ignorance concerning the importance of properly maintaining the land adjacent to the stream and lack of understanding of impacts if streams are not properly respected and preserved. A lack of understanding of how interconnectness of the watershed and how changes in one area can affect other areas.
4. Underground oil storage tanks.
5. Weather – natural impacts.
6. A lack of incentive for stewardship of the streams. Cures are poorly defined and expensive.
7. Improper fertilization techniques.
8. Tree clearing after the homes are constructed.
9. Past stormwater management practices have been found to have some negative impact, such as confining streams in storm sewer systems. How do we know today's methods are right?
10. A sense that streams are part of nature and are invulnerable – how vulnerable are streams in the Popes Head Creek watershed?
11. The impact of the public policy process – such as variances. Balancing public needs with environmental needs. Political process can also be part of the solution. Good policy vs. bad policy.

What do you see as a potential opportunity for watershed improvement?

1. Develop localized standards-good management and preventive management standards.
2. Tax incentives/credits for making improvements to stream valleys.
3. Community outreach and education – local organizations and businesses can help deliver these messages.
4. Use business community as a resource.
5. Promote watershed organizations as educational resources.
6. Target stream problems and involve volunteer organizations to sponsor events.
7. Utilize business resources to help with the volunteer effort – many companies offer incentives to employees who volunteer.
8. Consider offering incentives for new construction that promote stream stewardship or penalties when streams are impacted. Use the real estate transaction process as educational resource.
9. Make stewardship cool and interesting, e.g. an older community in Arlington pursed a historical designation for the neighborhood to prevent the destruction of classic homes. Subsequently, home values have risen dramatically as folks desire to move into this community as a result of this designation.

What other watershed specific concerns do you have?

1. Concerned that the final watershed plan be a living document. Concern that the plan process will be confined to the committee and die after the planning process is complete.
2. Flooding of Clifton Road and fallen trees – safety and flooding issues

Krystal Kearns of the Potomac River Greenways Coalition gave a brief announcement about her organization and the Master Watershed Stewardship Program. David Bulova closed the meeting by encouraging committee members to pick up flyers and posters to distribute to advertise the January 13 Issues Scoping Forum.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	January 6, 2004	Time:	7:00 pm
Location:	Fairfax Station Museum		
Recorder	Lynne Mowery, P.E.		
Meeting:	**Citizens Advisory Committee Meeting #5**		
Project Team Attendees:	Paul Shirey, DPWES Tim Lormand, AMEC Doug Moseley, AMEC Lynne Mowery, AMEC Ed Beadenkopf, AMEC	Advisory Group Attendees:	Taya Abbott Gary Anderson Bernard Carr Jeremy Epstein Cliff Fairweather George Jennings Donald Kelso Wilma Kime Jim McIntyre David Pena Greg Prelewicz Mervine Rosen David Schnare Marlae Schnare Charlie Smith Bill Watts

Paul Shirey, Fairfax County DPWES, Stormwater Management Division, opened the meeting.

Tim Lormand of AMEC Earth & Environmental (AMEC) discussed the evolution of stormwater management. Committee discussed the table that shows environment as the current guiding philosophy in stormwater management. Members discussed that ecosystem may be a more accurate term for this.

Doug Moseley of AMEC then presented the 1st draft of the presentation for the Issues Scoping Forum next week to get comments from committee members. At the outset of the discussion – committee members discussed the issue of water quality and "how clean is clean enough". Several members felt that the water quality issues were vague because there were no specific numbers to reflect adequate water quality. The major adverse water quality measure in the Popes Head Creek watershed is the lower number of benthic macroinvertebrates – stream assessments have shown a low count of these aquatic insects.

Many specific recommendations for improving the presentation for the Issues Scoping Forum were discussed. One of the main points of the committee was that during the presentation, technical jargon should be kept to a minimum. It was also decided that the forum should not focus on ranking issues because the public doesn't have a comfort level with the subject and would be wary of ranking items – the presentation will be changed to reflect that the community is validating the issues identified and to add other issues of interest.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	February 11, 2004	Time:	7:00 pm
Location:	Fairfax Villa Elementary School		
Recorder	Lynne Mowery, P.E.		
Meeting:	**Citizens Advisory Committee Meeting #6**		
Project Team Attendees:	Paul Shirey, DPWES Tim Lormand, AMEC Doug Moseley, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Gary Anderson Todd Bolton Amy Conrick Jeremy Epstein Cliff Fairweather George Jennings Jeannie Jirucha Robert Jordan Donald Kelso Wilma Kime Jim McIntyre David Pena Greg Prelewicz Mervine Rosen Charlie Smith Bill Watts

Paul Shirey, Fairfax County DPWES, Stormwater Management Division, opened the meeting.

Doug Moseley of AMEC Earth & Environmental (AMEC) discussed the Issues Scoping Forum attendance and press received before and after the Forum. The results of the Issues Validation at the Forum were presented. Participants were asked three questions.

What are your thoughts about the Issues Scoping Forum in general?

- *A better description at the beginning of the Forum of what is expected of participants*
- *Describe what will happen with the results of the study*
- *Make more consistently interactive – consider using writing, talking, thinking, quiz exercises*
- *Use ringers to help discussion*
- *Watch the length of the presentation – build-in time for interaction.*

What are your thoughts of the input/feedback received at the Issues Scoping Forum?

- *Organize by how they're related*

What are the common themes that have been expressed and should guide Plan development?

• *Runoff Related:*	*Stream Bank Instability/Erosion*	*Non-point Source Pollution*
	Impact of Impervious Surfaces	*Stream Buffer Loss/Degradation*
	Flooding	*In-stream Sedimentation*
	Fecal Coliforum	*Impact of Road De-icers*
• *Pollutant Issues:*	*Fecal Coliform*	*Impact of Increased Traffic*
	Non-point Source Pollution	*Impact of Road De-icers*
	In-stream Sedimentation	
• *Land Use Issues:*	*Impact of Impervious Surfaces*	*Impact of Increased Traffic*
	Flooding	*Utility Easement Use/Maintenance*
	Stream Buffer Loss/Degradation	

- *Natural Resource Issues: No items discussed*

There was a spirited discussion about road de-icers as a water quality issue. Participants had questions about the magnitude of the impact on water quality and cost of alternatives. Dr. Kelso briefly discussed recently published GMU research on stream conductivity pre and post snow events to provide indicators of the impact of deicers on stream quality. This issue will be evaluated further as the plan progresses. The use of ATVs in the watershed was also discussed – areas of activity were described by committee members.

Doug Moseley then discussed the types of alternatives that are available to address the issues in the Popes Head Creek watershed: public improvements, options for private developers and businesses, regulatory changes and voluntary measures.

Participants were asked about specific topics that they would want further information about:

- *Data to provide a comparison to the past – trend data for the watershed*
- *Stream Protection Strategy team members to discuss what they found in the watershed*
- *Include all available data, i.e. monitoring by Dr. Kelso of George Mason University*
- *Better understanding of what the standard for the watershed should be*
- *Other issues than the bugs (benthic macroinvertebrates)*
- *Monitoring to develop trend data*
- *Case studies of similar watersheds that show approaches and outcomes (Paint Branch/Anacostia)*

- *The Little Hunting Creek study*
- *How are we measuring bugs – what does this tell us?*

The upcoming Watershed Forum scheduled for Saturday, March 27th was discussed. Committee members felt that a 4 hour meeting was too long, especially if it is a nice spring weekend. Some suggestions for topics for the Forum were: Sediment in the stream and its impact on the Occoquan Reservoir and Chesapeake Bay report card.

Three announcements were made:

1. Fairfax County is holding a meeting on the Stream Physical Assessment performed as part of the watershed study process on February 24, 2004 at 7:00 pm at the Government Center Board Auditorium.
2. Bob Jordan of the Potomac Greenways Coalition gave information about the Master Watershed Stewardship program, which is beginning March 8. He also announced that his organization is giving presentations on Fairfax County watersheds that would be suitable for home owners associations.
3. Cliff Fairweather of the Audubon Naturalist Society announced the Popes Head Creek stream tour that is scheduled for Sunday, March 21.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	March 3, 2004	Time:	7:00 pm
Location:	Fairfax County Government Center		
Recorder	Mark Preston, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #7**		
Project Team Attendees:	Paul Shirey, DPWES Shannon Curtis, DPWES Tim Lormand, AMEC David Bulova, AMEC Mark Preston, AMEC	Advisory Group Attendees:	Cliff Fairweather George Jennings Donald Kelso Greg Prelewicz Mervine Rosen Charlie Smith Bob Jordan Bill Watts

Paul Shirey, Fairfax County DPWES, Stormwater Management Division, opened the meeting and discussed the upcoming March 27 Community Watershed Forum. Paul reiterated the importance of the feedback received at the previous Citizens Advisory Committee meeting and how that feedback was taken into consideration in the development of the schedule, format, and content of the Community Watershed Forum.

David Bulova of AMEC Earth & Environmental (AMEC) discussed the two-session format for the Community Watershed Forum on March 27, with the first session focusing on watershed problems and the second session focusing on watershed solutions. The two-session format was proposed to allow for meaningful input from citizens who are interested in the watershed, but who may not be able to stay for the entire forum.

David initiated a discussion to obtain input / suggestions on the format and content of the Community Watershed Forum. No significant revisions were proposed to the format. Cliff Fairweather and others asked if policy solutions would be included in the meeting. David confirmed that in the watershed solutions session, policy issues would be included. He stated that AMEC and the County will likely try to incorporate policy issues into each of the other areas, since they are all interrelated.

The Community Watershed Forum discussion concluded with a call for volunteers to assist with the forum logistics, including facilities setup and tear down, and registering Forum participants, and outreach activities. Cliff Fairweather volunteered to help with setup and/or conference registration and to assist with outreach through the Audubon Naturalist Society email distribution network. He also said that he would advertise the Forum to participants of the Society's "Explore Popes Head Creek" field trip. Mervine Rosen also volunteered to assist. Bill Watts offered to assist with outreach through the Clifton Betterment Association. Shannon Curtis offered to assist with outreach via the County's email list of volunteer stream monitors.

Tim Lormand of AMEC updated the Committee on project progress. Dr. Kelso, George Mason University, provided benthic macroinvertebrate and fish sampling data from the 1970s at the meeting. Tim also noted that in AMEC's data compilation efforts, it was determined that the Virginia Department of Conservation and Recreation (DCR), Natural Heritage data was

incomplete for the Popes Head Creek watershed area. AMEC notified DCR of this omission. DCR is compiling the data in-house and will forward the data to AMEC once completed. Once this data is obtained and analyzed, it will be included in the baseline watershed assessment.

David introduced the main topic of the meeting with a brief overview of structural versus non-structural Best Management Practices (BMPs). He explained that we are now moving into a new phase, which is to link specific BMPs with issues identified by the CAC and at the Issues Scoping Forum. A key citizen concern expressed by multiple individuals is the impact of All Terrain Vehicles (ATVs) in the stream corridor. David presented an overview of a field investigation undertaken by AMEC to compile photographic documentation of ATV impacts in the area of the confluence of Piney Branch and Popes Head Creek. The impacts that were shown in the photographs include destruction of vegetation, soil compaction, and bank erosion due to ATVs crossing through the creek. Several members of the committee recognized the impact and suggested that the problem of ATVs may occur throughout the watershed, but that some areas suffer more intense ATV traffic. David then highlighted several potential environmental impacts of ATVs including destruction of aquatic and wildlife habitat and increased in-stream sedimentation.

David then briefly discussed existing state and county regulatory authority with respect to ATVs. The Code of Virginia precludes operations of ATVs on another person's property without the written consent of the owner. The Fairfax County Code limits the clearing of vegetation from stream corridor areas designated as Resource Protection Areas. Charlie Smith asked whether the Fairfax County Code explicitly excludes the operation of ATVs in the RPA. David offered to contact John Friedman, Fairfax County Department of Public Works and Environmental Services to get a definitive determination and report to the committee.

The committee was then asked to help identify additional actions that could be taken by the County and/or by private individuals and homeowners associations to reduce the environmental impacts of ATVs and help identify what resources might be required for implementation. Key suggestions provided by the committee include the following.

1. The County needs to engage in a large RPA and ATV education effort for property owners. How to enforce ATV violations should be part of this effort.
2. Build on possible efforts by the Fairfax County Park Authority to establish the equivalent of "Neighborhood Watch" groups to report ATV violations on parkland. These groups could potentially work with the local Fairfax County Police community liaison to help educate citizenry of the impacts of ATVs and to help enforce no trespassing and RPA regulations.
3. Work with ATV dealers to provide an outreach / education venue to riders on the impacts of ATVs on the stream corridor, governing regulations, and proper ATV etiquette.
4. Require licensure of ATVs. This would allow the County to track ATVs and would provide a mechanism to collect fees on ATVs. Licensure would require State enabling legislation. It was suggested that all / part of the fees collected could be earmarked for the restoration of areas damaged by ATVs and for the development of ATV recreational areas.
5. Development of ATV recreational areas. One committee member mentioned that the Lorton area may be a location where ATV "ridable" land might be set aside. The committee discussed whether this would help solve the problem or create additional ATV demand.

Committee members also discussed a potential shortcoming of current RPA enforcement mechanisms. Specifically, the RPA regulations are enforceable against the property owner.

However, the committee posed the question of how to address the issue of ATV impacts in the RPA that are caused by others crossing private property, often without permission, and thus not the immediate fault of the private property owner. This issue will require additional discussion.

Committee members discussed the agenda for the following meeting, agreeing to focus the next discussion on increased traffic in the watershed and closely related concerns about the application of road de-icers and increased impervious areas.

Recommendations for improving meeting attendance were discussed. It was decided that an email would follow up this meeting to help identify attendance problems. The location of meetings was also discussed. Tim Lormand noted that because of the high demand on a limited number of meeting facilities in the watershed, it was difficult to designate regular meeting locations. Bill Watts suggested that he could check on the availability of the meeting facilities at the Clifton Presbyterian Church for the next Citizens Advisory Committee meeting. The committee also noted that they liked getting both email and postcard notifications of the meeting time and location.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	April 14, 2004	Time:	7:00 pm
Location:	The Manse of the Clifton Presbyterian Church		
Recorder	Lynne Mowery, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #8**		
Project Team Attendees:	Paul Shirey, DPWES Shannon Curtis, DPWES Tim Lormand, AMEC Doug Moseley, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Gary Anderson Amy Conrick Cliff Fairweather George Jennings Jeannie Jirucha Donald Kelso Jim McIntyre Greg Prelewicz Mervine Rosen Charlie Smith Kevin Warhurst Bill Watts

Doug Moseley, AMEC Earth & Environmental, opened the meeting with a recap of the Community Watershed Forum held on March 27, 2004. Although attendance was light, there was good discussion about the issues. Participants felt that information for homeowners should be simple to find and that the plan should encourage small steps that residents could implement easily. Additional concerns voiced at the watershed forum included: illegal dumping, hunters cleaning deer carcasses in the stream and leaking oil tanks in the Town of Clifton.

Benthic Macroinvertebrate and Fish Sampling Data

Doug then presented information about the benthic macroinvertebrate (aquatic insects) and fish monitoring data. The county initially monitored the benthic macroinvertebrates and fish communities in the Popes Head Creek watershed in 1976 as part of the Occoquan Environmental Baseline Study. As part of the Stream Protection Strategy Study, the County again monitored benthic invertebrates and fish between 1999 and 2001 as part of the County's Stream Protection Strategy program. The County now has an ongoing monitoring program.

Comparing the results of the 1976 and 1999-2001 monitoring was complicated due to differences in collection techniques and data analyses. Comparable benthic macroinvertebrate data was available at five (5) monitoring sites while comparable fish data was available at only three (3) monitoring sites in the Popes Head Creek watershed. However, a general comparison benthic macroinvertebrates and fish species collected in 1976 and 1999-2001 showed that more pollution tolerant species were found in the 1999-2001 monitoring than were found in the 1976 monitoring.

Several questions were asked on this topic:

Was the Audubon Naturalist Society data included in this analysis?

No – it was not included. The analyses focused on the Occoquan Environmental Baseline Study and the Stream Protection Strategy study because monitoring sites used in these studies were located in close proximity with each other. Because benthic macroinvertebrates live in close association with substrate particles and their range of habitat is limited, close proximity of monitoring points was important to proper data analysis.

Do the fish care what kind of bugs they eat?

Some fish species are favor specific types of food sources, i.e., certain types of benthic macroinvertebrates. In the analyses of fish data like the benthic macroinvertebrates, more pollution tolerant species was observed in the 1999-2001 monitoring than in the 1976 monitoring. The changes in the diversity of the benthic macroinvertebrate and fish are an indicator of stream problems such as pollution and sediment.

Has the total number of benthic macroinvertebrates changed?

Difference in data collection/reporting procedures and too few measurements for overlapping species from the two sampling periods made it unfeasible to make valid comparisons concerning population / abundance.

Popes Head Assemblage

A committee member voiced concern about the proposed ball fields planned for the Popes Head Assemblage by the Fairfax County Park Authority. Some felt that the park approval process has not adequately addressed citizen concerns. The competing goals of recreational space and environmental conservation were discussed. Members also discussed ways in which the impacts of the park development could be minimized such as: porous pavement, keeping half of the site in its natural state and ensuring that park lighting is designed to minimize light pollution to surrounding neighborhoods. Paul Shirey noted that the Popes Head Assemblage project still has several other steps to complete before it is authorized for construction, including a review of the stormwater management plan by Fairfax County stormwater management staff.

All-Terrain Vehicles

Doug then recapped the key points of the previous (CAC #7) meeting's discussion of watershed impacts of all terrain vehicles (ATVs). At that meeting, several ideas for mitigating ATV impacts were proposed, including ATV impacts education, neighborhood watch, working with dealers as outreach/education source, requiring licensing and development of ATV recreation areas. The committee then resumed the discussion of ATV watershed impacts. Additional ideas brought forth by committee members for mitigating ATV impacts included:

- Have Fairfax County police target an area with significant ATV impacts for enforcement of existing laws and ordinances (e.g. trespassing and environmental regulations). This would help "get the word out" that illegal operation of ATVs can result in penalties.
- Post official County signage that would publicize the existence of the Resource Protection Areas (RPA) and that ATV and other usages that destroy vegetation and cause erosion are not permitted in the RPA.

- Provide tax incentives for property owners to grant conservation easements for RPA areas to County for tax incentives. The County would then have rights to enter the property at any time to actively enforce against trespassing or RPA infringements.
- Develop concept for fence opening that is horse and rider "friendly" but is not accessible to ATVs. Jeannie Jirucha described an example opening in which the lower part of the opening had sufficient width for a horse to navigate, but not ATVs, and the upper part of the opening was wider for the rider to go through without dismounting.
- Research examples of successful programs used by other communities.

Several suggestions were put forth that would require State enabling legislation, including:

- Ban ATVs usage in the County.
- Establish more stringent age limits for operation of ATVs
- Increase the severity of penalties for unlawful use of ATVs. For example, if a minor is apprehended for trespassing with an ATV, the penalty could result in the inability to obtain a drivers license until they are 18.

Discussion also focused on how to work this into the watershed plan as a goal. Some ideas were:

- *Reduce or eliminate the adverse impacts of recreational activities on riparian areas.*
- *Actively support the enforcement of the RPA ordinance.*

Committee members thought it would also be helpful to have a police liaison officer speak to the group about this issue.

Traffic, Impervious Surfaces and Pavement Deicers

The next issue discussed was the impacts of traffic, impervious surfaces and the use of pavement deicers. Committee members were asked what is the major contributor of increasing impervious surfaces in the watershed. Responses included:

- Residential development
- Special exceptions – churches on Braddock Road, new large homes on 1st and 2nd Road

Committee members also discussed options to address increased impervious surfaces

- Document the increase and impact of impervious surfaces over time.
- Identify retrofit opportunities, including converting storm drains to open channels where possible to allow for some filtering / infiltration of stormwater.
- Encourage existing owners / developers to "disconnect" impervious surfaces, i.e., discharge stormwater onto natural surfaces to promote infiltration rather than quickly channeling it away with storm drains. For example, a homeowner could redirect a rain gutter spout such that roof runoff is discharged onto the lawn rather than a paved driveway.

- Provide education and incentives. Take the educational message to County citizens, for example, participating in civic organization roundtable or the Clifton Farmers Market. Educate realtors and builders about ways the impacts of impervious surfaces can be minimized.
- For commercial / institutional development, identify ways that porous pavement can be incorporated into the development, for example, as an overflow parking area. Because of the higher cost and maintenance requirements over asphalt / concrete pavement, develop incentives for use of porous pavement.
- Develop a concept similar to a Conservation or Watershed Improvement District. Encourages voluntary participation and makes it "cool", e.g., something someone would want to be a part of.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	May 11, 2004	Time:	7:00 pm
Location:	Merrifield Garden Center Meeting Room		
Recorder	Lynne Mowery, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #9**		
Project Team Attendees:	Paul Shirey, DPWES Tim Lormand, AMEC David Bulova, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Gary Anderson Jeremy Epstein Cliff Fairweather Wilma Kime Heather Melchior Cathy Roth Marlae Schnare Charlie Smith Kevin Warhurst Bill Watts

Paul Shirey, Fairfax County Department of Public Works and Environmental Services, opened the meeting with an announcement that the Draft Watershed Plan Workshop originally scheduled for June 8, 2004 will be rescheduled to September 15, 2004. This will give the committee more time to discuss the watershed plan goals and objectives and will not impact the ending date of the project in late 2004 or early 2005.

David Bulova, AMEC Earth & Environmental, Inc., began the presentation with a recap of the last meeting. He then conducted a goals development exercise with the committee. Three "strawman" goals were presented that were based on past discussions with the committee:

1. Protect and improve the ecological health of Popes Head Creek and its tributaries;
2. Maintain the Occoquan Reservoir as a clean and sustainable source of potable water for Fairfax County; and,
3. Have a well informed community that is actively involved in watershed stewardship.

Committee members were asked to add their goals. The committee came up with several additional goals and ideas; after some discussion it was decided that some of the ideas could be integrated into the "strawman" goals. The goals that could be integrated into the "strawman" goals were:

- Achieve community sponsorship of the watershed and
- Maintain the diversity of wildlife in the watershed

The new goals generated included:

- Integrate the other goals with private property rights;
- Maintain the open/pastoral quality of the watershed and preserve the aesthetic quality of the watershed in both urban and rural areas;
- Make the plan economically feasible; and

- Develop the water quality sensitive recreational and educational value of the watershed.

Several developments in the upper part of the watershed were constructed before stormwater management was required. Retrofit opportunities and a retrofit toolbox for existing developed areas was discussed. Three different types of development in the upper watershed were used in a table top exercise to develop a policy template for approaching similar areas in the watershed.

The first area discussed was the Waples Mobile Home Park/Home Depot Expo Center. This is an area of dense commercial and residential development. A stormwater pond exists downstream of the development and the pond could be retrofitted to provide additional storage and sediment removal. Several issues were discussed related to this type of development:

- Consider when redevelopment might occur in terms of prioritizing projects;
- Retrofit is feasible but consider how to enforce and fund it;
- County would need to initiate projects or provide incentives; and,
- Retrofits are technically feasible, but incentives are most important.

Fairfax Villa was the next area discussed. This is a fairly dense residential development that was constructed with curb and gutter storm drainage and without any BMPs. There are limited retrofit opportunities in the neighborhood. A committee member identified an area just downstream of the neighborhood that may be feasible as a pond site. Several issues related to constructing a pond in the area were discussed:

- Ecological considerations of placing a dam on a stream – consider constructing an off-line pond to capture bypassed flow
- Permitting
- Create a wetland that is more environmentally sensitive than a pond
- Loss of trees
- Would require a lot of education
- Discuss with property owners and adjacent property owners to gauge support for this type of project
- Cultural considerations – environmental justice
- Involve the school in the discussions – pond/wetland could be used for environmental education
- Cost/benefit analysis should include downstream benefits of project

Other options in this type of development were discussed: rain gardens, Filterra inlets and use of rain barrels. Issues discussed for these types of options included:

- Cost is an issue
- County would need to implement – perhaps pay for and install rain barrels as an incentive
- Need to identify neighborhood leaders
- Transiency of the neighborhood could be an issue
- Limited uses for water from rain barrel may deter use
- Disconnecting downspouts from conveying flow directly to storm sewer system may be more feasible.

The final area discussed was the Brecon Ridge subdivision. This residential development is less dense than that in Fairfax Villa and storm drainage is mainly conveyed through swales with limited paved ditch and storm sewer. Options for retrofit in the neighborhood include rain gardens, rain barrels, replacing paved ditches with a type that would allow infiltration and modifying existing ditches to detain flow and allow time for infiltration. Policy ideas discussed for this type of development included:

- Property owners in this type of development may be more amenable to integrating LID practices into their landscaping – would need to educate them
- This type of development has relatively low impact on stormwater – perhaps use limited funding for capital improvements elsewhere
- Rely more on education and outreach
- Look at stormwater controls on Braddock Road
- Look at Country Club and if solutions could be incorporated there.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	June 20, 2004	Time:	7:00 pm
Location:	Clifton Presbyterian Church		
Recorder	Curt Ostrodka, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #10**		

Project Team Attendees:	Paul Shirey, DPWES Shannon Curtis, DPWES Tim Lormand, AMEC Doug Moseley, AMEC Curt Ostrodka, AMEC Joanne Reker, AMEC	Advisory Group Attendees:	Gary Anderson Wilma Kime Gregory Prelewicz Cathy Roth Charlie Smith Heather Melchior Bill Watts

Paul Shirey, Fairfax County Department of Public Works and Environmental Services, opened the meeting by thanking the group for attending.

Doug Moseley, AMEC Earth & Environmental, Inc., began the presentation with a recap of the last meeting. He noted that it is difficult to engage the community during the summer because of vacation time and other activities. He stated that the project team is hard at work preparing the initial chapters of the draft watershed plan.

Curt Ostrodka, AMEC Earth & Environmental, Inc., then distributed a three-ring binder that contained the initial chapters of the draft watershed plan to each attendee. He explained that the draft plan is being prepared in sections; additional chapters will be distributed at the upcoming meetings. The committee will provide input and comments on each section and discuss their comments and recommendations with the project team at the following meetings. Comments can also be emailed to Mr. Ostrodka at <curt.ostrodka@amec.com>, or citizens can call his direct line (703) 488-3713 to provide edits.

Joanne Reker, AMEC Earth & Environmental, Inc., led a discussion on Stream Restoration Techniques. She discussed the different characteristics of stable and unstable streams, the causes and effects of erosion, and the use of several stream restoration techniques. She then presented several example areas in the watershed that suffer from erosion, as well as examples of stable streams in the watershed that are in good condition. She noted that the Popes Head Creek Watershed is in much better condition than many urbanized watersheds. For example, 67% of the streams in Popes Head Creek are in fair or good condition, while only 33% of streams are in poor or very poor condition; the streams that are in good condition should be protected. In Cameron Run, an urbanized watershed, only 40% of the streams are in fair or good condition, with the remaining 60% of the streams being in poor or very poor condition.

Stream Restoration Discussion:
One committee member stated that he participated in an effort to plant trees along stream riparian corridors in Clifton; their goal is to increase the riparian buffer size. He noted that a local Starbucks Coffee franchise owner provided some financial support for this effort, in

cooperation with the Clifton Betterment Association and the Northern Virginia Conservation Trust.

The group discussed the effects that non-native plants have on the watershed. Non-native plant species can crowd out beneficial native plants, reducing the amount of available nutrients, water, and sunlight; they do not root as deeply, therefore they do not hold soil and streambanks together as well as native plants. Some non-natives provide insufficient cover and food for wildlife. Another committee member noted that Popes Head Creek has exotic, non-native grasses growing near the stream and asked what the best way was to remove it. Ms. Reker stated that Roundup herbicide is effective on invasive species, but warned the group to limit its application near water. Shannon Curtis, DPWES, suggested that citizens contact the local Soil and Water Conservation District before applying herbicides near water.

One group member stated that there is a horse trail that runs parallel to Piney Branch; she asked if the trail would need to be re-routed to prevent damage to the stream banks. Ms. Reker stated that trails that cross the stream itself do more damage than those which run parallel to the streambanks.

The committee then discussed the need for homeowner permission before any stream restoration techniques can be applied, noting that many Popes Head Creek tributaries run through residents' backyards. Some residents may be unwilling to provide access. Tim Lormand, AMEC Earth & Environmental, Inc., stated that the plan will provide recommendations; the implementation of these recommendations will require several steps, including obtaining consent from landowners. Mr. Shirey stated that Fairfax County will work with the homeowners where projects are proposed. In some cases, the County may need to acquire easements for project implementation.

Mr. Moseley stated that it is important for the committee to understand and evaluate all of the options and alternatives; he noted that it may be important for them to develop a grass roots movement to address certain parcels.

One group member asked if riparian buffers require any maintenance after they have been established, citing concern about overgrowth and flooding due to felled logs. Ms. Reker stated that buffers require little to no maintenance. She recommended that a professional, such as Judy Okay of the Virginia Department of Forestry, be consulted in order to select the proper trees and plants. Ms. Okay can be reached at (703) 324-1480.

The committee then discussed why it is sometimes necessary to remove trees during stream restoration projects. When streambanks are re-graded to reduce the slope, occasionally some trees that are in danger of falling into the stream may have to be removed. They noted that when a tree is removed from the Resource Protection Area (RPA), a new tree must be planted to replace it. Ms. Reker assured the group that no trees could be removed without landowner permission. She also noted that some old and unstable trees can be "stumped" to reduce the top heavy load and prevent them from falling into the stream; the remaining root system will help to keep the soil in place, thus reducing erosion and sedimentation.

The group then discussed how invasive and exotic species are introduced to a watershed system. Exotic seeds can be carried by the wind or by animals. Occasionally, humans will unintentionally allow exotic plants to grow. The committee agreed that they would like a brochure that describes which tree and plant species to plant; a workshop with an expert would also be helpful to the group. Mr. Lormand stated that the project team could include the

creation of new educational materials as a plan recommendation. The materials can be distributed at the Clifton area schools and churches.

Public Outreach and Education Discussion:
The group then discussed the best ways to get people educated and involved in the watershed plan. One group member suggested setting up a booth at Clifton Day, which is held on the 2nd Sunday of October. The booth could contain information about the watershed planning process, as well as ecological exhibits containing fish and aquatic macroinvertebrates that were collected in the watershed. The group also suggested reaching out to the Lions Club, the Clifton Women's Club, the Clifton Horse Society, the Fairfax County Country Club, and students and faculty at George Mason University. The group also discussed reaching out to Homeowner Associations (HOAs); one group member noted that the Supervisor has a list of all HOAs, and thought that it would be a good idea to work with small groups. Mr. Lormand suggested that an annual mailing to HOAs could be a recommendation in the watershed plan.

One group member asked if the plan would address nutrients, winter road salt, and lawn chemicals. Mr. Lormand stated that despite his best efforts, he was unable to have a representative from a lawn care company participate in the citizens advisory committee. Mr. Ostrodka cited a study by the Virginia Riparian Forest Buffer Panel, who stated that a 95 foot buffer will reduce sediment inputs by 97.4%, nitrogen inputs by 80.1%, and phosphorus inputs by 77.2%. The group agreed that the establishment of buffers will have multiple benefits, including bank stabilization and reduced siltation. Mr. Moseley described a regional effort in Virginia's James River basin whereby Southern States, a leading regional fertilizer producer, partnered with a watershed management organization and the Chesapeake Bay foundation to produce a "wise and proper use" label for its fertilization products as part of the Businesses for Bay campaign.

One group member suggested putting watershed planning information in the quarterly notice from the Fairfax County Water Authority. Others noted that they already receive too many inserts in the mailings, and that not all of the watershed is served by the Water Authority. However, most people do receive a notice to switch septic drainage fields from the Health Department. The group agreed that public meetings are an effective way to reach out to the community because people can ask questions and receive feedback at the meetings.

Mr. Lormand noted that the upstream reaches of the watershed have the most intense land uses, such as the George Mason University campus and the larger commercial developments along Route 29. He suggested a possible collaboration between DPWES and the Fairfax County Public School system, which could bring the watershed stewardship message to children and their parents.

Next Steps:
Mr. Lormand stated that attendees at the next CAC meeting will receive an additional chapter of the draft watershed plan and will be able to discuss the previous sections of the plan thus far. The next CAC meeting is scheduled for August 24, 2004 at the Fairfax Railroad Museum.

Mr. Shirey stated that the group will also discuss how to present the draft plan at the upcoming September 28, 2004 Draft Plan Review Workshop.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	August 24, 2004	Time:	7:00 pm
Location:	Fairfax Station Railroad Museum		
Recorder	Lynne Mowery, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #11**		

Project Team Attendees:	Paul Shirey, DPWES Curt Ostrodka, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Gary Anderson Tracy Kammer Goldberg George Jennings Jeannie Jirucha Don Kelso Wilma Kime Jim McIntyre David Nix Ron Nix

Paul Shirey, Fairfax County Department of Public Works and Environmental Services, opened the meeting by thanking the group for attending.

Curt Ostrodka, AMEC Earth & Environmental, Inc., began by asking for any comments on Chapters 1 and 2 of the Watershed Plan, which were distributed at the last meeting. Several comments were given:

- The colors in some of the maps are too close to each other, making it difficult to distinguish between different land uses, etc. Map 2.7 was a specific example of this – it was difficult to see the different types of residential land uses.
- A question was raised about how the plan would be distributed to the public. The plan will be available on the County's watershed website as well as available on CD, hard copies will be kept at the County offices, and given to committee members. The committee discussed how the report should be formatted on the web. There was consensus that an executive summary should be available for people who don't have the time to read the entire document. It was also discussed that one complete document should be available for fast web connections to minimize jumping to different links and that individual chapters should be available to download for slower web connections.

Mr. Ostrodka asked that edits and comments for draft chapters 1-3 be returned to him by September 7th. He can be reached at 703-488-3713, his fax number is 703-488-3701 and his email address is curt.ostrodka@amec.com. The draft plan will be posted on the website on September 21.

Mr. Ostrodka distributed Chapter 3 of the draft plan and began a presentation and discussion of the material in this chapter. Several items were discussed:

- Future conditions land uses: a question was raised about cluster zoning and its impact on the estate residential land use shown in the report. The state has passed legislation

allowing this type of zoning. AMEC will investigate how this will impact the County's Resource Conservation district (estate residential).

- Presentation of BMPs in the watershed: It was noted in the East Fork subwatershed that there are two private BMPs maintained by George Mason that are not reflected on the map. Mr. Shirey explained that the BMPs identified are based on County databases that are about 80% complete. The committee was asked if they think this information is valuable in the report even if it is not 100% complete. The committee felt the BMP data is valuable and a disclaimer should be added to clarify the data. Committee members were encouraged to provide locations of any facilities that are not shown on the maps.
- Presentation of crossings in the watershed: The committee was asked if the maps should identify all crossings or just those with moderate to severe impacts on the stream. The committee thought it would be most helpful to show only the problem crossings.
- Impacts of horses/goats on the stream: In Castle Creek, the stream physical assessment noted that a goat pasture may be affecting water quality. Committee members discussed this issue – specifically a large pile of horse manure along a tributary to Piney Branch that a committee member expressed concern about. It was agreed that the plan should include a recommendation to address the impacts of horses/goats on the stream. Committee members agreed that using an existing brochure or developing a new brochure for distribution to large animal owners would help to address this issue. A partnership with veterinarians who care for horses and other large animals was discussed as a possible way to distribute educational materials to the animal owners.
- Pond owners: A committee member stated that the Virginia Department of Game and Inland Fisheries has a very helpful brochure on pond maintenance on their website. One idea was to partner with realtors to distribute this information to purchasers of properties with ponds.
- Lower Popes Head imperviousness: Several committee members would like clarification of the increase in imperviousness in this watershed. How much is due to the power substation property? How large is this property? AMEC will research this issue.
- Flooding Issues: Several areas of road flooding were discussed: Colchester Road in upper part of watershed and Fairfax Station Road at Piney Branch. Committee members are concerned about these areas and would like to see a recommendation about them in the plan.
- Macroinvertebrate Data: Where in the plan will this data be highlighted? Details will be in an appendix and more information will be added to Chapter 3.

Planning for the Draft Watershed Plan Review Workshop:

The Draft Watershed Plan Review Workshop will be on Tuesday, September 28 at Clifton Elementary School at 7:00 pm. Committee members were asked to take fliers and posters to distribute throughout the community. Posters should be displayed after September 7th. Several possibilities for advertising the meeting were discussed:

- Placing sandwich boards with meeting information along heavily traveled roads in the watershed.
- Using existing display signs at Clifton Elementary, Willow Springs Elementary, Fairfax Villa Elementary, Trinity Christian School and churches.
- Flyers and Posters at the Clifton Store.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	September 28, 2004	Time:	7:00 pm
Location:	Clifton Elementary School		
Recorder	Lynne Mowery, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #12**		
Project Team Attendees:	Paul Shirey, DPWES Shannon Curtis, DPWES Curt Ostrodka, AMEC Tim Lormand, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Cliff Fairweather Don Kelso David Nix Ron Nix Mervine Rosen Charles Smith, FCPA Bill Watts

Paul Shirey, Fairfax County Department of Public Works and Environmental Services, opened the meeting.

Curt Ostrodka, AMEC Earth & Environmental, Inc., described the comment response process: each comment will be added to a comment spreadsheet with responses noted. Mr. Ostrodka asked if there were any comments on Chapter 3 of the report, which was distributed at the last meeting. The participants had no comments on Chapter 3.

Mr. Ostrodka discussed important dates before the Public Draft Watershed Plan Review on October 28.

- October 5: Return all draft chapter edits and comments to Mr. Ostrodka. He can be reached at 703-488-3713, his fax number is 703-488-3701 and his email address is curt.ostrodka@amec.com.
- October 10: Clifton Day – a booth will be set up at Bill Watts house with information on the watershed plan and stormwater management and advertising the public draft watershed plan review
- October 21: Draft watershed plan will be posted to the website for review

Mr. Ostrodka began a presentation on Chapter 4 of the report, which was distributed to the committee by mail. The Chapter 4 items discussed during the meeting follow:

- Pond retrofits: AMEC will define riser structures in the report.
- Glossary: Committee members wanted to make sure that a glossary will be included in the report.
- Project costs: Tim Lormand, AMEC discussed that the cost estimates at this point are order of magnitude estimates. As the projects are evaluated further, more detailed cost estimates will be performed.
- Volunteer work: Committee members brought up that some of the projects could be performed using volunteer labor and this would reduce costs. At this point, it was decided to evaluate costs for the projects assuming that contractors are hired to perform the work. Disclaimers stating that costs can be reduced using volunteer labor will be added to

projects that are good opportunities for volunteers. Committee members felt that the school projects are especially good opportunities to use student volunteers, which would provide a good educational opportunity as well.

- Private land/ public land projects: Committee members noted that projects located on private land will pose a challenge in land/easement acquisition. They concurred that priority should be given to projects on public land or with existing easements.
- Sports Authority Pond: A committee member suggested that a tree canopy to shade the pond would be a good addition to the project.
- Level spreaders: Committee members asked for clarification on what this type of project does. It takes a point source discharge from a pipe and dissipates the energy of the flow to slow it down and spread the flow to give a greater opportunity for infiltration of runoff. Proper design of this type of structure is important since the County has had problems with improper design of level spreaders in the past.
- New pond downstream of Fairfax Villa: Committee members discussed the benefit of this pond. Many felt that the clearing of the forested area would offset the moderate water quality benefits of the pond. Mr. Lormand explained that the project was presented in response to previous discussions with the committee about stormwater management for the Fairfax Villa subdivision. It is an alternative that does not provide much benefit for significant cost; therefore it will most likely be deleted from the final report as a feasible project.
- Rain Barrel programs: Committee members expressed interest in research on rain barrel programs in other communities that offer discounted barrels if homeowners sign a maintenance agreement.
- Bridge projects: committee members expressed several concerns:
    - New structures be designed to permit fish passage.
    - Verify that crossing is a problem for residents in addition to the modeling results.
    - The bridge replacement costs seemed low – these should be looked at again.
    - VDOT may require that existing one lane crossings be upgraded to two lane crossings.
- Annual stream walks to monitor the condition of the riparian buffer are a good volunteer opportunity
- Maintaining diversity of wildlife: A committee member suggested an additional action to Objective A7. The new action is “Preservation of large blocks of forest to prevent further fragmentation”.
- Stream monitoring: This action will state that monitoring can be used to show the impacts of BMP projects upstream. Cliff Fairweather, Audubon Naturalist Society, has one team performing stream monitoring in the watershed and is trying to start others.
- Educational materials: Committee members discussed several educational opportunities:
    - The Northern Virginia Soil & Water Conservation District (NVSWCD) has an existing program on horse care and grazing practices – the plan should aim to help them get their message out.
    - Use the web site as much as possible for educational materials.
    - Team with the Department of Forestry to develop a program for ordering packages of seedlings appropriate for planting in the riparian buffer. Also partner with the National Wildlife Federation and the Virginia Native Plant Society.
    - Provide materials that describe the valuable role that beavers play in the environment and maintaining stream health.
- Goal C: Change to “Continue to maintain the Occoquan Reservoir…..”
- Funding: Create a list to include in the report of potential funding/grant programs available for projects such as FCWA grants and Chesapeake Bay grants.

Planning for the Draft Watershed Plan Review Workshop:

The Draft Watershed Plan Review Workshop will be on Thursday, October 28 at Clifton Elementary School at 7:00 pm. Committee members were asked to take fliers and posters to distribute throughout the community. The meeting will be set up with stations with more specific information about the projects and give attendees an opportunity to discuss projects with project team members. Committee members were asked if stations should be divided by subwatershed or project type. The consensus was that the stations should be based on subwatershed. Committee members also discussed that the meeting should be light on jargon – using terms like "LID" will not hold people's attention. Keep terms simple – such as "projects to reduce runoff".

Mr. Ostrodka asked for names and contact information for civic organizations that have not been involved in the watershed plan process thus far.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	January 12, 2005	Time:	7:00 pm

Location: Fairfax Station Railroad Museum

Recorder Lynne Mowery, AMEC

Meeting: Citizens Advisory Committee Meeting #13

Project Team Attendees:	Paul Shirey, DPWES Shannon Curtis, DPWES Curt Ostrodka, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Gary Anderson Cliff Fairweather George Jennings Wilma Kime Gregory Prelewicz, FCWA Mervine Rosen Charles Smith, FCPA Bill Watts

Paul Shirey, Fairfax County Department of Public Works and Environmental Services, opened the meeting.

Curt Ostrodka, AMEC Earth & Environmental, Inc., presented the agenda for the meeting and began with a review of the draft watershed plan workshop. Several comments received at the workshop were discussed for possible inclusion in the watershed plan.

- Creation of a system of guidelines to clean up streams clogged with debris that create unsanitary conditions

  Committee members suggested preparation of landowner education materials, a community event to perform stream cleanup and projects in the watershed plan to remove specific debris problems.

- Fairfax County should not solely pay for projects on private property such as the Merrifield Garden Center. A partnership or cost- sharing program with private owners would be a more equitable method of funding the projects.

  Committee members agreed that developers should pay for stormwater projects for new developments, redevelopments or rezonings and that projects initiated by the County to provide a benefit to the County should be paid for by the County.

- Flooding at Chapel Road and Cold Point Road is a problem. Can a culvert be installed?

  Committee members agreed that the road is located in a floodplain and that a culvert will not help the problem. Raising the road will help with flooding in this area.

- Develop educational materials for owners of large lots (five or more acres). The existing materials describe how to care for smaller lots.

  Committee members agreed that this should be added to the plan.

- Coordinate with Prince William County and the State of Virginia to develop a regional approach for protecting the Occoquan Reservoir.

  Committee members agreed that this is a good goal but were unsure how it would be accomplished. They agreed that it may be beyond the scope of this watershed plan.

Mr. Ostrodka next discussed the preliminary comments that AMEC has received from the County and will be working to incorporate into the plan. Committee members had no concerns with the County's comments.

Mr. Ostrodka discussed three projects that were added to the plan. One of the projects concerns a fill pile located on George Mason University property that did not have functioning erosion and sediment controls during a recent field visit. George Jennings of George Mason University discussed this fill pile with committee members. The University is aware of the problem and has recently installed new silt fence around the pile to control runoff. Previous controls have been tampered with by unknown parties and problems at the site are also exacerbated by ATV and dirt bike use by nearby residents. Since the University is monitoring this situation and taking actions to correct it, this project will not be added to the plan.

Another new action discussed, was coordination with VDOT to examine retrofit opportunities and to facilitate maintenance of existing ponds. AMEC will be reviewing other VDOT ponds for additional retrofit opportunities. The County will look into possibilities for facilitating maintenance of the ponds with VDOT.

Mr. Ostrodka then discussed the project prioritization phase of the watershed plan. The projects will be weighted based on five categories:

1. Board Adopted Categories
2. Direct Regulatory Contribution
3. Public Support
4. Effectiveness/Location
5. Ease of Implementation

Once projects are prioritized they will be organized into 5 groups for scheduling implementation. Mr. Ostrodka presented a preliminary grouping based on a draft prioritization matrix. Projects to be implemented first will focus on headwater projects such as pond retrofits, low impact development, stream restoration and non-structural projects. The committee discussed dump sites and if they should have a higher priority. The committee agreed that dump sites should only be moved up if they're highly visible and present an immediate water quality threat.

Committee members were asked for their input on the project prioritization. They agreed that headwater projects should be performed first.

Mr. Shirey proposed a weighting ratio for the five categories:

1. Board Adopted Categories (40%)
2. Direct Regulatory Contribution (10%)
3. Public Support (10%)
4. Effectiveness/Location (25%)
5. Ease of Implementation (15%)

Committee members had no disagreement with this proposal.

Buffer restoration projects were discussed in the Castle Creek area. Committee members suggested that these projects should be performed before stream restoration projects in the area – increase priority of buffer restoration projects. A “no mow” campaign was suggested – education to encourage placement of shrubs on unstable banks, not trees. It was also suggested that a workshop be added to the watershed plan to educate citizens about the benefit of maintaining a buffer adjacent to streams.

Committee members also suggested that signs be placed at projects resulting from the watershed plan to inform citizens of the projects benefit, such as “Improving Popes Head Creek”.

Committee members were encouraged to contact Mr. Ostrodka about any projects they feel strongly about – either for or against – to help with assigning the public support part of the project prioritization.

Mr. Greg Prelewicz of the Fairfax County Water Authority (FCWA) announced that the FCWA is accepting grant applications for stream restoration, education and watershed projects. Mr. Ostrodka will send out an email with a link to more information about these grants.

The next CAC meeting will be held on February 15 at a meeting place to be determined.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	February 15, 2005	Time:	7:00 pm
Location:	Clifton Presbyterian Church		
Recorder	Lynne Mowery, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #14**		

Project Team Attendees:	Paul Shirey, DPWES Shannon Curtis, DPWES Curt Ostrodka, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Cliff Fairweather George Jennings Gregory Prelewicz, FCWA Mervine Rosen Charles Smith, FCPA Charlie Smith Bill Watts

Paul Shirey, Fairfax County Department of Public Works and Environmental Services, opened the meeting.

Curt Ostrodka, AMEC Earth & Environmental, Inc., presented the agenda for the meeting and the schedule for future meetings. Lynne Mowery, AMEC Earth & Environmental, presented several new projects added to the plan as a result of comments received from the County.

- Innisvale Pond Restoration – an existing wet pond located on Fairfax County Park Authority Property near Innisvale Drive. The dam needs to be repaired due to a breach in a portion of the dam and trees growing along the upstream and downstream dam faces. The pond can then be retrofitted to include a created wetland, which will increase the pollutant removal efficiency of the facility.

- Colchester Hunt Pond Retrofits – Two existing stormwater management facilities in this subdivision do not provide any water quality controls. The riser and pond area will be retrofitted to provide water quality detention.

- Vannoy Park – LID Improvements – this subdivision does not have any stormwater controls. It is proposed to construct grassed swales in existing road right of way to provide water quality benefits. The grassed swales will provide filtration using check dams due to poor soils in the area.

Mr. Ostrodka next discussed the project prioritization for the plan. The weighting of the categories has been revised based on the discussion at CAC Meeting #13:

1. Board Adopted Categories (40%)
2. Direct Regulatory Contribution (10%)
3. Public Support (10%)
4. Effectiveness/Location (25%)
5. Ease of Implementation (15%)

Mr. Ostrodka presented a sample prioritization spreadsheet with the revised weighting rations. Using this prioritization spreadsheet, an implementation schedule was developed. The previous implementation schedule had distributed costs as evenly as possible over the 25 year implementation period. The County requested that the schedule be changed to front load the schedule such that approximately 75% of the costs were distributed over the first 15 years of the implementation period.

Mr. Ostrodka presented a preliminary implementation schedule and maps of each 5-year implementation group. The committee requested that these maps be placed on the website for review.

A question was raised about what percentage of the costs are for road crossings – after the costs are finalized the committee will be provided with the answer to this question. The committee also briefly discussed the financing of the road projects and how VDOT would be involved.

The committee also discussed how the benefit/cost of the project has been included in the prioritization matrix. The benefit/cost of each project is accounted for in the Effectiveness/Location category and the Ease of Implementation category in the weighting matrix.

Mr. Ostrodka presented a question about cluster development to the committee. In the current draft plan Policy Recommendation A5.3 states "Encourage the use of Cluster Development for new residential land uses." The County Department of Planning and Zoning has reviewed the plan and provided comments. They had several issues with this recommendation. A summary of their comments follow:

- Much of the watershed is not sewered. Cluster development may, therefore, not be feasible or appropriate in areas characterized by soils that are poorly suited for on-site sewage disposal facilities.
- It is unclear what "targeting of areas for cluster development will entail. How will cluster development be encouraged? In light of a recent and exhaustive review of cluster provisions in the Zoning Ordinance, it would not be appropriate to revisit cluster provisions of the Zoning Ordinance at this time.
- It should be noted that there is very little potential for zoning changes in this watershed, although some by-right development could occur given the extent of vacant/underutilized parcels.
- The paragraph describing the "watershed benefit" of cluster development focuses on a watershed-wide concentration of development as opposed to what would be the more likely outcome of cluster development in this watershed, which would be relatively small, individual neighborhoods developed through clustering as opposed to broader-scale watershed-wide clustering.

The committee discussed if this recommendation should be removed from the plan in light of Planning and Zoning's concerns. This issue was discussed at length and the committee reached consensus that this recommendation be removed from the plan.

Mr. Ostrodka discussed the plans for the Final Plan Review workshop tentatively scheduled for Tuesday, April 12, 2005. Flyers and posters will be distributed at the next CAC meeting. Committee members suggested advertising the meeting in the Centerview, the South County Chronicle, the Centerville Times, the Fairfax section of the Washington Post, and the Fairfax Journal. The format of the meeting will be similar to that for the Draft Watershed Plan Workshop: a presentation followed by breakout groups. There will be 3 stations for the breakout groups: upper watershed, central watershed and lower watershed. Participants will be encouraged to visit all of the stations.

Mr. Ostrodka informed the committee of the premiere of a new documentary film entitled "Reining in the Storm – One Building at a Time". The film premieres on Wednesday, February 16, at the State Theatre in Falls Church. Doors open at 6:30.

Mr. Shirey announced that the County has begun an evaluation of the watershed planning process and that members of the committee will be contacted and asked to fill out a web-based questionnaire on the watershed planning process.

The next CAC meeting will be held on March 15 at a meeting place to be determined.

The meeting was adjourned.

Popes Head Creek Watershed Study
Meeting Minutes

Date:	March 15, 2005	Time:	7:00 pm
Location:	Clifton Community Hall		
Recorder	Lynne Mowery, AMEC		
Meeting:	**Citizens Advisory Committee Meeting #15**		
Project Team Attendees:	Paul Shirey, DPWES Kate Bennett, DPWES Shannon Curtis, DPWES Curt Ostrodka, AMEC Lynne Mowery, AMEC	Advisory Group Attendees:	Cliff Fairweather Gregory Prelewicz, FCWA Mervine Rosen Charles Smith, FCPA Charlie Smith

Paul Shirey, Fairfax County Department of Public Works and Environmental Services, opened the meeting and thanked the attendees for their continued participation.

Curt Ostrodka, AMEC Earth & Environmental, Inc., reviewed the agenda for the meeting. He stated that this is the last CAC meeting before the Final Draft Review Workshop, which will be held on April 12, 2005, at the Clifton Elementary School. He distributed a copy of the final draft plan on CD-ROM to all committee members; CD-ROMs will be mailed to members who were unable to attend. The Committee was asked to review the changes made to the plan, primarily in Chapters 4 and 5, and to provide comments to Curt by March 29, 2005. AMEC will incorporate the CAC comments and post the final draft to the project website on April 5, 2005. This will give the public one week to review the final draft prior to attending the workshop. The public may review the final draft for an additional 30 days after the workshop.

Lynne Mowery, AMEC Earth & Environmental, Inc., presented the new projects that have been added to the final draft.

- Clifton Elementary School: A Filterra manufactured LID was added to supplement the previously proposed bioretention area, or “rain garden”. The committee noted that these projects could be incorporated into the school curriculum as environmental education.
- Brentwood Ponds: Two existing public stormwater ponds will be retrofitted to provide water quality benefits. It was noted that there is significant beaver activity in the surrounding area.
- Lewis Park: Two grassed swales in the road right-of-way will provide water quality improvements in an area without existing controls.

Ms. Mowery stated that a new Action has been added to the final draft plan. Action C1.2 proposes to, “Manage large existing areas of lawn at institutional and commercial properties to minimize nutrient loading in streams.” The areas targeted for this action are George Mason University and the Country Club of Fairfax. The Country Club has stream restoration proffers that it must meet to fulfill its Special Exception rezoning permit. Mr. Ostrodka stated that the final draft plan will reference this permit, as well as the need for coordination with the Zoning Enforcement Branch of the Department of Planning and Zoning.

The following projects have been deleted from the final plan:

- Stormwater Pond Retrofits

These ponds already have water quality controls and retrofits proposed provided minimal benefit for the cost

  - Living Savior Lutheran Church
  - St Peters in the Woods Episcopal Church

- Level Spreader Projects

Changed to Grassed Swales or Bioretention

  - Brecon Ridge
  - Pickwick Woods
  - Fairfax Station

- Road Crossing Projects

These projects were located on private drives:

  - Castle Ridge Road and Castle Creek
  - Three Penny Drive and Popes Head Creek

Ms. Mowery then described the benefits that will result from the implementation of the watershed plan. AMEC modeled the watershed using SWMM to analyze for water quantity and quality reductions and had the following results:

Pollutant	Percent Decrease in the Future Model with Proposed BMPs
Total Suspended Solids	8.64%
Total Phosphorus	8.28%
Total Nitrogen	2.72%

The Committee had a lengthy discussion on whether or not the pollutant reductions are significant. Ms. Mowery stated that many different factors influence the future conditions of the watershed. It is currently in “relatively good” condition, with a future imperviousness of only 11.4%. She stated that in order to see larger improvements, the project team would have to examine the use of large, regional ponds. However, their use is not feasible nor is it desirable in this watershed. Mr. Shirey noted that there will be many other benefits to the watershed other than water quality improvements, such as decreased runoff, decreased erosion, and increased environmental awareness through education.

The discussion moved towards the prioritization of projects in Popes Head Creek vs. those in other watersheds of Fairfax County. Mr. Shirey stated that the County has developed a prioritization process to rank projects between watersheds. Prioritization factors include Board of Supervisors adopted priorities (such as house flooding and severe erosion), public support, and the Stream Protection Strategy restoration levels. He stated that projects that provide “more bang for the buck” may be given prioritization; however, projects that are easy to implement, such as those that do not require the acquisition of land rights, may be given priority.

Mr. Shirey stated that because Popes Head Creek has Restoration 1 areas, it may receive funding priority in order to prevent future problems. The Committee noted that it is less

expensive to protect an area than it is to restore it. Ms. Bennett noted that the TMDL in Popes Head Creek may result in funding priority from the EPA.

Ms. Mowery then presented proposed stream improvements, using the Army Corps of Engineers' Stream Condition Index (SCI) rating system. The Committee discussed whether it is appropriate to use the proposed SCI average for the entire watershed or the scores for project areas only. The group came to consensus that the final plan should not average the SCI rating over the entire watershed, and should instead focus on SCI improvements at individual stream projects.

Mr. Ostrodka then presented a sample of the project implementation order. He noted that the order has changed slightly due to the finalization of estimated project costs. Non-structural projects were placed into the first implementation group because they do not require land-acquisition and may be easier to implement. It was agreed that stormwater pond retrofits and stream restoration projects without headwater improvements (Brookline Drive, Wycklow Drive) should be prioritized in the first implementation group.

Upon the Committee's request, Mr. Ostrodka agreed to clarify the implementation tables so they would denote costs as 2006 dollars and differentiate between total costs and annual costs over 25 years. Mr. Shirey requested that Staff Year Equivalent (SYE) costs for the Policy Recommendations in Chapter 5 be calculated and added to the final draft. AMEC agreed to put these costs into the final draft. A Cultural Resources GIS layer will be provided by the Fairfax County Parks Authority to determine if any of the proposed projects will disturb historic sites.

Mr. Ostrodka gave an overview of the Final Draft Review Workshop, scheduled for April 12, 2005. He asked for members of the Committee to volunteer to assist the Project Team by staffing breakout stations and registering participants. The Committee members all agreed to help out. Mr. Ostrodka distributed promotional flyers and posters to each Committee member, and agreed to send out an email version of the flyer. He will send a reminder email two weeks before the Workshop to remind Committee members to distribute the flyers and posters in the watershed.

Mr. Shirey introduced Kate Bennett, formerly the TMDL coordinator for DEQ, and new assistant project manager for the Popes Head Creek watershed plan. She stated that DEQ will be holding a public meeting on the TMDL development process for Popes Head Creek on March 30 from 7:00 to 9:00 PM at the Sully District Governmental Center, 4900 Stonecroft Blvd., Chantilly. The meeting will provide an introduction to DEQ's TMDL process, a description of the water quality problems that will be addressed, and a description of how the TMDL will be implemented. The TMDL is scheduled to be completed by May 2006. The Committee was encouraged to attend this meeting and provide comments to DEQ.

The meeting was adjourned.