April 28, 2010

NAIOP AND NVBIA SPECIFIC COMMENTS TO THE PRINCE WILLIAM COUNTY COMPREHENSIVE PLAN'S ENVIRONMENTAL CHAPTER, DRAFT DATE OF OCTOBER 14, 2009

DEFINITIONS

DRAFT LANGUAGE: **LEVEL SPREADERS:** TBD

Proposed Change: Delete specific details of stormwater techniques because they should be provided in the DCSM so they can be more readily updated as technologies improve (and they also exist in DCR handbooks) and are not appropriate in a Comprehensive Plan. These standards are addressed by existing procedures administered by State environmental professionals assigned to the reviewing and maintaining of these regulations, who provide technical interpretations, and issue directives and policies necessary for implementation.

DRAFT LANGUAGE: **PERENNIAL STREAM**: A BODY OF WATER FLOWING IN A NATURAL OR MAN-MADE CHANNEL YEAR-ROUND, EXCEPT DURING PERIODS OF DROUGHT. TO INCLUDE ALL BODIES OF WATER IDENTIFIED AS PERENNIAL WHEN USING A SCIENTIFICALLY VALID SYSTEM OF IN-FIELD INDICATORS. A STREAM THAT SCORES ABOVE THE THRESHOLD OF 25 POINTS WHEN ASSESSED WITH THE COUNTY'S PREFERRED STREAM ASSESSMENT METHOD OF FAIRFAX DPWES STREAM ASSESSMENT PROTOCOL.

Proposed Change: The draft definition is technically incorrect. Perennial streams, using the Fairfax DPWES protocol, can have a score less than 25 points with certain biological indicators or in certain climatic conditions. We suggest working with existing regulatory structures published by DCR-CBLAD (later, in this document, we also propose adding the definition from DCR-CBLAD, *"water bodies with perennial flow,"* to achieve the intent of this Plan change while maintaining consistency with existing regulatory structures) or the Federal definition published by the COE in CFR Title 33 Volume 3 Part 330 as published in the Federal Register Vol. 72 No. 47, pages 11196-11197, dated March 12, 2007. We also suggest including all three types of streams recognized by the COE as defined below:

Perennial Stream – *A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.*

Intermittent Stream – *An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream*

flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Ephemeral Stream – *An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.*

The precise methodologies used to identify these stream types (defined above) are evolving and are best left to technical guidance documents that can be readily updated. Additionally, these determinations are not simply decided by a particular score from available assessment techniques as these scores are variable based upon season and preceding storm events – and subject to climatic conditions, biological indicators that can "trump" the numerical scores, or visual observations under certain climatic conditions that can "trump" numerical scores.

DRAFT LANGUAGE: **SIGNIFICANT STREAM**: STREAM THAT SHOW STRONG MORPHOLOGICAL CONDITIONS WITH A DEFINED CHANNEL SORTED SUBSTRATE AND/OR GROUNDWATER INPUT AND/OR SUPPORTS AQUATIC LIFE. A STREAM THAT SCORES ≥ 18 POINTS WHEN ASSESSED WITH THE COUNTY'S PREFERRED STREAM ASSESSMENT METHOD OF FAIRFAX DPWES STREAM ASSESSMENT PROTOCOL. FIELD VERIFICATION BY COUNTY STAFF IS REQUIRED.

Proposed Change: Delete. Existing regulatory definitions of stream types should be used. Furthermore, using a specific score of 18 (previous version was 14) ignores the fact that these scores can easily vary in non-perennial streams by 3 points just due to precedent climatic conditions and time of year. Such an imprecise definition will lead to great regulatory uncertainty and landowner risk – thus, leading to economic damages to the County's tax base. It appears that this definition is an attempt to define what an intermittent stream is – and if so, that is a definition that is appropriate as it is consistent with State and Federal regulatory structures – and the reason why we proposed it.

DRAFT LANGUAGE: **WETLAND**: LANDS WHERE SATURATION WITH WATER IS THE DOMINANT FACTOR DETERMINING THE NATURE OF SOIL DEVELOPMENT AND THE TYPES OF PLANT AND ANIMAL COMMUNITIES LIVING IN THE SOIL AND ON ITS SURFACE. *COWARDIN, DECEMBER 1979*

Proposed Change: Delete, as the more appropriate definition is already provided. The Cowardin Classification System[1] is appropriate for classifying wetlands and deepwater habitats – not in determining the definition of wetlands (this was published in 1979; in 1986 the EPA and COE published identical definitions to use for this purpose and are the ones used for defining wetlands "on the ground"). We ***do recommend*** using the Cowardin Classification System to describe the types of waters of the U.S. and waters of the Commonwealth delineated on a property and depicted on the ECA.

DRAFT LANGUAGE: **HEADWATER WETLAND**: TBD

Proposed Change: Delete, as it is not necessary to be used in the Comprehensive Plan if our changes are accepted. If they are not accepted, then utilize the long standing Federal definition:

Headwaters *means non-tidal rivers, streams, and their lakes and impoundments, including adjacent wetlands, that are part of a surface tributary system to an interstate or navigable water of the United States upstream of the point on the river or stream at which the average annual flow is less than five cubic feet per second. The DE may estimate this point from available data by using the mean annual area precipitation, area drainage basin maps, and the average runoff coefficient, or by similar means. For streams that are dry for long periods of the year, DEs may establish the point where headwaters begin as that point on the stream where a flow of five cubic feet per second is equaled or exceeded 50 percent of the time.* [33 CFR 330.2(d)]

In this geographic area, headwaters encompass streams that drain ±5 square miles[2]. Exhibit 1 shows the extent of such areas in Prince William County. Historically, the COE has assumed an average annual surface runoff of 13.5 inches per year in this area which equates to the 5 cfs from the 5 square miles of drainage.

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[1] Cowardin, L.M., Carter, V., Golet, F.C., LaRoe, E.T. (1979). *Classification of wetlands and deepwater habitats of the United States* (Fish and Wildlife Service Publication No. FWS/OBS-79/31). Washington, DC: U.S. Government Printing Office.

[2] That relationship is derived from Plate #9 of the *Water Atlas of Virginia* (Frits van der Leeden, First Edition, 1993) data on average annual runoff from streams in this area – which shows that the average annual surface water runoff in Prince William County is under 15" per year. The COE has usually assumed 13.5 inch/year in this area. Converting to 5 cubic feet per second equates to a drainage area of approximately 5.0 square miles [13.5 inch/year x 5.0 square miles x 640 acres/square mile x 43, 560 feet^2/acre x 1 foot/12 inches x 1 year/365 days x 1 day/24 hours x 1 hour/60 minutes x 1 minute/60 seconds = 5.0 cfs].

DRAFT LANGUAGE: **OTHER SENSITIVE ENVIRONMENTAL FEATURES**: THOSE NATURAL RESOURCE FEATURES AS DEFINED BY THE COUNTY WHICH PROVIDE INTRINSIC WATER QUALITY VALUE DUE TO THE BIOLOGICAL AND ECOLOGICAL PROCESSES THEY PERFORM AND ARE SENSITIVE TO IMPACTS WHICH MAY CAUSE SIGNIFICANT DEGRADATION TO THE QUALITY OF STATE WATERS. (THESE FEATURES MAY INCLUDE HEADWATER WETLANDS, INTERMITTENT STREAMS, NON-JURISDICTIONAL WETLANDS, ETC.)

Proposed Change: This definition must be deleted as it is open ended and thus, will stifle the use of credit to purchase land subject to not being able to build on features "as defined by the County…" which "…may include…, etc. (e.g., it would make it hard to borrow money as there is too much uncertainty. Two of the features used as examples: "headwater wetlands" and "intermittent streams" are depicted on the ECA already as we propose. The third, "non-jurisdictional wetlands," is addressed by including "surface waters of the Commonwealth" on the ECA as we propose since such areas include isolated wetlands that are not considered jurisdictional by the Federal government due to the 4th Circuit Court and Supreme Court decisions. Our proposal keeps the County consistent with State and Federal law and regulation.

DRAFT LANGUAGE: **JURISDICTIONAL WETLAND**: FOR REGULATORY PURPOSES UNDER THE CLEAN WATER ACT, THE TERM WETLANDS MEANS "THOSE AREAS THAT ARE INUNDATED OR SATURATED BY SURFACE OR GROUNDWATER AT A FREQUENCY AND DURATION SUFFICIENT TO SUPPORT, AND THAT UNDER NORMAL CIRCUMSTANCES DO SUPPORT, A PREVALENCE OF VEGETATION TYPICALLY ADAPTED FOR LIFE IN SATURATED SOIL CONDITIONS. WETLANDS GENERALLY INCLUDE SWAMPS, MARSHES, BOGS AND SIMILAR AREAS." *EPA REGULATIONS LISTED AT 40 CFR 230.3(T)*

Proposed Change: This is actually the Federal definition of "Wetlands" vs. "Jurisdictional Wetlands." Jurisdictional wetlands under the Clean Water Act are a subset of the definition proposed due to a series of legal decisions removing isolated wetlands from Federal regulation due to a lack of a nexus to interstate commerce. These isolated wetlands are regulated by the Commonwealth of Virginia. We also note that based upon discussion with Planning Commissioners Bruce Holley and Kim Hosen, the Planning Commission would like to depict all aquatic resources found on a site that are regulated by the COE or the DEQ (such as wetlands [including isolated wetlands], streams, mudflats, ponds, and lakes) on the ECA. Thus, to achieve this goal and be legally and technically correct, we propose the following ***two*** definitions:

Wetlands – *The term, "wetlands," means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.* [EPA Regulations at 40 CFR 230.3(t) and U.S. Army Corps Regulations at 33 CFR 328.3 (b)]

And

Jurisdictional Waters – *All waters of the United States and surface waters of the Commonwealth regulated by the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality.*

Proposed Change: **Additional Definitions Proposed:**

Since the Comprehensive Plan uses the term, Specimen Tree, please add:

Specimen Tree*: A tree having a diameter, measured at four and one-half (4.5) feet above the ground, of thirty (30) inches or more, or a tree having a diameter measuring seventy-five percent (75%) or more of the diameter of the current state champion of that species; includes County and State champion trees.* (Section 801.02 F of the Prince William County Design and Construction Standards Manual [DCSM], adopted June 6, 2006)

We recommend that the ECA includes the depiction of "Water bodies with Perennial Flow," the core RPA component. We propose:

Water Bodies with Perennial Flow shall be identified in a manner consistent with the latest guidance from the Virginia Department of Conservation and Recreation [this is what the DCSM uses in 740.02Q]. As currently defined by CBLAD,[3] a water body with perennial flow is: *A body of water that flows in a natural or man-made channel year-round during a year of normal precipitation. This includes, but is not limited to streams, estuaries, and tidal embayment's and may include drainage ditches or channels constructed in wetlands or from former natural drainage ways, which convey perennial flow. Lakes and ponds, with perennial streams flowing into, out of, or through them, are a part of the perennial stream. Generally, the water table is located above the streambed for most of the year and groundwater is the primary source for stream flow.*

[3] "Determinations of Water Bodies with Perennial Flow – Guidance on the Chesapeake Bay Preservation Area Designation and Management Regulations," Adopted September 2003; Revised December 10, 2007.

DRAFT LANGUAGE: **UNIQUE HABITATS OF SPECIAL CONCERN**: RARE AND EXEMPLARY NATURAL COMMUNITIES AS IDENTIFIED OR DEFINED BY VDCR NATURAL HERITAGE DIVISION.

Proposed Change: This should be deleted until Prince William County locates and surveys all such areas (in conjunction with VDCR), informs the public and landowners of such areas, and reports to the Board of Supervisors on the economic, cultural, and environmental costs and benefits of preserving such areas.

These areas are not protected by any Federal or State law. In fact, just a couple of years ago at the Manassas Battlefield, it was determined that such areas were not as critical to society as was clearing such areas to create the Civil War landscape. Thus, the ramifications of including this definition so as to utilize in the ECA must be fully assessed – as there are often competing interests with valid points of view.

EN – POLICY 1

Action Strategy #1

DRAFT LANGUAGE: DEVELOP OTHER CRITICAL MAPS TO BE INCLUDED AS PART OF THE ENVIRONMENT PLAN, WHICH MAY INCLUDE THE FOLLOWING:

- EXISTING CANOPY COVERAGE MAP
- IMPERVIOUS AREA MAP
- VEGETATIVE COVER TYPES MAP
- WETLANDS MAP
- EXISTING CONSERVATION EASEMENTS MAP
- CRITICAL STREAM AREAS MAP

Proposed Change: The proposal to map "Critical Stream Areas" without first defining a critical stream is problematic at best. What the County does need is to map all perennial streams and use that map as the core RPA definition as Fairfax County has done. If it intends to regulate intermittent streams with buffer requirements, etc., such areas must also be mapped and affected citizens notified.

Secondly, with respect to creating a wetlands map, we suggest:

a. *That Prince William County do as Loudoun County has done for years and require applicants for rezonings (other discretionary land use approvals), site plans, and subdivision plans to submit surveyed delineations of all waters of the U.S. and Commonwealth to the*

County in a specified digital format to add to the County's GIS system. This data will help create an accurate wetlands map on time.

b. There are more accurate (relative to NWI) maps of wetlands (actually, all waters) than available from the Federal and State government from private companies based upon photo interpretation since the cost of ground delineation will be simply unaffordable.

Third, the Vegetative Cover Type map provides the information provided by the Canopy Coverage map, so the latter is not needed.

Therefore, replace the language with the following:

Develop the following maps to be included as part of the Environment Plan:

A. As soon as practicable:
1. *A map of all perennial streams based upon scientific surveys conducted in the field;*
2. *An updated RPA map based upon said perennial stream map; and*
3. *Revise the DSCM to utilize these maps in lieu of the PFD process.*

B. When funding allows, create these maps in the following order:
1. *Wetlands map;*
2. *Impervious Area map, updated on a 5-year basis;*
3. *Existing Conservation Easements map, updated as easements are recorded; and*
4. *Vegetative Cover Types map, updated on a 5-year basis.*

Action Strategy #2 DRAFT LANGUAGE:

UPDATE THE ZONING ORDINANCE ENVIRONMENTAL CONSTRAINTS ANALYSIS REQUIREMENTS **TO ADD THE FOLLOWING**: ~~SHOW THE FOLLOWING AS THREE SEPARATE ITEMS:~~

a. ~~APPROXIMATE~~ DELINEATION OF ALL WETLAND AREAS (JURISDICTIONAL DETERMINATION REQUIRED)
b. ~~APPROXIMATE~~ LOCATION OF ALL CHESAPEAKE BAY RESOURCE PROTECTION AREAS (PASA SUBMITTAL REQUIRED)
c. ALL INTERMITTENT STREAMS
d. PONDS, CULVERTS
e. CONTRIBUTING DRAINAGE AREAS
f. EXISTING STRUCTURES, ROADS, AND THE LOCATIONS OF KNOWN UTILITIES AND EASEMENTS
g. SUFFICIENT INFORMATION ON ADJOINING PARCELS TO PROVIDE A PRELIMINARY ASSESSMENT OF STORMWATER IMPACTS FROM THE SITE,

SUCH AS 100-YEAR FLOODPLAINS, WETLANDS, STORMWATER INFRASTRUCTURE, STREAMS, AND OTHER SENSITIVE FEATURES

h. IDENTIFICATION OF THE ADEQUACY OF RECEIVING SURFACE WATERS INTO WHICH STORMWATER WILL BE PROPOSED FOR DISCHARGE
i. PROPOSED LIMITS OF DISTURBANCE
j. EXISTING VEGETATION MAP OF THE ENTIRE SITE
k. LOCATION OF ALL SPECIMEN TREES
l. OTHER SENSITIVE ENVIRONMENTAL FEATURES
m. UNIQUE HABITATS OF SPECIAL CONCERN
n. IDENTIFICATION OF ENVIRONMENTAL FEATURES PROPOSED FOR PRESERVATION OR CONSERVATION

Proposed Change:

Please review the discussions and comments provided in the Definition section of this comment document to understand the basis of these changes.

Update the Zoning Ordinance environmental constraints analysis requirements to **add the following**:

a. Surveyed Delineation of all waters of the U.S. and surface waters of the Commonwealth (Jurisdictional determination required) with such areas classified utilizing the Cowardin Classification System;
b. Location of all Chesapeake Bay Resource Protection Areas (PASA submittal required);
c. 5-foot Contour Interval (or better) topography;
d. Ponds, culverts;
e. Contributing drainage areas;
f. Existing structures, roads, and the locations of known utilities and easements;
g. Publicly available information on adjoining parcels regarding the location of 100-year floodplains, wetlands, stormwater infrastructure, and streams;
h. Identification of the adequacy of receiving surface waters into which stormwater will be proposed for discharge;
i. Proposed limits of disturbance;
j. Existing vegetation map of the entire site;
k. Location of all specimen trees within the limits of disturbance; and
l. *Identification of environmental features proposed for preservation or conservation.*

EN – POLICY 3

Action Strategy #2
DRAFT LANGUAGE: AMEND THE CLUSTER ORDINANCE TO ENSURE THAT OPEN SPACE IS PERMANENTLY PROTECTED, AS DEFINED IN THE OPEN SPACE CHAPTER AND MANAGED AS A NATURAL AREA.

Proposed Change: After "natural area," add the phrase "*or as an active recreation area if designated as such an area on the subdivision plan*." This will encourage the provision of adequate recreational facilities for the children in Prince William County.

Action Strategy #3
DRAFT LANGUAGE: AMEND THE ZONING ORDINANCE TO ENSURE THAT A MINIMUM OF A 50/100-FOOT BUFFER IS REQUIRED ON NEW DEVELOPMENT ADJACENT TO EXISTING PUBLIC LANDS AND PRIVATE CONSERVATION EASEMENTS.

Proposed Change: Delete. This means that a neighbor could place an easement on his land and by doing so, prohibit uses on 50 to 100 feet of a neighbor's land ***without compensation***. It also ***takes*** people's property rights if they happen to have any public land as a neighbor.

This is an improvement over the first draft, which suggested establishing buffers along RPAs (which already include a 100-foot buffer). However, we note with alarm that County staff is proposing to implement the previous version on a recent rezoning (November 2, 2009) by suggesting that the RPA be provided with additional buffers. This ignores the original purpose of the RPA buffer which is to provide a buffer to perennial streams and intermittent streams. Requiring a buffer on a buffer is simply going too far and will have a chilling economic effect.

Action Strategy #4
DRAFT LANGUAGE: AMEND THE ZONING ORDINANCE AND DCSM TO ENSURE THAT PROFFERED CONSERVATION AND PRESERVATION AREAS SHALL NOT BE ALLOWED ON RESIDENTIAL LOTS.

Proposed Change:

a. Either delete in its entirety or delete the word, "*not*." It is ***good*** to conserve and preserve land. Not allowing such areas on residential lots is totally opposite the goals of this chapter – and is very appropriate for large lots.

Or

b. Revise this text so that sufficient room is permitted between a home

and the conservation/preservation areas to allow for reasonable uses, as suggested below:

Amend the Zoning Ordinance and DCSM to ensure that proffered conservation and preservation areas shall not be allowed on residential lots unless at least 40 feet is provided between said areas in the rear of the house footprint and 15 feet is provided between said areas and the side of the house footprint to allow room for maintenance and a rear deck.

Action Strategy #7

DRAFT LANGUAGE: ENCOURAGE THE USE OF OPEN SPACE/CONSERVATION EASEMENTS TO PRESERVE OPEN SPACE IN ALREADY DEVELOPED AREAS IN ORDER TO PROVIDE NATURAL AREAS, PROTECT ENVIRONMENTALLY SENSITIVE RESOURCES, PRESERVE WILDLIFE HABITAT AND ENSURE A SCENIC APPEARANCE OVER TIME.

Proposed Change: After the word, "easements," add the phrase: "*or dedication of fee simple ownership to the Park Authority*."

EN – POLICY 4

Action Strategy #11

DRAFT LANGUAGE: AT THE TIME OF REZONING, ENCOURAGE SITE LAYOUTS THAT ORIENT STRUCTURES TO MAXIMIZE SOLAR GAIN IN THE WINTER MONTHS AND PREVAILING WINDS IN THE SUMMER MONTHS.

Proposed Change: Delete this strategy. It is a much more complex topic than given justice in this sentence and is not suitable for inclusion in a Comprehensive Plan.

EN – POLICY 5

Action Strategy #1

DRAFT LANGUAGE: PRESERVATION/CONSERVATION OF THE COUNTY'S GREEN INFRASTRUCTURE IS IMPORTANT. ACCORDINGLY, DISCOURAGE~~/PROHIBIT~~ DEVELOPMENT CONTIGUOUS TO A SIGNIFICANT STREAM IN THE FOLLOWING AREAS:

- ALL AREAS OF 25% GREATER SLOPES CONTIGUOUS TO THE 100-YEAR FLOODPLAIN.
- IF NO 100-YEAR FLOODPLAIN IS PRESENT, 25% OR GREATER SLOPES APPROXIMATELY 50 FEET OF THE STREAM CHANNEL.
- ALL AREAS OF 15% OR GREATER SLOPES WHERE SHRINK-SWELL SOILS

EXIST.

Proposed Change: Revise the language as shown below:

~~Preservation/conservation of the County's green infrastructure is important. Accordingly, encourage preservation of these areas by provision of a 10% density bonus (pro rata for the area preserved), contiguous to perennial and intermittent streams in the following areas when practicable if such areas are dedicated to the Park Authority on a fee simple basis:~~ "*In areas contiguous to significant streams, according to the following, encourage cluster development where practicable and employ appropriate engineering and environmental solutions that address issues including, but not limited to, slope instability, shrinking and swelling of soils, and soil erosion, as they relate to the disturbed area.*"

- *All areas of contiguous 25% greater slopes contiguous to the 100-year floodplain with a drainage area greater than 100 acres, up to 200 feet in width (per side) from the stream edge;*
- *If no 100-year floodplain is present, all areas of contiguous 25% or greater slopes starting within 50 feet of the intermittent or perennial stream channel, up to 200 feet in width (per side) from the stream edge;*
- *100-year floodplains with a drainage area greater than 100 acres; and*
- *A buffer of 25 to 50 feet in width from intermittent streams with exact dimensions based upon land use compatibility.*

The originally proposed language will have a massive effect on the economic vitality of Prince William County. Limiting density, when proven engineering solutions are available, would have an unwarranted negative impact on land values and tax revenue to the County.
~~The density bonus shall be equal to 10% times the fraction of the site area that this represents shall be granted (e.g., if the dedication area is 20% of the site and the density range in the Comprehensive Plan is 6 to 10 d.u./acre, then the range after bonus is 6.12 to 10.20."~~[4]

Action Strategy #2
DRAFT LANGUAGE: AMEND THE DCSM TO REQUIRE IDENTIFICATION AND PROTECTION OF ALL AREAS WITH SHRINK/SWELL SOILS, CRITICAL SLOPE AREAS, AND/OR WITH UNDERLYING MARINE CLAYS. WHERE IMPACTS ARE UNAVOIDABLE,

[4] ~~6 + (6 x 20% x 10%) = 6.12; 10 + (10 x 20% x 10%) = 10.20~~

REQUIRE MITIGATION.

Proposed Change: Please ~~delete since DCSM already has a comprehensive procedure for dealing with shrink/swell soils **or**~~ replace with the following:

Shrink/Swell Soils, Critical Slope Areas, Marine Clays:

The DCSM describes the potential problems associated with shrink/swell soils and slopes in marine clay areas. It sets forth minimum requirements for geotechnical studies in accordance with the latest version of the International Building Code (IBC) adopted by the Commonwealth and for projects located in Category II and III soils (DCSM 770.10-13), which are mostly comprised of shrink/swell soil areas, critical slope areas, and marine clay areas. The identification of Category II and III soils is based on Soil Survey of Prince William County, 1989, published by the Soil Conservation Service of the USDA. It should be noted that this soil survey describes typical soil characteristics for relatively shallow soils (generally less than 6 feet below the natural ground surface), which may not be indicative of deeper soil layers that tend to have more of an influence on slope stability.

In addition, there have been significant advancements in construction practices related to soil erosion, slope reinforcement and stabilization, and shrink/swell mitigation since 1989. In 2007, the Building Official issued a detailed policy addressing the use of lime for chemical stabilization of marine clay and shrink/swell soils. The policy is the result of over a year of collaboration between officials from Prince William, Fairfax and Loudoun Counties, as well as industry professionals experienced in dealing with shrink/swell and marine clay soils. We recommend that the above language be replaced with the following:

Incorporate into the DCSM the following Building Development Policies and Procedures:

- *1.13 Soils – Use of Lime during Construction, dated September 4, 2007; and*
- *1.13.5 Soils – Expansive Soil, dated January 9, 2009.*

There are other engineering solutions that can be employed to deal with the shrink/swell soils and slopes in marine clay areas. They include, but are not limited to, soil blending, pre-wetting, slab post-tensioning, subterranean reinforcement, removal and replacement, and geosynthetic stabilization. More information about the shrink/swell soils, marine clay,

and slope instability issues can be found in "*Engineering Geology and Design of Slopes for Cretaceous Potomac Deposits in Fairfax County, Virginia, and Vicinity*", U.S. Geological Survey Bulletin 1556, Government Printing Office, Washington: 1984. This publication is widely accepted as state-of-the-practice when designing slopes in the Cretaceous "marine clay" Potomac Deposits and describes the procedure for field investigation, laboratory testing, and selection of strength parameters for the analysis of slopes.

We recognize the concern regarding the instability of slopes and the erosion of soils in the County, and the potential impact these occurrences have on our green infrastructure. These potential problems can be mitigated by appropriate engineering and environmental solutions that have been successfully employed throughout the region, including eastern Prince William County and neighboring Fairfax County. One of the reasons these solutions have been so successful in Fairfax County is the reasonable oversight to the slope engineering provided by the Geotechnical Review Board (GRB). The GRB is made up of several practicing geotechnical engineers or engineering geologists and academics that have experience dealing with some of the more challenging geotechnical issues in our region. In Fairfax County, the GRB is called upon to provide a detailed review of a geotechnical report and provide review comments that are to be addressed by the Geotechnical Engineer of Record (GER) for the project.

The Prince William County DCSM provides for the review of geotechnical reports by a third party, if deemed necessary, and referred by the Director of Public Works (DCSM 770.30). We recommend that consideration be given to the development of a formal GRB, similar to that developed in Fairfax County as a direct result of their recognition of slope instability and landslide issues. We believe the GRB review would provide a more thorough evaluation of geotechnical designs and offer the expertise of multiple engineers rather than just one as is currently called for in the DCSM. The County would still have the authority to approve a geotechnical report and the responsibility for design still lies with the GER, regardless of the results of the GRB review.

Testing, Inspection and Certification:

The DCSM requires that the GER provide the County with a written certification regarding as-built conditions of slopes steeper than 6:1 (approximately 16 percent) in Coastal Plain and steeper than 3:1 (approximately 33 percent) in all other areas. Furthermore, the GER

must perform inspections and testing during the grading, installation, and backfilling of utilities, construction of roadways, etc. in order to form a basis for such a certification (DCSM 770.50). We believe that greater focus by the County on the quality and consistency of these GER inspections and certifications is warranted and would reduce the potential for problems caused by construction inadequacies.

Action Strategy #3

DRAFT LANGUAGE: SEEK COMMITMENTS PRIOR TO THE TIME OF REZONING AND SPECIAL USE PERMIT APPROVAL THAT ~~MANY OF~~ THE LANDFORMS IDENTIFIED IN THE ENVIRONMENTAL CONSTRAINTS ANALYSIS ~~ACTION STRATEGY 1~~ ABOVE WILL BE SET ASIDE AS A PRESERVATION/CONSERVATION AREA.

Proposed Change: The way in which this is written indicates that the entire site must be preserved since the ECA contains landforms encompassing the entire site. After the phrase, "above will be set aside as a preservation/conservation area," add the following text, "*outside of the proposed limits of disturbance. If such areas are proffered to be dedicated to the Park Authority, then a bonus density equal to 10% times the fraction of the site area that this represents shall be granted (e.g., if the dedication area is 20% of the site and the density range in the Comprehensive Plan is 6 to 10 d.u./acre, then the range after bonus is 6.12 to 10.20.*[5]"

Action Strategy #9

DRAFT LANGUAGE: FOR PROPERTIES THAT INCLUDE STREAMS, TIDAL OR NON-TIDAL WETLANDS, HEADWATERS, 15% OR GREATER SLOPES, HEADWATERS, OR OTHER ENVIRONMENTAL FEATURES OF SIGNIFICANCE, REQUIRE ENHANCED EROSION AND SEDIMENTATION CONTROLS, INCLUDING SUPER SILT FENCES, EROSION CONTROL BLANKETS, SOIL STABILIZATION MATTING, TEMPORARY VEGETATIVE COVER, AND OTHER CONTROLS, AS REQUIRED BY THE EROSION AND SEDIMENT CONTROL PROGRAM ADMINISTRATOR.

Proposed Change: ~~Delete. Virtually every property in the County has some portion meeting these criteria. Alternatively, you could revise this to be limited to areas within 50 feet of the listed features. Finally, the phrase, "other environmental features of significance," is undefined and thus, should be deleted. It is impossible to regulate or discuss in a zoning restriction based on an undefined term.~~ For sites exceeding ten acres in size and those with steep slopes and erodible soils, require a preconstruction

[5] 6 + (6 x 20% x 10%) = 6.12; 10 + (10 x 20% x 10%) = 10.20.

meeting and regularly scheduled meetings during construction between the site engineer, contractor, and County inspectors to determine site-specific methods for erosion control. Methods used will include early seeding and other means of protecting disturbed soils from raindrop impact, as well as providing structural controls in series both within the site and along the perimeter to provide additional removal efficiency and backup for overloaded controls. The DCSM will be revised to provide specific requirements.

Action Strategy #12

DRAFT LANGUAGE: REQUEST COURTESY REVIEW OF EROSION CONTROL PLANS FOR ALL FEDERAL AND STATE PROJECTS IN PRINCE WILLIAM COUNTY.

Proposed Change: Delete. This could have the effect of dampening activities by the Federal and State government in Prince William County – hurting our local economy. Furthermore, staff does not need additional workload.

Action Strategy #13

DRAFT LANGUAGE: AMEND THE ZONING ORDINANCE TO ESTABLISH MINIMUM STANDARDS AND THRESHOLDS THAT LIMIT CLEARING AND GRADING ON DEVELOPING PROPERTIES.

Proposed Change: Delete. This already exists. All projects disturbing more than 2,500 square feet must obtain a permit from the County. Reducing this further will impact our County's competitive position.

EN – POLICY 6

Action Strategy #4

DRAFT LANGUAGE: REQUIRE ADHERENCE TO THE FOLLOWING GUIDELINES FOR DETERMINATION OF DENSITY OR INTENSITY OF DEVELOPMENT:

RESIDENTIAL

PRECLUDE THE DEVELOPMENT OF ~~HABITABLE~~ STRUCTURES WITHIN 100-YEAR FLOODPLAINS. THE ALLOWABLE DWELLING UNIT DENSITY FOR A PROPERTY IN THE URBAN AND SUBURBAN AREA SHALL BE CALCULATED BASED ON THE AREA OUTSIDE THE ENVIRONMENTAL RESOURCE (ER) AREA, WHICH INCLUDES THE FLOODPLAIN, THE CHESAPEAKE BAY RPAS, AND AREAS SHOWN IN ~~AN~~ THE ENVIRONMENTAL CONSTRAINTS ANALYSIS SUBMITTED WITH A REZONING OR SPECIAL USE PERMIT APPLICATION WITH WETLANDS; 25 PERCENT OR GREATER SLOPES; AREAS WITH 15 PERCENT OR GREATER SLOPES IN CONJUNCTION WITH SOILS THAT HAVE SEVERE

LIMITATIONS; SOILS WITH A PREDOMINANCE OF MARINE CLAYS; PUBLIC WATER SUPPLY SOURCES; JURISDICTIONAL WETLANDS AND CRITICALLY ERODIBLE SHORELINES AND STREAM BANKS. THE ALLOWABLE DWELLING UNIT DENSITY AREAS OF THE PROPERTY ENCUMBERED BY SUCH FEATURES SHALL BE BASED UPON THE MAXIMUM DENSITY PERMITTED BY THE EXISTING ZONING OF THE PROPERTY AT THE TIME OF ADOPTION OF THE COMPREHENSIVE PLAN. OTHER RELEVANT COMPREHENSIVE PLAN COMPONENTS – SUCH AS THE CAPACITY OF THE TRANSPORTATION NETWORK, ENVIRONMENTAL CONSTRAINTS, AND ZONING REQUIREMENTS – MUST BE ADDRESSED, AS WELL, IN DETERMINING THE APPROPRIATE NUMBER OF DWELLING UNITS ON A PROPERTY.

NON-RESIDENTIAL

ON NON-RESIDENTIAL-ZONED PROPERTY ENCUMBERED WITH AREAS OF 100-YEAR FLOODPLAIN OR ~~AND~~ CHESAPEAKE BAY RPAS THE ALLOWABLE INTENSITY IS DETERMINED BASED ON THE FLOOR AREA RATIO (FAR) SPECIFIED BY THE EXISTING OR PROPOSED ZONING DISTRICT AND THE TOTAL SITE AREA. DEVELOPMENT WITHIN THE 100-YEAR FLOODPLAIN AND CHESAPEAKE BAY RPAS IS TO BE PRECLUDED. THE INTENSITY OF DEVELOPMENT IS TO BE EVALUATED ON THE BASIS OF OTHER RELEVANT ENVIRONMENTAL RESOURCE ACTION STRATEGIES, THE COMPATIBILITY OF THE PROPOSED USES WITH SURROUNDING EXISTING USES AND OTHER APPLICABLE PORTIONS OF THE PLAN.

Proposed Change:

Replace with the following:

Require adherence to the following guidelines for determination of density or intensity of development:

A. On property encumbered with areas of 100-year floodplain ***or*** *Chesapeake Bay RPAs the allowable intensity is determined based on the floor area ratio (FAR) or dwelling unit density specified by the existing or proposed zoning district and the total site area. Development within the 100-year floodplain and Chesapeake Bay RPAs is to be precluded. The intensity of development is to be evaluated on the basis of other relevant environmental resource action strategies, the compatibility of the proposed uses with surrounding existing uses and other applicable portions of the Plan, subject to the bonus provisions described below.*

B. The existing or proposed density range shall be increased by a factor of 10% on a pro rata basis for all such land areas described above, other environmentally sensitive land areas, and any active

recreational areas proposed for dedication to the Park Authority.

Action Strategy #5

DRAFT LANGUAGE: ESTABLISH PARTNERSHIPS WITH LOCAL AGENCIES AND ORGANIZATIONS TO ~~D~~DEVELOP AND DISTRIBUTE PUBLIC SERVICE INFORMATION TO REDUCE NUTRIENT LOADING IN STORMWATER RUNOFF FROM YARDS AND FARMS.

Proposed Change: Add the following:

Develop an Ordinance to regulate the use of lawn fertilizers containing phosphorous in a manner similar to that done by the City of Annapolis. The Annapolis legislation allows phosphorous to be used on lawns during their first growing season, as well as when used and applied in accordance with soil tests that determine if/how much phosphorous is needed. Otherwise, you must use no-phosphorous fertilizers on lawns.

Action Strategy #8

DRAFT LANGUAGE: ~~ENCOURAGE THAT~~ EXCEPT WHERE A CROSSING IS UNAVOIDABLE, ~~NEEDED~~ PUBLIC UTILITIES ~~SEWER FORCE MAINS, PETROLEUM LINES, AND HAZARDOUS SUBSTANCES LINES~~ SHALL BE LOCATED OUTSIDE OF THE 100-FOOT RESOURCE PROTECTION AREA BUFFER, WETLANDS, AND OTHER WATER BODIES. GRAVITY SEWER LINES ARE ALLOWED, AS NEEDED, WITH A REQUIREMENT FOR LINING CLOSED SYSTEM SEWER PIPES PARALLEL TO STREAMS IN ORDER TO PROVIDE PROTECTION AGAINST OVERFLOWS AND SPILLS. WHERE IMPACTS ARE UNAVOIDABLE, REQUIRE MITIGATION BACKED BY FINANCIAL ASSURANCES, SUCH AS BONDS OR ESCROWS.

Proposed Change: *Except where a crossing is unavoidable, and to the extent practicable due to factors such as steep slopes, mature trees and sensitive soil types, such as marine clays, the waterside edge of public utility easements shall be located at least 40 feet from perennial streams and 25 feet from intermittent streams. When such utilities must be located closer than said distances, the DCSM shall be revised to require additional measures, such as stronger materials (e.g., ductile iron, concrete encasement, or other prophylactic measures as determined by PWCSA) to protect the pipe in the case of future lateral stream migration.*

EN – POLICY 8

Action Strategy #1

DRAFT LANGUAGE: LIMIT DENSITIES ON UNSTABLE SOILS, INCLUDING MARINE CLAYS, HIGHLY ERODIBLE AND OTHER CATEGORY 3 SOILS. ENCOURAGE CLUSTER DEVELOPMENT TO ENSURE THESE SOIL AREAS REMAIN UNDISTURBED. ~~IN AREAS OF THE COUNTY THAT HAVE STEEP SLOPES AND HIGHLY ERODIBLE SOILS.~~

Proposed Change: Please delete the proposed language and replace with, "*In areas of unstable soils, including marine clays, highly erodible, and other Category 3 soils, encourage cluster development where practicable and employ appropriate engineering and environmental solutions that address issues including, but not limited to, slope instability, shrinking and swelling of soils, and soil erosion, as they relate to the disturbed area.*" The originally proposed language will have a massive effect on the economic vitality of Prince William County. Exhibit 2 is a map that, using County soils' data, shows how **76% of the County contains marine clays, highly erodible soils, and other Category 3 soils**. Limiting density, when proven engineering solutions are available, would have an unwarranted negative impact on land values and tax revenue to the County.

Action Strategy #2

DRAFT LANGUAGE: EMPLOY FIELD OBSERVATION AS WELL AS STORMWATER MANAGEMENT PLANS TO ASSESS IMPACT OF PROPOSED DEVELOPMENT ON DOWNSTREAM PROPERTIES FOR WATER QUANTITY, QUALITY, VOLUME AND VELOCITY UP TO 300 FEET DOWNSTREAM.

Proposed Change: Delete for three reasons:

1. There is simply not enough technical description to understand precisely what is requested.
2. The current requirements of adequate outfall under DCR's Minimum Standard #19 require a more extensive analysis than proposed herein.
3. The proposed DCR stormwater regulation will protect downstream waters significantly better than what is currently being done.

Action Strategies #3, 4, 5, 7, 8, 10

DRAFT LANGUAGE:

3. ENCOURAGE HIGHER STANDARDS FOR STORMWATER MANAGEMENT ~~SEEK AND IMPLEMENT STORMWATER MANAGEMENT~~ – INCLUDING LOW-IMPACT DEVELOPMENT STANDARDS – THAT REQUIRE ALL DEVELOPMENT PROJECTS TO ESTABLISH SYSTEMS – PREFERABLY NATURAL – FOR FILTERING THE "FIRST FLUSH" OF URBAN RUNOFF (DELIVERY OF DISPROPORTIONATELY LARGE AMOUNTS OF POLLUTANTS THAT OCCURS DURING THE EARLY STAGES OF A STORM) NEAR ITS SOURCE.
4. AT THE TIME OF REZONINGS OR SPECIAL USE PERMITS, SEEK COMMITMENTS TO MANAGE STORMWATER TO MEET ONE-YEAR, 10-

YEAR, AND 24-HOUR STORMS.

5. PRECLUDE CONSTRUCTION OF STORMWATER MANAGEMENT IMPOUNDMENT STRUCTURES OR FACILITIES WITHIN WETLANDS AND SIGNIFICANT STREAMS. ENCOURAGE INNOVATIVE DESIGNS/PRACTICES TO UTILIZE ONSITE WETLANDS RESOURCES AS COMMUNITY AMENITIES, (I.E., TRAILS).
7. ENCOURAGE ENHANCED EXTENDED DETENTION.
8. AT THE TIME OF REZONING OR SPECIAL USE PERMIT, ENCOURAGE THE USE OF CONSTRUCTED STORMWATER WETLANDS AND THE USE OF MULTIPLE CONTROLS PLACED IN A SERIES, AS APPROPRIATE.
10. DISCOURAGE THE CONCENTRATED FLOW OF STORMWATER THROUGH STREAM BUFFERS THROUGH THE USE OF LEVEL SPREADERS AND VEGETATED BUFFERS TO MINIMIZE THE USE OF PIPING AND/OR CHANNELS THROUGH STREAM BUFFERS.

Proposed Change: All should be deleted as they internally conflict and will be superseded by DCR regulations. For example, enhanced extended detention and constructed wetlands are not LID practices (yet one item promotes LID while another encourages these practices). One precludes SWM in streams/wetlands; however, in some specific cases, this is more protective of downstream areas (e.g., in a high density commercial nodes ***or*** redevelopment areas). SW design is very site and land use specific; the proposed elements fail to recognize these characteristics.

Action Strategy #9

DRAFT LANGUAGE: AT THE TIME OF REZONING OR SPECIAL USE PERMIT, SEEK COMMITMENTS FOR ENVIRONMENTALLY-SENSITIVE SITING AND CONSTRUCTION OF DEVELOPMENT TO MINIMIZE THE NEED FOR EXCESSIVE GRADING. AVOID DISTURBANCE OF STEEP SLOPES, PARTICULARLY UP-SLOPE OF NATURAL RESOURCE AREAS, SUCH AS WETLANDS AND STREAMS.

Proposed Change: Please delete and replace with: "*At the time of rezoning or special use permit, seek commitments for environmentally-sensitive siting and construction of development. Where practicable, avoid disturbance of steep (>25%) slopes, particularly up-slope of natural resource areas, such as wetlands and streams.*"

EN – POLICY 9

Action Strategy #1

DRAFT LANGUAGE: ~~ENCOURAGE THE MINIMIZATION OF THE AMOUNT OF IMPERVIOUS SURFACES OF DEVELOPMENT AND UTILIZE~~ REQUIRE ACCEPTABLE RETROFIT TECHNIQUES IN REDEVELOPMENT IN ORDER TO MINIMIZE STORMWATER

RUNOFF. ~~THROUGH THE USE OF APPROPRIATE LOW-IMPACT DEVELOPMENT TECHNIQUES, FOR EXAMPLE AS OUTLINED IN THE CENTER FOR WATERSHED PROTECTION MANUALS~~.

Proposed Change: Delete. This can backfire and prevent redevelopment from being economically feasible. It is also being addressed by the new DCR regulations.

Action Strategy #2

DRAFT LANGUAGE: AT THE TIME OF REZONING OR SPECIAL USE PERMIT, ~~E~~ENCOURAGE THE USE OF SEMI-PERVIOUS OR PERVIOUS SURFACES AND OTHER LOW-IMPACT DEVELOPMENT TECHNIQUES. ~~,FOR EXAMPLE AS OUTLINED IN THE CENTER FOR WATERSHED PROTECTION MANUALS.~~

Proposed Change: Provide a bonus density to encourage the use of pervious surfaces. Due to the nature of the soils in most of Prince William County, they are a 2-3 fold increase in cost over conventional asphalt. One simple way to overcome this economic barrier is to provide an offsetting value with density, as suggested below:

At the time of rezoning or special use permit, encourage the use of pervious surfaces by providing a pro rata density bonus equal to 10% times the portion of the site when pervious materials have been used to replace surfaces that traditionally would be impervious.

Action Strategy #4

DRAFT LANGUAGE: AT THE TIME OF REZONING OR SPECIAL USE PERMIT, SEEK COMMITMENTS TO RESERVE PARKING AREAS FOR COMPACT CARS, STRUCTURED PARKING FOR HIGH-DENSITY MIXED USE DEVELOPMENTS, SHARED PARKING OPPORTUNITIES, AND OTHER LOW-IMPACT DESIGN STRATEGIES IN ORDER TO REDUCE IMPERVIOUS SURFACES.

Proposed Change: Please delete the phrase, "structured parking for high-density mixed use developments." Requiring structured parking for mixed-use developments would currently be a severe economic disincentive for the very type of product (mixed use) that the county wants to encourage because it minimizes transportation network impacts. Above ground structured parking costs approximately $15,000 to $18,000 (in 2009 dollars) per space – an increase of approximately $12,000 to $15,000 more than surface parking and current market rents cannot justify that additional project cost burden therefore rendering projects infeasible. This would require an increase in rents of $3 to $5/sf, which would cause a developer in Prince William County to be at a competitive disadvantage. Some mix

of higher project densities and higher rents (higher land costs can also force higher densities) are needed to make structured parking work. Another factor is that the current market rent structure would also not allow owners to charge for structured parking. Structured parking has come into play fairly recently in Reston but only after land prices, density, and rents have increased dramatically – recent lease deals have exceeded $40.00/sf in rent in that area. What are needed are high densities so that when land values and rental rates reach that level in an area, later phases of a development can add structured parking (as effectively occurred at Reston Town Center) and still be economically viable.

EN – POLICY 10

New Action Strategy:

The County will develop a partnership with the U.S. Army Corps of Engineers (COE) and Virginia Department of Environmental Quality (DEQ) regional offices, responsible for implementing federal and state regulations over streams and wetlands, to regulate wetlands and other jurisdictional waters, including perennial and intermittent streams. Resource protection measures will include avoidance, impact minimization and compensatory mitigation, such as buffer protection and enhancement, as well as stream and wetlands restoration or creation.

Action Strategy #1 DRAFT LANGUAGE:

AT THE TIME OF REZONING OR SPECIAL USE PERMIT, EMPHASIZE PRESERVATION OF WETLANDS OVER MITIGATION. WHERE IMPACTS ARE UNAVOIDABLE, REQUIRE MITIGATION WITHIN THE COUNTY BACKED BY FINANCIAL ASSURANCES, SUCH AS BONDS OR CASH ESCROWS.

Proposed Change:

Delete for several reasons:

a. The statement, "emphasize preservation of wetlands over mitigation," is not a logical connection. Mitigation, pursuant to Section 404 (b)(1) of the Clean Water Act is a three-step sequential process of avoidance, minimization, and then compensation.

b. Requiring mitigation within the county subverts the watershed-based regulatory permit processes for mitigation banking established by the COE and DEQ – that in fact, due to the shape of local watersheds, has allowed Prince William County to enjoy a net gain of wetlands resources through the location of multiple wetlands banks in the county.

c. Virginia Code 62.1-44.15.20.E specifically states that "E. No locality may impose wetlands permit requirements duplicating state or federal wetlands permit requirements." This proposed strategy is contrary to state law.

Action Strategy #2

DRAFT LANGUAGE: AMEND THE ZONING ORDINANCE TO PROHIBIT DIRECT DISCHARGE OF UNTREATED STORMWATER INTO WETLANDS. ENSURE DISCHARGE DOES NOT EXCEED NON-EROSIVE VELOCITIES.

Proposed Change: Consider deleting because it is already addressed by existing and proposed state regulations.

Action Strategy #3

DRAFT LANGUAGE: AT THE TIME OF REZONING OR SPECIAL USE PERMIT, REQUIRE COMMITMENTS TO ENSURE THAT WETLANDS PROPOSED FOR PRESERVATION WILL RETAIN THEIR FUNCTIONALITY.

Proposed Change: Delete. DEQ requires compensation if indirect impacts to the functions of wetlands are expected. Thus, it is not needed and duplicates State regulations.

Virginia Code 62.1-44.15.20.E specifically states that "E. No locality may impose wetlands permit requirements duplicating state or federal wetlands permit requirements." This is contrary to state law.

Action Strategy #4

DRAFT LANGUAGE: AT THE TIME OF AN APPLICATION FOR A REZONING OR SPECIAL USE PERMIT, SEEK COMMITMENTS TO USE LOW-IMPACT DESIGN, ~~WHERE APPROPRIATE~~, INCLUDING BIORETENTION AND THE CONSERVATION OF NATURAL SITE FEATURES, SUCH AS WETLANDS, SLOPES, CATEGORY 3 SOILS AND FORESTED AREAS. ~~TO MITIGATE THE IMPACT OF PARKING AREAS, FOR EXAMPLE AS OUTLINED IN THE CENTER FOR WATERSHED PROTECTION MANUALS, AND ENCOURAGE STRUCTURED PARKING.~~

Proposed Change: Delete. New DCR regulations, expected to be implemented on July 1, 2010, preclude its need; and on some sites, you actually may want non-LID techniques to protect the listed features. The complications of such general statements on specific technical issues are well illustrated by the fact that LID practices, such as bioretention, that cause groundwater infiltration are not recommended near steep slopes or shrink swell soils due to the fact that this could reduce slope stability. These types of

engineering issues need to be addressed in a technical review process under the DCSM – not within the context of this Plan.

Action Strategy #5

DRAFT LANGUAGE: ENCOURAGE THE PRESERVATION OF A NATURAL BUFFER OF EXISTING WOODLAND OR FORESTATION AREA OF AT LEAST 50 100 FEET ALONG EACH SIDE OF ~~ALL WATERWAYS~~ SIGNIFICANT STREAMS AND A 50-FOOT BUFFER AROUND HEADWATER WETLANDS AREAS THAT ARE NOT OTHERWISE PROTECTED UNDER THE CHESAPEAKE BAY REGULATIONS OR SIMILAR LEGISLATION. REQUIRE MITIGATION FOR IMPACTS TO WATERWAYS WHERE BUFFERS ARE NOT PROVIDED AT THE TIME OF REZONING OR SPECIAL USE PERMIT, BACKED BY FINANCIAL ASSURANCES, SUCH BONDS OR CASH ESCROWS.

Proposed Change: Delete or revise extensively. Requiring a 100-foot buffer on "significant non-RPA streams and headwater areas" develops the following concerns:

a. How to define "significant non-RPA streams" is very problematic. The proposed definition means "intermittent streams" to us – and which has a regulatory definition and at least some protocols for determination. As Fairfax County recently determined, the economic effect of extending the 100-foot buffer to intermittent streams was too damaging to its economy to undertake. Per the attached map provided as Exhibit 3, adding a 100-foot buffer to all mapped non-RPA streams would almost ***double*** the non-buildable areas (**an increase of 28,000 acres**) of the County using Prince William GIS data.

b. The definition of headwater encompasses almost every stream in Prince William County. As noted in the definitions, in our comment for EN – Policy 5, Item #9, and the map provided as Exhibit 1, the majority of all streams in Prince William County are defined as "headwaters" and, thus, most of the land in the County is within a headwater watershed.

c. What kind and amount of mitigation is envisioned?

d. Since a mapped stream is found typically approximately every 1,000 feet along randomly placed transects in Prince William County – see the transect data shown on the map provided as Exhibit 3 – (and our experience is that unmapped streams often bring that number to 600 – 800 feet), such buffers would have a huge economic impact – particularly on commercial, retail, and industrial site users. The map provided in Exhibit 3 shows that this would encompass ±28,000 acres

of the County.

If you will not agree to delete this strategy, please consider the following:

Encourage the preservation of a natural buffer of existing woodland or forestation area of at least 25 to 50 feet along each side of intermittent streams and adjacent wetlands areas that are not otherwise protected under the Chesapeake Bay regulations by providing a density bonus of 5% for placement of a conservation easement or 10% if said area is dedicated on a fee simple basis to the Park Authority.

EN – POLICY 12

Action Strategy #1

DRAFT LANGUAGE: ~~ENCOURAGE~~ REQUIRE THE MINIMUM DENSITY/INTENSITY OF DEVELOPMENT, AS REFLECTED BY THE APPROPRIATE LAND USE CLASSIFICATION SHOWN ON THE LONG-RANGE LAND USE PLAN MAP AROUND THE SHORELINES OF WATER BODIES AND HEADWATERS AREAS THAT DRAIN TO A PUBLIC DRINKING WATER SUPPLY. ~~THE RESERVOIRS.~~

Proposed Change: Delete. Instead, make sure that the densities on the Long Range Land Use Plan Map reflect what is appropriate in a given area. This element is unworkable because:

a. Public Drinking Water Supply drainage areas encompass ±68% of Prince William County (see Exhibit #3).
b. The vast majority of the streams in Prince William County are "Headwaters" (See Exhibit 1).
c. The combination of these facts means that the Long Range Land Use Plan Map density ranges are meaningless for 2/3 of the County if this language is adopted.

Action Strategy #2

DRAFT LANGUAGE: DEVELOP AND IMPLEMENT A DRINKING WATER PROTECTION OVERLAY DISTRICT FOR AREAS WITHIN THE OCCOQUAN RESERVOIR AND LAKE MANASSAS WATERSHEDS TO PROTECT THE QUANTITY AND QUALITY OF PUBLIC DRINKING WATER SUPPLIES, TO INCLUDE THE FOLLOWING:

- MINIMUM STANDARDS FOR VEGETATED BUFFERS ALONG ALL STREAMS AND HEADWATER AREAS
- MINIMUM STANDARDS FOR VEGETATED BUFFERS CONTIGUOUS TO WETLANDS THAT DRAIN TO A PUBLIC DRINKING WATER SUPPLY
- MINIMUM STANDARDS FOR SETBACKS FROM THE 300-FOOT CONTOUR LINE AROUND LAKE MANASSAS AND THE FAIRFAX WATER AUTHORITY

EASEMENT BOUNDARY

- MINIMUM DISTANCE STANDARDS FOR THE INSTALLATION OF SEPTIC FIELDS, TANKS, OR OTHER ON-SITE SUBSURFACE SEWAGE DISPOSAL SYSTEM FROM THE SHORELINE OF RESERVOIRS.

Proposed Change: As noted previously, the Occoquan Reservoir and Lake Manassas watersheds comprise 68% of Prince William County. This one element has county-wide ramifications and needs to be reconsidered and precisely defined to determine its effect. It makes no sense to elaborate throughout this Plan specific buffer requirements for streams, headwater areas, and wetlands – and then say that for 68% of the County, we need to establish new minimum standards. We recommend deleting the first two bullets for that reason. The fourth bullet is already subject to Health Department regulation and thus, is an unneeded duplication of regulatory authority. What is important is that stormwater BMPs be provided in this watershed vs. allowing nutrient removal options outside of this watershed.

Thus, please consider this language:

Develop and implement a Drinking Water Protection Overlay District for areas within the Occoquan Reservoir and Lake Manassas Watersheds to protect the quantity and quality of public drinking water supplies, to include the following:

- *Minimum standards for setbacks from the 300-foot contour line around Lake Manassas and the Fairfax Water Authority easement boundary; and*
- *Requirements that stormwater quality requirements be met either onsite, offsite within the same drinking water supply watershed, or with payment options[6] (e.g., nutrient offsets, local fee programs, or the "State Buy Down Option") only if said payments result in water quality improvement projects within the same drinking water supply watershed as the subject project.*

Action Strategy #3

DRAFT LANGUAGE: AT THE TIME OF REZONING OR SITE PLAN APPROVAL, REQUIRE DEVELOPMENT PLANS TO MEET THE LOWEST DENSITIES FOR ALLOWED LAND USE CLASSIFICATIONS.

Proposed Change: Delete because it negates the density range basis of the Land Use Plan. That Plan should contain appropriate densities and not be "trumped" by this Chapter.

[6] This is referring to the proposed DCR Stormwater Regulations.

Action Strategy #4

DRAFT LANGUAGE: AT THE TIME OF REZONING OR SPECIAL USE PERMIT, PRIORITIZE PRESERVATION OF WETLANDS, INTERMITTENT STREAMS, AND HEADWATER AREAS. WHERE IMPACTS ARE UNAVOIDABLE, REQUIRE MITIGATION, PREFERABLY ON-SITE, BACKED BY FINANCIAL ASSURANCES, SUCH AS BONDS OR CASH ESCROWS.

Proposed Change: Delete for several reasons:

a. Virginia Code 62.1-44.15.20.E specifically states that "E. No locality may impose wetlands permit requirements duplicating State or Federal wetlands permit requirements." This is contrary to State law.

b. This preference for mitigation on site is out of date and directly contrary to Federal Regulations effective July 2008 [33 CFR 332.3(b)], which established the following order of mitigation preferences:

   i. Mitigation Bank Credits;
   ii. In-Lieu-Fee Program Credits;
   iii. Permittee Responsible Mitigation On-Site; and
   iv. Permittee Responsible Mitigation Off-Site.

   The reason for this change is based upon regulatory experience and numerous studies (including a National Academy of Science study) that have found less than optimal results for permittee responsible mitigation projects.

   These same new regulations also require financial assurances. The County should work cooperatively with the COE and DEQ to make sure that they are implemented consistently in Prince William County by meeting and coordinating regularly like some other jurisdictions do.

c. Mitigation, pursuant to the Clean Water Act Section 404 (b) (1) guidelines is a three-step sequential process of avoidance, minimization, and then compensation. This proposal ignores the second step (minimization) and is a duplicative requirement of Federal and State regulations.

EN – POLICY 14

Action Strategy #1

DRAFT LANGUAGE: MAKE THE FOLLOWING GIS LAYERS AVAILABLE TO THE PUBLIC ON THE COUNTY MAPPER:

a) SLOPES
b) WETLANDS
c) ENVIRONMENTAL RESOURCE AREAS
d) CANOPY COVERAGE BY FOREST TYPE
e) STORMWATER INFRASTRUCTURE
f) PROTECTED OPEN SPACE, INCLUDING NAME OF EASEMENT HOLDER AND NUMBER OF ACRES, IF DIFFERENT FROM THE TOTAL ACREAGE OF THE PARCEL
g) CRITICAL GROUNDWATER AREAS
h) COUNTY-MAINTAINED STORMWATER FACILITIES AND COUNTY-INSPECTED LOW IMPACT DEVELOPMENT (LID) FACILITIES
i) UPDATE WATERSHED LAYER TO INCLUDE THE TOTAL NUMBER OF ACRES AND % OF IMPERVIOUS SURFACES IN SMALL WATERSHED.

Proposed Change: Consider the source and accuracy of the data proposed to be provided and update it as better information is available during the rezoning process. For example:

a. Slopes – using soil data, USGS terrain models, 5' county topo of 2' or better engineering topo? Which do you want and when?

b. Wetlands – using National Wetland Inventory, hydric soils, Color Infrared (CIR) interpretations, a County model, or approved delineations?

Let's discuss the need for this data and then select what data is most appropriate.

EN – POLICY 15

Action Strategy #1
DRAFT LANGUAGE: ENSURE THE COUNTY CONSIDERS THE MOST RECENT INFORMATION AVAILABLE ON THE STATUS AND LOCATION(S) OF RARE, THREATENED AND ENDANGERED SPECIES, RARE PLANT COMMUNITIES AND CRITICAL HABITAT AREAS.

Proposed Change: Add the phrase, "*after first cooperating with DCR to locate all such sites and areas and making such data available to landowners and the public by inclusion on the GIS Mapper, with updates completed at least every 5 years.*"

EN – POLICY 18

Action Strategy #1
DRAFT LANGUAGE:

CONSIDER ESTABLISHING A SEPARATE, LESSER RATE OF TAX FOR ENERGY EFFICIENT BUILDINGS AS DEFINED IN CODE OF VIRGINIA § 58.1-3221.2.

Proposed Change:

Establish a separate tax rate for energy efficient buildings as defined in Code of Virginia § 58.1-3221.2 that is lower than the standard rate by at least 5%.

Action Strategy #2
DRAFT LANGUAGE:

CONSIDER ADDITIONAL INCENTIVES (FINANCIAL, TAX, EXPEDITED PERMITS, DENSITY BONUSES, ETC.) FOR DEVELOPMENT THAT BUILDS TO LEED OR GREEN GLOBES STANDARDS AND ENERGY STAR.

Proposed Change:

Establish a program of additional and substantial incentives (financial, tax, expedited permits, density bonuses, etc.) for development that builds to LEED standard, Green Globes Standards, NAHB Model Green Home Building Guidelines, National Green Building Standard, Builders Challenge, or ENERGY STAR by January 1, 2011. Said incentives shall be developed on a tiered basis, such that higher levels of achievement result in greater incentives, such as:

LEED LEVEL	***DENSITY BONUS***
Certified	*None*
Silver	*5%*
Gold	*10%*
Platinum	*15%*