

Declaration of

I, Julie H. Moore, declare and state as follows:

I am a citizen of the state of Virginia. I am a conservation biologist by profession who has worked in the southeastern United States for 37 years. I hold an M. S. degree in Botany from the University of North Carolina. I have additional training and two years' experience in identification and mapping of wetlands by the standards prescribed by the US Fish and Wildlife Service. I completed the National Wetlands Inventory Classification and Inventory Training Program, October 1983.

1. I have visited the site of Canal Parc, as described in the application from Athena Group, LLC, for 4460 MacArthur Boulevard, Washington D.C., three times.
2. My first visit was in early September 2008 with Ann Haas; the second was on October 13, 2008 with representatives of the Athena Group and Advisory Neighborhood Commission 3D. On both occasions I walked the property from the access point on MacArthur Boulevard to the south boundary and investigated the wetland and stream features of the site. I have made observations on vegetation, particularly wetland vegetation, hydric features, topographic features supporting the stream course and wetlands, topographic features of the entire site and proximity of the site to public land, National Park Service, to the south. I most recently visited the site on February 9, with Ann Has, Tom Ditanto, Bill Crews and two National Park Service representatives. On this inspection I observed additional springs and wetlands vegetation, rushes and sedges up slope from the wetlands as currently delineated.
3. With regard to wetland features on the property, I have observed that there are two major areas with stream and wetland features. These different areas will be addressed separately although they are connected hydrologically.
4. From my three site visits, I can conclude that the proposed development has the potential to impact the stream and wetlands during two time periods, during preconstruction/construction and have potentially continuing impacts once the project is finished and homes occupied. Also the location of impacts that will result from construction and functioning of the proposed project will occur both on the site and off site.

Impacts will occur while the site is being prepared for construction by removal of existing structures and paving followed by site leveling/contouring and during construction. Additional impacts will occur after construction is complete and streets, and the rain garden and open green space on the western boundary are in place.

5. Due to the amount of impervious surface in the proposed project area, the volume of water in the narrow stream channel is likely to increase unless the rain garden and associated open space is carefully designed. The construction of the rain garden and open space has the potential to result in sedimentation into the upper end of the stream channel where there are small springs. (The stream and springs, that have not been clearly identified on maps, but were readily visible on February 9, 2009, support macro invertebrates.

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6. The linear wetland (stream) needs a sufficient buffer with no constructions of walls, walkways, etc. to allow the site to function as a wetland in response to fluctuations in precipitation, discharge from the rain garden, sheet flow from adjacent slopes and impermeable surfaces. A 25 foot buffer between the stream margin and any new construction feature would be minimally appropriate.
7. The “enhanced wetland plantings” indicated on proposed site plans, with native species specified is commendable, however they have potential to destabilize the narrow stream channel due to digging holes for planting. The same situation can be anticipated at the wetland overlook where construction of the sitting platform and discharge of storm water/sand filter system are also likely to negatively impact the wetland.
8. The wetland overlook and butterfly garden can be seriously impacted by the same activities as the stream. In addition, to maintain this wetland in a functioning condition with a critical up slope buffer, all construction equipment should be kept off this future overlook and slope during all phases of project development. On February 9, 2009, I closely examined the vegetation on the slope below the wetland overlook and was able to identify ‘facultative” wetland species, including the rush *Juncus effuses* along with several sedge *Carex* species, well up slope from the wetland delineation markers. These species indicate water is seeping out of the slope above the area identified/mapped as a wetland. Based on this observation vegetation, with out examination of the soil series on the slope, it is likely that the wetland extends several feet beyond, up slope of, where it is currently delineated. Such seepage features are fragile and are easily impacted by up slope disturbances and alterations. They can also cause problems with structures and landscaping if not clearly located, marked and taken into consideration in designs.
9. If the site is developed as planned, the stream channel will need special attention to make sure that increased volume of water coming from the project site into the narrow channel does not undermine the existing tall, wooden retaining wall along the southern boundary as well as the new one to be constructed behind Buildings 3 and 4. Existing vegetation is likely to die due to sedimentation, increased water volume and associated micro erosion, and also as a result of serious shading that will result from the tall buildings (Buildings 3 and 4) in close proximity to the existing wooden retaining wall along the southern property boundary.

As water drains from the proposed site through the existing culvert and headwall on to National Park Service property (and soon there after into the Potomac River), initially the increased sediment load will have the potential to negatively impact Federal property. Once the proposed project is in place, the increased volume of water flowing from the site will have the likely result of degrading the contiguous narrow corridor of Park Service property as it flows the short distance into the Potomac River.

10. In summary, I believe that as the proposed project is planned, the stream and seepage wetlands down stream, will be impacted by site leveling/contouring and associated sedimentation before and during construction unless significant and early efforts are made to minimize impacts by providing a significant buffer and protecting these wetlands by site sensitive design and substantial effort to avoid inadvertent impact.