

Expert Witness Report:
Valhalla Brandywine Conditional Use Application
Wallace Township, Chester County, Pennsylvania

Prepared for: Guardians of the Brandywine

Prepared by: _____
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March 24, 2009



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Major problems with the Conditional Use Application include:

1. The Plan proposes encroachment onto slopes exceeding 20%, in violation of Section 1213.C.1 of the Wallace Township Zoning Ordinance. (see pp. 1.1 to 1.2)
2. Although the Wallace Township Comprehensive Plan encourages the conservation of Prime Agricultural Soils and discourages building on High Water Table Soils, the Plan proposes encroachment onto both of these types of resources. (see pp. 2.1 and 13.1)
3. Buffers shall be 50 feet wide adjacent to streams, per Section 625.E.2 of the Wallace Township Subdivision and Land Development Ordinance, and Section 201 of the Zoning Ordinance defines buffers as areas free of airborne particles. However, the Management Plan allows for unspecified "foliar applied materials" to be applied along stream banks and immediately adjacent to ponds and wetlands, and pesticide spraying is allowed within 25 feet of streams, ponds and wetlands. (see pp. 3.1 to 3.2)
4. The proposed residential density is much greater than the residential density of Glenmoore Village. (see pp. 5.1 to 5.2)
5. Although the Applicant's engineering consultant testified, "at least three groundwater wells will be drilled [to] provide an adequate amount of potable water," only two (2) potential well sites for potable water have been identified. The viability of these two (2) sites has not been fully tested. Nor has the effect of all of the development's water needs (potable and non-potable) been modeled for their impact on the natural ground and surface water systems. The Conditional Use Application is incomplete in this respect. (see pp. 6.1, 13.1 and 14.1)
6. The ability of on-site sewage processing facilities and disseminations systems to handle projected loads has not been established. In addition, sewage disposal systems are not permitted within the Flood Hazard and Wet Soils District, according to Section 808 of the Zoning Ordinance. A sewage disposal system is proposed to irrigate the golf course, portions of which are proposed within the Floodplain and Wet Soils District. The Conditional Use Application is incomplete in this respect. (see p. 7.1, pp. 13.1 to 13.2, and p. 14.1)
7. The Applicant's own Historic Preservation consultant identified several deficiencies in the Plan that have not been addressed, including adverse impacts to historic resources, and an incomplete proposal in terms of adaptive reuse. (see pp. 8.1 and 13.)

8. The Applicant has not stated their intention to adhere to "LEED-NC for Multiple Buildings and On-Campus Building Projects." These standards address critical overall site impacts, including pollution control, waste management, lighting impacts, energy and water efficiency, etc. The standards the Applicant has stated their intention of adhering to only apply to single buildings. (see p. 10.1)
9. Audubon International, the organization developing the environmental resource management standards for Valhalla Brandywine and overseeing their implementation, has no legal capacity to enforce these standards. (see p. 11.1)
10. The study of potential sound impacts on the surrounding community, conducted to verify whether Valhalla Brandywine would comply with Township Ordinances, was extremely limited. It included only one (1) sound source, was conducted during the summer when vegetation was at its densest, and did not factor in the effects that the extensive clearing and proposed construction would have on sound propagation. Therefore, the testing was not performed to the extent necessary to assess compliance with the Wallace Township Zoning Ordinance. (see pp 4.1 and 12.1)
11. A Manual of Written & Graphic Design Guidelines is fundamental to the development and long-term functioning of a TND. No such Manual has been provided for Valhalla Brandywine. Furthermore, information regarding building materials and architectural details is required during the Conditional Use approval process. This information has not been supplied. The Conditional Use Application is incomplete in this respect. (see pp. 4.1, 12.1 and 14.1)
12. Due to the aged nature of the Comprehensive Plan (1986), Wallace Township officials could have never anticipated the enormity of Valhalla Brandywine. To say that the Destination Resort is consistent with the 1986 Comprehensive Plan demonstrates a lack of sensitivity and credibility of those who say that the project is consistent with the Plan. (see p. 13.1)

1. Adverse Steep Slope Impacts/ Encroachments

- 1.1 Per Section 1213.C.1 of the Wallace Township Zoning Ordinance (ZO), no structures shall be located on slopes exceeding 20%, and per Section 1213.C.2, no disturbance except for driveways that access the lot is permitted on slopes exceeding 20%.

There are 13 incursions into slopes exceeding 20%, with an aggregate incursion of 3.10 acres (see Appendix A: Environmental Constraints and Calculations dated 3-24-09). The largest single proposed incursion is .80 acres, on the fairway of Hole 10. None of these incursions contain driveways that provide direct access to a public road.

I note that the Zoning Ordinance definition of *Structure* includes "earthworks." A golf course is an earthwork, and incursions into the tee, fairway, and green areas of the proposed golf course have been included in my calculations. However, only two (2) of the proposed incursions into slopes exceeding 20% are on the proposed golf course.

- 1.2 Within the FRR-District, a Variance must be granted by the Zoning Hearing Board to permit the proposed disturbance of slopes in excess of 20%, and the Applicant shall meet the Standards of Review for Variances described in Sections 1701.B and 1702 (ZO). Among the other requirements of these Sections, the Applicant shall demonstrate that a literal enforcement of the provisions of the Ordinance will result in unnecessary hardship. It is my opinion that the Applicant has not demonstrated this fundamental criterion for zoning relief.

Regardless, no part of this Conditional Use submission includes a Variance request. Therefore, the issue of steep slope incursion cannot be resolved during this process.

- 1.3 Within the I-District, Section 1323.E.4.f (PCCC Amendment) states that "the limitation on constructing on steep slopes areas... may be eased or waived by the Board of Supervisors subject to Conditional Use such that the newly constructed non-residential buildings and structures in the I-District can be constructed on limited steep slope areas within the portion of a tract located in the I-District, ... subject to Conditional Use approval by the Board of Supervisors, and to the extent that the Applicant establishes that such encroachment into steep slopes areas is necessary to reasonably utilize such tract..."

1. Adverse Steep Slope Impacts/ Encroachments (continued)

Of the 13 total incursions into steep slopes (slopes in excess of 20%), nine (9) are within the I-District, and comprise an aggregate area of 2.02 acres. The

Conditional Use submission is not complete in terms of disclosure of the impacts on Steep Slopes, nor has the Applicant established that such encroachment is necessary to reasonably utilize the tract.

According to page 10 of the Dobson report (Exhibit A-10), encroachment into steep slope areas within the I-District is "required" because such slopes are "extensive" within the I-District. The mere presence of such slopes, however extensive, is not a valid justification for their disturbance. Based on the submission, and the extent of the proposed development that is not proposed on such slopes, the I-District portion of the tract can be reasonably used without incursions into slopes exceeding 20%. Thus, the Applicant does not meet this fundamental Standard of Approval for Conditional Use.

- 1.4 Per Section 1213.B (ZO), slope areas with grades between 15-20% grades shall be preserved in their natural state whenever possible.

There are 35 incursions into 15-20% slopes, with an aggregate incursion of 6.55 acres (see Appendix A: Environmental Constraints and Calculations dated 3-24-09). The largest single proposed incursion is .72 acres. The Applicant has not demonstrated why all of these incursions are necessary to implement a viable plan.

- 1.5 Some of the expert witness testimony that was provided on behalf of the Applicant made a distinction between 'natural' and 'man-made' slopes. However, the Wallace Township Ordinances do not make such a distinction.

Furthermore, requirements with regard to steep slope incursion are developed to address critical issues such as public safety, soil erosion control and soil conservation, water quality, vegetation health, and wildlife habitat. These considerations apply to natural as well as man-made slopes in equal measure. On portions of this tract, man-made slopes have been established for decades.

Therefore, whether from the standpoint of the Township Ordinances or from the standpoint of prudent site planning, a distinction among incursions into natural and man-made slopes is not justified.

2. Adverse Sensitive Soils Impacts/ Encroachments

- 2.1 See Map 10.2 of the Comprehensive Plan, and the location of Seasonally High Water Tables. These are Worsham Soils, per the Soil Survey for Chester and Delaware Counties (dated May 1963). Seasonally High Water Table soils underlie Hillside and Manor House neighborhoods, and the tee area of Hole 14. Per Appendix A of the Comprehensive Plan, "These [high water table] soils are generally not suitable for supporting development," and "These soils are highly unstable and cannot support foundations or septic systems. They are best suited for pasture and should be retained in their natural state."
- 2.2 See also Appendix A: Environmental Constraints and Calculations dated 3-24-09, prepared using Hydric Soils data from USDA/NRCS Soil Survey Geographic Database. Two (2) areas of incursion into Hydric Soils have been identified, with an aggregate incursion of .50 acres. The smaller of these incursions (.07 acres) is in the area of existing constructed disturbance associated with the Manor House residence, although it appears that this property will be redeveloped under the current Plan. The larger incursion (.43 acres) is along the proposed fairway of Hole 7. It is not clear from the Plan whether grading will be required to configure this fairway.
- 2.3 Page 5 of the Comprehensive Plan: "Encourage the Conservation of Prime Agricultural Soils." (See the Environmental Constraints Map and Calculations, dated 3-24-09) Substantial portions of the site are proposed on Prime Farmland Soils, as designated by the United States Department of Agriculture.

3. Adverse Buffer Impacts/ Encroachments

- 3.1 Per Section 1323.E.3.C (PCCC Amendment), "Vegetative screening shall be provided as required by Section 1211. Existing plant material may be used to meet screening requirements." Per Section 1211.B (ZO), "Screens shall be located so that any building, structure, storage, loading areas, parking area or use to be screened shall not be highly visible year-round from abutting lots and dwellings thereon."

Existing plant material has been relied upon for the anticipated screening needs. However, much of the existing plant material is deciduous. Therefore, new evergreen tree plantings will be necessary. The proposed buffer widths have not been established to accommodate evergreen tree plantings in many locations.

- 3.2 Page 4-5 of the OSRER Plan states: "buffer widths [from streams] should be based upon an analysis of individual stream segments and specific development proposals, as opposed to an arbitrary prescription of uniform buffer dimensions."

Nonetheless, per Section 626.E.1 of the Wallace Township Subdivision and Land Development Ordinance (SLDO), "buffer areas shall be fifty (50) feet in width". Two (2) incursions are proposed into the required 50-foot buffers, both along the Brandywine Creek tributary, west of the proposed Manor House Neighborhood (see Appendix A: Environmental Constraints and Calculations dated 3-24-09). While there is existing disturbance in this area related to the Manor House residence, the Plan appears to show additional updates and improvements within the Riparian Buffer, including a golf cart parking area.

- 3.3 The Applicant has stated that he will create buffers wider than those required by the Township Ordinances. These buffers are depicted on in Figure 4-1 of the Natural Resources Management Plan (NRPM), as well as on Appendix A: Environmental Constraints and Calculations dated 3-24-09. There are five (5) incursions into these proposed buffers, with an aggregate are of .50 acres. The largest proposed incursion, .30 acres, is adjacent to the Manor House property. Golf cart parking has been proposed within this portion of buffer.

- 3.4 The PCCC Amendment to the Zoning Ordinance (Section 1323) does not include any additional buffer requirements. Section 201 (ZO) defines buffer as an area of land to be used as a barrier to visibility, noise, glare and airborne particles, possibly containing an earthen mound, berm, fence, wall, and/or vegetative plantings, and maintained as an effective screen between parcels or uses of land.

3. Adverse Buffer Impacts/ Encroachments (continued)

The NRMP establishes "special management zones" (page 4-3 of the NRMP). Special Management Zone A is called a "No Spray Zone", from 0-25 feet from a stream, wetland or pond. The NRMP would permit foliar applied materials, which would create airborne particles within the buffer. Special Management Zone B is called a "Limited Spray Zone", from 25-50 feet from stream, wetland or pond. The NRMP would permit pesticide spraying in Zone B.

These Special Management Zones are in conflict with the Ordinance, since the use of any airborne chemical application within the required 50-foot buffer is in conflict with the Zoning Ordinance definition of buffer.

- 3.5 As described on Page 3-6 of the Wallace Township Open Space, Recreation and Environmental Resources Plan (OSRER): "Penn DEP has classified the East Branch of the Brandywine Creek as High Quality Waters requiring special protection." A buffer width of 150 feet has been proposed. However, The Pennsylvania Campaign for Clean Water, an organization whose members include Audubon Pennsylvania and Pennsylvania Trout Unlimited, endorses a buffer width of at least 250 feet for High Quality Waters.

A buffer width of 100 feet has been proposed adjacent to the tributary to the East Branch that runs roughly parallel to Marshall Road. We recommend a buffer width of 200 feet for first order streams such as this.

4. Other PCCC Ordinance Deficiencies

4.1 Among the other PCCC Ordinance Deficiencies are the following items:

4.1.A Within the I-District, incursion into slopes in excess of 20% is only permitted by Conditional Use, per Section 1323.E.4.f (PCCC Amendment). There are 13 incursions proposed into slopes in excess of 20% within the I-District. These slopes comprise an aggregate area of 1.29 acres. The Applicant has not established that such encroachment is necessary to reasonably utilize the tract. (see p. 3.1)

4.1.B Section 1323.E.3.g (PCCC Amendment) establishes a 50-foot minimum for riparian buffers adjacent to streams that comprise the upland watersheds of "High Quality" waterways. The East Branch of the Brandywine has been designated a "High Quality" waterway by the Pennsylvania Department of Environmental Protection.

The Valhalla Brandywine Plan proposes multiple encroachments into the 50-foot wide riparian buffer. (See Appendix A: Environmental Constraints and Calculations dated 3-24-09.)

In addition, the NRMP sanctions the use of a variety of chemical compounds, including pesticides, within the 50-foot wide riparian buffer. (see pp. 3.1 to 3.2)

4.1.C Per Section 1323.E.3.c (PCCC Amendment), "Vegetative screening shall be provided as required by Section 1211. Existing plant material may be used to meet screening requirements." Existing plant material has been relied upon for the anticipated screening needs. However, much of the existing plant material is deciduous. Therefore, new evergreen tree plantings will be necessary. The proposed buffer widths have not been established to accommodate evergreen tree plantings in many locations. (see p. 4.1)

4.1.D Per Section 1323.F.6.b (PCCC Amendment), public use of any trails after sunset or before sunrise shall be prohibited. Trail lighting for public use is only permitted by Conditional Use granted by the Board of Supervisors. In order to receive Conditional Use Approval, the Applicant must demonstrate that such lighting is necessary to serve the interest of public health, safety and welfare.

Although the current Plan does not include a proposal for trail lighting, and Mark C. Evans' Testimony Report (Exhibit A-9, page 18) asserts that public

4. Other PCCC Ordinance Deficiencies (continued)

use of the trails shall be limited to daytime hours, Mr. Greenfield in his public testimony made several references to planned trail lighting.

Since the Conditional Use application does not include information regarding proposed trail lighting, and does not describe why such lighting is necessary to serve the interest of public health, safety and welfare, the Conditional Use application is incomplete.

- 4.1.E Per Section 1323.E.4.i.7 (PCCC Amendment), "Sound levels from any source proposed as a component of a PCCC development shall comply with the requirements set forth in Zoning Ordinance Section 1209.B.6." The testing and modeling that would be necessary to demonstrate the feasibility of compliance Section 1209.B.6 (ZO) has not been undertaken. (see p. 14.1)
- 4.1.F Per Section 1323.E.4.j.1 (PCCC Amendment), information regarding building materials, architectural details, and lighting are required during the Conditional Use Approval process, to assess the impact of the PCCC on the surrounding community, and to impose conditions as necessary. Since this required information has not been provided, the submission is incomplete. (see p. 12.1)

5. Disproportionate Residential Density

5.1 Comparison to Glenmoore Village

5.1.A Glenmoore Village is immediately west of the proposed Planned Country Club Community. Therefore, it provides an appropriate basis with which to compare the relative density of the residential portion of the proposed development. See Appendix B: Glenmoore Village Density Study dated March 19, 2009. This study was prepared as follows:

5.1.B Study Sheet A shows the outline of the Glenmoore Village Historic District as depicted in the Wallace Township Zoning Ordinance, with residential buildings marked with red dots.

With an estimated 82 dwelling units in an area of 87.81 acres, the Historic District has a density of .93 dwelling units per acre.

5.1.C Study Sheet B shows an outline of Glenmoore Village that includes newer construction outside of the Historic District that is nonetheless part of a cohesive populated core. Note that while smaller areas of yard and woodlot are retained within this boundary, larger areas of civic, recreational, and agricultural land have not been included, even where these areas are part of the Historic District.

With an estimated 192 dwelling units in an area of 229.17 acres, the Current Populated Core has a density of .84 dwelling units per acre.

5.1.D Study Sheet C shows the Valhalla Brandywine Plan. To determine the proposed residential density in a manner comparable to Study Sheets A & B, three (3) areas were subtracted from the overall tract area to establish the Glenmoore Comparison Area. These are the Golf Course, the large woodland tract associated with the unnamed tributary to the East Branch of the Brandywine Creek, and the I-District.

Note that a generous amount of public space and woodland associated with the residential neighborhoods has been retained within the Glenmoore Comparison Area, including Neighborhood Greens, the Church Meadow, the Golf Clubhouse and grounds, historic properties, and substantial tracts of woodland and buffer.

With 296 equivalent dwelling units within in an area of 205.69 acres, the Glenmoore Comparison Area has a proposed density of 1.44 equivalent dwelling units per acre.

5. Disproportionate Residential Density (continued)

- 5.1.E Based on this Study, the Valhalla Brandywine Plan proposes residential density that is 55% greater than the density of the Glenmoore Village Historic District, and 71% greater than the Glenmoore Village Current Populated Core. Therefore, even without factoring in the additional proposed lodging, recreation, dining, and 'wellness' facilities, the proposal is oversized and disproportionately dense relative to local conditions.
- 5.1.F To be of equivalent density to the Glenmoore Village Historic District, the number of equivalent dwelling units at Valhalla Brandywine would have to be reduced from 296 to 191.
- 5.1.G To be of equivalent density to the Glenmoore Current Populated Core, the number of equivalent dwelling units at Valhalla Brandywine would have to be reduced from 296 to 173.
- 5.2 A comparison to the Palmetto Bluff TND, another Destination Resort TND, is provided below:
- 5.2.A The Palmetto Bluff TND in Bluffton, South Carolina, is a very pertinent and comparable example of design and layout for another destination resort TND. It provides an appropriate basis with which to evaluate the residential density proposed at Valhalla Brandywine.
- 5.2.B See Appendix C: Example of Destination Resort TND. The Palmetto Bluff tract is comprised of 14,200 developable acres, and a total of 5,000 dwelling units are proposed at build-out. This equals a density of .35 dwelling units per developable acre.

In contrast, the FRR-district portion of the Valhalla Brandywine tract is comprised of 389 developable acres (the Adjusted Tract Area). A total of 281 dwelling units are proposed, for a density of .72 dwelling units per developable acre. (see page C-6)

Therefore, the proposed residential density at Valhalla Brandywine is more than twice that of Palmetto Bluff.

6. Uncertain Groundwater Supply Proposal

- 6.1 See Dobson (exhibit A-10), pages 26-27, where he states “at least three groundwater wells will be drilled that will provide an adequate amount of potable water.” However, only “two potential well sites have been identified with yields that appear to be adequate to serve the project.” A third site has not been found.

The groundwater availability testing should anticipate the need for water that is not potable, such as that needed for swimming pools, to fill low water levels in created ponds if necessary, for equipment washing, residential lawns and gardens, or for the supplemental irrigation of the golf course and communal open space.

If the Applicant cannot demonstrate that an adequate, replenishable supply of water can be obtained via groundwater acquisition without adversely affecting the natural water systems, then the proposal is too excessive and should be reduced in scale.

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7. Uncertain Wastewater Treatment Proposal

- 7.1 Section 808 (ZO): the following activities are specifically prohibited in the Flood Hazard and Wet Soils District, and shall not be eligible for Variance or Special Exception consideration:

Section 808.E (ZO): Installation or maintenance of sewage disposal systems and wells.

A sewage disposal system is proposed to irrigate the golf course, portions of which are proposed within the Floodplain and Wet Soils shaded on Map 10.2 in the Comprehensive Plan, and shown on the Existing Features and Site Analysis Plan included in the Dobson Report (Exhibit A-10).

- 7.2 Page 16 of the Comprehensive Plan: "Sites planned for residential development should be analyzed for their suitability to support on-site systems through documentation prior to approval." Furthermore, (page 17 of the Comprehensive Plan), "planned residential" developments should "recognize and respect the natural carrying capacity of the land". These statements are specifically applicable to sewage handling. The ability of the on-site sewage processing to handle the load has not been established, without affecting the processes of the natural water system.

See Dobson (Exhibit A-10), page 3, where he states, "the wastewater disposal system will be integrated with the golf course irrigation system and will be utilized as a part of a water reuse program." Since this system cannot fully disseminate the treated wastewater, other options need to be addressed. Dobson (page 27) states "additional disposal will be provided to dispose of treated wastewater when the golf course does not require irrigation." Specifically, other alternative disposal methods would need to be proposed.

- 7.3 In combination with the drip irrigation system, per Section 618.F.6 (SLDO), all [community sewage system] facilities shall be setback a minimum of one hundred (100) feet from the property lines of the tract, private lots or from buildings. The limits of spray fields of a spray irrigation system shall be set back a minimum of two hundred (200) feet or the requirements of DER, whichever is greater.

The sewage treatment facility has not been shown on the Plan, nor have the limits of the spray fields, to show that these elements can be accommodated per Ordinance requirements

8. Adverse Historic Site Impacts

- 8.1 Page 6 of the Comprehensive Plan: "Encourage restoration and compatible reuse of historic structures affected by development plans." Uses have not been established for the several McKnight Farm buildings, according to page 33, Part I of the Historic Resource Impact Study (HRIS).
- 8.2 The 1st green is proposed only 50 feet from Heim House. Page 32 (Part I HRIS) calls for relocation of the 1st green and the adjacent cart path. This has not been done!
- 8.3 Pages 33-34 (Part I HRIS) calls for careful consideration of the architecture of the new Golf Clubhouse, particularly as it will be visible from Devereux Road. This has not been done!
- 8.4 Historic resources are categorized for inclusion on the National Register of Historic Places as Buildings, Objects, Sites, Structures or Districts. The HRIS has not fully considered sites or structures! The landscape itself is a potentially historic element that may be considered separately for its ability to provide information about the local and regional history (although the 1979 National Register listing for the William Ferguson Farm does not consider the landscape).
- 8.5 In addition, historic integrity is gauged in terms of Location, Design, Setting, Materials, Workmanship, Feeling and Association. Setting, Feeling and Association will all be compromised under the proposed development scheme, even with visual and spatial buffers.

9. Adverse Viewshed Impacts

- 9.1 Page 5 of the Comprehensive Plan: "Protect scenic vistas and unique natural areas from development encroachment." The proposed development includes substantial incursion into unique natural areas, particularly adjacent to streams.
- 9.2 Pages 33-34 of Part I of the HRIS also calls for careful consideration of the architecture of the new clubhouse, particularly as it will be visible from Devereux Road. This needs to be addressed.
- 9.3 At a minimum, the development will be visible from Devereux Road, Marshall Road, Chalfant Road, Little Conestoga Road and Fairview Road. In several locations, the Plan relies on narrow bands of existing deciduous vegetation to supply visual buffering of the development. This deciduous vegetation will not provide adequate screening of the property, particularly from November through March.

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10. Incomplete LEED Eligibility

- 10.1 Section 1323.E.5.f (PCCC Amendment) requires residential and non-residential construction to be certified as "LEED Housing" (correct name: "LEED for Homes") or LEED Construction (correct name: "LEED for New Construction"), respectively.

"LEED-New Construction for Multiple Buildings and On-Campus Building Projects" is an Addendum to "LEED for New Construction". This Addendum addresses overall design and planning issues of Site Selection, Density, Stormwater Management, Water Efficiency, Energy Usage, Lighting Impact, Material Sourcing, Irrigation, and Waste Management (sewage, trash, pollution, construction waste etc.) for "multi-use developments".

- 10.2 In order to be LEED certified, compliance is not required with all credit items. However, the following three (3) areas of non-compliance speak to fundamental discord between the proposed plan and the LEED initiatives:

- (i) Under the Site Selection category for "LEED-New Construction for Multiple Buildings and On-Campus Building Projects" is the requirement that the development of buildings, hardscape, roads or parking areas does not occur on Prime Farmland as defined by the USDA. (SS Credit 1).

The Plan proposes incursion into Prime Farmland (see Appendix A: Environmental Constraints and Calculations, dated 3-24-09)

- (ii) Under the Development Density & Community Connectivity category for "LEED-New Construction for Multiple Buildings and On-Campus Building Projects" is the requirement that the development either be a) constructed within a community with a minimum building density of 60,000 square feet net, or b) within one-half mile of a residential zone or neighborhood with an average density of 10 units per acre.

The Plan does not comply with this credit item.

- (iii) Under the Site Development: Maximize Open Space category for "LEED-New Construction for Multiple Buildings and On-Campus Building Projects" is the requirement that open space within the

10. Incomplete LEED Eligibility (continued)

project boundary to exceed the local zoning's open space requirement for the site by 25% (SS Credit 5.2).

The proposed Greenway area is 390.08 acres, which only exceeds the required Greenway area of 388.45 acres by 0.42%.

- 10.3 The Conditional Use plan should demonstrate that the necessary design and planning has been undertaken to ensure feasibility of certification as "LEED-New Construction for Multiple Buildings and On-Campus Building Projects."

Note: Jennifer M. Leister, AICP, LEED AP, of Thomas Comitta Associates, assisted with Section 10.

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11. Incomplete TND Submission

- 11.1 No “Manual of Written & Graphic Design Guidelines” has been submitted. There are no quality controls that have been specifically advanced related to: Streetscape; Public Realm Elements (pocket parks, walls, fences, courtyards); Building Types and Materials; Landscape Materials; Lighting, etc.

Per Section 1323.E.4.j.1 (PCCC Amendment), information regarding building materials and architectural detail is required during the Conditional Use Approval process, to assess the impact of the PCCC on the surrounding community, and to impose conditions as necessary. Since this information has not been provided, the submission is incomplete.

- 11.2 The proposed project density is in excess to a comparable Destination Resort place known as Palmetto Bluff in Bluffton, South Carolina.

- 11.3 TNDs typically include 'everyday' retail amenities and services that enable the residents to stay within Valhalla Brandywine for many of their daily needs.

Section 1323.E.4.d (PCCC) permits a maximum of 7,000 aggregate square feet for retail uses. However, only 2,200 square feet of retail use has been proposed (in the Golf Club House). Some of the dwelling units could be eliminated to give way to a small country shop/store.

- 11.4 Because on-site activities have off-site effects, local municipalities typically have a degree of oversight over the environmental controls in a TND. In light of Audubon International's lack of enforcement authority, the Applicant should permit oversight by Wallace Township.

At a minimum, oversight should apply to issues related to water quality, water treatment and storage, well-head protection, wastewater and graywater treatment and discharge, chemical application (pesticides, herbicides, fungicides and fertilizers), and vegetation and topsoil removal.

12. Residual Effects

12.1 The study of potential sound impacts on the surrounding community, conducted to verify whether Valhalla Brandywine would comply with Township Ordinances, was extremely limited. It included only one (1) sound source, in the approximate location of the proposed Country Club. For a more complete study of the proposed development, the following source locations should also have been tested:

- a. At the site of the proposed Dining Pavilion, which is much closer to Marsh Creek State Park.
- b. At the site of the proposed Horse Barn, which is on Little Conestoga Road just west of Seminary. "Equestrian" is a permitted use for the site, which could mean competitions or events with a Public Address (PA) system.
- c. At the site of the proposed Golf Clubhouse, which may be close enough to the Devereux School and the Lexington Manor residences to have an impact, if the Clubhouse were used as a site for events such as weddings. Wedding receptions usually involve a band or D.J. Also, golf tournaments frequently announce the foursomes or tee times, again with a PA system.
- d. At the site of the proposed Water Treatment facility in the northwest corner of the site (location per page 27 of Charles Dobson's report).
- e. Anywhere hunting is permitted. Hunting is included in the list of proposed activities for Valhalla Brandywine.

In addition, this test was conducted during the Summer, when vegetation is at its densest. The study did not factor in the effects that the extensive clearing and proposed construction (parking lots, buildings, tennis courts, etc) would have on sound propagation.

12.2 The Brandywine Conservancy's 2007 report titled "Botanical Survey of Wallace Township" designated two (2) areas on the Valhalla Brandywine tract as "Exceptional Natural Areas." These areas have been shown on Appendix A: Environmental Constraints and Calculations, dated 3-24-09.

One of the two (2) Exceptional Natural Areas is immediately west of Canyon Lake, in the location of the proposed Fitness Center, Spa, Pool, and associated parking. The survey found nine (9) plant species within this Exceptional Natural Area that were not found elsewhere within the Township.

12. Residual Effects (continued)

Disturbance in this area, including building construction and paving, the use of heavy equipment, herbicide application, and mowing, may result in the elimination of these plants from Wallace Township.

The other Exceptional Natural Area is located in the northwest corner of the tract, and includes intact woodland adjacent to the East Branch of the Brandywine Creek. Woodland clearing to construct large portions of Hole 10 and Hole 11 is proposed within this Exceptional Natural Area.

The survey found two (2) plant species within this Exceptional Natural Area that were not found elsewhere within the Township. I also note that construction within this Exceptional Natural Area will also impact slopes in excess of 20%. Since this woodland serves as a buffer and riparian habitat for the East Branch of Brandywine Creek, in addition to possible adverse impacts on locally scarce plant species, this clearing could have an adverse impact on water quality and local animal life.

- 12.3 The proposal has not considered the need for public safety and security needs, particularly in light of Wallace Township's recent shift to a State Police contract for law enforcement services.
- 12.4 To augment the limited guest and residential services proposed for Valhalla Brandywine, Wallace Township should anticipate new commercial activity in Glenmoore Village, Cornog Village, and adjacent to the development. Potential commercial uses could include gas and auto service station, restaurant/bar, food market, banking, motel/bed & breakfast, pharmacy, office and copy center, clothing shops, sporting goods sales and rental, salon, gift shops, etc.
- 12.5 The proposed development is unlike any other in Wallace Township, in terms of the proposed intensity of development of non-residential uses, and its potential impact on Wallace Township services and infrastructure, and environmental and cultural resources. Nonetheless, without a precedent for the case-by-case limitation of large-tract development within the Township, other owners of large tracts within the Township could expect to realize similar usage and non-residential densities for development on their properties.

13. Relationship to the Comprehensive Plan

- 13.1 The Wallace Township Comprehensive Plan (dated March 1986) did not anticipate the large-scale Valhalla Brandywine proposal. Furthermore, the Comprehensive Plan is 23 years old. The Pennsylvania Municipalities Planning Code requires a review of a municipal Comprehensive Plan every 10 years. Of the 73 Chester County municipal Comprehensive Plans, the Wallace Township Comprehensive Plan has gone the longest without an update (see Appendix D: Status of Municipal Comprehensive Plans – Chester County Municipalities, dated March 2009).

Therefore, because the Wallace Township Comprehensive Plan is outdated with regard to local and regional circulation, land use, public sewer and water, police and fire protection, and economic and population data, the Applicant's assertion of consistency with the Comprehensive Plan is not a credible attribute of the Valhalla Brandywine proposal.

Even so, the Valhalla Brandywine proposal is not even consistent with the oldest Comprehensive Plan in Chester County. Inconsistencies are described under items 14.2-14.9 below.

- 13.2 Page 5 of the Comprehensive Plan: "Encourage the Conservation of Prime Agricultural Soils." (See Figure 3.3 of the Open Space, Recreation and Environmental Resources (OSRER) Plan.) Portions of the Hillside Neighborhood are proposed on Prime Agricultural Soils (S-2).

- 13.3 See Map 10.2 of the Comprehensive Plan, and the location of Seasonally High Water Tables. These are Worsham Soils, per the Soil Survey for Chester and Delaware Counties (1959/1963). Some underlie the proposed Hillside Neighborhood. Per Appendix A of the Comprehensive Plan, "These [high water table] soils are generally not suitable for supporting development," and "These soils are highly unstable and cannot support foundations or septic systems. They are best suited for pasture and should be retained in their natural state."

(See also Figure 4-1 of the OSRER Plan.) This also shows the location of seasonally high water tables, which again underlie the Hillside Neighborhood.

- 13.4 See Future Land Use and Circulation Plan (Map 3.1 of the Comprehensive Plan): The subject property is composed of Agricultural/Rural Residential Land as well as Open Space/Conservation space. Page 16 of the Comprehensive Plan promotes "an infill approach" for Ag/RR development.

13. Relationship to the Comprehensive Plan (continued)

- 13.5 Page 16 of the Comprehensive Plan: "Sites planned for residential development should be analyzed for their suitability to support on-site systems through documentation prior to approval." Further, per page 17 of the Comprehensive Plan, "planned residential" developments should "recognize and respect the natural carrying capacity of the land". These statements are specifically applicable to sewage handling and potable water availability. The ability of the on-site sewage processing to handle the load has not been established, nor has it been shown that there is enough potable groundwater to serve the full development when operating at full capacity, without affecting the processes of the natural water system.

For wastewater context, see Dobson (exhibit A-10), page 3, where he states "the wastewater disposal system will be integrated with the golf course irrigation system and will be utilized as a part of a water reuse program." Since this system cannot fully disseminate the treated wastewater, other options need to be proposed.

The operation of the system during the winter does not appear to have been fully examined. See page 7-3 of the NRMP, which explains that irrigation on the subject property will only be required 5 to 6 months out of the year. Page 7-6 of the NRMP further describes how an increase in irrigation could move nutrients and pesticides past the root zone, and "the application rate must not exceed infiltration rate." The base modeling does not appear to have been done sufficiently to build a system with no wastewater excess. The excess, if it is used as irrigation, may be acceptable per Township, Chester County Health Dept, and PADEP regulations, but does not appear to be acceptable practice from the standpoint of good land stewardship/landscape maintenance as described in the NRMP.

For potable water context, see Dobson (exhibit A-10), pages 26-27, where he states "at least three groundwater wells will be drilled that will provide an adequate amount of potable water." However, only "two potential well sites have been identified with yields that appear to be adequate to serve the project." A third site has not been found.

The groundwater availability testing does not appear to address the need for water that is not potable, such as that needed for swimming pools, to fill low water levels in created ponds if necessary, for equipment washing, residential lawns and gardens, or for the supplemental irrigation of the golf course and communal open space.

13. Relationship to the Comprehensive Plan (continued)

These basic issues of the property's carrying capacity should be resolved prior to the establishment of the building or density and/or usage.

13.6 Historic Resource Use:

Page 6 of the Comprehensive Plan: "Encourage restoration and compatible reuse of historic structures affected by development plans." Uses have not been established for the several McNight Farm buildings, according to page 33, Part I of the Historic Resource Impact Study (HRIS).

13.7 Road Network:

Page 17 of the Comprehensive Plan: "The Township road network, as documented within the Circulation Plan, is not conducive to support intensive development which generates or attracts large volumes of traffic." The effect of certain events' load on the adjacent road network does not appear to have been considered, such as golf tournaments.

Page 23 of the Comprehensive Plan questions "whether basic maintenance [of the roads] is enough [to deal with increased usage], or whether upgrading certain roads may be necessary to insure their continued safety." Since upgrading will probably be necessary for Valhalla Brandywine, the upgrades do not appear to be enough to accommodate the proposed uses and density.

Also from page 23 of the Comprehensive Plan: "A significant upgrading of roads in Wallace Township could lead to significant new development pressure, and perhaps alter the entire character of the Township."

13.8 Environmental Impacts:

Page 5 of the Comprehensive Plan states: "protect surface and groundwater supplies from contamination and depletion by development."

See the Natural Resources Management Plan:

Page 4-3 of the NRMP proposes 25-foot no-spray zones buffers for water resources, and no spraying if winds are greater than 10 MPH. The NRMP does not describe how these standards were established for this site.

13. Relationship to the Comprehensive Plan (continued)

Per page 5-3 of the NRMP, "The watershed is a source of public drinking water supplies for much of Chester County, Pennsylvania and New Castle County, Delaware." See the extensive lists of chemicals, including herbicides, pesticides and fungicides, which Audubon International sanctions for use on this tract. Lists are on pages 6-14, 6-15, 6-16, 8-16, 8-17, 8-18, 8-19, 8-20, 9-26, 9-27, 9-28, 9-29, 9-30, 9-33, 9-34, 9-41 and 9-48 of the NRMP.

(Note: an Environmental Scientist will be testifying in detail regarding the relevant environmental impacts.)

13.9 Adverse Impacts to Adjacent Land Uses

Page 6 of the Comprehensive Plan: "Consider development design compatibility with surrounding uses as a prerequisite to allowing new development to occur." Surrounding uses have not been considered in enough detail as evidenced by the proximity of proposed development areas to perimeter roads, and as evidenced by the "thin" buffering adjoining existing residences.

Guardians of the Brandywine

14. Incomplete Conditional Use Application

14.1 The Conditional Use Application is not complete. In order to make a fully informed assessment of the proposal, the following items need to be added:

- (i) The application does not disclose the impacts onto slopes in excess of 20%. (see p. 1.1)
- (ii) Completed testing results for potable water wells. Model the development's potable and non-potable water usage needs at build-out, including a theoretical event capacity of 250 additional non-hotel 'day' guests. If this testing and modeling indicates that there will not be sufficient replenishable on-site groundwater to meet the needs of the proposed development, the Plan should be 'dialed down' so that no additional sources of water will be required. (see p. 6.1 and pp. 13.1 to 13.2)
- (iii) The location of the proposed the wastewater treatment facility. The application should also provide a complete model of the proposed wastewater processing and dissemination/irrigation plan for the development at build-out, including a theoretical event capacity of 250 additional non-hotel 'day' guests. (see p. 7.1 and pp. 13.1 to 13.2)
- (iv) Elevations of all of the proposed buildings. (see pp. 4.1, 8.1, and 19.1)
- (v) A plan for the proposed trail lighting (see pp. 4.1 to 4.2)
- (vi) A more thorough sound propagation test with the following source locations:
 - At the site of the proposed Dining Pavilion
 - At the site of the proposed Horse Barn;
 - At the site of the proposed Golf Clubhouse;
 - At the site of the proposed Water Treatment facility.

In addition, the submission should include an analysis of simulated post-construction winter/defoliated conditions. (see pp. 4.1 and 12.1)

- (vii) A Manual of Written and Graphic Design Guidelines. This document should include quality controls related to: Streetscape; Public Realm Elements (pocket parks, walls, fences, courtyards); Building Types and Materials; Landscape Materials; Lighting, etc. (see p. 11.1)

15. Conclusion

The constraints to development on this site are unique. It is bounded by, and adjacent to, the Upper East Branch of the Brandywine Creek, a "High Quality" waterway as designated by the Pennsylvania Department of Environmental Protection. It contains within it a substantial network of tributaries to the East Branch. Other than a small portion of Marsh Creek reservoir that lies within Wallace Township, Canyon Lake is the largest body of open water within the Township. Areas of floodplain, prime agricultural soils, seasonally high water tables, wetlands, large woodland tracts and steep slopes, a band of low well yields, multiple historic resources, locally scarce plant species, and a property line shared with Marsh Creek State Park all contribute to the unique qualities of the site. The quarry itself existed because of the distinctive geology that underlies the southeast portion of the tract.

It was in part because of these qualities that this tract was included within the study area of the seminal 1968 book *The Plan and Program for the Brandywine*. This book took on national prominence for its innovative, multifaceted approach to scientific watershed management, resource conservation, and land development. It remains a model for such work, and provided a basis for *Landscapes*, the Chester County vision for land use, as well as Wallace Township's own Woodlands Ordinance.

A Conditional Use application should be denied if the adverse impact on the public interest exceeds that which might be expected under normal circumstances. Due to the unique nature of this site, these are not normal circumstances. In addition, because they contain a lesser amount of sensitive environmental and cultural resources, I observe that other locations within Wallace Township could accommodate the proposed program and density, without the type and/or extent of the adverse impacts described in this Report.

Therefore, even though the Conditional Use Application is incomplete, and could be denied on that basis, the Application could also be denied based on the limited information provided thus far. If, however, the Wallace Township Board of Supervisors chooses to grant Conditional Use Approval, with conditions, I strongly recommend that the following Conditions be attached:

1. No grading or construction shall be permitted on slopes in excess of 20%. (see pp. 1.1 to 1.2 and p. 4.1)
2. No grading or construction shall be permitted on High Water Table Soils. (see pp. 2.1 and 13.1)

15. Conclusion (continued)

3. No grading or construction shall be permitted within the stream buffers. (see p. 3.1)
4. Stream buffers shall be increased from 150 feet to 250 feet at a minimum along the East Branch of the Brandywine Creek, and from 100 feet to 200 feet at a minimum along the unnamed tributary. (see p. 3.2)
5. No aerosol or foliar application of fertilizers/pesticides/herbicides/fungicides shall be permitted within 100 feet of a stream, pond or wetland. (see pp. 3.1 to 3.2)
6. Reduce the proposed residential density from 296 equivalent dwelling units to 173 equivalent dwelling units, to be in keeping with the residential density of the Glenmoore Village. (see pp. 5.1 to 5.2)
7. Water should not be permitted to be drawn from surface sources, including lakes, ponds and streams. (see p. 6.1 and pp. 13.1 to 13.2)
8. Propose adaptive reuse for the historic McKnight Farm buildings that is acceptable to the Township. (see pp. 8.1 and 13.3)
9. Locate all golf course tees, greens and cart paths at least 100 feet from historic buildings. (see p. 8.1)
10. The Township shall have oversight over the on-site activities that may have an impact on the Township's environmental resources. At a minimum, oversight should apply to water quality, water treatment and storage, well-head protection, wastewater and graywater treatment and discharge, chemical application (pesticides, herbicides, fungicides and fertilizers), and vegetation and topsoil removal. An appropriate guide for certain aspects of this oversight is the (repealed/tables) Wallace Township Woodlands Ordinance. (see page 11.1)
11. The Applicant shall reimburse Wallace Township for any costs related to infrastructure improvements that are deemed necessary to accommodate Valhalla Brandywine. (see pp. 9.1 and 14.3, and pp. 12.1 to 12.2)
12. The Applicant shall reimburse Wallace Township for any fees or costs related to State Police action(s) not provided for under the Township/State Police contract, which stem from activities on or related to Valhalla Brandywine. (see p. 12.1)
13. Comply with LEED-NC for Multiple Buildings and On-Campus Building Projects. (see p. 10.1)