

Peer Review of Parkers Springs Environmental Assessment By the Chatham County Environmental Review Board February 21, 2008 **DRAFT**

Contributors

A subcommittee of the Environmental Review Board (ERB) was formed to conduct initial peer review of the Parkers Springs Environmental Assessment (EA) and met on January 24, 2008. Subcommittee members included Tara Allden (subcommittee chair), Elaine Chiosso, Sonny Keisler, and Allison Weakley. The full ERB then voted unanimously to approve the recommendations of the subcommittee on February 21, 2008. Bios for members of the ERB are attached.

Executive Summary

In accordance with the January 16, 2007 Chatham County Board of Commissioners conditional sketch plan approval, the Chatham County Environmental Review Board (ERB) has conducted a peer review of the Environmental Assessment (EA) completed for the Parkers Springs subdivision.

Section 5.2A of the Chatham County Subdivision Ordinance requires an Environmental (Impact) Assessment (EA) address the following:

- a. The environmental impact of the proposed action;
- b. Any significant adverse environmental effects which cannot be avoided should the proposal be implemented;
- c. Mitigation measures proposed to minimize the impact;
- d. Alternatives to the proposed action;
- e. The relationship between the short-term uses of the environment involved in the proposed action and the maintenance and enhancement of long-term productivity; and
- f. Any irreversible and irretrievable environmental changes which would be involved in the proposed action should it be implemented.

Section 5.2A also states that where potential negative impacts have been identified, it shall be the responsibility of the subdivider to provide plans and methods of how such impacts may be alleviated or minimized to the satisfaction of the Board of County Commissioners. The failure to provide reasonably adequate or accurate information under any item specified shall be cause for disapproval of the preliminary plat.

After review of the EA submitted for the Parkers Springs subdivision, it is the conclusion of the ERB that, based on the information submitted to the ERB, the EA contains insufficient information to meet the requirements of Section 5.2A. In particular the EA fails to (a) address all potential environmental impacts of the proposed action; (b) identify significant adverse impacts which cannot be avoided should the project be implemented; (c) provide adequate mitigation measures to minimize such impacts; and

(d) adequately address alternatives to the proposed action. The EA also does not address (e) and (f) as stated above. Peer review comments are submitted in more detail below that support this conclusion.

General Peer Review Comments

1. The Project Description is brief and inadequate to determine the scope of what is being proposed.

For example, the project description states that the proposed method for wastewater treatment and disposal is *individual septic systems*, yet the preliminary plat indicates various methods for disposal may be proposed (subsurface septic, drip irrigation, off-site septic fields). No other information about wastewater treatment and disposal system proposed was presented in the EA. It should be noted that existing project information submitted to the Planning Board (i.e.: per lot septic fields and home site locations, etc.) would have been very helpful in the peer review if this information was submitted with the EA. Examples of information provided to the Planning Board but not included in the EA:

- Lots #37 & 38 on the north side of Parkers Creek do not have suitable soils and so their wastewater must be pumped across Parkers Creek and up steep slopes to an off-site treatment area on the south side of Parkers.
- Lot #18 must pump wastewater to an off-site area that must cross a perennial stream.
- Lot #41 contains an extensive rock outcrop, which is the proposed wastewater disposal area.

More detailed information on the proposed wastewater treatment and disposal methods are needed, and the location(s) of pump stations, sanitary lines and other utilities need to be presented.

See also Item 4 below.

2. Purpose and Need is too narrow in focus.
 - a. Is the project designed to provide needed housing for only Chatham County residents?
 - b. Discussion of the current or future population demographics is needed to support the Purpose and Need.
 - c. Discussion of the type of community proposed is needed – housing size/type(s), average lot size(s), gated community?, public or private road?, etc.
3. Evaluation of all reasonable alternatives that address the project’s need and purpose is needed.
 - a. A description of what alternative designs were considered is needed.
 - b. A description of how potential impacts from stream crossings have been minimized is needed. What types of crossings have been considered to avoid stream impacts? Could crossing of Parkers Creek be avoided? Based on the provided EA, details on proposed

stream crossings are not given, impacts are not addressed, and avoidance and/or mitigation for stream crossings are not proposed.

- c. A description of how steep slopes have been avoided is needed.
 - d. A description of how mature hardwood stands (important wildlife habitat) have been avoided or minimized is needed.
 - e. Have alternative property access easements from Monterrane been explored?
4. Additional existing and proposed site conditions need to be described and addressed.
- a. No reference for land cover data is given. What is *current* land cover?
 - b. No information on steep slopes or other restrictive site conditions are provided.
 - c. Information is presented on pg. 4 that suggest a shallow depth to groundwater. What is depth to groundwater in areas proposed for septic?
 - d. What is the adjacent land use? How will the proposed land use change fit into the intended use of the entire area in terms of conservation, development, and ecological function? (There is a mix of RA-5, RA-90, and RA-40 zoning in the immediate vicinity.)
 - e. The description of soils does not include information on the extent or location of soil disturbance. How do the soils present on site support 50 lots with the proposed method of wastewater treatment and disposal?
 - f. The limits of the proposed land disturbances need to be indicated. What is the extent of clearing and grading proposed?
 - g. The EA states that the development will result in 12% impervious surfaces, and that this should not cause detrimental stormwater impacts. Information to support this claim is needed that addresses mitigating the impacts to the receiving streams specifically in terms of increases to: discharge locations and types, sediment loading, peak discharges, increased velocities, and volumes. Maps and existing engineering calculations would be sufficient for this review.
 - h. Supporting information on where the areas of environmental interest are located and how they are being avoided with the proposed roadway and lot alignments is needed.
 - i. The cover letter submitted by the developers engineer states that impervious coverage should not exceed 6300 s.f. per lot. Detailed lot footprints and impervious surface calculations to validate this claim.
 - j. Is there a proposed Declaration of Restrictive Covenants for the development that addresses clearing and grading limits of lots, storm water management maintenance, landscaping, etc.?
 - k. The EA states that there are no impacts to floodplains on site. Does this include non-regulatory floodplains? Maps or further information is needed to validate this claim.
 - l. No information is provided on allowed or prohibited uses in the riparian buffers on site. Will riparian buffers remain vegetated and undisturbed, or are activities being proposed in the buffers that would impact their integrity (i.e., clearing and grading, utilities, etc.)?
 - m. A more detailed description of the watershed above the proposed site is needed. What is the size of the watershed, land use(s) within the watershed, hydrologic conditions (i.e.: Rational Method "C" coefficients or Curve Numbers "CN") used to calculate peak flows, volume, velocity, etc., for the stream crossing designs?
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- n. Parkers Creek is a NSW (Nutrient Sensitive Water) and within the Protected Area of the WSIV (Water Supply Watershed) – how is this being addressed? This watershed is part of a Targeted Local Watersheds Regional Boundaries Map (2001) as defined by NC DENR see http://www.nceep.net/images/regional_boundaries_map.jpg.
- o. Potential impacts on downstream (offsite) water resources need to be acknowledged and considered in the EA.
- p. The description of water resources in the EA fails to mention a seep (which is considered a jurisdictional wetland) noted in the 401 certification application submitted to the NC Division of Water Quality that is proposed to be filled for road construction.
- q. Sedimentation impacts are not adequately considered. Reference is made to a “sediment and erosion control permit” that will be obtained. Has an application been made for such a permit? What is the plan to control sedimentation and erosion, especially on steep slopes? How will sedimentation and erosion control be handled for individual home sites? Will there be restrictive covenants that address sedimentation and erosion control?
- r. Is there a buffer proposed for the cemetery known to occur on site? What provisions are being made to protect the cemetery?
- s. An email posted on the County website regarding this development from Jane Pyle, Chatham Historical Association, dated October 6, 2006, indicates that a stone foundation occurs near the cemetery. The EA should address this stone foundation. A description of the process used to determine where and what cultural, historical, or archaeological features may be known to occur on site is needed.
- t. The EA acknowledges that Chatham County has been designated as a non-attainment area for 8-hour ozone, but does not provide information to support the conclusion that impacts to air quality are expected to be temporary. How are impacts expected to be temporary?
- u. A description, acknowledgement, and assessment of the natural (biological) resources and important wildlife habitats on this site, based on existing plans, studies and reports, is needed:
 - i. Parkers Springs lies within the Big Woods Significant Natural Heritage Area (SNHA), as designated by the NC Natural Heritage Program, but this is not acknowledged in the EA. How will impacts to this SNHA be avoided and/or minimized?
 - ii. This site is within areas designated by the Triangle GreenPrint (2002) and The Nature Conservancy (Smith et al. 2002) as important for natural areas and water quality in the Triangle region, and terrestrial conservation in the NC Piedmont region, respectively (see Figures 1 and 2 below). How will potential impacts to these important resources be avoided and/or mitigated?
 - iii. The Chatham County Land Use and Development Plan (2001) designated the Big Woods area as an important Resource Protection Area. The Plan recommends that Resource Protection Areas retain a 5-acre average lot size. A description of how the proposed subdivision is consistent with this plan is needed.

Figure 1. Significant Open Spaces for Natural Areas and Water Quality (Triangle GreenPrint 2002).

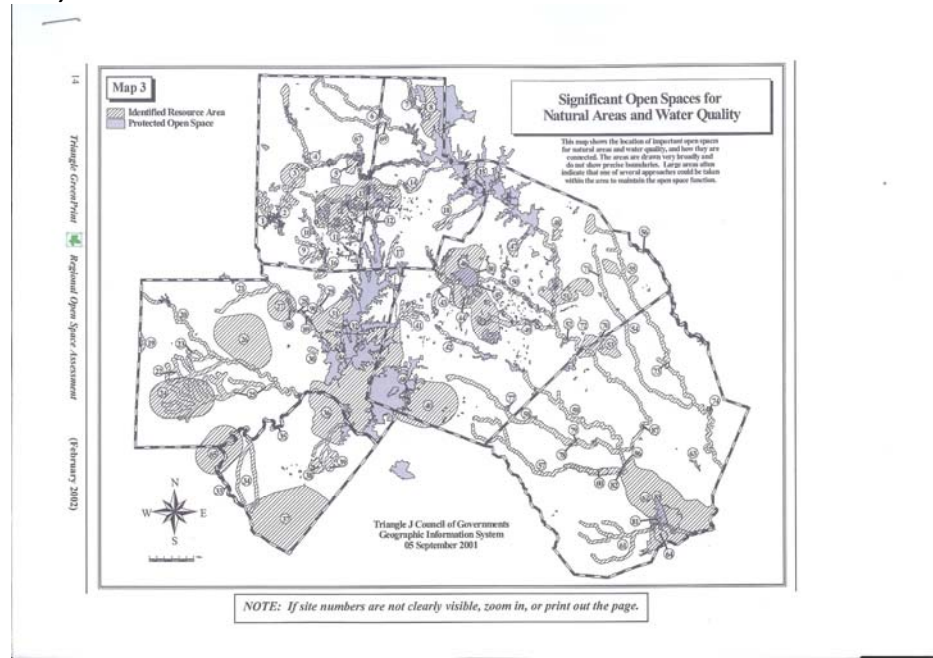
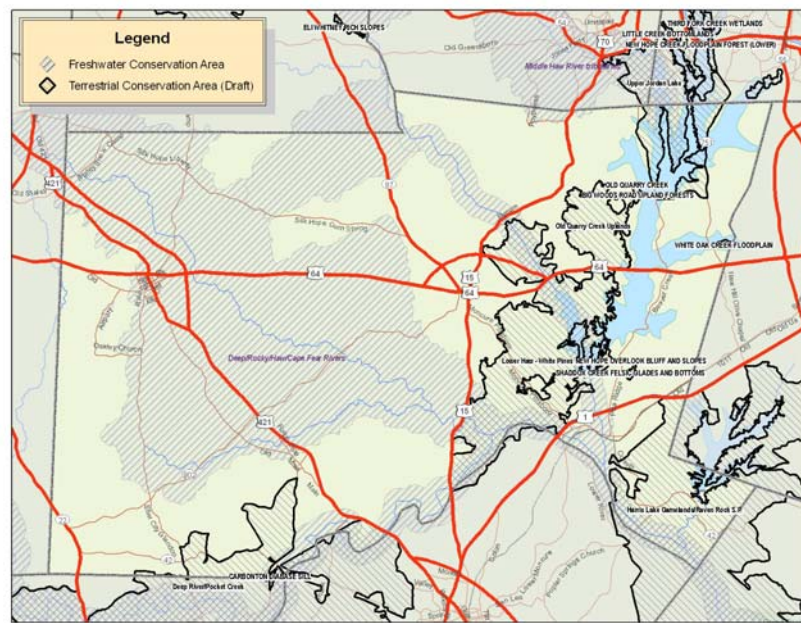


Figure 2. Freshwater and Terrestrial Conservation Areas (Draft) identified by The Nature Conservancy (Smith et al. 2002).



- iv. The EA states that suitable habitat is present for the Carolina ladle crayfish and Loggerhead shrike, but does not describe the suitable habitat for these species

- or give any information on where suitable habitat for these species occurs on site.
- v. An Element Occurrence (EO) of the Carolina Ladle Crayfish (SR) has been documented within Parkers Creek (NC NHP 2007), but is not acknowledged in the EA. A description of the potential impacts to this species, and proposed mitigation measures for on-site and off-site (downstream) impacts, are needed.
 - vi. The plant community/terrestrial habitat type stated in the EA is Basic Oak-Hickory Forest, but the description of dominant vegetation in the EA does not reflect this community type. No mention is made of existing forest structure, composition, maturity, etc. (mature hardwoods vs. early successional). A description of habitat types and their locations on the site are needed.
 - vii. The Big Woods area is noteworthy as providing important regional habitat for area-sensitive species, yet only very common species were considered in the EA. What is the potential impact on important wildlife habitat?
 - viii. What are the potential impacts from proposed roads and residential homes on wildlife habitat (e.g., loss of habitat, fragmentation of habitat) and water resources (storm water drainage, stream crossings)?
 - ix. Are street lights being proposed? If so, what is potential impact on wildlife habitat?
5. The EA states that impacts to terrestrial habitat include removal of most tree species (see pg. 10 of the EA). Information is needed on the limits of disturbance on the site. (See also above.)
 6. A site visit on February 15, 2008, by the ERB Chair and Environmental Resources Director, along with members of the Planning Board, revealed that a significant portion of the site has been partially cleared with a hydroaxe, likely within the last year. When did this clearing take place? No clearing activity was mentioned or described in the EA. How has clearing contributed to potential environmental impacts? Also, stream determinations were conducted on site during an extreme drought, and the site visit on Feb. 15th suggests stream origins and classifications were not accurate for all streams on site. We recommend that the NC Division of Water Quality (DWQ) revisit the site to confirm all stream classifications and origins with the Environmental Resources Director.
 7. Suitable habitat present on site for threatened and endangered species is not adequately described, and – based on the suitable habitat present - species in addition to those noted (Carolina ladle crayfish and loggerhead shrike) are likely to occur. A more detailed evaluation of suitable habitat is needed to determine what other rare species may occur (e.g., four-toed salamander, sweet pinesap). Was a survey for suitable habitat conducted?
 8. Mitigation measures proposed to avoid, minimize or compensate for potential impacts are insufficient. The only apparent mitigation proposed is an increase in stream buffer along Parkers Creek from 50 feet to 100 feet and the use of vegetated swales in the road right of way. A description of all other mitigation measures considered to avoid impacts is needed. See previous inquiries pertaining to land disturbances, stream crossings, road/lot alignments, storm water management, and important wildlife habitat.
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9. The EA should address direct, indirect, and cumulative impacts of the project. Direct impacts are not adequately identified and described, and indirect and cumulative impacts are not considered. Indirect impacts occur later as a result of the original direct impact; cumulative impacts result from incremental effects of original direct impact combined with other past, present, and reasonably foreseeable future development projects in the area. See SEPA guidelines (NC DOA 1999).

Conclusion

After review of the Amended EA submitted for the Parkers Springs subdivision, it is the conclusion of the ERB that the EA:

- (a) does not address all potential environmental impacts of the proposed action;
- (b) does not address significant adverse impacts which cannot be avoided should the project be implemented;
- (c) does not provide adequate information on mitigation measures to minimize such impacts; and
- (d) does not adequately address alternatives to the proposed action.

The EA also does not address (e) and (f) as stated above in the Executive Summary.

The EA should identify and describe all potential environmental impacts, and should propose ways in which those impacts will be avoided and/or mitigated. Direct, indirect, and cumulative impacts should be addressed, especially with regards to stream and water quality impacts, wildlife habitat, and rare species.

As stated above, the EA does not provide adequate information on mitigation measures proposed to minimize potential environmental impacts. Examples of mitigation could include:

1. avoidance of crossing of Parkers Creek,
2. avoidance of grading and developing steep slopes (15% and greater),
3. limited lot site disturbance with a restrictive covenant,
4. limiting impervious surfaces to 10% or less,
5. expanded stream buffers to protect water quality and wildlife habitat (a minimum 300 ft. buffer along is recommended along each side of Parkers Creek given its importance for wildlife habitat and water quality; a 100 ft. buffer along each side of other perennial and intermittent streams, a 30 ft. buffer for each side of ephemeral streams, and 50 ft. around wetlands),
6. crossing streams with bridges or open bottom culverts, and
7. stormwater management that allows for diffuse flow and infiltration near the source (Low Impact Development, or LID) prior to discharge.

See also recommendations developed by NC Wildlife Resource Commission (2002a) for science-based ways in which to avoid indirect and cumulative impacts to aquatic and terrestrial resources.

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