

Conservation Subdivision Ordinance

July 13, 2006

The Etowah Aquatic HCP Conservation Subdivision Ordinance was developed by a Technical Committee of building and development professionals and local government staff from the Etowah watershed. The Steering Committee approved the Technical Committee's recommendations for inclusion in the Etowah Habitat Conservation Plan on October 21, 2005, with the understanding that the Conservation Subdivision Ordinance, once implemented, will help minimize and mitigate take of imperiled aquatic species in the Etowah watershed. Each jurisdiction is strongly encouraged, although not required, to adopt a conservation subdivision ordinance prior to receiving an Incidental Take Permit from the U.S. Fish and Wildlife Service.

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Executive Summary

A conservation subdivision ordinance gives developers and landowners the flexibility to cluster development on a portion of the tract while permanently preserving the remaining areas as open space. In turn, this conservation-oriented design method promotes reduction of impervious cover and protection of riparian buffers, floodplains, wetlands and significant groundwater recharge areas as permanently protected open space. In this way, conservation subdivisions help to ensure the survival of imperiled species in the Etowah watershed.

Building conservation subdivisions is optional. Developers are not required to design developments in this way. However, without a conservation subdivision ordinance, developers who want to design developments in conservation-friendly ways are often prevented from doing so because of other development regulations. While some jurisdictions participating in the Etowah Regional HCP already have adequate conservation subdivision ordinances in place, many do not. The model conservation subdivision ordinance recommended by the Metropolitan North Georgia Water Planning District (MNGWPD) provides a reasonable basis for local conservation subdivision ordinances, and was used as a foundation for developing the ordinance in this document. The Conservation Subdivision Technical Advisory Committee recommended that:

- All participating jurisdictions adopt the Etowah Aquatic HCP Model Conservation Subdivision Ordinance.
- Participating jurisdictions may tailor the HCP model ordinance to meet their specific needs, so long as the ordinance is consistent with the minimum standards of the Etowah Aquatic HCP model ordinance.
- All jurisdictions adopt the model ordinance by April 2006.

In July, 2006, the Etowah Aquatic HCP staff recommended that the Conservation Subdivision Ordinance be made an optional, although strongly encouraged, component of the Etowah Aquatic HCP.

Introduction

Conservation subdivisions are residential or mixed-use developments in which a significant portion of the parcel is set aside as permanently protected open space while development is clustered on the remainder of the property. They are similar in many respects to golf course communities, which are common across Georgia, but they feature natural forests, meadows, wetlands, community gardens, or farmland rather than golf courses. Conservation subdivisions contrast with conventional subdivisions, in which all, or nearly all, of the parcel is subdivided into house lots and streets. Conservation subdivisions are a valuable tool for protecting water quality and imperiled species habitat in the Etowah watershed for two distinct reasons.

First, because houses are clustered on only a portion of the land, conservation subdivisions tend to have less impervious surface coverage than conventional subdivisions. The impacts of impervious surface and associated stormwater runoff on aquatic ecosystems are well known. (Klein, 1979; Arnold and Gibbons, 1996; Schueler 1997; Booth and Jackson, 1997). Impervious surfaces do not allow water to infiltrate through soil; consequently, almost all precipitation falling on impervious surfaces becomes stormwater runoff, and washes sediment, nutrients and other pollutants into local waterways and disturbs natural hydrological cycles. Studies have shown impacts on streams at 8-12% impervious surface cover; above 25%, impacts on streams are considered unavoidable and possibly irreversible (Schueler 1997; Booth and Jackson, 1997). In

addition, nonpoint source pollution and urban runoff are the leading causes of impairment for streams listed on the 303(d) report in Georgia (GAEPD, 2000).

The second way conservation subdivisions protect water quality and aquatic habitat in the Etowah watershed is by permanently protecting vegetated riparian buffers (the land adjacent to streams, rivers and lakes), groundwater recharge areas, wetlands, natural drainages and floodplains. Riparian areas, wetlands and floodplains, which may lie within or extend beyond buffers, are especially effective at removing pollutants, and groundwater recharge areas are necessary for maintaining natural hydrological cycles. (Wenger and Fowler, 2001).

The Center for Watershed Protection assessed the water quality benefits of conservation subdivisions compared to conventional designs. The results showed that for a rural, low-density conservation subdivision, phosphorus export was 50% lower and nitrogen export was 46% lower than in a conventional subdivision. In a medium density conservation subdivision, phosphorus was reduced by 60% and nitrogen by 45%. (Caraco et al. 1998).

Participating jurisdictions are not required to adopt a conservation subdivision ordinance in order to receive an incidental take permit pursuant to the Etowah Habitat Conservation Plan, but they are strongly encouraged to do so. Under the HCP, developers are required to manage stormwater runoff volumes under the Runoff Limits provisions of the stormwater management ordinance, and to protect riparian buffers under the riparian buffer ordinance requirement. A conservation subdivision ordinance provides developers with the flexibility to meet these requirements in a cost effective manner. Without a conservation subdivision ordinance, conservation-friendly design methods are largely unavailable for use in residential subdivisions. The zoning and subdivision codes of many local governments only allow conventional subdivisions, making it difficult and time-consuming (and therefore expensive) for developers to have a conservation subdivision design approved (Wenger and Fowler, 2001). Since conventional subdivisions have greater impervious cover than conservation subdivisions, it costs more to manage stormwater volumes under a conventional design. It can also be more difficult to accommodate riparian buffers without the flexibility to cluster homes, and buffer areas are less likely to be respected if they are consigned to the backs of lots rather than placed in permanently protected greenspace.

Several jurisdictions that are participants in the Etowah Aquatic HCP have adopted their own conservation subdivision ordinances in recent years. These jurisdictions are encouraged to assess their current ordinances to ensure consistency with the standards of the Etowah Aquatic HCP Model Conservation Subdivision Ordinance (See Appendix D-2). Jurisdictions may add additional provisions and standards to existing ordinances so long as they are consistent with the minimum requirements found in the model ordinance. Jurisdictions that currently lack a conservation subdivision ordinance are encouraged to adopt an ordinance based on the model provided here.

Committee Process

The Conservation Subdivision Ordinance Technical Committee met several times throughout March and April 2005 to discuss the need for and components of a model conservation subdivision ordinance for the Etowah Aquatic HCP. The committee was composed of technical staff from local governments, developers, homebuilders, engineers and architects working in the Etowah watershed. The Technical Committee began by reviewing both the Metropolitan North Georgia Water Planning District (MNGWPD) model conservation subdivision ordinance and

recommendations from the HCP staff. The committee based its work upon the MNGWPD ordinance for two reasons. First, the MNGWPD ordinance is based upon the model ordinance developed by Laurie Fowler and Seth Wenger in 2001 for the Atlanta Regional Commission. The ARC ordinance is considered by the committee members to be the most effective model ordinance developed for Georgia local governments to date. Second, the committee chose the MNGWPD ordinance because several counties in the Etowah basin are members of both the HCP and the MNGWPD, and local governments within the MNGWPD that do not substantially adopt its model ordinances will be ineligible for state grants or loans for water supply and conservation projects. These counties are Bartow, Cherokee, Cobb, Forsyth, Fulton and Paulding and cities lying within those counties. (Dawson, Lumpkin and Pickens counties and their cities are the HCP jurisdictions that are not part of the MNGWPD.) Therefore, the HCP ordinance must be consistent with the MNGWPD ordinance so that counties participating in the HCP can also meet the requirements of the MNGWPD.

After reviewing these recommendations, the technical committee came to agreement on necessary components of the HCP ordinance. HCP staff then drafted an ordinance based closely upon the MNGWPD ordinance and the recommendations of the committee members. Several additions and changes were made to the MNGWPD ordinance to ensure that the needs of the imperiled species of the Etowah Aquatic HCP are adequately addressed. (See Appendix D-1 for a comparison of the MNGWPD ordinance and the Etowah Aquatic HCP ordinance). The committee members then reviewed the draft Etowah Aquatic HCP Model Conservation Subdivision ordinance and provided comments to the staff via email. These comments were incorporated into the final draft of the ordinance (See Appendix D-2). Finally, the HCP staff consulted with the MNGWPD staff at the Atlanta Regional Commission to ensure that the Etowah Aquatic HCP model ordinance is consistent with the MNGWPD ordinance. Local governments that are members of both the MNGWPD and the Etowah Aquatic HCP can be assured that they will satisfy the requirements of both model conservation subdivision ordinances if they adopt the Etowah Aquatic HCP model ordinance.

Minimum Standards and Recommendations

The recommendations of the technical committee are listed below and closely mirror the provisions of the MNGWPD Model Conservation Subdivision Ordinance. For a comparison of the major differences between the Etowah Aquatic HCP and MNGWPD ordinances, see Appendix D-1. The recommendations section is split into two subsections. The first subsection lists minimum standards that all participating jurisdictions must adopt in order to comply with the HCP. The second subsection lists provisions the committee highly encourages jurisdictions to adopt, but are not mandatory for HCP compliance.

A. Minimum Standards

- The ordinance must state that conservation subdivisions are a use by right in all residential and agricultural zones.
- The ordinance must include one or more methods by which the density of a conservation subdivision is determined. Two possible methods are recommended in Subsection B below.

- The ordinance must require preparation and review of a site analysis map. The ordinance must state that the map shall include:
 - Property boundaries;
 - Relationship of the subject property to natural and man-made features existing within 1,000 feet of the site, noting whether surrounding property is slated for protection as greenspace in the county greenspace plan;
 - The planned location of protected open space;
 - Potential connections of protected open space with adjacent protected areas or with adjacent non-protected natural lands that are possible candidates for inclusion as part of a future area of protected greenspace;
 - Potential connections of protected open space with existing trails;
 - All streams, rivers, lakes, wetlands and other hydrologic features;
 - All ridge lines and geologic formations;
 - Location of historically significant sites;
 - Topographic contours of no less than 10-foot intervals;
 - All primary and secondary conservation areas labeled by type;
 - General vegetation characteristics;
 - General soil types;
 - Existing roads and structures.

- The ordinance must require the developer/landowner to delineate primary and secondary conservation areas as follows:
 - Primary Conservation Areas:
 - 100-year floodplain;
 - Riparian buffers as required by the local government's riparian buffer ordinance;
 - Slopes above 25% of at least 5000 square feet contiguous area (Jurisdictions that feature many steep slopes above 25% within their boundaries may wish to include only slopes above 35% of at least 5000 sq. ft. in the primary conservation areas instead of slopes above 25% of at least 5000 sq. ft.);
 - Wetlands that meet the definition used by the Army Corps of Engineers pursuant to the Clean Water Act;
 - Populations of endangered or threatened species, or habitat for such species; and
 - Archaeological sites; and cemeteries and burial grounds.
 - Secondary Conservation Areas:
 - Important historic sites;
 - Existing healthy, native forests of at least one acre contiguous area;
 - Individual existing healthy trees greater than 8 inches caliper dbh, as measured from their outermost drip line;
 - Other significant natural features and scenic viewsheds such as ridge lines, peaks and rock outcroppings, particularly those that can be seen from public roads;
 - Prime agricultural lands of at least five acres contiguous area; and
 - Existing trails that connect the tract to neighboring areas.

- The ordinance must require the developer/landowner to meet the following requirements for design of the open space:
 - Include at least 40% of the total tract in the open space.

- Follow Randall Arendt's four-step design process and document use of this process. Studies of conservation subdivision design in other states have shown that requiring this design process rather than requiring 75% of the open space to be contiguous, as the MNGWPD ordinance does, will result in higher quality designs that preserve more ecologically significant lands such as wetlands, floodplains, riparian areas, and steep slopes. The four-step design process accomplishes this by giving developers more flexibility to design the project based upon the specific conservation features of the site (Arendt and Clarke, 2003). For example, if the site contains a riparian/floodplain area in one corner and a line of steep slopes in the opposite corner, the developer should have flexibility to preserve these two areas without connecting them in order to maximize the amount of open space preserved at each sub-site.
- Include all primary conservation areas in the open space unless more than 40% of the gross tract area consists of primary conservation areas.
- The ordinance must permit the following uses in the open space:
 - Conservation of natural, archeological or historical resources;
 - Meadows, woodlands, wetlands, wildlife corridors, game preserves, or similar conservation-oriented areas;
 - Walking or bicycle trails, provided they are constructed with pervious materials;
 - Passive recreation areas, such as open fields;
 - Nonstructural stormwater management practices and structural stormwater practices that allow for infiltration, such as bioretention areas;
 - Septic systems comprised of single or multiple septic tanks and leach fields located on soils particularly suited to such uses;
 - Easements for drainage, access, and underground utility lines; and
 - Other conservation-oriented uses compatible with the purposes of this ordinance
- The ordinance must prohibit the following uses in the open space:
 - Golf courses;
 - Roads and parking lots;
 - Agricultural and forestry activities not conducted according to accepted Best Management Practices;
 - Impoundments;
 - Large impervious areas (e.g. parking lots, large swimming pools, amenities);
 - Use of motorized vehicles except for maintenance purposes; and
 - Package plants for sewage treatment (only local governments located within the MNGWPD are required to prohibit these).
- The ordinance must require permanent protection of the open through use of a conservation easement or an equivalent legal tool (such as a permanent restrictive covenant for public purposes).
- The ordinance must require the conservation easement or equivalent legal tool to be placed upon the open space before the land disturbance permit is granted, or at some other point in the development process, such as before final plat approval or granting of the certificate of occupancy. This ensures that the legal tool providing for permanent protection of the open space is actually recorded with the deed before the developer turns over ownership of the open space to either the HOA or local government.

- The ordinance must state that the Homeowners Association (“HOA”), local government, or similar conservation organization shall be permitted to own the open space in fee simple. If owned by the HOA, membership shall be mandatory for all homeowners.
- The ordinance must require the developer/landowner to submit an open space management plan to the planning staff prior to final plat approval.

B. Recommendations

- The ordinance should require that there shall be no minimum lot sizes in conservation subdivisions in order to promote clustering of development and allow for protection of the maximum amount of open space that is feasible and cost-effective.
- The ordinance should require the developer/landowner to use one of the following methods in order to calculate density of the conservation subdivision so that conservation subdivisions are density neutral:
 - Yield plan method: The maximum number of lots is based on a conventional subdivision design plan, prepared by the applicant, in which the tract of land is subdivided in a manner intended to yield the highest number of lots possible per the underlying zoning classification.
 - Calculation method: Multiply the minimum lot size in the underlying zoning by the adjusted tract acreage (“ATA”). The ATA equals the total parcel minus 15% of total parcel area to account for unbuildable lands.
- Local governments are encouraged to require a minimum amount of open space as high as 80% of the gross tract area in order to provide for as much opportunity as possible to protect open space in their jurisdictions without discouraging developers from building conservation subdivisions rather than traditional subdivisions.
- Local governments may wish to permit the following uses of the open space, in addition to the required permitted uses found in the above minimum standards section:
 - Agriculture, horticulture, silviculture or pasture uses, provided that all applicable best management practices are used to minimize environmental impacts, and such activities are not conducted within Primary Conservation Areas;
 - Active recreation areas, provided that they are limited to no more than 10 percent of the total Open Space and are not located within Primary Conservation Areas. Active recreation areas in excess of this limit must be located outside of the protected Open Space. Active recreation areas may include small impervious areas. These small impervious areas shall not count towards the minimum open space requirement. Active recreation areas shall not include large impervious areas; and
- The local government may wish to include a provision in their ordinance to allow for a reduction of the required minimum amount of open space when sewer service is not available and developers therefore cannot preserve the minimum open space amount specified in the ordinance without extreme hardship. Such a provision may serve to promote conservation subdivisions in rural areas where sewer service is unavailable and where the minimum lot size required for septic systems on the parcel in question is too large to allow the applicant meet the minimum open space requirement and still make a

reasonable profit on the development. Under no circumstances may the open space amount constitute less than 30% of the total tract area in order to be considered a "conservation subdivision." Also, according the Atlanta Regional Commission, local governments located within the MNGWPD must adhere to the 40% minimum in order for their ordinance to comply with the MNGWPD model conservation subdivision ordinance.

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Appendix D-1

Comparison of Etowah Aquatic HCP and Metropolitan North Georgia Water Planning District Model Conservation Subdivision Ordinances

County or Model	Procedure	Where permitted?	Density Calculation	Minimum Lot Sizes/Max Density	Open Space Amount & Design	Primary/Secondary Conserv. Areas	Defines Prohibited Uses	Ownership of OS	Permanent Protection
Etowah Aquatic HCP Model Ordinance	Use by right; must submit site analysis map in concurrence with concept plan for review by local planning staff.	All residential and agricultural zones.	<u>2 methods:</u> 1. Yield plan. 2. ATA (excludes 15% total acreage to account for unbuildable lands) ÷ minimum lot size.	No minimum lot sizes. Maximum density is same as underlying zoning.	Requires 40% OS; requires linkage with other OS areas; requires use of 4 step design process ; all primary cons. areas must be included within OS.	Same definitions of primary & secondary areas as ARC model ordinance.	Golf courses; roads; parking lots; other impervious surfaces; agric. & forestry w/ no BMPs; impoundments; motorized vehicles.	HOA, land trust, or similar cons. org. must own OS. If HOA owns, HOA membership mandatory. Developer must submit Management Plan.	Requires easement or equivalent tool in favor of land trust, similar conservation org. or govt. entity. HOA may not hold easement if it also owns the OS.
Metro North GA Water Planning District	Use by right; must submit site analysis map in concurrence with concept plan.	All districts designated by local govt.	<u>2 methods:</u> 1. Yield plan. 2. ATA (excludes 25% slopes of 5000 sq. ft., 100-yr. floodplain, open water of 5000 sq. ft., wetlands, right-of-ways) ÷ minimum lot size.	No minimum lot sizes. Maximum density is same as underlying zoning.	Requires 40% OS; encourages connectivity and linkage with other OS areas; all primary cons. areas must be included within OS.	Same definitions of primary & secondary areas as ARC model ordinance.	Golf courses, roads, parking lots, other impervious surfaces, agric. & forestry w/ no BMPs.	Developer designates OS owner. If HOA, then HOA membership mandatory. Developer must submit Management Plan.	Requires easement or equivalent tool in favor of land trust, similar conservation org. or govt. entity.

OS = Open Space UPA = Units per Acre HOA = Home Owners Association ATA = Adjusted Tract Acreage

While this table highlights the major differences between the Etowah Aquatic HCP Model Ordinance and the Metropolitan North Georgia Water Planning District Model Ordinance, there are many additional, smaller differences between the two model ordinances. Please see the text of the Etowah Aquatic HCP Model Ordinance in Appendix D-2 to view all differences.

Appendix D-2

Model Conservation Subdivision Ordinance

Note: Text in **[brackets]** indicates terms that need to be written specifically for the local jurisdiction, such as the jurisdiction name. Strikethrough text indicated deletions from the MNGWPD model ordinance. Underlined text indicates additions to the text of the MNGWPD model ordinance. Text sections in *italics* are annotations meant to provide guidance, and local governments should not adopt these sections as part of their ordinances. Depending on the structure of the local code, some elements of the ordinance may need to be inserted into the zoning code and others may need to be added to the subdivision or development ordinance.

CONSERVATION SUBDIVISIONS

SECTION 1. PURPOSES

- A. To provide for the preservation of greenspace as a nonstructural stormwater runoff and watershed protection measure.
- B. To provide for preservation of greenspace as a habitat protection measure and a water quality protection measure in connection with the Etowah Habitat Conservation Plan.
- C. To provide a residential zoning district that permits flexibility of design in order to promote environmentally sensitive and efficient uses of the land.
- D. To preserve in perpetuity unique or sensitive natural resources such as groundwater, floodplains, wetlands, streams, steep slopes, woodlands and wildlife habitat.
- E. To permit clustering of houses and structures on less environmentally sensitive soils, which will reduce the amount of infrastructure, including paved surfaces and utility easements, necessary for residential development.
- F. To reduce erosion and sedimentation by minimizing land disturbance and removal of vegetation in residential development.
- G. To promote interconnected greenways and corridors throughout the community.
- H. To promote contiguous greenspace with adjacent jurisdictions.
- I. To encourage interaction in the community by clustering houses and orienting them closer to the street, providing public gathering places and encouraging use of parks and community facilities as focal points in the neighborhood.
- J. To encourage street designs that reduce traffic speeds and reliance on main arteries.
- K. To promote construction of convenient landscaped walking trails and bike paths both within the subdivision and connected to neighboring communities, businesses, and facilities to reduce reliance on automobiles.
- L. To conserve scenic views and reduce perceived density by maximizing the number of houses with direct access to and views of open space.
- M. To preserve important historic and archaeological sites.

SECTION 2. DEFINITIONS

- A. Infiltration.** The process of percolating stormwater runoff into the subsoil.
- *For the sake of consistency, this definition of “infiltration” is the same definition found in the Etowah Aquatic HCP Stormwater Ordinance.*
- B. Open Space.** The portion of the conservation subdivision that has been set aside for permanent protection. Activities within the Open Space are restricted in perpetuity through the use of an approved legal instrument.
- C. Large impervious area.** An area of impervious surface including, but not limited to, a parking lot of any size, large building, street, cul-de-sac, large amenities complex and other similar impervious area.
- D. Small impervious area.** An area of impervious surface such as a small swimming pool, or one small basketball court, or one tennis court, or a small maintenance building, or an historic home site, or an existing or new trail system, or some other similar impervious area.
- E. Stream.** Any stream, beginning at:
1. The location of a spring, seep, or groundwater outflow that sustains streamflow; or
 2. A point in the stream channel with a drainage area of 25 acres or more; or
 3. Where evidence indicates the presence of a stream in a drainage area of less than 25 acres, the [local permitting authority] may require field studies to verify the existence of a stream.
- *For the sake of consistency, this definition of “stream” is the same definition found in the Etowah Aquatic HCP Stream Buffer Ordinances.*
- F. Package plant for sewage treatment.** Any plant which: (a) consists of units or modules designed for construction, assembly, connection and installation at the site for treatment of sewage; and (b) is privately owned and will be operated to treat wastewater and sewage for a limited area. The term does not include septic systems comprised of single or multiple septic tanks and leach fields.
- G. Nonstructural Stormwater Management Practice.** Any natural or planted vegetation or other nonstructural component of the stormwater management plan that provides for or enhances stormwater quantity and/or quality control or other stormwater management benefits, and includes, but is not limited to, riparian buffers, open and greenspace areas, overland flow filtration areas, natural depression, and vegetated channels.

SECTION 3. GENERAL REGULATIONS

- A. Applicability of Regulations.** This Conservation Subdivision option is available in the following ~~[list of applicable zoning districts]~~ all residential and agricultural districts as a use by right. Applicant shall comply with all other provisions of the zoning code and all other applicable laws, except those that are incompatible with the provisions contained herein.

B. Ownership of Development Site. The tract of land to be subdivided may be held in single and separate ownership or in multiple ownership. If held in multiple ownership, however, the site shall be developed according to a single plan with common authority and common responsibility.

C. Housing Density Determination (Recommended). The maximum number of lots in the Conservation Subdivision shall be determined by either of the following two methods, at the discretion of the ~~local jurisdiction~~ applicant:

- *While the following methods for calculating density are recommended, jurisdictions are required to include some method or methods for determining density in their ordinances.*

(1) Calculation: The maximum number of lots is determined by dividing the ~~area of the tract of land~~ adjusted tract acreage by the minimum lot size specified in the underlying zoning. In making this calculation, the following shall not be included in the total area of the parcel:

- ~~a. slopes over 25% of at least 5000 square feet contiguous area;~~
- ~~b. the 100-year floodplain;~~
- ~~c. bodies of open water over 5000 square feet contiguous area;~~
- ~~d. wetlands that meet the definition of the Army Corps of Engineers pursuant to the Clean Water Act;~~
- ~~e. anticipated right-of-way needs for roads and utilities; and~~

The adjusted tract acreage equals 85% of the gross tract area to account for unbuildable lands.

- *The jurisdiction may opt to adhere to the calculation method set out in the MNGWPD model ordinance. The jurisdiction may also opt to subtract a different percentage of the gross tract area in order to account for unbuildable lands if it so wishes. A different percentage may more accurately reflect the jurisdiction's specific average lot sizes in traditional neighborhoods and more accurately account for the land features found in the jurisdiction.*

(2) Yield Plan: The maximum number of lots is based on a conventional subdivision design plan, prepared by the applicant, in which the tract of land is subdivided in a manner intended to yield the highest number of lots possible permitted by the underlying zoning classification. The plan does not have to meet formal requirements for a site design plan, but the design must be capable of being constructed given site features and all applicable regulations.

D. Minimum Lot Size (Recommended). There shall be no minimum lot size requirements in a conservation subdivision. However, the density allowed by the underlying zoning limits the maximum tract density.

SECTION 4 APPLICATION REQUIREMENTS

A. Site Analysis Map Required. Concurrent with the submission of a site concept plan, the Applicant shall prepare and submit a site analysis map. The purpose of the site analysis map is to ensure that the important site features have been adequately identified prior to the creation of the site design, and that the proposed Open Space will meet the requirements of this article. The preliminary site plan shall included the following features:

1. Property boundaries;
 2. Relationship of the subject property to natural and man-made features existing within 1,000 feet of the site, noting whether surrounding property is slated for protection as greenspace in the county greenspace plan;
 3. All streams, rivers, lakes, wetlands and other hydrologic features;
 4. Topographic contours of no less than 10-foot intervals;
 5. All Primary and Secondary Conservation Areas labeled by type, as described in Section 1.4 of this Article;
 6. General vegetation characteristics;
 7. General soil types;
 8. The planned location of protected Open Space;
 9. Existing roads and structures;
 10. Potential connections of protected Open Space with existing greenspace and trails, including adjacent protected areas or adjacent non-protected natural lands that are possible candidates for inclusion as part of a future area of protected greenspace.
- *The Etowah Aquatic HCP Steering Committee recommends that jurisdictions require a site analysis map for all residential developments, both traditional and conservation. This will have a two-fold effect. First, it will encourage developers to build conservation subdivisions since they have to conduct site analysis regardless of the type of development they build. Second, it will encourage more conservation-oriented traditional developments.*

B. Open Space Management Plan Required. An open space management plan, as described in Section 1.4, shall be prepared and submitted prior to the issuance of a land disturbance permit.

C. Instrument of Permanent Protection Required. An instrument of permanent protection, such as a conservation easement or permanent restrictive covenant and as described in Section 1.4, shall be placed on the Open Space concurrent with the issuance of a land disturbance permit.

- *Local governments may wish to require placement of the conservation easement or equivalent on the open space at a different point in the development process other than at the point when the land disturbance permit is issued. For example, local governments may allow for placement of the conservation easement or equivalent legal tool on the open space before final plat approval is granted or the certificate of occupancy is granted.*

D. Four Step Design Process. All sketch plans or conceptual design plans for conservation subdivisions shall include documentation of a four-step design process in determining the layout of proposed Open Space lands, house sites, streets and lot lines, as described below.

a. Step 1: Delineation of Open Space Lands

- 1) The minimum percentage and acreage of required Open Space lands shall be calculated by the applicant and submitted as part of the [concept plan/preliminary plat] plan in accordance with the provisions of this ordinance. Open Space lands shall include all Primary Conservation Areas and those parts of the Secondary

Conservation Areas with the highest resource significance, as described in parts 3 and 4 of Step 1 below.

- 2) Proposed Open Space lands shall be designated using the Site Analysis Map as a base map and complying with Section 5.A. herein, dealing with Open Space design standards. The [jurisdiction's] Greenspace Plan shall also be referenced and considered.
- 3) In delineating Secondary Conservation Areas, the applicant shall prioritize natural and cultural resources on the tract in terms of their highest to least suitabilities for inclusion in the proposed Open Space.
- 4) On the basis of those priorities and practical considerations given to the tract's configuration, its context in relation to resources areas on adjoining and neighboring properties, and the applicant's subdivision objectives, Secondary Conservation Areas shall be delineated so that, together with all Primary Conservation Areas, they meet at least the minimum area percentage requirements for Open Space lands. Secondary Conservation Areas should also be delineated in a manner clearly indicating their boundaries as well as the types of resources included within them.

b. Step 2: Location of House Sites

Potential house sites shall be tentatively located, using the proposed Open Space lands as a base map as well as other relevant data on the Site Analysis Map such as topography and soils. House sites should generally be located not closer than 100 feet from Primary Conservation Areas and 50 feet from Secondary Conservation Areas, taking into consideration the potential negative impacts of residential development on such areas as well as the potential positive benefits of such locations to provide attractive views and visual settings for residences.

c. Step 3: Alignment of Streets and Trails

Upon designating the house sites, a street plan shall be designed to provide vehicular access to each house, and bearing a logical relationship to topographic conditions. Impacts of the street plan on proposed Open Space lands shall be minimized, particularly with respect to crossing environmentally sensitive areas such as wetlands and traversing slopes exceeding 15%. Street connections shall generally be encouraged to minimize the number of new cul-de-sacs to be maintained by the municipality, when reasonable based upon the site features, and to facilitate access to and from homes in different parts of the tract (and adjoining parcels).

d. Step 4: Drawing in the Lot Lines

Upon completion of the preceding three steps, lot lines are drawn as required to delineate the boundaries of individual residential lots.

E. Other Requirements. The Applicant shall adhere to all other applicable requirements of the underlying zoning and the [subdivision code].

SECTION 5. OPEN SPACE

~~**A. Definition.** Open Space is the portion of the conservation subdivision that has been set aside for permanent protection. Activities within the Open Space are restricted in perpetuity through the use of an approved legal instrument.~~

A. Standards to Determine Open Space.

1. The minimum restricted Open Space shall comprise at least 40% of the gross tract area.
 - *Local governments are encouraged to require a minimum amount of open space as high as 80% of the gross tract area so as to provide for as much opportunity to protect open space as possible in their jurisdictions without discouraging developers from building conservation subdivisions rather than traditional subdivisions.*
2. The following are considered Primary Conservation Areas and are required to be included within the Open Space, unless the Applicant demonstrates that this provision would constitute an unusual hardship and be counter to the purposes of this article:
 - a. The regulatory 100-year floodplain;
 - b. Buffer zones of at least 75 ft width along all ~~perennial and intermittent~~ streams;
 - *Jurisdictions that are not members of the MNGWPD may opt to require 50 ft. stream buffers rather than 75 ft. buffers as part of the primary conservation areas. However, because one the purposes of the conservation subdivision ordinance is to “preserve in perpetuity unique or sensitive natural resources such as groundwater...streams...and wildlife habitat,” these jurisdictions are encouraged to require at least a 75 ft. buffer as part of the primary conservation area.*
 - c. Slopes above 25% of at least 5000 square feet contiguous area;

Jurisdictions that feature many steep slopes above 25% within their boundaries may wish to include only slopes above 35% of at least 5000 sq. ft. in the primary conservation areas.
 - d. Wetlands that meet the definition used by the Army Corps of Engineers pursuant to the Clean Water Act;
 - e. Populations of endangered or threatened species, or habitat for such species; and,
 - f. Archaeological sites, cemeteries and burial grounds.
3. The following are considered Secondary Conservation Areas and should be included within the Open Space to the maximum extent feasible.
 - a. Important historic sites;
 - b. Existing healthy, native forests of at least one acre contiguous area;
 - c. Individual existing healthy trees greater than 8 inches caliper dbh, as measured from their outermost drip line;
 - d. Other significant natural features and scenic viewsheds such as ridge lines, peaks and rock outcroppings, particularly those that can be seen from public roads;
 - e. Prime agricultural lands of at least five acres contiguous area; and,
 - f. Existing trails that connect the tract to neighboring areas.

4. Above-ground utility rights-of-way and ~~small areas of impervious surface~~ small impervious areas may be included within the protected Open Space but shall not count towards the 40% minimum area requirement. (exception: historic structures and existing trails, defined as small impervious areas, may be counted). ~~Large areas of impervious surface~~ Large impervious areas shall be excluded from the Open Space.
5. ~~At least 75% of the Open Space shall be in a contiguous tract. The Open Space shall adjoin any neighboring areas of Open Space, other protected areas, and non-protected natural areas that would be candidates for inclusion as part of a future area of protected Open Space.~~
6. ~~The Open Space shall be directly accessible to the largest practicable number of lots within the subdivision. Non-adjoining lots shall be provided with safe, convenient access to the Open Space.~~

B. Permitted Uses of Open Space. Uses of Open Space may include the following:

1. Conservation of natural, archeological or historical resources;
2. Meadows, woodlands, wetlands, wildlife corridors, game preserves, or similar conservation-oriented areas;
3. Walking or bicycle trails, provided they are constructed of ~~porous paving~~ pervious materials;
4. Passive recreation areas, such as open fields;
5. **(Recommended)**. Active recreation areas, provided that they are limited to no more than 10 percent of the total Open Space and are not located within Primary Conservation Areas. ~~Active recreation areas may include impervious surfaces.~~ Active recreation areas in excess of this limit must be located outside of the protected Open Space. Active recreation areas may include small impervious areas. These small impervious areas shall not count towards the minimum open space requirement. Active recreation areas shall not include large impervious areas.
6. **(Recommended)**. Agriculture, horticulture, silviculture or pasture uses, provided that all applicable best management practices are used to minimize environmental impacts, such activities are not conducted within Primary Conservation Areas, and no existing healthy, native forests of more than one contiguous acre in size are removed to allow for such activities.
7. Nonstructural stormwater management practices and structural stormwater management practices that allow for infiltration, such as bioretention areas;
8. Septic systems comprised of single or multiple septic tanks and leach fields located on soils particularly suited to such uses;
9. Easements for drainage, access, and underground utility lines; or
10. Other conservation-oriented uses compatible with the purposes of this ordinance.

C. Prohibited uses of Open Space.

1. Golf courses;
2. Roads, parking lots and impervious surfaces, except as specifically authorized in the previous sections;
3. Agricultural and forestry activities not conducted according to accepted Best Management Practices; ~~and~~;
4. Impoundments;

5. Package plants for sewage treatment;
 - *Local governments that are members of the NMGWPD are strongly encouraged to disallow package plants within the open space in order to comply with the NMGWPD conservation subdivision ordinance. Non-member local governments may choose to allow package plants within the open space at their discretion.*
6. Use of motorized vehicles, except for maintenance purposes as provided for in the Open Space Management Plan; and,
7. Other activities as determined by the Applicant and recorded on the legal instrument providing for permanent protection.

D. Ownership and Management of Open Space.

1. Ownership of Open Space. The applicant must identify the owner of the Open Space who is responsible for maintaining the Open Space and facilities located thereon. If a Homeowners Association is the owner, membership in the association shall be mandatory and automatic for all homeowners of the subdivision and their successors. If a Homeowners Association is the owner, the Homeowners' Association shall have lien authority to ensure the collection of dues from all members. The responsibility for maintaining the Open Space and any facilities located thereon shall be borne by the owner.
2. Management Plan. Applicant shall submit a Plan for Management of Open Space and Common Facilities ("Plan") that:
 - a. allocates responsibility and guidelines for the maintenance and operation of the Open Space and any facilities located thereon, including provisions for ongoing maintenance and for long-term capital improvements;
 - b. estimates the costs and staffing requirements needed for maintenance and operation of, and insurance for, the Open Space and outlines the means by which such funding will be obtained or provided;
 - c. provides that any changes to the Plan be approved by the ~~Board of Commissioners~~ **[local governing body]**; and,
 - d. provides for enforcement of the Plan.
3. In the event the party responsible for maintenance of the Open Space fails to maintain all or any portion in reasonable order and condition, **[the jurisdiction]** may assume responsibility for its maintenance and may enter the premises and take corrective action, including the provision of extended maintenance. The costs of such maintenance may be charged to the Homeowner's Association, or to the individual property owners that make up the Homeowner's Association, and may include administrative costs and penalties. Such costs shall become a lien on all subdivision properties.

E. Legal Instrument for Permanent Protection.

1. The Open Space shall be protected in perpetuity by a binding legal instrument that is recorded with the deed. The instrument shall be one of the following:
 - a. A permanent conservation easement in favor of either:

- (i) a land trust or similar conservation-oriented non-profit organization with legal authority to accept such easements. The organization shall be bona fide and in perpetual existence and the conveyance instruments shall contain an appropriate provision for retransfer in the event the organization becomes unable to carry out its functions; or
 - (ii) a governmental entity with an interest in pursuing goals compatible with the purposes of this ordinance.
If the entity accepting the easement is not [the jurisdiction], then a third right of enforcement favoring [the jurisdiction] shall be included in the easement;
 - b. A permanent restrictive covenant for conservation purposes in favor of a governmental entity; or
 - c. An equivalent legal tool that provides permanent protection, if approved by [the jurisdiction].
2. The instrument for permanent protection shall include clear restrictions on the use of the Open Space. These restrictions shall include all restrictions contained in this article, as well as any further restrictions the Applicant chooses to place on the use of the Open Space.

Optional Provisions

The Open Space shall be directly accessible to the largest practicable number of lots within the subdivision. Non-adjoining lots shall be provided with safe, convenient access to the Open Space.

At least 75% of the Open Space shall be in a contiguous tract. The Open Space shall adjoin any neighboring areas of Open Space, other protected areas, and non-protected natural areas that would be candidates for inclusion as part of a future area of protected Open Space.

Tax Assessment of Open Space. Once a legal instrument for permanent protection has been placed upon the Open Space, [the jurisdiction's tax assessment office] shall be directed to reassess the Open Space at a lower value to reflect its more limited use. If the Open Space is used purely for passive recreational purposes and the terms of the instrument for permanent protection effectively prohibit any type of significant economic activity, then the assessment shall be at a value of zero.