

## **BRIAR CHAPEL – TRIANGLE “J” COUNCIL OF GOVERNMENTS HIGH PERFORMANCE STANDARDS**

Newland Communities is committed to developing Briar Chapel so as to maximize energy conservation, minimize adverse impacts to the project site and surrounding areas, and develop facilities that are designed with low life-cycle costs. This will be achieved through careful planning, design, construction, maintenance and operations, and reuse where practical. More specifically, Newland will utilize the Triangle J Council of Governments’ High Performance Guidelines as a basis for action throughout this project. Below is a summary of each of the guidelines and Newland’s approach for meeting these guidelines.

### **QUALITY MANAGEMENT 1.0**

In an effort to manage the development of Briar Chapel as efficiently and effectively as possible, Newland will make every effort to establish clear lines of communication among the various entities that will be involved in the project. This effort will define the roles and responsibilities of the various entities and provide a protocol for communication that seeks to keep all parties informed of key decisions as the project evolves. Furthermore, periodic status reports will ensure that all parties involved are continually aware of milestones achieved and pending, as well as, problems encountered and solutions implemented.

- 1.1 Basic Quality Management: A section of the Brier Chapel Design Guidelines titled “Green Building Program” will be developed in order to address the following project goals. (Describe program)
- 1.2 Comprehensive Building Commissioning: As described in the before mentioned document, the “Green Building Program” will describe how the stated goals will be achieved and verified through a commissioning process.

### **SITE 2.0**

Erosion and Sediment Control 2.1 - Proper sediment and erosion control is a key component of any construction project and when implemented correctly from the beginning minimizes considerable obstacles during construction while protecting the downstream streams from siltation and the air from particulate pollution. In addition to typical NC DENR methods and structures that are used to capture sediment and erosion control prior to leaving the site, proactive measures will be implemented, where practical, to divert stormwater away from the project site and thereby prevent sedimentation prior to occurrence.

Site Selection 2.2 – As part of the extensive study of the project site that has been accomplished over the past several years, considerable attention has been given to identifying sensitive areas such as wetlands, endangered wildlife habitat, streams, etc. In developing the Briar Chapel master plan careful consideration was given to these areas so as to avoid adverse impact to them.

Redevelopment 2.3 – This guideline is not applicable to the Briar Chapel since no existing infrastructure is in place on the project site.

Brownfield Development 2.4 - This guideline is not applicable to the project since no existing damaged sites are located on the project site.

#### Alternative Transportation 2.5

The Briar Chapel community provides that the residential units, the village center, community center, town center and community gathering points will be interconnected by an organic grid network of streets. This street network creates a series of neighborhood parks and open space connected by sidewalks and conservation trails. All retail and civic buildings are located within ½ mile of planned pedestrian trails and sidewalks as well as designated transit stop locations. Locations for park-and-ride spaces and transit stops shall be located within or near the Town Center, the Village Center and the Community Center and/or where any subsequent transit authority may determine necessary.

Multi-family residential uses shall provide bicycle parking at the rate of 1 bicycle parking space for each 20 motorized vehicle spaces but no more than 50 total bicycle parking spaces are required for any single development. Non-residential uses with an off-street parking requirement for motorized vehicles of at least 15 spaces and not more than 40 spaces shall provide a minimum of 2 bicycle parking spaces. Non-residential uses, with an off-street parking requirement greater than 40 spaces, shall provide bicycle parking spaces equal to 5% of the total number of spaces required up to 100 spaces.

#### Site Disturbance 2.6

The Briar Chapel community will limit site disturbance, including earthwork and clearing of vegetation, to 40 feet beyond the building perimeter and 25 feet from any other permanent built feature or improved open space such as athletic fields and playgrounds.

The community's open space shall preserve a minimum of 50% of the site in undeveloped open space. At the time of construction, a site plan identifying tree protection and highlighting the limits of construction will be submitted.

## **Stormwater Management 2.7**

The proposed Briar Chapel development will utilize the most up-to-date stormwater treatment options available to minimize the impacts of stormwater runoff both in terms of quality and quantity. The intent of the Triangle High Performance Guidelines with respect to stormwater management is that stormwater runoff will be minimized, infiltration on site will be maximized to the extent possible, and contaminants in stormwater runoff will be reduced. The Briar Chapel accomplishes this with a two-prong approach:

Both site disturbed areas and impervious areas are minimized. The compact community design allows for more undisturbed open space than other types of developments, thereby focusing the development activity on a smaller area of the site. Minimizing impervious surfaces and site disturbance allows for more undisturbed open area, which translates to less stormwater runoff being generated by the site. Benefits to this approach are more and larger open spaces to filter and absorb stormwater runoff and less generation of stormwater runoff from impervious and disturbed areas.

For those areas that are disturbed, the site is implementing a stormwater management plan that will control both the rate and quantity of stormwater runoff leaving the site. The stormwater management devices that are to be provided will be designed per the NC DENR Division of Water Quality Best Management Practices Manual. Innovative stormwater management techniques such as cisterns, bioretention areas, extended detention stormwater wetlands, grassed swales, and filtering systems are under consideration for use where practical on this site. These stormwater management systems will control the rate, quantity, and quality of stormwater runoff leaving the site such that adverse downstream impacts are mitigated. Additionally, the stormwater management systems on this site are to be located outside of all environmentally sensitive areas such as streams, wetlands, and stream buffers, and the stormwater management is conducted close to the source, per the tenants of Low Impact Development design. Regional treatment is not being utilized for this site. This allows the streams within the site to remain in an undisturbed condition. Stormwater treatment is essentially completed before runoff from the disturbed areas of the site is allowed to enter the streams within the site itself.

## **Heat Islands 2.8**

Although all paved surfaces will be planted with trees to provide both shade and landscape benefits to the overall community the Briar Chapel community will not seek to meet the requirements of reducing the heat islands to the extent described. Given the compactness of development required and the amount of open space provided in both tree preservation and improved open space, the provision for providing shade (within 5 years) on at least 30% of non-roof impervious surfaces or uses light-colored/high-albedo materials or placing a minimum of 50 % of parking spaces underground or use of an open-grid pavement system for a minimum of 50% of the parking areas does not prove to be a feasible alternative.

## **Light Pollution 2.9**

The Draft Chatham County Lighting Ordinance dated 9-2-03 is incorporated herein by reference, and is to be followed as guidelines for lighting within the community.

## **WATER 3.0**

Water Efficient Landscaping 3.1 – Water reclamation and reuse is a major conservation feature of the proposed Briar Chapel Community. All wastewater generated in the community will be conveyed to an on-site reclamation facility for treatment and then spray irrigated. This facility will be equipped with advanced tertiary treatment equipment that will produce a very high quality effluent that meets all applicable spray irrigation standards. Spray irrigation will occur throughout the Briar Chapel development and will include open areas, common areas that are landscaped, and the playfields and parks. In this way, the use of potable water will be significantly limited and will primarily be used by homeowners.

Highly advanced technology will be employed as part of the spray irrigation system. This technology will not only allow for extensive control of the system but will also incorporate considerable monitoring sensors that will automatically transmit wind and precipitation data to the operator. This will enable the operator to make adjustments not only to the particular areas being irrigated but also to the extent that occurs so as to minimize run-off and compensate for changes that may occur in the rate of evapotranspiration. See Section 7.2 of this application for a description of the spray irrigation system and controls.

Furthermore, based on the results of the agronomist report included with this application, plantings in the common areas such as road medians, recreational fields, and utility corridors, forage/ornamental systems will be established. One of the characteristics of these systems is that they tolerate a wide range of soil moisture levels and so are highly efficient in terms of water consumption.

Innovative Wastewater Technologies 3.2 – As described above, an on-site wastewater reclamation facility at Briar Chapel will treat all of the wastewater generated within the community. This facility will be a state-of-the-art plant that treats the wastewater to tertiary standards that meet stringent spray irrigation requirements. The reclaimed water will be spray irrigated on-site in a variety of areas including roadway medians, recreational fields, and other common areas. Section 7.2 of this application provides a description of the technologies to be included at this facility. The on-site reclamation facility and subsequent spray irrigation of the reclaimed water, will make Briar Chapel a highly efficient water conserving community that greatly minimizes the extent of potable water needed from the Chatham County and thereby significantly reduces the allocation requirements from the Chatham County water plant.

Water Use Reduction 3.3- The Briar Chapel community will utilize highly restrictive water-conserving fixtures in the residential and commercial buildings. These fixtures may include toilets that use 1.6 gallons per flush or less, spring-loaded faucets with flow rates of one gallon per minute or less, and showerheads with flow rates of two gallons per minute or less.

Post-Commissioning Monitoring 3.4 – As in detail in Section 7.2, the spray irrigation system will continually monitor the amount of reclaimed water that has been used for irrigation. This monitoring information will clearly present the considerable water savings that the Briar Chapel system has afforded the Chatham County Public Water Supply by minimizing the extent of potable water needed for irrigation.

## **ENERGY AND ATMOSPHERE 4.0**

Minimum Energy Performance 4.1 – Minimum energy performance standards will be established prior to development.

CFC Reduction in HVAC&R Equipment 4.2 – All HVAC&R components will be required to be CFC-free. All new building materials will be CFC-free unless excessive cost or limited selection impose a burden

Optimal Energy Performance 4.3 - Optimal Energy Performance: Briar Chapel will establish a builder participating “Energy Star “ program that will establishes rankings buildings.

Renewable Energy 4.4 - These technologies will be the choice of the building owner or developer.

Elimination of HCFCs and Halons 4.5 - The Briar Chapel Design Guidelines will encourage the use of systems that are free of HCFCs and Halons.

Measurement and Verification 4.6 - The Briar Chapel Design Guidelines will outline a process of verification and compliance for their requirements.

Green Power 4.7 – The Briar Chapel development will not comply with this item.

## **MATERIALS AND RESOURCES 5.0**

### Storage and Collection of Recyclables 5.1 -

Briar Chapel is primarily a residential community that will also incorporate some commercial/office areas to be leased by a variety of businesses. The key to establishing an effective recycling program will be convenience and education of the residents and commercial occupants. To that end, Briar Chapel will promote recycling of materials by providing recycling convenience centers within the community, and working with Chatham County and recycle waste haulers to promote and establish a curb-side pickup programs. In addition, public facilities such as the recreation center and swim complexes that will be managed and operated by the Homeowners Association will establish strict recycling guidelines to be used by the employees and that promote recycling of materials within these facilities. For example, recycling bins in lobby areas and cafeterias will facilitate recycling rather than disposable of can and plastic drinking materials.

### Building Reuse 5.2 -

The Briar Chapel community will be established on a site that currently contains no reusable buildings. Nevertheless, careful consideration will be given to selection of building materials, as the community is developed, so as to promote use of materials that prolong the life and usability of the buildings.

### Construction Waste Management 5.3 -

As contractors are selected for construction of Briar Chapel, special consideration will be given to those contractors that have an established construction material recycle program and that can demonstrate how they have implemented their program on other sites.

### Resource Reuse 5.4 -

The Briar Chapel community will be established on a site that currently contains some tobacco barns and the crisp house that may be salvageable. The crisp house may be relocated on or off-site subject to its feasibility (much of it is in very poor, deteriorating shape at this time.) Nevertheless, as contractors are selected for construction of Briar Chapel, special consideration will be given to those contractors that have an established and successful program for utilizing salvaged or refurbished building materials

### Recycled Content 5.5 -

As contractors are selected for construction of Briar Chapel, special consideration will be given to those contractors that have an established program for utilizing materials that contain post-consumer recycled content material and that can demonstrate how they have implemented their program on other sites.

Local/Regional Materials 5.6 -

As contractors are selected for construction of Briar Chapel, special consideration will be given to those contractors that have an established program for utilizing materials that are manufactured locally and that can provide references for local manufacturers that they have utilized.

Rapidly Renewable Materials 5.7 -

As contractors are selected for construction of Briar Chapel, special consideration will be given to those contractors that have an established program for utilizing rapidly renewable materials and that can provide evidence of projects in which they have utilized such materials.

Certified Wood 5.8 -

As contractors are selected for construction of Briar Chapel, special consideration will be given to those contractors that have an established program for utilizing wood-based materials that are certified in accordance with the Forest Stewardship Council guidelines and that can provide evidence of projects in which they have utilized such materials.

Durable Materials 5.9 -

As contractors are selected for construction of Briar Chapel, special consideration will be given to those contractors that have an established program for utilizing materials with a low embodied energy and low resource depletion throughout the life cycle of the material and that can provide evidence of projects in which they have utilized such materials for roofing systems, thermal envelopes, structural systems, finishes, and/or furniture, fixtures, or other equipment.

## **INDOOR ENVIRONMENT 6.0**

Minimum IAQ Performance - 6.1 Commercial Buildings and Residential Buildings will comply with this on a voluntary basis.

Environmental Tobacco Smoke Control - 6.2 Commercial Buildings will comply with this on a voluntary basis.

Carbon Dioxide Monitoring - 6.3 Carbon Dioxide Monitoring: Commercial Buildings will comply with this on a voluntary basis.

Ventilation Effectiveness - 6.4 Commercial Buildings will comply with this on a voluntary basis.

Construction IAQ Management Plan - 6.5 Commercial Buildings will comply with this on a voluntary basis.

Low-emitting Materials - 6.6 The Brier Chapel Design Guidelines will provide a list of preferred materials to be used on a volunteer basis.

Indoor Chemical & Pollution Source Control - 6.7 Commercial Buildings will comply with this on a voluntary basis.

Controllability of Systems - 6.8 Commercial Buildings will comply with this on a voluntary basis.

Thermal Comfort - 6.9 Commercial Buildings will comply with this on a voluntary basis.

Daylighting and Views - 6.10 Commercial Buildings will comply with this on a voluntary basis.

Contaminant Monitoring - 6.11 Commercial Buildings will comply with this on a voluntary basis.

Acoustic Quality - 6.12 Commercial Buildings will comply with this on a voluntary basis.

## **INNOVATION**

General Innovation - Commercial Buildings will comply with this on a voluntary basis.

Professional Training - Commercial Buildings will comply with this on a voluntary basis.