

Environment in 2030

In 2030, the Town of Huntersville will be a community that continues to place a high value on the preservation and enhancement of the natural environment, as well as its scenic and cultural assets, through the adoption and implementation of progressive land use and transportation policies. The use of renewable and alternative energy sources (e.g. solar and wind) will be encouraged, together with Green Building” and “Green Neighborhood Development” Leadership in Energy & Environmental Design (L.E.E.D) technologies and practices, to reduce environmental impacts and dependence on non-renewable resources. New growth and development will be directed away from environmentally sensitive and protected areas and toward those areas which can accommodate development, resulting in an environmentally, economically and socially sustainable land development pattern.

FOCUS AREA: ENVIRONMENT

1.0 INTRODUCTION

The Town of Huntersville features an abundance of natural resources and environmental features, along with scenic and cultural assets, that serve to define the community's character and therefore, require special attention to ensure their preservation and enhancement (see **Figure E-1, Map E-1**).

**Figure E-1
Latta Plantation**

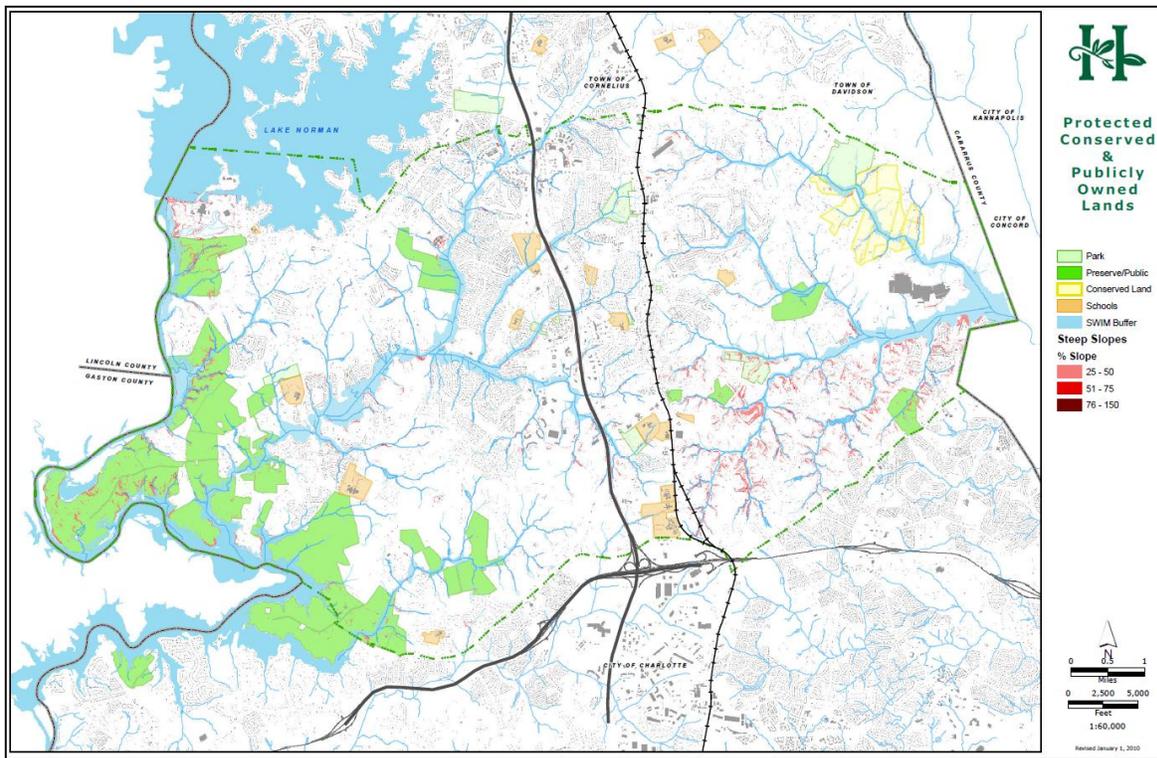


Huntersville has for many years placed a strong emphasis on establishing environmental protection measures, such as “Low Impact Design” (L.I.D) water quality standards, tree preservation, open space standards and other “smart growth” design principles such as mixed-use and cluster development to reduce the effects of growth and development on the natural environment.

In addition to development standards aimed at protecting the environment, a significant portion of the Town's land area is under private conservation easements or is publicly owned open space (park or other).

In particular, Mecklenburg County has acquired large tracts of land in the western area of Huntersville in order to protect Mountain Island Lake and the water intake for the Charlotte-Mecklenburg Utilities water plant located just south of Huntersville. The extent of this land can be seen in **Map E-1**.

Results of the “2030 Community Plan - Resident Survey” reflect strong support for preservation of the Town's rural areas, balanced by a development pattern that limits environmental impact, including the use of development incentives and building design that enhances and complements the Town's rural areas. Residents also strongly support the use of alternative energy sources for existing and new development and the redevelopment of older structures in an “environmentally friendly” manner. These sentiments are best captured in the following survey response:



**Map E-1
Protected, Preserved and Public Land**

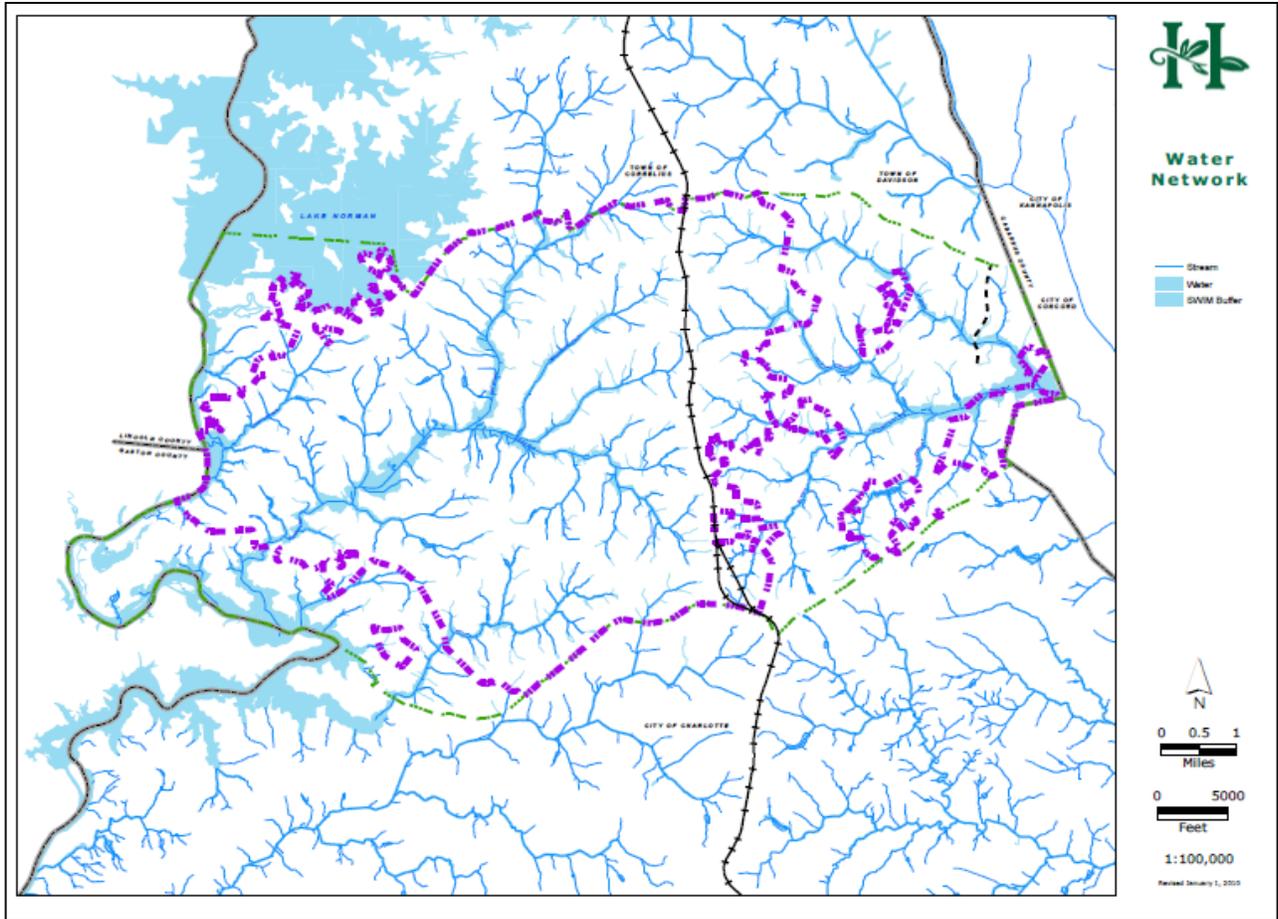
*91% of survey respondents
“Support development that
promotes economic growth,
environmental protection and
high quality of life (i.e.
“sustainable” development).*

As Huntersville continues to grow, the challenge will be to balance the preservation of its natural environment and resources with the growth and development that will occur over the next 20 years. The success of this balancing effort will, in large part, determine the character of Huntersville for the next generation.

1.1. Existing Environmental Features

In 2004, a Natural Resource Inventory Map was prepared for the Town. This map identified sensitive environmental areas such as water features (streams, lakes, etc.), steep slopes, wetlands and floodplains. **Map E-2** displays streams and water bodies in Huntersville.

This inventory map is an important tool both for identifying areas that are candidates for preservation and/or special protection and to guide growth to areas that are suitable and appropriate for development. The data displayed on this map is useful in guiding new development proposed in Huntersville and should continue to be used for this purpose and others as they may arise.



Map E-2
Streams and Water Bodies

Table E-1
Protected/Conserved & Publicly-owned Lands

1.2. Protected Land

A large portion of Huntersville’s total land area (approximately 15%) is comprised of either privately conserved or publicly owned protected or park land. **Map E-1** identifies these areas. **Table E-1** shows the type and acreage of protected, conserved and park land.

Land Type	Size (acres)
Protected (Public Nature Preserves and open space)	4,787
Conserved (Private)	648
Parks	510
TOTALS:	5,945

Protected land is property which has some type of designation which would prohibit or constrain the type or extent of development that could occur on that property. Examples would include land located within one of several nature preserves (e.g. Latta Plantation). The largest tracts of protected land are found in the Town’s “Extra-Territorial Jurisdiction (ETJ),” primarily within the various nature preserves, located within Huntersville. A total of 4,787 acres of protected land is located in Huntersville. **Map E-1** shows protected land in dark green color.

Conserved land is another category of open space which serves a valuable role in the preservation and conservation of Huntersville’s natural resources and scenic views.

Currently, all of the conserved land in Huntersville falls under the jurisdiction of the Catawba Land Conservancy Trust, a private, not-for-profit organization whose mission is to set aside large tracts of land for open space preservation. The mechanism used to accomplish this mission is through the use of “Conservation Easements,” which impose long-term development restrictions on property in exchange for a reduction in taxes paid. Several property owners have taken advantage of this program. A total of 648 acres is currently classified as conserved land in Huntersville. **Map E-1** shows conserved land in light yellow color.

Park land is the final category of land and includes county and town owned parks and open space and totals approximately 510 acres. **Map E-1** shows conserved land in light green color.

2.0 CURRENT ENVIRONMENTAL REGULATIONS

As previously noted, the Town of Huntersville has adopted a series of environmental regulations that serve to minimize environmental impact associated with land development. A summary of these regulations is outlined below.

2.1 Mountain Island Lake Watershed Overlay District (MIL-O)

Adopted in 1993, the MIL-O District is intended to provide for the protection of public water supplies as required by the “N.C. Water Supply Watershed Classification and Protection Act.” The District includes two sub-areas, “Critical” and “Protected”, with limitations established on uses, maximum impervious coverage, and buffer protection. The MIL-O District serves to limit environmental (i.e. water quality, shoreline and habitat) impacts within the district, including land areas within most of the Town’s “Nature Preserves.”

2.2 Lake Norman Watershed Overlay District (LN-O)

The LN-O District serves a similar role to that of the MIL-O District. As with the MIL-O District, the LN-O District includes both “Critical” and “Protected” areas, along with restrictions on use, impervious coverage and buffer protection.

Similar to the MIL-O District, the LN-O District provides valuable water quality protection along with preservation and protection of shorelines for Lake Norman, its tributaries and their associated habitats.

2.3 Tree Preservation

According to the “Purpose” section of the Town’s “Tree Preservation, Protection and Removal” Ordinance, *“Wooded sites provide distinct aesthetic, economic and environmental significance and value as a natural resource of the Town. Existing vegetation plays a critical role in maintaining aesthetics, water quality, minimizing erosion and downstream flooding, and increasing quality of life.”*

Approved in 2003, the ordinance requires a site analysis for all development in residential and commercial zoning districts, with specific tree preservation standards for significant forest stands, specimen trees and heritage trees. According to the ordinance, 100% of Heritage Trees shall be preserved, 10% to 50% of Specimen Trees and between 10% and 50% of the existing tree canopy shall be preserved, depending on the specific zoning district. In instances where tree preservation

standards cannot be met, replanting or contribution to a Tree Fund/Bank is required to offset the loss of trees if approved by the Planning Board. (Source: Article 7.4, Huntersville Zoning Ordinance)

2.4 Buffer Yards & Landscaping

In addition to its tree preservation requirements, the Town requires buffer yards to provide visual and distance separation between adjacent properties, except those located within the Town Center (TC) and Transit Oriented Development (TOD) zoning districts. The Town also requires the planting of street trees along public and parking lots to ensure:

“a pedestrian friendly environment along with providing distinct aesthetic, economic and environmental significance, and value as a future natural resource to the Town”.

(Source: Article 7.7, Huntersville Zoning Ordinance)

2.5 Open Space

The Town’s development regulations require the provision of Urban Open Space and Natural Recreational and Agricultural Open Space for most development proposals. Urban Open Space is defined as *“all areas not divided into private or civic building lots, streets, right-of-way, parking or easements for purposes other than open space conservation”.*

Urban Open Space is required in all zoning districts except Rural and can consist of squares, parks, forecourts, plazas, parkways and greenbelts.

(Source: Article 7.10, Huntersville Zoning Ordinance)

The purpose of Natural Recreational and Agricultural Open Space in the Rural and Transitional zones is to preserve agricultural and forestry lands, natural and cultural features, and rural character that would likely be lost through conventional development approaches. Lands to be preserved as open space should include wetlands and the areas immediately adjacent to them; floodways; soils unsuitable for septic systems; mature woodlands; significant wildlife habitat; prime agricultural farmland; historic, archaeological and culture features listed (or eligible to be listed) on national, state or local registers or inventories; significant views into and out from the site; and aquifers and their recharge areas. The subdivision process is discussed in Section 3.0 of this focus area.

2.6 Water Quality

In 2003, the Town adopted “Water Quality” regulations consistent with the National Pollution Discharge Elimination System (NPDES) Storm Water Permit and other requirements as established by the U.S. Clean Water Act. The purpose of these regulations is to establish storm water management requirements and controls to prevent surface water quality degradation to the extent practicable in the streams and lakes within the Town Limits.

Compliance with the Town’s Water Quality standards requires the use of “Low Impact Development (LID),” which seeks to more closely replicate a site’s predevelopment characteristics (i.e. ecology) as compared to conventional storm water management techniques. *“The goal of LID is to develop site design techniques, strategies, and ‘Best Management Practices’ (BMPs) to store, infiltrate, evaporate, retain, and detain runoff on the site to more closely replicate pre-development runoff characteristics and to better mimic the natural and unique hydrology of the site thereby limiting the increase in pollutant loads caused by development.”*

(Source: Article 8.17.13 – Huntersville Zoning Ordinance)

An excellent example of the application of LID principles to an existing development is depicted in **Figure E-2**. This picture shows the retrofit of an existing shopping center parking lot to reduce the amount of impervious area through the removal of parking spaces and replacement with rain gardens. Rain gardens are vegetated areas which allow for the infiltration of storm water runoff. These rain gardens serve to allow for on-site recharge of the water table, as well as filtration of surface pollutants, such as engine oil and sediments.

Figure E-2
Retrofit of Rain Garden in Parking Lot
at Northcross Shopping Center



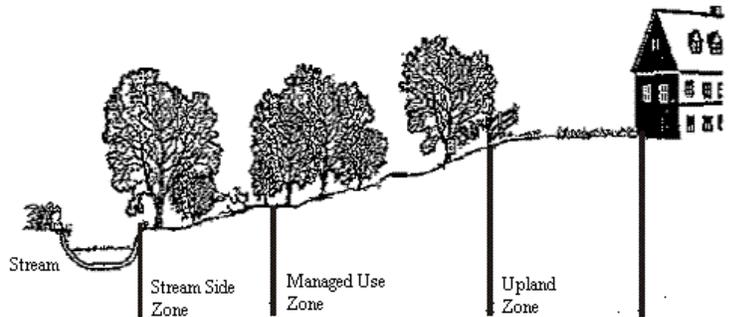
2.7 Surface Water Improvement and Management (S.W.I.M.) Stream Buffers

Adopted in 2001, the purpose of S.W.I.M. Stream Buffers are “to filter pollutants, store floodwaters, provide habitat, and contribute to the ‘green infrastructure.’ Stream systems are comprised of each stream and its respective drainage basin”. (Source: Article 8.25, Huntersville Zoning Ordinance) (Map E-1 shows the S.W.I.M. buffers within the Town of Huntersville shaded in blue.) The S.W.I.M. buffers include all perennial and intermittent streams within the Town’s jurisdiction, and consist of a “minimum” 30 foot buffer extending outward from the top of a stream bank. The width of the S.W.I.M. buffer is based on the total drainage basin size and covers three zones, as noted in Table E-2.

Table E-2
S.W.I.M. Stream Buffers:
Minimum Buffer Widths by
Basis Size and Buffer Zone

Basin Area	Stream Side Zone	Managed Use Zone	Upland Zone	Total Buffer (each side of stream)
<50 ac.	N/A	N/A	30 ft.	30 ft.
>50 ac.	20 ft.	None	15 ft.	35 ft.
>300 ac.	20 ft.	20 ft.	10 ft.	50 ft.
>640 ac.	30 ft.	45 ft.	25 ft. or balance of flood plain	100 ft. or entire flood plain

Three Zoned Urban Stream Buffer



Source: Article 8.25, Huntersville Zoning Ordinance

Within each zone there are restrictions on uses allowed, as well as on the disturbance of vegetation and alteration of terrain.

3.0 SUBDIVISION DEVELOPMENT PROCESS

For all major subdivisions, an “Existing Features (Site Analysis) Plan” must be submitted as part of the application, in order to determine significant features to be preserved. The “Existing Features Plan” shall include, at a minimum, the following information:

1. The location and area calculations of constraining features including wetlands, slopes over 25%, watercourses, intermittent streams and floodways, S.W.I.M. buffers (outside of floodways), watershed buffers, and all rights-of-way and easements.
2. The location of significant features such as woodlands, tree lines, specimen and heritage trees, open fields or meadows, scenic views into or out of the property, watershed divides and drainage ways; existing structures, cemeteries, roads, tracks and trails; significant wildlife habitat; prime agricultural farmland; historic, archeological and cultural features listed (or eligible to be listed) on national, state or county registers or inventories; and aquifers and their recharge areas.
3. The location of existing or planned utility easements (above and below ground) to include, but not limited to power/transmission, water, sewer, gas, phone, and cable.

4. A topographical map showing original contours at intervals of not less than four feet and existing tree lines.

Following this analysis, for development located within the Rural and Transitional zoning districts, each subdivision sketch plan shall adhere to a four-step process:

1. **Step 1 - Designation of Open Space.** Areas to be designated should consist of wetlands, floodways, flood fringe and significant trees as well as sensitive and noteworthy natural, scenic and cultural resources on the property.
2. **Step 2 - Location of House Sites.** Based on the designation of open space, potential house sites are tentatively located.
3. **Step 3 - Street and Lot Layout.** Once open space and tentative house sites have been identified, streets can be located, taking care to avoid conservation areas and wetland crossings.
4. **Step 4 - Lot Lines.** Following Steps 1-3, lot lines can be drawn, where applicable.

This process is intended to locate and position new development to minimize environmental impacts and avoid impacts on particularly sensitive and noteworthy natural, scenic and cultural resources on the property.

4.0 SIGNIFICANT ENVIRONMENTAL ISSUES

4.1 Lighting

As a rapidly developing community that is expected to continue to exhibit a strong growth pattern over the next 20 years, the Town must be cognizant of actual or potential environmental issues that may arise. One such issue relates to lighting. Excessive night-time lighting can have negative environmental (e.g. disruption of habitat) as well as social and economic (e.g. reduction in privacy and loss of property value) impacts. While the Town's current lighting standards are intended to minimize these impacts, it will be important to monitor and adjust requirements over time to ensure that these impacts do not worsen and, in fact, are reduced where possible.

4.2 Air Quality

Air quality will continue to be a major concern for the Town of Huntersville through 2030. Currently, the Town, situated within the Charlotte Metropolitan region, is located in a "non-attainment" area for air quality. According to the most recent data compiled by the "Mecklenburg-Union Metropolitan Planning Organization (MUMPO)" – the regional agency responsible for monitoring compliance with Federal and State air quality standards - the primary source of air pollutants continues to be the automobile.

Alternatives to automobile use (i.e. walking, bicycling, mass transit) provide excellent opportunities to reduce auto emissions. Investments in sidewalks, greenway trails, bus and rail transit, as well as improved connectivity of the Town's street network to better integrate residential, commercial and recreational land uses will all help to improve air quality in Huntersville.

4.3 Waste Disposal

The Town of Huntersville has taken an aggressive stance toward the reduction of both residential and non-residential waste that is generated within its jurisdiction. An enhanced recycling program, yard waste composting, and appliance pickup (as well as participation in and support for other efforts to safely dispose of harmful products, along with stream and road cleanup efforts) are all important to maintaining a healthy environment. Several inactive landfills are located in Huntersville, including the Griffin Landfill which includes a "capped" household waste site, as well as an active commercial/construction debris site.

Continued monitoring of groundwater and air quality impacts at active and inactive landfill sites are essential. Where opportunities exist for converting former or current landfills to productive (e.g. recreational) uses, they should be pursued. Harnessing methane gas from landfill sites is another option that may offer beneficial and productive reuse of these sites.

4.4 Alternative Energy

In 2009, Huntersville adopted regulations that would permit Wind and Solar Energy Facilities. Solar panels are now permitted in all residential and non-residential zoning districts, subject to specific requirements. Wind Energy facilities are permitted in both residential and non-residential districts, subject to setback restrictions for facilities adjacent to occupied structures and minimum lot size requirements for minor (10 acres) and major (30 acres) facilities.

5.0 BUILDING & NEIGHBORHOOD DESIGN (LEED)

Increasing energy costs, scarcity of building materials and a concern regarding air and water quality associated with development have resulted in a new generation of building and site design standards which address these concerns through the use of energy saving building design, recycled materials and the use of landscape and other techniques to reduce overall energy consumption and environmental impact. Many of these practices come under the broad umbrella of **Leadership in Energy & Environmental Design (LEED)**. LEED is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high-performance “green buildings.”

Developed by the U.S. Green Building Council (USGBC), LEED is intended to provide building owners and operators the tools they need to have an immediate and measurable impact on their buildings’ performance, utilizing metrics such as energy savings, water efficiency, CO₂ emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

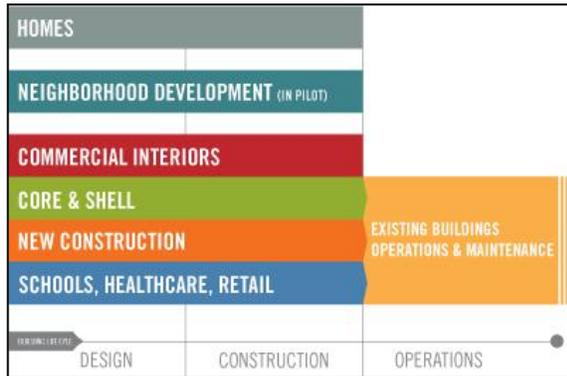
LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health:

1. sustainable site development
2. water savings
3. energy efficiency
4. materials selection
5. indoor environmental quality

Source: (U.S. Green Building Council)

The LEED green building certification program encourages and promotes global adoption of sustainable green building and development practices through a suite of rating systems (**Figure E-3**) that recognize projects that implement strategies for better environmental and health performance.

**Figure E-3
LEED Rating System**



Source: U.S. Green Building Council

Since its inception in 1998, the U.S. Green Building Council has grown to encompass more than 14,000 projects in the United States and 30 countries covering 1.062 billion square feet (99 km²) of development area. The hallmark of LEED is that it is an open and transparent process where the technical criteria proposed by USGBC members are publicly reviewed for approval by the almost 20,000 member organizations that currently constitute the USGBC.

In 2009, the USGBC, in partnership with the Congress for New Urbanism (CNU) and Natural Resources Defense Council (NRDC) developed a rating system for “Green Neighborhood Development,” representing a more “holistic” approach to land development than simply “green buildings.” The LEED for Neighborhood Development (LEED-ND) system includes three categories: Smart Location and Linkage, Neighborhood Pattern and Design, and Green Infrastructure and Buildings.

According to CNU, this new rating system will help to achieve environmental sustainability by incorporating high-performance “green” buildings in compact, mixed-use neighborhoods that reduce driving by making walking and transit attractive options for commuting and other trips. Huntersville’s land development regulations are consistent with many of the LEED-ND criteria, resulting in developments which reflect LEED principles and are consistent with sustainable land development practices.

6.0 SUSTAINABILITY

Perhaps the most far-reaching trend affecting and influencing land use and transportation policies in the 21st Century is the Sustainability movement. The most widely accepted definition of sustainability comes from the work of the United Nations’ Bruntland Commission, established in 1983. The commission defined sustainability as: “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” Benjamin A. Herman, Fellow of the American Institute of Certified Planners (FAICP), notes that “Sustainability is a balanced approach that considers people, planet and prosperity.” By “people,” it means community well-being and equity. “Planet” refers to the environment and resource conservation. And “prosperity” means economic vitality.

Herman adds: “In the long run, sustainability means adapting human activities to the constraints and opportunities of the natural systems we need to support life.”

Communities from California to Florida are adopting “Sustainability Plans” and forming commissions to oversee these plans. While these plans vary in scope and content, their primary focus is to guide communities in their attempt to achieve a balance between economic growth, environmental preservation and community building. This balance is the so called “triple bottom line” of sustainable growth (**Figure E-4**).

Finally, within the area of “Social Sustainability,” the following can be found: affordable housing ordinance (Davidson, NC), civic engagement process (Seattle, WA), and the preservation of cultural and historic resources (Groton, MA).

The preservation and enhancement of our natural, scenic and cultural assets, in the context of economic prosperity and community well-being, is vital to ensuring a high quality of life for Huntersville residents. The continued efforts of Huntersville to place a high priority and value on these assets will yield both tangible and intangible benefits, well into the future.

Figure E-4
Sustainability – The Triple Bottom Line



The Sustainability movement is broad and is reflected in a wide spectrum of plans, programs and policies in small and large towns and cities throughout the U.S. Within the area of “Environmental Sustainability” are initiatives ranging from “zero” emission public transit (Oakland, CA) to enhanced recycling (Cincinnati, OH). Within the “Economic Sustainability” category are “farm fresh food” (Portland OR), “smart energy” (Boulder, CO) and cultivation of existing business (Pittsburgh, PA).

7.0 ENVIRONMENT POLICIES & ACTION ITEMS

Policy E-1: Preservation and Environment

Support the preservation and enhancement of the natural environment, along with its scenic and cultural assets.

Action E-1.2: Environmental Features Map

Maintain GIS “Environmental Features” map, including significant water features, wetlands, steep slopes, habitats and tree strands.

Action E-1.3: Historic, Scenic and Cultural Resources Map

Maintain GIS “Historic Properties, Scenic and Cultural Resources” map, including historic designations, scenic vistas and significant places.

Policy E-2: Location of New Development

Avoid locating new development in areas of significant environmental, scenic or cultural resources.

Policy E-3: Environmental Regulations

Support and enhance environmental regulations pertaining to tree preservation, buffer yards, open space, water quality, wetland and stream protection.

Action E-3.1: Modify Regulations to Enhance Environmental Protection

Review existing environmental protection regulations to determine what, if any, modifications are required to maintain or enhance current levels of protection.

Policy E-4: Reduce Outdoor Lighting

Support reduction in outdoor lighting to lowest possible levels to maintain public safety, while limiting glare, habitat impacts and loss of privacy.

Action E-4.1: Revise Lighting Ordinance

Review lighting ordinances in effect in other communities to determine if adjustments to current Ordinance are necessary and determine if pre-existing non-conforming lights should be brought-up to current standards when expansions exceed a certain size.

Policy E-5: Vehicle Miles Traveled (VMT)

Support reduction in vehicle miles travelled (VMT), through capital investments in sidewalks, greenways, enhanced connectivity and mass transit (bus & rail).

Action E-5.1: Reduce VMT through Capital Infrastructure Projects

Support funding capital infrastructure projects which will reduce VMT.

Policy E-6: Alternative Energy

Support for “Alternative Energy”, including wind, solar, and other viable options.

Policy E-7: Sustainability

Support land use and transportation policies which are environmentally, economically and socially sustainable.

Policy E-8: LEED Building Design & LEED Neighborhood Development

Support policies that promote LEED Building Design and LEED-Neighborhood Development.

Action E-8.1: LEED Public Buildings

Require minimum L.E.E.D. standards to be met for all public buildings built in Town.