

# **Barrow County**

**Atlanta MSA**

**2003 Population Estimate 53,479; +13.7% change from 2000 Census.**

**Not a Tree City USA.**

**No tree board established by ordinance.**

**Barrow County UDC**

**DIVISION II. TREE CONSERVATION**

**Year first adopted or last revised unknown.**

**Addresses private property.**

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**DIVISION II. TREE CONSERVATION.****Sec. 808 Tree conservation; intent and findings.****808 (a) Intent.**

The intent of this Division is to provide standards for the protection or replacement of trees as part of the land development and building construction process within Barrow County; to make the County an attractive place to live and to provide a healthy living environment; to better maintain control of storm water runoff, noise, glare, and soil erosion, and to preserve, protect, and promote the general health, welfare, and safety of the public.

**808 (b) Findings.**

- (1) Trees provide food and shelter for wildlife.
- (2) Trees reduce noise, glare and provide wind breaks.
- (3) Trees, through transpiration, purify the air.
- (4) Trees intercept airborne particulate matter and reduce some air pollutants.
- (5) Trees provide oxygen and reduce the level of carbon monoxide in the air.
- (6) Trees are vital in erosion control, soil conservation, and the reduction in stormwater runoff.
- (7) Trees moderate the climate.
- (8) Trees increase property value.
- (9) Trees provide aesthetic amenity.
- (10) Trees improve the quality of water.

**Sec. 809 Tree conservation; where required.**

Tree conservation in accordance with the provisions of this Division shall be applied to every activity that requires the issuance of a land disturbance permit under this Code, except for activities otherwise exempted by the provisions of this Division.

**809 (a) Application to new development or disturbed areas.****(1) Residential subdivisions.**

- a. Residential subdivisions are exempt from the requirements of this Division.
- b. The owner/builder/contractor of each individual lot in a subdivision is responsible for compliance with the provisions of this Division.

**(2) New commercial and industrial subdivisions.**

New commercial and industrial subdivisions are subject to a two-staged review process by the County (for the infrastructure and later for each individual lot). For this reason, these subdivisions may base density calculations on the net disturbed site area defined by the limits of clearance and construction) The phase 1 plan shall address the method and timing of ultimate compliance with this Division.

**(3) Multi-family and nonresidential projects.**

Multi-family projects and office, commercial, institutional and industrial developments on individual sites are subject to the provisions of this Division.

## (4) Nonresidential out-lots.

Out-lots and separate parcels of a phased-unit development must collectively meet minimum requirements for site density; however, in no case may an individual out-lot have less than 10 tree units per acre.

## (5) Additions to Existing Projects.

For additions to existing projects, the density requirements may be met in one of the following ways:

- a. Calculate the area of any new land disturbance and/or improvements and add replacement trees based on that area (existing trees elsewhere on the site may not be counted with this option); or,
- b. Base density requirements on the total site area and count any existing trees on the site (subject to the restrictions of the next Section).

## (6) Phased Projects and Reduced Net Site Areas.

- a. Where development is going to occur in phases (by design or by implication), density calculations must be based on a site area defined by an established or estimated phase line.
- b. Similarly, a reduced net site area may be achieved by using only the area of actual site disturbance (new projects only), provided that limits of construction line is clearly shown on the plan (existing trees elsewhere on the site may not be counted with this option).
- c. In both instances, the following criteria are applied regarding existing trees:
  1. Existing trees to be counted toward meeting the density requirements should be within the phase line or limits of construction.
  2. If the tree save areas must be established outside these areas, they must be located where future development will not impact them.
  3. The trees in areas outside the phase line or limits of construction may not be counted toward the density requirement of subsequent phases or new projects.

**809 (b) Exemptions from tree conservation requirements.**

The tree conservation requirements shall not apply to the following:

~~(1) Residential subdivisions.~~~~(2) Public utility companies and government agencies conducting operations on public and utility rights-of-way and easements or on sites for electric power substations and similar facilities, which operations are for the purpose of assuring uninterrupted utility and governmental services and unobstructed passage on public streets.~~~~(3) Agricultural activities:~~

- a. ~~Property in use for agricultural tree harvesting (as defined by this Code) or other agricultural activities (as defined by this Code), provided that the requirements of the Timbering and Forestry Section of the Restrictions on Particular Uses Article of this Development Code are met.~~
- b. If a property is systematically thinned of trees or is clear-cut for any purpose other than a bona fide agricultural use, or the timber is harvested without complying with the requirements of this Code, a preliminary plat or project site plan for development of the property may not be approved for a period of 5

years. This restriction may only be waived by the Board of Commissioners by majority vote. Such waiver may be based on a valid excuse for the clear-cutting, or on remedial action such as the replanting of trees.

**809. (c) Clearing and/or grading only permits.**

- (1) When seeking a limited land disturbance permit (i.e. clearing, clearing and grading, or grading only), it is necessary for applicants to show compliance with the required site density factor.
- (2) If trees exist on the site, the required density should be met with those trees. If this cannot be done, replacement trees are required. A replacement tree plan must be a part of the approved clearing and/or grading plan unless documentation is submitted to the County indicating that application for a full land disturbance permit will be made within one year of the grading plan approval date.

**Sec. 810 Calculation of "tree units."**

**810. (a) Use of tree units.**

The landscaping requirements of this Article with regard to the preservation or planting of trees is expressed in terms of "tree units" rather than the number of trees. This approach provides the developer with wide latitude of choice as to the number and sizes of trees to be planted, and their distribution following aesthetic landscaping practices, while achieving a common standard on all properties.

**Table 8.2: Tree Unit Values**

| Tree Unit Values for Existing Trees* |            |              |            | Tree Unit Values for New (Replacement) Trees |            |                  |            |
|--------------------------------------|------------|--------------|------------|--|------------|------------------|------------|
| DBH (inches)                         | Tree Units | DBH (inches) | Tree Units | Caliper (inches)                             | Tree Units | Caliper (inches) | Tree Units |
| 3                                    | 0.09       | 12           | 1.44       | 1 (pine)                                     | 0.15       | 8                | 1.80       |
| 4                                    | 0.16       | 13           | 1.69       | 1 (hardwood)                                 | 0.25       | 9                | 1.80       |
| 5                                    | 0.25       | 14           | 1.96       | 2  | 0.50       | 10               | 2.10       |
| 6                                    | 0.36       | 15           | 2.25       | 3  | 0.80       | 11               | 2.10       |
| 7                                    | 0.49       | 16           | 2.56       | 4  | 1.00       | 12               | 2.30       |
| 8                                    | 0.64       | 17           | 2.89       | 5  | 1.20       | 13               | 2.60       |
| 9                                    | 0.81       | 18           | 3.24       | 6  | 1.50       | 14               | 2.80       |
| 10                                   | 1.00       | 19           | 3.61       | 7  | 1.60       | 15               | 3.10       |
| 11                                   | 1.21       | 20           | 4.00       |  |            |                  |            |

The unit value for an individual tree over 20 inches DBH shall be calculated as follows:

$$\frac{(\text{Diameter}^2)}{100}$$

Tree unit values for container grown pine are:

|          |      |
|----------|------|
| 7 gallon | 0.15 |
| 3 gallon | 0.05 |

The use of 3 gallon pines requires specific approval in writing by the County.

\*See text for increased tree unit values for Specimen Trees for which extraordinary measures for protection and survival have been taken.

810 (b) **Establishment of tree unit values.**

The diameter of a tree's trunk establishes the "tree unit" value of an existing tree, as shown on Table 8.2.

- (1) The values assigned to trees of the same size are different for existing and new trees, as indicated in the table. One "unit" is not the same as one "tree."
- (2) Actual tree diameters or calipers are to be rounded to the nearest whole number for the calculation of tree unit values (e.g., 4.5 = 5).
- (3) The tree unit value for an existing tree greater than 20 inches DBH shall be determined by dividing the square of the tree's diameter at breast height by 100 (Diameter<sup>2</sup> ÷ 100).

810 (c) **Tree unit values for specimen trees.**

The tree unit values shown on Table 8.2 may be increased by 100% for an existing tree that meets the definition of a "specimen tree," provided that extraordinary measures are taken to protect the tree and assure its survival. Such measures may include but are not limited to the provision of tree wells, retaining walls, aeration, or supplementary irrigation, as applicable to the site of the tree and as approved by the County.

**Sec. 811 Trees to be provided or retained.**

811 (a) **Number of tree units upon completion of development.**

(1) ~~Tree units required.~~

~~Upon completion of development, all residential subdivisions and developments, and all multi-family or nonresidential uses or development projects, shall have a number of tree units per acre of development site or disturbed area, whichever is less, as shown on Table 8.3. The limits of grading activity shall establish the extent of land disturbance, except for those areas excluded under this Section.~~

**Table 8.3: Tree Units Required Upon Completion**

| Development Type | Tree Units per Acre* |
|------------------|----------------------|
| Multifamily      | 20                   |
| Office           | 17                   |
| Commercial       | 17                   |
| Institutional    | 15                   |
| Industrial       | 15                   |
| Residential Lot  | 2.5                  |

\*Per acre of development site or disturbed area, whichever is less, but not including Excluded Areas.

(2) Excluded areas.

The calculation of development site or disturbed area shall exclude any area within a stream buffer or zoning buffer required by this Article, and any area contained within a utility easement, wetland or area of special flood hazard. Neither the land

area of these excluded areas, nor the trees that are or will be located within them, count toward the number of tree units required on or provided for the site.

(3) Trees meeting tree unit requirements.

All trees planted or retained on the site, except for trees planted or retained within an Excluded Area as defined under this Section, shall be counted toward the minimum tree units required by Table 8.3 on the site in accordance with the values shown on Table 8.2.

**811 (b) Tree inventories and surveys.**

- (1) All trees that are to be counted toward meeting density requirements must be inventoried. Trees in Excluded Areas need not be inventoried.
- (2) Sampling methods may be used to determine tree densities for forested areas greater than 2 acres in extent, subject to prior approval of the County.
- (3) Specimen Trees must be shown on the plan with an indication whether they are to be retained or removed. Accurate locations are requested when the preservation of a specimen tree is questionable, or when a site design alteration is required by the County. Approximate locations are acceptable otherwise.

**811 (c) Specimen trees.**

(1) Preservation.

a. Barrow County strongly advocates the preservation of specimen trees. In order to encourage the preservation of specimen trees and the incorporation of these trees into the design of projects, additional density credit will be given for specimen trees that are successfully saved by a design feature specifically designated for such purpose. Credit for any specimen tree thus saved would be 2 times the assigned unit value shown in Table 8.2 when using the extraordinary measures associated with protecting and assuring the survival of such trees.

b. When the critical root zone of a specimen tree located off-site may be affected by proposed construction activities, tree protection devices are to be installed around the critical root zone of the specimen tree on the property under construction. Location of these off-site specimen trees will be determined by the County.

(2) Removal and replacement.

a. If a specimen tree is to be removed, a plan or written documentation indicating the reason for the removal must be submitted to and approved by the County.

b. When permission is received to remove a specimen tree, it must be replaced on an inch-by-inch basis by minimum 2-inch caliper trees that have potential for comparable size and quality. For example, the removal of a 30-inch DBH tree would require replacement of fifteen 2-inch caliper trees or ten 3-inch caliper trees of a comparable species. This tree replacement is in addition to the minimum site tree density.

c. Any specimen tree that is removed without the appropriate review and approval of the County must be replaced by trees with a total density equal to 2 times the unit value of the tree removed. Size alone will determine whether a tree was of specimen quality if the tree is removed without approval and there is no evidence of its condition.

811 (d) **Tree replacement standards.**

## (1) Introduction.

- a. The following section establishes standards by which plans and field conditions are to be evaluated to determine compliance with the tree replacement intent of this Code.
- b. Tree replacement plans should be prepared with appropriate consideration given to the function of trees in the urban landscape. Every effort should be made to maximize the environmental benefit of the plant material.

## (2) Planting specifications.

- a. Trees selected for planting must be free from injury, pests, disease, nutritional disorders or root defects, and must be of good vigor in order to assure a reasonable expectation of survivability.
- b. Standards for transplanting shall be in keeping with those established in the International Society of Arboriculture publication *Tree and Shrub Transplanting Manual* or similar publication. Reference may also be made to the American Association of Nurserymen publication *American Standard for Nursery Stock* (ANSI260.1, 1996 or latest edition) for plant material quality specifications. Reference may also be made to the *Manual of Woody Landscape Plants* (Michael Dirr, 1983, Castle Books) or similar publication for information on tree species site requirements.
- c. All balled and burlapped trees shall be dug with a mechanical tree spade in a wire basket with minimum 1-inch nylon strapping.

## (3) Species.

- a. Species selected as replacement trees must be quality specimens, and must be ecologically compatible with the intended growing site. To insure diversity, a minimum of 4 species of trees shall be used. Sites requiring limited replacement shall be evaluated by the County to allow use of fewer species.
- b. Flowering ornamental species are typically not acceptable for use in meeting density requirements.
- c. Where trees must be added to achieve the required tree units per acre for the site, pines may not comprise more than 50 percent of the required units. Where existing pines already comprise 50 percent or more of the required units, no more pines may be credited toward the required units.
- d. Trees shall only be awarded credit toward the required tree units on the site when situated in areas where they may grow to mature height without pruning.

## (4) Minimum root zones.

In order to provide sufficient growing area for planted trees the following minimum criteria must be observed unless otherwise approved by the County:

- a. Overstory trees - 160 sq. ft. of pervious root zone.
- b. Understory trees - 100 sq. ft. of pervious root zone.
- c. All planting strips - 5 ft. minimum width.

## (5) Irrigation.

Newly planted trees and existing trees subjected to construction impacts typically need supplemental watering when rainfall is inadequate. Applicants should be prepared to discuss how trees are to be watered during their establishment or transi-

tion period, and shall note on the plan the method of irrigation that is proposed and attendant facilities. For hand watering, for instance, the location of hose bibs must be indicated; automatic systems require a back flow preventer approved by the County.

~~(6) Public street rights-of-way.~~

~~Trees shall not be planted within any public street right-of-way.~~

~~(7) Placement of trees.~~

~~The replacement trees on a property shall be placed reasonably uniformly throughout the disturbed area, subject to professional standards of design.~~

**Sec. 812 ~~Protection of existing trees.~~**

For existing trees that are proposed to be retained in order to meet the minimum requirements of this Code, the following provisions shall apply;

**812 (a) ~~Damage prohibited.~~**

No person shall:

- (1) Cut, carve, or otherwise damage or remove any tree except in accordance with the provisions of this Code.
- (2) Attach any wire, nails, advertising posters, or other contrivance harmful to any tree.
- (3) Allow any gaseous, liquid, or solid substance which is harmful to trees (such as concrete washout, fuel, lubricants, herbicides, paint) to come in contact with them.
- (4) Set a fire or permit any fire to burn when such fire or the heat thereof will injure any portion of any tree.

**812 (b) ~~Construction standards.~~**

**(1) Purpose of tree protection devices.**

Tree protection devices are necessary to eliminate activities detrimental to trees including but not limited to:

- a. Soil compaction in the critical root zone resulting from heavy equipment, vehicular or excessive pedestrian traffic, or storage of equipment or materials;
- b. Root disturbance due to cuts, fills or trenching,
- c. Wounds to exposed roots, trunks or limbs by mechanical equipment; -
- d. Other activities such as chemical storage, cement truck cleaning, fire, etc.

**(2) Location and types of tree protection devices.**

- a. Tree protection devices are to be installed as shown on the plan or otherwise completely surrounding the critical root zone.
- b. The plan shall indicate whether the tree protection device is to be active or passive.
- c. Active protection (see Materials section below) is required where Tree Save Areas are located in proximity to construction activity.
- d. The locations of all tree protection devices will be verified prior to the issuance of the construction permit for clearing and/or grading.

e. Once Protected Zones are established and approved, any changes are subject to County review.

(3) Materials.

Active tree protection shall consist of chain link, orange laminated plastic, wooden post and rail fencing or other equivalent restraining material meeting County standards.

(4) Sequence of installation and removal.

All tree protection devices shall be installed prior to any clearing, grubbing or grading. The County must inspect the installation of tree protection and erosion and sedimentation control devices prior to the issuance of the Construction Permit. Tree protection must remain in functioning condition throughout all phases of development, but is to be removed prior to issuance of a Certificate of Occupancy.

(5) Other specifications.

a. Clearing - Where clearing has been approved, trees shall be removed in a manner which does not adversely impact the trees to be preserved. Avoid felling trees into protection zones or disturbing roots inside the protection zones. Roots shall be cut cleanly before tree removal.

b. Erosion and Sedimentation Control - All erosion and sedimentation control measures shall be installed in a manner which will not result in the accumulation of sediment in a tree protection zone.

c. Signage - All tree protection zones shall be designated as such with "Tree Save Area" signs posted visibly on all sides of the fenced-in area. These signs are intended to inform subcontractors of the tree protection process.

d. Signs requiring subcontractor cooperation and compliance with the tree protection standards shall be posted at site entrances.

812 (c) **Prohibited activities.**

(1) **Compaction prohibited.**

All building materials, vehicles, construction equipment, dirt, debris, or other objects likely to cause soil compaction or above-ground damage shall be kept outside the critical root zone. Where a limited amount of encroachment is unavoidable, the critical root zone shall first be cut cleanly, then immediately mulched with a 4 inch layer of processed bark or wood chips or a 6 inch layer of straw.

(2) **Grade change prohibited.**

There shall be no raising or lowering of the ground level within the critical root zone. Stripping of topsoil in the critical root zone shall not be permitted. Where necessary, the use of moderate fill is permitted only with prior installation of an aeration system. Deposition of sediment in the critical root zone shall be prevented by placement of sediment barriers, which shall be backed by 2 x 4 inch wire mesh in areas of steep slope.

(3) **Ditches prohibited.**

No person shall excavate any ditch or trench within the critical root zone. Where such encroachment is unavoidable, ditches or trenches shall be so located as to minimize root damage. If roots must be cut, they must be cut cleanly and immediately mulched.

(4) **Paving prohibited.**

~~No person shall pave with concrete, asphalt, or other impervious material within the critical root zone.~~

**Sec. 813 Alternative compliance.**

**813 (a) Overview.**

~~The intent of the Tree Conservation provisions of this Code is to insure that a minimum density of trees is maintained on all developed sites. Occasionally, this intent cannot be met because a project site will not bear the required density of trees. To provide a viable alternative for such cases, the developer may be allowed to plant trees at his own expense on an alternate property in lieu of over-planting the development site.~~

**813 (b) Alternate tree plantings.**

- (1) The County must review and approve all requests for alternative compliance. In no instance shall 100 percent of the required tree units be met through alternative compliance. As many trees as can reasonably be expected to survive must be planted on the development site.
- (2) Public properties, such as school sites, parks, fire stations and other publicly owned sites, will be given priority for alternate tree plantings.
- (3) Tree planting on alternate compliance properties shall be done simultaneously with the planting of trees on the development site such that inspections and final approval for the project will include trees planted on the alternate property.
- (4) The land disturbance permit for the development site will only be issued after the County has approved the alternate compliance request and the property designated to receive the alternate plantings.



} tree Bank?

Environmental  
Sec. Chapter 9

25' to 100'

small H<sub>2</sub>O shed  
protection ordinance.

- ① Mulberry
- ② Cedar Creek
- ③ Bear Creek
- ④ Ft. Yargo?
- ⑤ Williamson?