



Planning

Phased Development & Tree Preservation

September 5, 2023

TC2200004: Phased Development + Tree Preservation

Why?

- As Durham continues to see large residential developments, there have been repeated concerns from residents, board members, and staff, including:
 - Issues with erosion control (especially for large tracts); and
 - Emphasis on tree replacement rather than preservation; and
 - Large residential developments with little-to-no topographical character and/or poor soil health.



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How?

Article 7: Design Standards

- Establishment of a new UDO Section (7.9) in order to create mass grading setbacks

Article 8: Environmental Protection

- Creation of a tiered system of tree preservation and phased development
- Addition of incentives for tree preservation
- Inclusion of the Compact Neighborhood Tier

Article 9: Landscaping and Buffering

- Increase the current buffering standards so that **any** residential development which mass grades* will now have to provide a buffer with an opacity of 0.6**

Article 13: Additional Subdivision Requirements

- Establishment of 13.6 – Phased Development
- Maximum cap of 50 acres for any singular phase
- Lots in previous phases must be stabilized before new phases begin.



*Mass grading: grading of 4 (or more) acres at one time

**0.6 opacity is approximately 30' in width and 60% opaque when plants have matured

Additional Design Standards: Grading Setbacks

When projects utilize *mass grading*: an additional 10' no-grading setback shall be required

Projects which grade (but do not qualify as mass grading) shall provide a 5' no-grading setback

Mass grading: grading of 4 or more acres at one time.

In order to address ongoing concerns regarding the impacts of grading on neighboring properties.

Exceptions: grading for trail construction, utilities, access, infrastructure, or code-required plantings.



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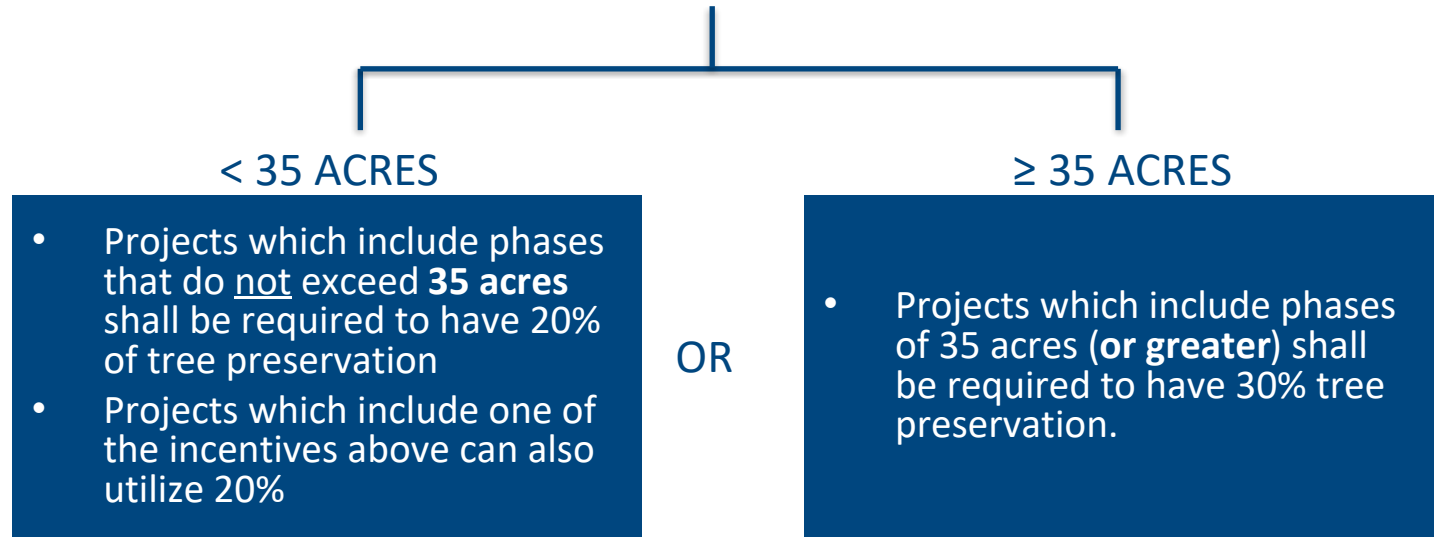
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Proposed Tier System

- Focuses on **residential** development
- Ability to utilize tree replacement still exists, but preservation **incentivized**
- Promotes **smaller phases** of grading and **more distribution** of canopy coverage
- Includes incentives for **affordable housing, varied housing types, and further environmental protection.**



Proposed Tier System

- Each also option includes the ability to utilize tree replacement if preservation is not possible; though the amounts of tree replacement are **higher** for **larger** phases.

< 35 ACRES

- Projects which include phases that do not exceed **35 acres** shall be required to have 20% of tree preservation
- Projects which include one of the 3 incentives above can also utilize 20%

OR

≥ 35 ACRES

- Projects which include phases of 35 acres (**or greater**) shall be required to have 30% tree preservation.

Preserved Tree Coverage Area (%)	Total Tree Coverage Area Required (%)
At least 15 but less than 20	2328
At least 10 but less than 15	2429
Less than 10	2530

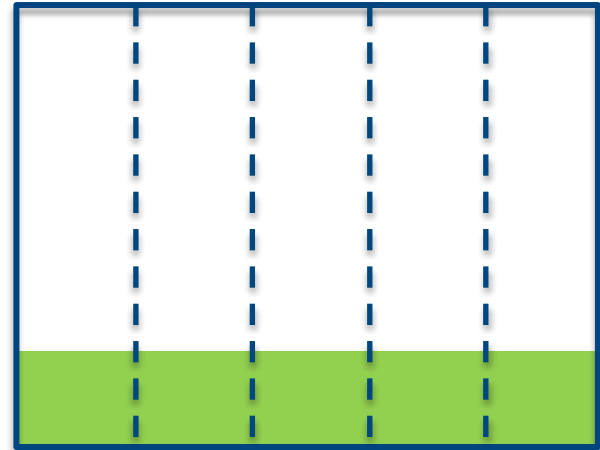
Preserved Tree Coverage Area (%)	Total Tree Coverage Area Required (%)
At least 25 but less than 30	33
At least 15 but less than 25	34
Less than 15	35

Visual Examples

< 35 ACRES

- Projects which include phases that do not exceed **35 acres** shall be required to have 20% of tree preservation
- Projects which include one of the incentives above can also utilize 20%

EXAMPLE 1: The parcel is 100 acres; each phase will be 20 acres and will, therefore, be required to have 20% tree coverage (20% of 20 acres is 4 acres).



--- Phasing Lines

■ Tree Preservation



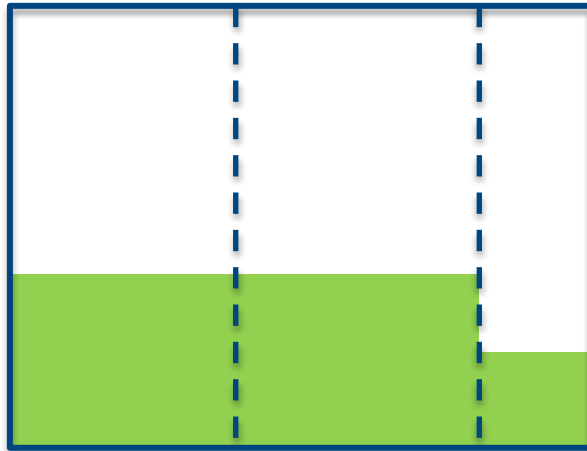
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Visual Examples

EXAMPLE 2: The same parcel is 100 acres; two phases will be 35 acres and one will be 30 acres. Phases 1 and 2 will require 30% tree preservation (~11.5 acres), and Phase 3 will require 20% tree preservation (6 acres).



--- Phasing Lines

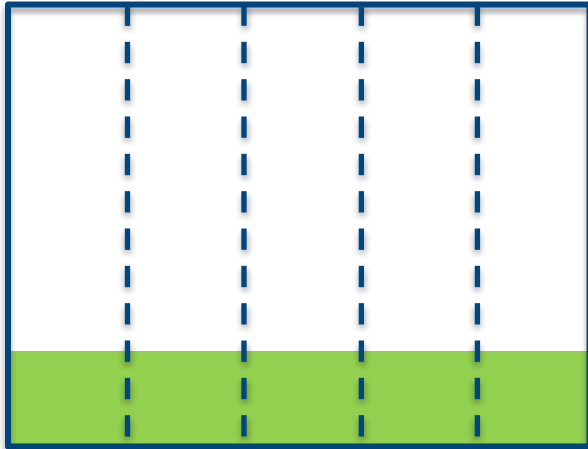
■ Tree Preservation

≥ 35 ACRES

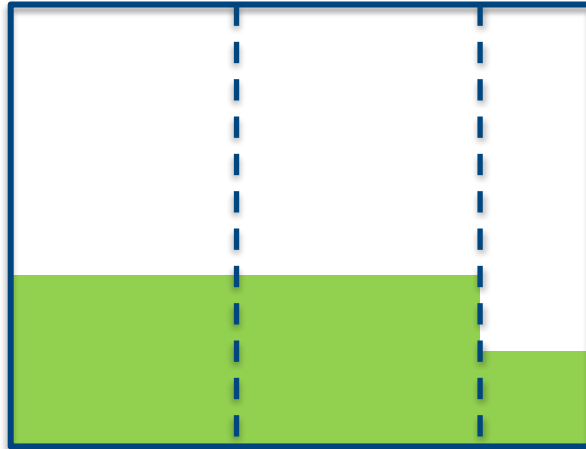
- Projects which include phases of 35 acres (or greater) shall be required to have 30% tree preservation.

Visual Examples

EXAMPLE 1



EXAMPLE 2



--- Phasing Lines
■ Tree Preservation

TAKEAWAYS

- Larger phases require **more** overall tree coverage*:

- Example 1: **20 acres** of tree preservation
- Example 2: **29 acres** of tree preservation

These examples don't include *tree replacement*, but remember that the amount of required *tree replacement* is **always more** than is required with *tree preservation*.

*Tree coverage =
tree **preservation** + tree **replacement**

Boundary Buffer Changes

When projects utilize *mass grading*:

Required project boundary buffers for any residential development will be updated from 0.4 opacity to 0.6 (approximately 30')

Mass grading: grading of 4 or more acres at one time.

Currently, the UDO only requires this for residential development in the **Suburban Tier**; the new text amendment will expand this to projects in every tier that propose mass grading for *residential* projects.



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13.6 – Phased Development

Standards for Development

- Max. cap of 50 acres per phase
- Each phase shall be able to “stand alone” – similar to existing UDO language re: phasing
- Some plans may have only one phase

Sec. 13.9 Phased Development

Preliminary plats and site plans shall indicate proposed phasing, with no individual phase exceeding 50 acres.

- A. Phasing plans shall be included in the first submittal and shall be reviewed and evaluated as part of the overall development.
 1. Off-site improvements are excluded from phasing; however, they may be required within a certain phase to satisfy overall development requirements.
 2. Phases shall be designed to ensure the efficient construction of future phases. Each phase of a development shall be designed and function with the utilities, fire protection, right-of-way infrastructure, and stormwater management necessary to serve that phase.
 3. Each phase shall contain the minimum tree coverage percentage as required per Sec. 8.3, Tree Protection and Tree Coverage.
 4. Lot numbers shall not be duplicated within different phases of the same subdivision.
- B. All right-of-way and/or easements for public infrastructure servicing the respective phase must be recorded with the first plat.
- C. Water and sewer extension permit applications for each individual phase of the project are required after plan approval.
- D. No land disturbing activity in a subsequent phase shall commence until:
 1. The first asphalt layer of the street or other vehicular system of the previous phase has been laid and inspected; and
 2. The lot(s) in the previous phase have been stabilized, inspected, and approved per the County and State Sedimentation and Erosion Control standards.



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Key Differences Between Our Proposal and Cary's Ordinance

(G) Limits on Single-Unit Residential Lot Grading

Grading and Erosion Control Plans submitted as part of a development plan associated with residential development that has a gross density of three (3) units per acre or less are limited to clearing and disturbing only the land area required to install the infrastructure to serve the development (e.g., sewer and water lines, roads, storm water devices, greenways, and similar infrastructure). Until a building permit is issued for a lot, each lot must remain undisturbed, with the exception of portions of a lot impacted by the installation of infrastructure. Exceptions to grade upon a lot prior to the issuance of a building permit may be granted as a modification to the original plan approved by Cary, if there is sufficient justification (e.g., problematic drainage issues and/or severe topographic issues).

(H) Limit on Grading Area for Medium Density Residential Developments

Development plans containing residential development with a gross density not exceeding eight (8) units per acre shall not grade more than twenty-five (25) acres per phase or section of development. Each twenty-five (25) acre phase or section of development must be stabilized and seeded meeting the requirements of this ordinance prior to grading an additional phase or section of development. Exceptions to this requirement may be granted as a modification to the original plan approved by Cary if compliance is not practicable due to physical site constraints, such as topography, presence of stream buffers or other natural features, or lot dimensions; or due to presence of existing development or infrastructure.

- Cary's grading ordinance functions as a three-tiered system based on the proposed *density*, rather than by the amount of *land disturbance*.
 - Projects which exceed 8 units per acre have no grading limit; stricter grading restrictions for lower density projects, BUT
 - Cary does not have a provision in their ordinance for tree coverage (just open space, champion tree preservation, and buffers)
- Our proposal accounts for grading restrictions based on the amount of land disturbance, *regardless* of density. Additionally, we require tree coverage and open space, buffering, and specimen tree preservation.
- The language in Cary's ordinance allows for flexibility in the grading restrictions; ours does not.
- Durham was recently audited by the State for Sedimentation and Erosion Control and was determined to be meeting or exceeding State standards.



Some Quick Math

- The maximum amount of grading which could occur within a phase within the first tier:
 - 34.9-acre cap (required to have 20% tree coverage) = 27.92 acres
- The maximum amount of grading which could occur within a phase within the second tier:
 - 50-acre cap (required to have 30% tree coverage) = 35 acres.
 - Note: this assumes that the phase will be able to complete all their tree coverage solely through **preservation** without the need for replacement; many projects require tree replacement, which would then *increase* the amount of total required tree coverage
 - The grading tier **will not** change the fact that all projects will be required to plant street trees per UDO Sec. 9.6, the vehicle use area plantings per UDO Sec. 9.8, or any other required landscaping per UDO Article 9.

