

Introduced by: Mr. Tackett,  
Ms. Kilpatrick  
Date of introduction: January 26, 2021

**ORDINANCE NO. 21-009**

**TO AMEND *NEW CASTLE COUNTY CODE* CHAPTER 40 (ALSO KNOWN AS THE UNIFIED DEVELOPMENT CODE OR “UDC”), REGARDING ARTICLE 4 (“DISTRICT INTENSITY AND BULK STANDARDS”), ARTICLE 5 (“SITE CAPACITY AND CONCURRENCY CALCULATIONS”), ARTICLE 10 (“ENVIRONMENTAL STANDARDS”), ARTICLE 20 (“SUBDIVISION AND LAND DEVELOPMENT DESIGN PRINCIPLES”), ARTICLE 23 (“LANDSCAPING, TREES, PLANT MAINTENANCE, AND EROSION AND SEDIMENT CONTROL”), ARTICLE 26 (“MODIFICATION OF STANDARDS”), ARTICLE 31 (“PROCEDURES AND ADMINISTRATION”), ARTICLE 33 (“GENERAL DEFINITIONS”), APPENDIX 1 (“APPLICATION AND PLAN REQUIREMENTS”), AND APPENDIX 3 (“PLANT LISTS AND PLANTING GUIDANCE FOR NEW CASTLE COUNTY”)**

**WHEREAS**, New Castle County (“County”) has engaged in a comprehensive review of the Unified Development Code (“UDC”) to identify standards that need revision for technical compliance, internal consistency, or consistency with current development practices; and

**WHEREAS**, the County has undertaken a public review process with stakeholders including County residents, developers and homebuilders, engineers, and landscape architects; and

**WHEREAS**, based on a comprehensive review of the UDC by the professional staff in the County’s Department of Land Use, and comments by stakeholders, applicants and local experts in land use issues, the County has developed updated standards for increased forest resource preservation, conservation design standards, subdivision standards, site design, and resource protection definitions; and

**WHEREAS**, the Department of Land Use has continued to review, interpret, and monitor the continued application of the UDC with regard to land development and has identified additional clarifications, corrections, improvements and changes necessary to further enhance conservation design standards and environmental protection standards; and

**WHEREAS**, County Council has determined that the provisions of this Ordinance substantially advance, and are reasonably and rationally related to, legitimate government interests, including, but not limited to, the protection and preservation of the public health, safety, prosperity, general welfare, and quality of life.

**NOW, THEREFORE, THE COUNTY OF NEW CASTLE HEREBY ORDAINS:**

Section 1. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 4 (“District Intensity and Bulk Standards”), Division 40.04.200 (“Landscaping”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.04.200 Landscaping.**

**Sec. 40.04.210. Required landscaping.**

- A. Landscaping is required . . .
- E. Afforestation landscaping may be required under Table 40.04.241.

**Sec. 40.04.231. Landscaping standards for required open space.**

All areas of open space shall be landscaped using one (1) of the following landscape treatments:

- A. Areas presently covered with . . .
- C. Areas disturbed, but scheduled to be returned to natural conditions, shall be planted as forest (reforestation or afforestation) or with such other plant material that will return the area to its natural condition. All proposed plant material used must be native.

**Sec. 40.04.241 [~~Reserved~~]Afforestation Standards.**

Major land development plans and minor nonresidential land development plans must provide afforestation. This Section establishes the requirement for forest or tree cover on sites that are not presently forested or where existing forest or tree cover is less than the afforestation ratio required by the associated zoning district.

- A. The afforestation ratio consists of the ratio of the total forest cover area or tree cover area to the entire site. Table 40.04.241 provides the minimum afforestation ratios for development in corresponding zoning districts. Areas of active cultivation may be excluded from the calculation for this requirement.

<b><u>Table 40.04.241</u></b> <b><u>AFFORESTATION RATIO</u></b>	
<b><u>Zoning District*</u></b>	<b><u>Minimum Afforestation Ratio</u></b>
<u>SE; SR; NC2a</u>	<u>0.35</u>
<u>S; NC40</u>	<u>0.30</u>
<u>S*; NC6.5; NC10; NC15; NC21</u>	<u>0.25</u>
<u>ST; TN; NC5; NCsd; NCth; NCga; NCap</u>	<u>0.20</u>
<u>BP; ON; OR; CN; CR</u>	<u>0.15</u>
<u>I; HI</u>	<u>0.10</u>
<u>* S zoned parcels using an Open Space Planned Development option must provide a minimum 0.25 afforestation ratio</u>	

B. Forest cover consists of the area of all existing forest to remain or new forest to be planted. This includes reforestation and afforestation associated with riparian buffers, WRPAs or forest mitigation. Forest cover must be calculated concurrently with a conceptual landscape plan submission.

1. All protected areas shall be maintained in accordance with this Chapter.
2. Areas of existing forest to remain shall be delineated in accordance with Articles 10 and 33 and Appendix 1.3 of this Chapter.
3. Areas proposed to be reforested or afforested shall be delineated as new forest area.

C. Tree cover consists of the total tree protection area based on the critical root zone (CRZ) of existing trees to remain (outside of forest areas) or proposed new landscape plantings. Tree cover must be calculated concurrently with a conceptual landscape plan submission.

1. Tree protection areas shall be measured individually, with areas of overlap (either existing trees or proposed new landscape plantings) excluded from the sum total area.
2. For new plantings, tree cover is based on each large or medium canopy tree proposed that is two (2) inch caliper or greater and their associated tree protection

areas. Each tree proposed that is two (2) inch caliper or greater shall have a projected growth to eighteen (18) inch diameter breast height (DBH) based on twenty (20) years of growth. The methodology for determining the CRZ shall be used to calculate the tree protection area.

3. Each existing large or medium canopy tree to remain that is two (2) inch caliper or greater shall have a projected maximum growth to eighteen (18) inch DBH. The methodology for determining the CRZ shall be used to determine the existing tree protection area. Existing trees to remain shall be protected and maintained in accordance with Article 23 standards for tree protection.
  4. Additional plantings required to meet tree cover standards may be planted within any landscape area, with the exception of existing or new forest areas.
  5. Each newly planted large or medium canopy tree is required to be accompanied by a minimum of ten (10) individual shrubs.
    - a. These shrubs shall not be credited for those plantings outlined in Section 40.04.241.C.6.a.
    - b. A portion of any proposed required shrubs may be substituted with herbaceous plants per Article 23.
    - c. Areas of highest impervious coverage should be the primary focus areas for additional required shrub plantings (e.g. parking lots, on-lot planting areas, rooftops).
  6. Equivalent ratios for other landscape plantings may be used to augment the calculation for adequate tree cover as follows:
    - a. Thirty (30) individual shrubs may equal one (1) two (2) inch caliper large or medium canopy tree.
    - b. Three (3) one-and-one-half (1.5) inch caliper understory canopy trees or three (3) five (5) to six (6) foot tall evergreen trees may equal one (1) two (2) inch caliper large or medium canopy tree.
    - c. Thirty (30) square feet of green roof planting area may equal one (1) two (2) inch caliper large or medium canopy tree.
- D. Afforestation based on existing forest cover or tree cover may be used to satisfy afforestation requirements.

- E. Off-site afforestation may be permitted in the same watershed. A conservation easement must be established to prohibit the disturbance of the afforestation area in perpetuity.
- F. The applicant must demonstrate compliance with afforestation standards as part of the final landscape plan and open space certification as applicable.

Section 2. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 5 (“Site Capacity and Concurrency Calculations”), Division 40.05.400 (“Site resource capacity”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.05.400. Site resource capacity.**

**Sec. 40.05.420. Calculation for total protected land.**

Table 40.05.420 provides . . .

**Table 40.05.420  
CALCULATION FOR TOTAL PROTECTED LAND**

Step 1	Enter gross site area as determined by actual survey.			_____ ac.	
	Subtract land within existing roads' ultimate rights-of-way; or land within major utilities' rights-of-way (minimum 50-foot width within subject property).			- _____ ac.	
	Subtract land cut off from use by railroad, highway, or waterbody.			- _____ ac.	
	Subtract all waterbodies having an area greater than one (1) acre.			- _____ ac.	
	Subtract land previously dedicated as open space.			- _____ ac.	
	Equals Base Site Area.			= _____ ac.	
Step 2	Measure all natural resources in the base site area and enter in the Acres Measured Column 2. If resources overlap, measure only that resource with the highest resource protection ratio. These numbers provide each resource's area of land. Multiply by Resource Protection Ratio for the district Columns 3 or 4, and insert result in column 5.				
	<i>Natural Resource</i>	<i>Acres Measured Column 2.</i>	<i>Multiply Column 2 by Resource Protection Ratio.</i>		<i>Protected Land. Column 5</i>
			<i>CN, CR, ON, OR, BP, I, HI districts Column 3</i>	<i>All other districts Column 4</i>	
	Floodplain/Floodway		1.00	1.00	
	Wetland		1.00	1.00	
	Riparian Buffer		1.00	1.00	
	Drainageways		0.00	0.40	
	Cockeysville Formation – WRPA		0.50	0.50	
	Cockeysville Formation Drainage Area – WRPA		0.50	0.50	
	Sinkhole		1.00*	1.00*	
	Wellhead - WRPA Class A		1.00*	1.00	
	Wellhead - WRPA Class B & C		0.50	0.50	
	Recharge Areas – WRPA		0.50*	0.50	
	Slope or Geologic Sites – CNA		0.90	1.00	
	Steep slopes (< 25%)		1.00	1.00	
	Steep slopes (15-25%)		0.25	0.50	
	Rare Species Site – CNA		1.00	1.00	
	Forests, [ <del>Mature</del> ]Tier 1 - CNA**		[ <del>0.70</del> ]0.75	[ <del>0.85</del> ]0.90	
	Forests, [ <del>Mature</del> ]Tier 1**		[ <del>0.50</del> ]0.60	[ <del>0.70</del> ]0.80	
	Forests, [ <del>Young</del> ]Tier 2 CNA**		[ <del>0.40</del> ]0.50	[ <del>0.60</del> ]0.70	
Forests, [ <del>Young</del> ]Tier 2**		[ <del>0.20</del> ]0.40	[ <del>0.50</del> ]0.60		
Forests, Tier 3 CNA**		0.30	0.40		
Forests, Tier 3**		0.10	0.30		
Other CNA		0.25	0.25		
Historic	See Article 15				
Step 3	Sum of Step 2 column equals Total Resource Land.				
Step 4	Protected Resource Land equals sum of Protected Land column.				

NOTES: \* There are other standards of protection which include mandatory mitigation or construction in Article 10.  
 \*\* Any future developer shall be required to use the original forest cover as set forth in Sections 40.03.301 C and E .

Section 3. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 10 (“Environmental Standards”), Division 40.10.100 (“Resource protection standards”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.10.100 Resource protection standards.**

**Sec. 40.10.110. Resource protection standards.**

A. The protection of natural resources . . .

Table 40.10.010 RESOURCE PROTECTION LEVELS		
<i>Natural Resource</i>	<i>Resource Protection Levels</i>	
	<i>CN, CR, ON, OR, BP, I, HI Districts</i>	<i>All Other Districts</i>
Floodplain/floodway	1.00	1.00
Wetland	1.00	1.00
Riparian buffer	1.00	1.00
Drainageways	0.00	0.40
Cockeysville Formation - WRPA	0.50	0.50
Cockeysville Formation Drainage Area - WRPA	0.50	0.50
Sinkhole	1.00	1.00
Wellhead - WRPA Class A	1.00	1.00
Wellhead - WRPA Class B & C	0.50	0.50
Recharge areas -WRPA	0.50	0.50
Slope or geologic sites - CNA	0.90	1.00
Steep slopes (> 25%)	1.00	1.00
Steep slopes (15-25%)	0.25	0.50
Rare species site - CNA	1.00	1.00
Forests, [ <del>mature</del> ]Tier 1 - CNA	[ <del>0.70</del> ]0.75	[ <del>0.85</del> ]0.90
Forests, [ <del>mature</del> ]Tier 1	[ <del>0.50</del> ]0.60	[ <del>0.70</del> ]0.80
Forests, [ <del>young</del> ]Tier 2 - CNA	[ <del>0.40</del> ]0.50	[ <del>0.60</del> ]0.70

Table 40.10.010 RESOURCE PROTECTION LEVELS		
<i>Natural Resource</i>	<i>Resource Protection Levels</i>	
	<i>CN, CR, ON, OR, BP, I, HI Districts</i>	<i>All Other Districts</i>
Forests, <del>[young]</del> Tier 2	<del>[0.20]</del> 0.40	<del>[0.50]</del> 0.60
Forests, Tier 3 - CNA	0.30	0.40
Forests, Tier 3	0.10	0.30
Other CNA	0.25	0.25
Historic	See Article 15	

**Sec. 40.10.135. Forests.**

Where a forest exists within a project boundary that will be disturbed by development or construction activities, a Forest Habitat Value Assessment as set forth in Appendix 1.3 is required.

The forested areas containing the highest habitat value, as determined by the Forest Habitat Value Assessment, will be given the highest priority for preservation. [Trees]Forests may be cut or cleared over a greater area than permitted in Table 40.05.420 only if mitigation is provided and the following standards are met:

- A. A [tree survey of the site's forest shall be conducted by a landscape architect, arborist or forester and submitted to the Department for review and approval. The best forests, in terms of percentage of climax vegetation, tree size, tree health, and habitat value, shall be given the highest priority for preservation]Forest Habitat Value Assessment shall be conducted by a qualified professional landscape architect, forester, arborist, botanist, plant or wildlife ecologist, or other licensed or certified professional in the applicable environmental discipline.
- B. Where landscaping can occur, the protection level given forests after mitigation shall not be less than in Table 40.10.~~[350B]~~135. The acres of mitigation required is expressed as a ratio (acres planted to acres disturbed). In no case shall the increased cutting lead to a revision of the density permitted by the site resource capacity calculation in Division 40.05.400.
- C. Except for CNA forest types, an applicant may be permitted to reduce the protection level with mitigation set forth in Table 40.10.~~[350-B]~~135, provided the mitigation ratio is maintained and the area to be reforested is either on the same parcel or on an adjoining



parcel. Any reduction of this standard shall require the approval of the Department and County Council.

Table 40.10. <del>350B</del> 135 FOREST MITIGATION PROTECTION AND RATIOS			
<i>Forest [Type]Tier (Zone)</i>	<i>Protection Level</i>	<i>Protection with Mitigation</i>	<i>Mitigation Ratio</i>
<del>[Mature]</del> Tier 1 CNA <del>[;]</del> (CN, CR, ON, OR, BP, I, HI districts)	<del>[0.70]</del> <u>0.75</u>	<del>[0.60]</del> <u>0.70</u>	1.75:1
<del>[Mature]</del> Tier 1 CNA <del>[;]</del> (all other districts)	<del>[0.85]</del> <u>0.90</u>	<del>[0.80]</del> <u>0.85</u>	2.75:1
<del>[Mature]</del> Tier 1 <del>[;]</del> (CN, CR, ON, OR, BP, I, HI districts)	<del>[0.50]</del> <u>0.60</u>	<del>[0.40]</del> <u>0.50</u>	1.5:1
<del>[Mature]</del> Tier 1 <del>[;]</del> (all other districts)	<del>[0.70]</del> <u>0.80</u>	<del>[0.65]</del> <u>0.70</u>	2:1
<del>[Young]</del> Tier 2 CNA <del>[;]</del> (CN, CR, ON, OR, BP, I, HI districts)	<del>[0.40]</del> <u>0.50</u>	<del>[0.30]</del> <u>0.45</u>	1.25:1
<del>[Young]</del> Tier 2 CNA <del>[;]</del> (all other districts)	<del>[0.60]</del> <u>0.70</u>	<del>[0.50]</del> <u>0.65</u>	1.75:1
<del>[Young]</del> Tier 2 <del>[;]</del> (CN, CR, ON, OR, BP, I, HI districts)	<del>[0.20]</del> <u>0.40</u>	<del>[0.10]</del> <u>0.30</u>	1.25:1
<del>[Young]</del> Tier 2 <del>[;]</del> (all other districts)	<del>[0.50]</del> <u>0.60</u>	<del>[0.40]</del> <u>0.50</u>	1.5:1
<u>Tier 3 CNA (CN, CR, ON, OR, BP, I, HI districts)</u>	<u>0.30</u>	<u>0.25</u>	<u>1.25:1</u>
<u>Tier 3 CNA (all other districts)</u>	<u>0.40</u>	<u>0.35</u>	<u>1.75:1</u>
<u>Tier 3 (CN, CR, ON, OR, BP, I, HI districts)</u>	<u>0.10</u>	<u>0.05</u>	<u>1.25:1</u>
<u>Tier 3 (all other districts)</u>	<u>0.30</u>	<u>0.20</u>	<u>1.5:1</u>

**Sec. 40.10.136. Standards for mitigation of forests, old fields and meadows.**

In ~~[low-quality]~~ forests, old fields and meadows ~~[{]where over fifty (50) percent of existing plants are listed as "Plants to Avoid" in Appendix 3 to this Chapter[}]~~, mitigation shall be required. The developer shall submit a mitigation plan by a qualified forester or landscape architect. At a minimum, the plan shall provide for the following:

- A. Elimination of invasive ~~[non-native]~~plant species (see Appendix 3 to this Chapter). . .
- C. Long-term management program including, initial action, follow-up in first three (3) years, and a long-term maintenance plan. This ~~[should]~~shall focus on the ~~[ultimate]~~ eradication of ~~[non-native]~~invasive plant species that interrupt growth of newly-planted

stock and will be required prior to final open space approval.

**Sec. 40.10.163. Recharge areas and Cockeysville Formation drainage areas.**

A. When impervious cover. . . .

B. Those areas of open space not currently forested, shall have a minimum of twenty-five (25) percent of their area reforested pursuant to Section 40.10.351. The Department may reduce this requirement where the applicant prepares an Environmental Impact Assessment Report demonstrating to the satisfaction of the Department that reforestation will result in more than a twenty (20) percent loss in groundwater recharge due to the soils and hydrogeologic conditions of the site. The report shall include an annual water budget compiled on a month by month basis comparing existing and post-development mature forest conditions. Applicants shall submit information regarding the types of trees evaluated, soil conditions (including percolation rates), pH types, assumptions regarding rainfall events, and topography. The report shall also include a water quality analysis comparing the water quality benefits of [~~mature~~]forest cover to the proposed alternative ground cover.

Section 4. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 10 (“Environmental Standards”), Division 40.10.700 (“Compliance”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.10.700 Compliance.**

**Sec. 40.10.701. Environmental impact assessment report.**

If a proposed use requires an environmental impact assessment report, the applicant shall have such a report prepared and certified by a qualified professional engineer, geologist, landscape architect, environmental consultant, botanist, plant or wildlife ecologist, forester, certified wetlands delineator or other certified professional in the applicable environmental discipline. The report shall contain the following information:

A. *Site character.* . . .

D. *Resource Mitigation.* [~~Submit a plan detailing mitigation activities.~~] A mitigation plan must be submitted that describes the site conditions of the area to be mitigated, the required size of the area of mitigation, detailed plans for monitoring and long-term maintenance, and the mitigation area boundaries.

1. On-site replacement is the most acceptable for of mitigation. However, mitigation can include restoration and enhancement of the existing resource.
2. Mitigation cannot be used where the conflict can be avoided or minimized.

3. Mitigation by replacement on another site shall be at a ratio of two to one (2:1).

4. Mitigation may also include enhancement; this ratio shall be four to one (4:1).

E. *Conservation design* . . .

G. *Cultural and Scenic Resources*. Prepare an inventory of federal, state or locally identified irreplaceable historical, archaeological, paleontological or scenic resources on site and within five hundred (500) feet of the proposed site, determination of the proposed development's impact on the resources and identification of any mitigation.

Section 5. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 20 (“Subdivision and Land Development Design Principles”), Division 40.20.500 (“Mapping and monuments”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.20.500 Mapping and monuments.**

**Sec. 40.20.510. Mapping criteria.**

The following shall be used for mapping natural resources or other features of plans:

A. Streams . . .

G. Measurements of forest area shall be made based on the exterior [~~drip-line~~]Critical Root Zone (CRZ) of the trees.

Section 6. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 23 (“Landscaping, Trees, Plant Maintenance, and Erosion and Sediment Control”), Division 40.23.200 (“Landscaping installation requirements”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.23.200. Landscaping installation requirements.**

**Sec. 40.23.250. Existing vegetation.**

Where natural vegetation . . .

A. A tree survey is conducted locating the individual trees to be preserved or, in the case of a forest, trees within fifty (50) feet of the edge of [~~construction areas~~]the limits of disturbance.

- B. Individual trees described in the tree survey as healthy and intended to count toward the landscaping or afforestation requirements shall count only if sufficient protection is provided as follows:
1. Trees greater than sixteen (16) inches DBH:
    - a. No area within the [~~drip line~~]Critical Root Zone(CRZ) shall be disturbed. No topographic change greater than eighteen (18) inches shall occur at the edge of the protected area . . .
  2. Trees between three (3) and less than sixteen (16) inches DBH: No more than thirty (30) percent of the area within the [~~drip line~~]CRZ shall be disturbed. . . .
- D. Areas classified as [~~mature or young~~]Tier 1, 2, or 3 forests or defined as forest under the General Definition in Article 33 shall count as meeting the following landscaping requirement provided:
1. Open Space . . .
  2. Bufferyards.
    - a. Where the forested area . . .
    - b. Where the forested area width equals or exceeds the minimum bufferyard width of the required opacity that does not include a fence, hedge, or berm (Table 40.23.140), all trees with less than ten (10) percent of their [~~canopy~~]CRZ undisturbed shall be credited in accordance with Table 40.23.250.

Section 7. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 23 (“Landscaping, Trees, Plant Maintenance, and Erosion and Sediment Control”), Division 40.23.300 (“Tree protection”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.23.300. Tree protection.**

**Sec. 40.23.310. Preserving specimen trees.**

A specimen tree is preserved by protecting one-hundred (100) percent of the area [~~under the tree's drip line~~]within the tree's CRZ. The following techniques shall be used to preserve the maximum number of specimen trees:

- A. During construction, the [~~tree's drip line~~]CRZ shall be fenced with five (5) foot temporary fencing, and no earth moving, material storage, vehicular storage or vehicular incursions shall be permitted inside the fenced area. Existing impervious cover within the [~~drip line~~]CRZ may be removed or altered with limited disturbance, provided measures are taken to minimize root disturbance and soil compaction. This may include recommendations for

pruning, fertilization and other means to ensure the tree's survival both during and after completion of construction activities. Only those trees with a high probability of survival may be credited.

Section 8. *New Castle County Code* Chapter 40 (Unified Development Code or "UDC"), Article 26 ("Modification of Standards"), Division 40.26.200 ("Zoning modification"), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.26.200 Zoning modification.**

**Sec. 40.26.231. Patio and atrium dwelling units.**

The wall enclosing these lots may be eliminated or reduced in height or opacity where the unit faces open space. The street yard should be varied to avoid monotony. The following rules govern wall modulation:

- A. Where the wall abuts . . .

Table 40.26.231 PERCENT REDUCTION IN TOTAL AREA OF WALL				
Type of Cover	Width of Open Space			
	30-40 ft.*	41-60 ft.*	61-100 ft.	101 ft.+
Lawn	10%	15%	30%	40%
Old Field	30%	40%	60%	80%
<del>[Young]</del> Tier 3 Forest	50%	70%	90%	100%
<del>[Mature]</del> Tier 1 or Tier 2 Forest	60%	80%	100%	100%

\*If a trail or walk is present, add ten (10) feet to width.

Section 9. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 26 (“Modification of Standards”), Division 40.26.300 (“Subdivision standards”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.26.300. Subdivision standards.**

**Sec. 40.26.330. Cul-de-sac or block length.**

Cul-de-sac length is generally set to avoid unduly long roads where only one (1) means of access exists. Maximum block lengths provide for good circulation. However, ~~[instances may arise where]~~ a longer block length or cul-de-sac length ~~[is justified]~~ may be permitted.

- A. A cul-de-sac's maximum length may be extended an additional three-hundred (300) feet to serve twenty-four (24) lots provided:
  1. No stub street is possible ~~[on any cul-de-sac whose length would exceed eighteen (18) lots.];~~ and
  2. The average number of lots served by cul-de-sacs in the development is sixteen (16) or less~~[-];~~ and
  3. The cul-de-sac layout and design minimizes natural resource disturbance.
  
- B. ~~[Up to twenty eight (28) lots per block length may be permitted]~~ A block's longest dimension may be extended by twenty-five (25) percent (with proportionate expansion to the maximum block perimeter) where: . . .

Section 10. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Article 31 (“Procedures and Administration”), Division 40.31.100 (“Application review

procedures”), is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.31.100. Application review procedures.**

**Sec. 40.31.112. Pre-application sketch plan review/conference.**

A. *Applicability.* A pre-application sketch plan review conference is required for all rezoning requests and major [residential subdivisions]land development applications. An applicant may request a pre-application sketch plan review conference for all other major or minor plans at any time. The pre-application sketch plan review conference may be waived by the Department when it is determined, after a review of the submission, that no departmental concerns exist. . . .

Section 11. *New Castle County Code Chapter 40 (Unified Development Code or “UDC”), Article 33 (“Definitions”), Division 40.33.300 (“General definitions”),* is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

**Division 40.33.300. General definitions.**

This Division contains the definition of words used in this Chapter . . .

*Afforestation.* The establishment of forest cover on areas that are not presently forested, or where forest cover is below the afforestation threshold for the use. . . .

*Canopy.* The uppermost layer in a forest, formed from a crown of trees. . . .

*Critical natural areas report.* A report analyzing the impact of a development or subdivision proposal on a CNA located on the site which shall include the following elements:

- A. A statement . . .
- C. A narrative description of the extent to which the [~~subdivider or developer~~]applicant proposes land disturbing activities within any critical natural areas which are shown on the scaled plan; and
- D. Any measures . . .

*Critical Root Zone (CRZ).* The protected area around the base of a tree.

- A. The CRZ is the zone in which the majority of a tree’s roots are found that supply nutrients and water to the tree. In ideal growing conditions, a tree’s roots are often concentrated in the upper 12 to 18 inches of soil.
- B. To determine the CRZ utilize one of two methods: The CRZ is delineated by the greater of either:

1. The outer drip line of the tree canopy or;
2. The tree diameter at breast height (DBH), then multiply the diameter by a standard factor of 1.5 feet. For example, an 18-inch diameter tree would have a CRZ of 27 feet (18 inches x 1.5 feet) measured radially from the center of the tree trunk.

*Forest.* An area covered by a canopy of [woody plants (trees) that qualifies as mature and/or young. It may also be a woodland, woodlot, grove, or stand of trees meeting the specifications of the forest type]trees, covering a contiguous land area of at least 1.0 acre or greater in size. Forests do not include trees planted and grown for commercial purposes, and do not include canopy cover over existing structures.

*Forest Cover.* Is the total area of a site under the cover of an existing stand of trees or new stand of trees (reforestation or afforestation), meeting the minimum requirement of forest to be preserved and maintained.

~~[*Forest, mature.* An area or stand of trees whose total combined contiguous canopy covers an area of one (1) acre or more composed of canopies of trees having a DBH of at least eighteen (18) inches or greater covering at least seventy five (75) percent of that area.]~~

~~[*Forest, young.* An area or stand of trees whose total combined canopy covers an area of one (1) acre or more, with canopy trees having a DBH of six (6) inches and covering at least sixty (60) percent of the area. However, no trees kept or grown for commercial purposes shall be considered a young forest.]~~

*Forester.* A person possessing . . .

*Forest Habitat Value Assessment.* A method or process for determining the area or areas within a forest that contain high habitat value.

*Forest Interior.* Habitat of high ecological value within the core of the forest located at least 300 feet from the forest edge. . . .

*Forest Protection Level:*

Tier 1: A forested area or areas with the highest habitat value based on the forest habitat value assessment and a numerical point system. A Tier 1 protection level has 52 or greater habitat value points.

Tier 2: A forested area or areas that has between 26 and 51 habitat value points.

Tier 3: A forested area or areas that has between 1 and 25 habitat value points. . . .



Invasive [~~woody~~] plant[s] species. Trees, [~~and other~~]woody plants, or herbaceous plants, alien to the Mid-Atlantic region, which have a tendency to spread, encroach, or infringe on other plant species, often displacing less hardy plant species. The list of invasive plant species is maintained by the Delaware Invasive Species Council (DISC).

Non-native plants. A species that is not native to North America (north of Mexico). Non-native species are thought to have been introduced by humans, primarily through agricultural or horticultural practices.

Old field. [~~An area historically used for agricultural purposes which has been abandoned and now~~]Lands formerly cultivated, timbered or grazed but later abandoned. The dominant plants include grasses and herbaceous plants, with encroaching woody vegetation, which evidences secondary succession; in particular, areas covered by woody plants eight (8) or more feet in height which either cover forty (40) percent or more of a property or cover eighty (80) percent of a contiguous area one (1) acre or greater in size. . .

Public water supply well. A well from which the water is used to serve a [~~community~~]public water system as defined [~~by Section 40.22.146 (Public Water Systems)~~]in the State of Delaware [State] Regulations Governing Public Drinking Water Systems. All classes of public water supply wells are covered by this definition, including Community, Non-transient Non-community, and Transient Non-community as defined and mapped by the State of Delaware Regulations Governing Public Drinking Water Systems. . .

Site analysis plan. For all minor and major [~~residential subdivisions~~]land development applications, the applicant shall be required to submit a site analysis plan as the first phase of the pre-application [~~exploratory~~]sketch or exploratory plan review process. The Department may also require a site analysis plan for any other application type. The site analysis plan shall serve as a basis for the planning process and shall be used to determine the best areas of the site for open space and natural resource preservation, land conservation and development. The site analysis plan allows both the applicant and the Department the opportunity to utilize the natural site conditions to determine how the development of each parcel or tract can be designed to minimize environmental degradation while achieving highest possible community character design standards. . .

Tree. A living perennial woody plant with single or multiple stems that branch into a well-formed crown of foliage and reaching a height of at least fifteen (15) feet under ideal growing conditions.

Tree, canopy. A tree whose [~~leaves~~]foliage would occupy the upper level of a forest [~~in a natural ecological situation~~]. These trees are also called shade trees, and typically reach heights of fifty (50) feet or greater [~~to one hundred (100) feet~~]at maturity under ideal growing conditions.

Tree Cover. Applies to a stand of trees not meeting the minimum requirements of a forest and is the area of existing CRZ or an assumed CRZ after twenty (20) years of growth for newly planted trees. Tree Cover is an optional substitute for Forest Cover in order to meet minimum afforestation ratio standards.

*Tree, small canopy/understory.* A tree whose [~~leaves~~]foliage would occupy the intermediate level of a forest[~~in a natural ecological situation~~]. [~~They are also found as dominant species in old field succession. These trees are also called ornamental trees~~] . . .

*Wellhead.* The wellhead water resource protection areas are surface and subsurface areas surrounding public water supply wells or wellfields where the quantity or quality of groundwater moving toward such wells or wellfields may be adversely affected by land use activity. Such activity may result in a reduction of recharge or may lead to introduction of contaminants to groundwater used for public supply (“wellhead”). Three (3) classes of wellhead water resource protection areas exist in accordance with the following:

- A. *Class A.* The area within a three hundred (300) foot radius circle around all public water supply wells which are classified as [~~community~~]public water systems, as defined [~~by section 40.22.157 (public water systems)~~], in the State of Delaware Regulations Governing Public Drinking Water Systems.
- B. *Class B.* The Glendale . . .

Section 12. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Appendix 1 (“Application and Plan Requirements”) is hereby amended by adding the material that is underscored and deleting the material that is bracketed and stricken, as set forth below.

## APPENDIX 1. APPLICATION AND PLAN REQUIREMENTS

### 1. Land Development Application Submission Requirements.

- A. *Pre-application sketch plan (planning and engineering)*. . . .
- B. *Exploratory plan.*
  - 1. Planning.
    - a. A completed application . . .
    - n. If not previously completed as part of a Pre-Application Sketch Plan, a Site Analysis plan pursuant to Appendix 1(3)(K).
    - o. A Conceptual Landscape Plan that generally delineates all planting areas and planting requirements in accordance with this Chapter.
    - p. Conceptual architectural renderings of proposed site development shall be required for all rezonings and major land development plans. . . .
- C. *Site construction plans.*

1. [~~Planning~~]Planning.
  - a. Record check prints . . .
  - b. Final Landscape/Open Space and Site Management Plan. ([~~4~~]2 copies) . . .
2. [~~Engineering~~]Engineering. . . .

**2. Land Development Plan Requirements.** The purpose of this section is to specify the format, data, notes, graphics and information required for subdivision and land development plans submitted in accordance with the Unified Development Code. The level of detail depicted and noted on plans shall be that which is necessary to convey compliance with design details and purpose of the proposed land use action.

Any of the notes and information listed below may be modified as necessary to apply to specific projects. Any notes which are not applicable to the particular plan need not appear on the plan. Additional notes may be required by any regulatory reviewing agency or as proposed by an applicant and approved by the Department of Land Use. Notes, data and/or graphic details should be added to plans whenever necessary to explain or clarify features of the project which are not otherwise self-explanatory.

A. *Plan Requirements.*

Plan Requirements					
<u>Land Development</u>				<u>Other</u>	
EX - Exploratory plan				S – Site plan	“X” - Required
RE - Record plan				P – Parking plan	
<i>EX</i>	<i>RE</i>	<i>S</i>	<i>P</i>	<i>Specifications and/or Notes</i>	
				4.	A Certification of Accuracy, Certification of Ownership and Certification of Plan Approval along the bottom edge of the first page.
X	X	X	X	a.	Certification of Plan Accuracy  I _____ hereby certify that I am a registered professional engineer with a background in civil engineering in the State of Delaware and that all of the information on this plan is true and correct to the accuracy required by accepted surveying standards and practices and by the New Castle County Unified Development Code.
X	X	X	X		Professional land surveyor <u>or landscape architect</u> registered in the State of Delaware <del>should</del> <u>may be substituted for or included with a professional engineer when applicable in accordance with State Code.</u>
				b.	Certification of Ownership . . .

### 3. Other Reports and Applications . . .

#### A. Floodplain permit application . . .

F. Conceptual and final [L]landscape [P]plans. The landscape plans must be prepared, signed and sealed by a landscape architect registered in the State of Delaware. Landscaping and screening should consist of a variety of deciduous and evergreen trees and shrubs. The utilization of plant species native to northern Delaware is encouraged. Designs that incorporate a single plant type or repetitious layout should be avoided. The landscape plan must include the following:

1. For both conceptual and final landscape plans, the project [A]application number, tax parcel number(s), the owner/developer’s signature, [and]the landscape architect’s signature and seal, and all relevant base site data from the exploratory or record plan.
2. For each type of bufferyard, its opacity value, length, width, plant unit value per one hundred (100) lineal feet (Table 40.23.140), total number of plant units and plant unit alternative (Table 40.23.110).
  - a. If the computerized bufferyard model is used, the landscape architect shall place the results [supply the Department with a printout]of the model run for each bufferyard proposed on the landscape plan.

b. Bufferyards that include proposed structures (e.g., walls, fences or berms) shall include construction detailing on the final landscape plan.

3. Plant units per parking space . . .

6. In certain protected resource areas, even though undisturbed, reforestation of native species and control or eradication of invasive [vegetation]plants may be required by [~~Chapter 40,~~ Article 10 and~~/or~~ Article 23.

7. A table or plant list . . .

12. Integration of the proposed site development with both existing natural resources and the surrounding area context.

13. Delineate all proposed planting areas, planting requirements and site features in accordance with this Chapter.

G. *Deed restriction change application (maintenance declaration) . . .*

K. *Site analysis plan.* For all minor or major [residential subdivisions]land development applications, the applicant shall be required to submit a site analysis plan as the first phase of the [~~exploratory]pre-application~~ sketch or exploratory plan review process. The Department may also require a site analysis plan for any other application type. The site analysis plan shall serve as a basis for the planning process and shall be used to determine the best areas of the site for open space and natural resource preservation, land conservation and development. The site analysis plan allows both the applicant and the Department the opportunity to utilize the natural site conditions to determine how the development of each parcel or tract can be designed to minimize environmental degradation while achieving highest possible community character design standards. The site analysis plan must include:

1. Existing topography and site features and structures;

2. Pre-development drainage patterns and local watershed information; . . .

6. All existing and proposed transportation access points (including multi-modal options), facilities, easements and rights-of-way on or within 500 linear feet of the parcel or tract; .

..

8. Graphic scale, not to exceed one (1) inch equals two hundred (200) feet on parcels or tracts 50 acres or larger or one (1) inch equals one hundred (100) feet on parcels or tracts less than 50 acres and a north arrow.

L. *Natural resources [~~area~~]management plans.*

1. *Resource analysis plan.* The following must be submitted:

a. The site analysis plan as a base map with the following additions[-]:

- i. Wetlands delineation. A wetlands report/jurisdictional determination.
  - ii. Forest survey. In accordance with Article 10 of this Chapter, [A]a [general] description of the condition and location of the forest stands on-site [~~identifying the dominant canopy, understory and herbaceous species if possible~~], as well as contiguous forested areas and corridors located off-site.
  - iii. [~~A description of the dominant native species present.~~] Tree survey. The identification of all individual or groups of trees not located within forest areas to include species type, DBH, specimen tree status, condition, the location of both the center of the tree trunk and the CRZ delineation.
  - iv. Floodplain or floodway areas.
  - v. WRPA, which includes Cockeyville Formation/Drainage areas.
  - vi. Steep slope areas.
  - vii. Water bodies, streams or drainageways with top of bank.
  - viii. Riparian buffer areas; Zone 1 and Zone 2.
  - ix. All other resources as defined in Article 10 of this Chapter.
2. Open space or site [M]management plan. The following must be submitted:
- a. A narrative description of the goals and objectives based on the findings of the resource analysis plan.
  - b. Limit of disturbance and natural resource protection measures.
  - c. Non-native, [F]invasive plant species identified on-site, with a control or eradication plan describing specific practices and areas to be treated.
  - d. Planting details describing where and how any reforestation, meadow creation or other plantings will occur[-] and are to be maintained, including proper methodologies and long-term schedules for:
    - i. Irrigation or watering;
    - ii. Mulching (e.g., mulch shall not be piled onto trunks of trees);
    - iii. Pruning, shearing or thinning;
    - iv. Soil amendments or fertilization --both initial and long-term;
    - v. Grass or herbaceous plant mowing, cutting, control or removal;

- vi. Soil aeration.
- e. Wetland features to be protected, created or enhanced.
- f. A project time[-]line to include a proposed long-term maintenance [~~eyele~~]program.
- g. A [P]project cost estimate that[~~(~~]includ[~~ing~~]es itemized entries and provisions for long-term maintenance needed to implement the plan [~~until completion~~]in perpetuity[~~)]~~.
- h. Native, [N]naturally occurring non-invasive weeds are permissible within the natural resource areas.

N. *Property Line Adjustment . . .*

O. *Forest Habitat Value Assessment.*

1. *Criteria.*

- a. A forest habitat value assessment must be conducted when existing forested areas are disturbed within (50) feet of the edge of the drip line. Drip line delineation is determined during peak foliage.
- b. A forest habitat value assessment is not required when the existing forested areas within the project boundaries are less than 0.5 acres (21,780 square feet) in size.
- c. A forest habitat value assessment is not required when the existing forested area and the fifty (50) feet within the edge of the dripline remains 100% undisturbed.

2. *Initial Forest Investigation.*

- a. When developing a site analysis or natural resource management plan, aerial imagery and GIS data (e.g., soil and wetland maps) should be used to initially analyze and delineate the forest types for study.
- b. Any variations in forest types observed must be identified and delineated on a base map.
- c. Interpreting aerial imagery over various years may help to delineate forest types and generally discern where forests have continuously existed. For example, if imagery over many years show that a site has been in continuous forest cover, then there is a high probability that existing on-site forest is mature.
- d. Forest types may also be identified and delineated in the field. The following shall be recorded on a base map, if observed:
  - i. Breaks or changes from one forest type to another;

- ii. Changes to the dominant tree species in the canopy (e.g. maple to oak/hickory);
- iii. Differences in tree trunk diameters;
- iv. Changes in the density of trees;
- v. Areas with a high-percentage of native plant species;
- vi. Areas with a high-percentage of non-native plant species.

3. Methodology.

- a. Number of Plots to Sample. Potential habitat value is measured by sampling plots that are 0.1 acres in size. The following number of plots are required based on the size of the forest type to be sampled. For every two acres of increase from three acres of forest, the number of plots required to sample increases by one. For example:

0.5 to 2.99 acres = 1 plot

3 to 4.99 acres = 2 plots

5 to 6.99 acres = 3 plots

7 to 8.99 acres = 4 plots

9 to 10.99 acres = 5 plots

11 to 12.99 acres = 6 plots

13 to 14.99 acres = 7 plots

15 to 16.99 acres = 8 plots

17 to 18.99 acres = 9 plots

19 to 20.99 acres = 10 plots

21 and greater...

- b. Sample Plot Location. To best represent the full range of habitat within a forest type, sample plots should be located away from field edges, canopy gaps, clear-cuts, roadsides and other human disturbed areas. It is important to place the plot in habitat that is floristically and structurally homogeneous and that represents the overall forest area that is being sampled.
- c. Sample Plot Delineation. When plot location(s) have been determined for sampling within a forest type, the perimeter of each plot is delineated as follows: the center point



of each plot is positioned with a GPS unit and from the center point, the plot perimeter is established by creating a circle that has a radius of 37.2 feet (0.1 acres in size).

d. Sample Plot Point Values. Once sampling of plots within a forest type is completed, data will then be summarized and analyzed. Habitat value is determined through a numerical value point system. Each habitat attribute to be measured is given points based on the data collected within the sample plot. If more than one plot is sampled within a forest type, then the total habitat value points from each plot within the forest type are averaged, giving an overall habitat value for that forest type. The forest type with the highest number of habitat value points is given the highest level of protection.

i. Protection levels are separated into three tiers: Tier 1, Tier 2 and Tier 3. A range of habitat value points have been calculated that relate to each level of protection as follows:

Tier 1 > 51 habitat value points

Tier 2 = 26-51 habitat value points

Tier 3 = 1-25 habitat value points

ii. A forest type with a Tier 3 protection level may have the lowest habitat value relative to the other forest types, but still provides value in ecosystem benefits. A project boundary might contain only Tier 1 forest.

#### 4. Protection Standards.

a. A forest type identified as either Tier 1, 2, or 3, is subject to a protected Critical Root Zone (CRZ). The protection extends to the edge of the CRZ for each tree that occurs around the perimeter or edge of the forest type to be retained.

b. Disturbance of Forest Interior areas identified within a project's boundary should be limited to the greatest extent possible.

c. The fragmentation of contiguous forested areas and corridors (both on-site and on adjacent properties) should be avoided where feasible.

d. If state rare or federally listed plant or animal species as determined by the Delaware Department of Natural Resources and Environmental Control (DNREC) are discovered within the project boundaries, then a representative from DNREC should be contacted to confirm its presence and offer recommendation(s).

#### 5. Scoring Sample Plots.

- a. High value forested habitat is an area that contains any of the following attributes. Included with each attribute is the required method for sampling and ranking.
- i. **Large diameter trees.** Large diameter trees are an indication of a mid-to-late successional, maturing or mature forest. A mature forest ecosystem provides key environmental values and services and can support a high degree of biodiversity.

*Methods and scoring:*

- (a). All trees within the plot that are 18 inches or greater in diameter (measured at 4.5 feet from the base of the tree), are to be measured and recorded. An individual 18-19 inch diameter tree receives 1 value point. For every 2-inch increase in diameter, an additional value point is added for each individual tree. For example: an 18-19 inch diameter tree qualifies as 1 point; 20-21 inch diameter tree qualifies as 2 points.
- (b). Round to the nearest inch for trunk diameter. For example, a 19.5-19.9 inch tree qualifies as a 20 inch tree and 2 value points.
- (c). If any tree 18 inches or greater in diameter qualifies as a “value tree” below, then that tree receives an additional point. For example, if an 18-19 inch diameter tree is a native oak species, a native hickory species or an American beech, then that tree receives 1 extra value point. For an individual tree with multiple trunks, where the trunks are 18 inches or greater in diameter, the tree is recorded as the larger of the trunks.
- ii. **Floristic Quality Index:** The Floristic Quality Index (FQI) is a quantitative measure to determine the ecological quality of a natural area or site by recording all the native and non-native species observed within the sample plot. The FQI has been shown to be a reliable means of assessing quality with minimal data collection and allows for the comparison of floristic quality among many sites. Coefficient of Conservatism ranks (C-values) are used to determine the FQI of a specific site or plant community. C-values range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a habitat that is relatively unaltered from what is believed to be a pre-settlement condition.

C-values for each species are based on the observed behavior of a species within the State of Delaware as follows:

- (a). All non-native plant species are assigned a C-value of 0.

- (b). Plants with a wide range of ecological tolerances are assigned C-values of 1, 2, or 3.
- (c). Plants with an intermediate range of ecological tolerances are assigned C-values of 4, 5, 6 or 7.
- (d). Plant with a narrow range of ecological tolerances are assigned C-values of 8, 9 or 10. In addition, state rare or uncommon plant species are given C-values of 8 to 10.

C-values are applied to the entire known flora of Delaware (See Flora of Delaware Online Database Advanced Search – <https://www.wrc.udel.edu/de-flora>).

*Methods and Scoring:* All native and non-native plants within the plot are recorded and the C-values for each species applied. All C-values are added together and the sum is then divided by the number of species recorded, which provides the FQI for a given plot. The calculated FQI is the number of habitat value points assigned to the plot.

- iii. **Presence of valued tree species:** Most species of trees provide a variety of benefits to wildlife; however certain species are considered to be highly valued by wildlife. To ensure that the forest is a relatively stable ecosystem in the long term and that dead or dying valued trees are being replaced, it is critical that valued tree species be found in multiple layers of the forest, from the canopy as mature trees, to the herbaceous layer as seedlings.

*Methods and Scoring:* All valued tree species (see Appendix 3.3.A Trees) within the plot are recorded in the following forest layers: Herbaceous/Groundcover (0'-1.99'), Low Shrub (2'-5.99'), Tall Shrub (6'-11.99'), Sub-canopy (12' to the beginning of the tree crown), Canopy (the tree crown). If all five layers are represented in the plot with a valued tree species, then 5 value points are assigned. If four layers are represented, then 4 points are assigned, and so on. In addition, extra value points are assigned if more than one species of a valued tree genus is represented.

For example, if the value tree white oak (*Quercus alba*) occurs in the canopy, then 1 habitat value point is assigned for that layer. If value tree black gum (*Nyssa sylvatica*), mockernut hickory (*Carya tomentosa*), sweet birch (*Betula lenta*) and American beech (*Fagus grandifolia*) also occur in the canopy, then 4 additional value points are added for a total of 5 value points for that forest layer.

iv. **Forest interior:** The forest interior is habitat deep within woodlands, away from the influence of forest edges and open habitats. Forest interior is of high ecological value. Many species of wildlife are dependent on forest interior habitat for their survival.

*Methods and Scoring:* Determining forest interior of a forest type is a GIS exercise. Identify the forest edge related to the sample plot that is being assessed (which may be off-site on an adjacent property) and measure 300 feet inward. If 0.2 acres or more of a forest type is within the forest interior, than it receives 5 value points.

v. **Mature Forest Potential:** The biodiversity and environmental values of a forest ecosystem increases with age, meaning that a mature forest will be able to support a greater variety and number of plants and animals as time progresses.

*Methods and Scoring:* Determining mature forest potential of a sample plot is a GIS exercise. Historical aerial imagery from 1937, 1954, 1961, 1968, 1992, 1997, 2002, 2007, 2012, 2017 and 2019 is available on New Castle County ParcelView to identify potential areas of mature forest. If imagery from each year since 1937 to present day shows that a site has been in continuous forest cover, then there is a high probability that the site is mature. If 0.2 acres or more of a forest type is within a potential mature forest area, then it receives 5 value points.

6. *Summation and reporting standards.*

A report on the forest habitat value assessment shall be submitted to the Department and shall include the following: results of the assessment (including scoring data) and maps depicting sample plot boundaries, location and coordinates, and the locations of Tier 1, Tier 2 and Tier 3 forests.

**4. Required Professional Licensure/Certification**

The submittal matrix below identifies the licensed or certified professional who is permitted to submit each plan, study or report type.

SUBMITAL MATRIX

<u>Professional Licensure</u>	<u>Civil Engineer (PE)</u>	<u>Land Surveyor (PLS)</u>	<u>Landscape Architect (PLA)</u>	<u>Certified Planner (AICP)</u>	<u>Architect (RA)</u>
<u>Pre-Exploratory Sketch Plan</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>
<u>Exploratory Plan</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>L</u>

<u>Professional Licensure</u>	<u>Civil Engineer (PE)</u>	<u>Land Surveyor (PLS)</u>	<u>Landscape Architect (PLA)</u>	<u>Certified Planner (AICP)</u>	<u>Architect (RA)</u>
<u>Construction Plan</u>	<u>Y</u>	<u>Y</u>	<u>L</u>	<u>N</u>	<u>N</u>
<u>Record Plan</u>	<u>Y</u>	<u>Y</u>	<u>L</u>	<u>N</u>	<u>N</u>
<u>Parking/Site Plan</u>	<u>Y</u>	<u>Y</u>	<u>L</u>	<u>N</u>	<u>N</u>
<u>Conceptual/ Final Landscape Plan<sup>1</sup></u>	<u>N</u>	<u>N</u>	<u>Y</u>	<u>N</u>	<u>N</u>
<u>Floodplain Permit/ Study Application<sup>2</sup></u>	<u>Y</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>
<u>Wetland Delineation and Report<sup>3</sup></u>	<u>L</u>	<u>L</u>	<u>L</u>	<u>L</u>	<u>L</u>
<u>Critical Natural Area (CNA) Report<sup>4</sup></u>	<u>L</u>	<u>L</u>	<u>L</u>	<u>N</u>	<u>N</u>
<u>Site Analysis Plan<sup>5</sup></u>	<u>Y</u>	<u>L</u>	<u>Y</u>	<u>N</u>	<u>L</u>
<u>Natural Resources Management Plan<sup>6</sup></u>	<u>L</u>	<u>L</u>	<u>L</u>	<u>L</u>	<u>N</u>
<u>Boundary/ Topographic Survey</u>	<u>L</u>	<u>Y</u>	<u>N</u>	<u>N</u>	<u>N</u>
<u>Forest Habitat Value Assessment<sup>7</sup></u>	<u>L</u>	<u>L</u>	<u>Y</u>	<u>L</u>	<u>N</u>
<u>Traffic Impact Study<sup>8</sup></u>	<u>Y</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>
<u>Environmental Impact Assessment Report (EIA)<sup>9</sup></u>	<u>L</u>	<u>L</u>	<u>L</u>	<u>L</u>	<u>N</u>

Y – Yes

N – No

L – Limited (item provided for Department review shall be submitted by a qualified professional in accordance with Title 24 of the Delaware State Code)

Section 13. *New Castle County Code* Chapter 40 (Unified Development Code or “UDC”), Appendix 3 (“Plant Lists and Planting Guidance for New Castle County”), is hereby amended by adding the material that is underscored, as set forth below.

<sup>1</sup> See Appendix 1.3.F

<sup>2</sup> See Appendix 1.3.A

<sup>3</sup> See Article 33, “Wetland Delineation and Report” definition and Appendix 1.3.D

<sup>4</sup> See Article 33, “Critical natural areas report” definition and Appendix 1.3.E

<sup>5</sup> See Article 33, “Site analysis plan” definition and Appendix 1.3.K

<sup>6</sup> See Article 33, “Natural resource management plan” definition and Appendix 1.3.L

<sup>7</sup> See Section 40.10.135.A and Article 33, “Forest habitat value assessment” definition

<sup>8</sup> See Section 40.11.130.A

<sup>9</sup> See Section 40.10.701 and Article 33, “Environmental Impact Assessment Report” definition

1. **Recommended Plant List** - Plant species generally suitable for ...
  
3. **Native Plant Species of Special Interest** - Plant species listed below in this Section or annotated in Section 1 with an asterisk (\*) encountered on site may require additional protections per Articles 5, 10 and 23. They may be considered rare, valued, or endangered species within the State of Delaware or require additional arboricultural and botanical information as requested by the Department.

A. Trees

<b>Botanical Name</b>	<b>Common Name</b>	<b>Notes</b>
<u><i>Amelanchier arborea</i></u>	<u>Downy Shadbush</u>	<u>Valued tree species</u>
<u><i>Amelanchier canadensis</i></u>	<u>Eastern Shadbush</u>	<u>Valued tree species</u>
<u><i>Amelanchier laevis</i></u>	<u>Smooth Shadbush</u>	<u>Valued tree species</u>
<i>Asimina triloba</i>	Common Pawpaw	Edible fruit
<u><i>Carya cordiformis</i></u>	<u>Bitternut Hickory</u>	<u>Valued tree species</u>
<u><i>Carya glabra</i></u>	<u>Pignut Hickory</u>	<u>Valued tree species</u>
<i>Carya lacinosa</i>	Shellbark Hickory	
<u><i>Carya ovata</i></u>	<u>Shagbark Hickory</u>	<u>Valued tree species</u>
<i>Carya pallida</i>	Sand Hickory	Tolerates dry, upland, sandy soils.
<u><i>Carya tomentosa</i></u>	<u>Mockernut Hickory</u>	<u>Valued tree species</u>
<u><i>Diospyros virginiana</i></u>	<u>Persimmon</u>	<u>Valued tree species</u>
<u><i>Fagus grandifolia</i></u>	<u>American Beech</u>	<u>Valued tree species</u>
<i>Fraxinus nigra</i>	Black Ash	
<i>Juglans cinera</i>	Butternut	Found along well-drained stream banks.
<u><i>Magnolia virginiana</i></u>	<u>Sweetbay Magnolia</u>	
<i>Malus coronaria</i>	Wild Crabapple	
<u><i>Nyssa sylvatica</i></u>	<u>Blackgum</u>	<u>Valued tree species</u>
<u><i>Pinus taeda</i></u>	<u>Loblolly Pine</u>	<u>Valued tree species</u>
<u><i>Prunus serotina</i></u>	<u>Wild Black Cherry</u>	<u>Valued tree species</u>

<i>Prunus virginiana</i>	Choke Cherry	
<i>Quercus alba</i>	<u>White Oak</u>	<u>Valued tree species</u>
<i>Quercus bicolor</i>	<u>Swamp White Oak</u>	<u>Valued tree species</u>
<i>Quercus coccinea</i>	<u>Scarlet Oak</u>	<u>Valued tree species</u>
<i>Quercus falcata</i>	<u>Southern Red Oak</u>	<u>Valued tree species</u>
<i>Quercus laurifolia</i>	Laurel Oak	
<i>Quercus lyrata</i>	Overcup Oak	Tolerates poorly-drained bottomland soils.
<i>Quercus michauxii</i>	<u>Swamp Chestnut Oak</u>	<u>Valued tree species</u>
<i>Quercus montana</i>	<u>Chestnut Oak</u>	<u>Valued tree species</u>
<i>Quercus phellos</i>	<u>Willow Oak</u>	<u>Valued tree species</u>
<i>Quercus rubra</i>	<u>Northern Red Oak</u>	<u>Valued tree species</u>
<i>Quercus stellata</i>	Post Oak	Tolerates dry, upland, sandy soils.
<i>Quercus velutina</i>	<u>Black Oak</u>	<u>Valued tree species</u>

B. Wood Shrubs, Vines and Groundcovers...

Section 14. New Castle County Council finds that the provisions of this Ordinance are consistent with the spirit and intent of the New Castle County Comprehensive Development Plan.

Section 15. All ordinances or parts of ordinances and all resolutions or parts of resolutions that may be in conflict herewith are hereby repealed except to the extent they remain applicable to land use matters reviewed under previous Code provisions as provided in Chapter 40 of the *New Castle County Code*.

Section 16. The provisions of this Ordinance shall be severable. If any provision of this Ordinance is found by any court of competent jurisdiction to be unconstitutional or void, the remaining provisions of this Ordinance shall remain valid, unless the court finds that the valid provisions of this Ordinance are so essentially and inseparably connected with, and so dependent upon, the unconstitutional or void provision that it cannot be presumed that County Council would have enacted the remaining valid provisions without the unconstitutional or void one, or unless the court finds that the remaining valid provisions, standing alone, are incomplete and incapable of being executed in accordance with County Council's intent. If any provision of this Ordinance or any zoning map or portion thereof is found to be unconstitutional or void, all applicable former ordinances, resolutions, zoning maps or portions thereof shall become applicable and shall be considered as continuations thereof and not as new enactments regardless if severability is possible.

Section 17. This Ordinance shall become effective immediately upon passage by New Castle County Council and signature of the County Executive or as otherwise provided in 9 Del. C § 1156 and shall only apply to Land Use applications submitted after such date unless the applicant by written request agrees to submit to the provisions of this Ordinance.

Adopted by County Council of  
New Castle County on:

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President of County Council  
of New Castle County

Approved on:

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County Executive  
New Castle County



**SYNOPSIS:** The following is a summary of the revisions contained in this ordinance broken down by New Castle County Code Division or Section number.

**Sec. 40.04.210.** This amendment provides for landscaping associated with afforestation.

**Sec. 40.04.231.** This amendment clarifies that plant material in required open space must be native species.

**Sec. 40.04.241.** This amendment requires major and minor plans to address afforestation.

**Sec. 40.05.420.** This amendment updates the forest resource protection standards used for site capacity calculations for determining development potential of a site.

**Sec. 40.10.110.** This amendment updates the resource protection levels for forest resources and introduces new forest classifications.

**Sec. 40.10.135.** This amendment replaces the requirement for a tree survey with the requirement for a Forest Habitat Value Assessment and clarifies forest mitigation protection and ratios.

**Sec. 40.10.136.** This amendment removes the reference to low quality forests.

**Sec. 40.10.163.** This amendment removes the reference to mature forests.

**Sec. 40.10.701.** This amendment clarifies terms and expands the professions permitted to prepare and certify an Environmental Impact Assessment Report, clarifies resource mitigation and cultural and scenic resources.

**Sec. 40.20.510.** This amendment replaces the term drip-line with Critical Root Zone (CRZ).

**Sec. 40.23.250.** This amendment revises the requirements for existing vegetation to be credited towards specific landscaping requirements.

**Sec. 40.23.310.** This amendment revises the techniques used to preserve specimen trees.

**Sec. 40.26.231.** This amendment introduces new forest classifications.

**Sec. 40.26.330.** This amendment revises the subdivision standards regarding cul-de-sac and block length.

**Sec. 40.31.112.** This amendment requires a pre-application sketch plan review/conference for all major land development applications and rezonings.

**Sec. 40.33.130.** This amendment adds and revises several definitions.

**Sec. 40.33.130.** This amendment removes definitions for terms “Forest, mature”, and “Forest, young”.

**Appendix 1.1.B.1.** This amendment revises the land development application requirements for the exploratory and construction plan submission to the Planning Section.

**Appendix 1.2.A.** This amendment revises the land development plan requirements to allow registered landscape architects in the State of Delaware to certify plans and to include the requirement of a conceptual landscape plan as part of the exploratory plan submission.

**Appendix 1.3.** This amendment outlines the requirements for the conceptual/final landscape plan, site analysis plan, natural resources management plan and forest habitat value assessment.

**Appendix 1.4.** This amendment establishes a professional licensure/certification matrix for different submission items.

**Appendix 3.3.A.** This amendment revises native plant species of special interest to include valued tree species.

**FISCAL NOTE:** There is no discernible fiscal impact upon the adoption of this legislation.