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## SENATE BILL NO. 1393

## FLOOR AMENDMENT IN THE NATURE OF A SUBSTITUTE

(Proposed by Senator Marsden  
on January 27, 2021)

(Patron Prior to Substitute—Senator Marsden)

A *BILL to amend and reenact §§ 15.2-961 and 15.2-961.1 of the Code of Virginia, relating to replacement and conservation of trees during development.*

**Be it enacted by the General Assembly of Virginia:**

1. That §§ 15.2-961 and 15.2-961.1 of the Code of Virginia are amended and reenacted as follows:

**§ 15.2-961. Replacement of trees during development process in certain localities.**

A. Any locality with a population density of at least 75 persons per square mile or any locality within the Chesapeake Bay watershed may adopt an ordinance providing for the planting and replacement of trees during the development process pursuant to the provisions of this section. Population density shall be based upon the latest population estimates of the Cooper Center for Public Service of the University of Virginia.

B. ~~The~~ *Except as set forth in subsection J, the ordinance shall require that the site plan for any subdivision or development include the planting or replacement of trees on the site to the extent that, at 20 years, minimum tree canopies or covers will be provided in areas to be designated in the ordinance, as follows:*

1. Ten percent tree canopy for a site zoned business, commercial, or industrial;
2. Ten percent tree canopy for a residential site zoned 20 or more units per acre;
3. Fifteen percent tree canopy for a residential site zoned more than 10 but less than 20 units per acre; and
4. Twenty percent tree canopy for a residential site zoned 10 units or less per acre.

However, the City of Williamsburg may require at 10 years the minimum tree canopies or covers set out above.

C. The ordinance shall require that the site plan for any subdivision or development include, at 20 years, that a minimum 10 percent tree canopy will be provided on the site of any cemetery as defined in § 54.1-2310, notwithstanding any other provision of this section. In no event shall any local tree replacement or planting ordinance adopted pursuant to this section exceed the requirements of this subsection.

D. The ordinance shall provide for reasonable provisions for reducing the tree canopy requirements or granting tree cover credit in consideration of the preservation of existing tree cover or for preservation of trees of outstanding age, size or physical characteristics.

E. The ordinance shall provide for reasonable exceptions to or deviations from these requirements to allow for the reasonable development of farm land or other areas devoid of healthy or suitable woody materials, for the preservation of wetlands, or otherwise when the strict application of the requirements would result in unnecessary or unreasonable hardship to the developer. In such instances, the ordinance may provide for a tree canopy bank *or fund* whereby a portion of a development's tree canopy requirement may be met from off-site planting or replacement of trees, *as provided in § 15.2-961.1*, at the direction of the locality. The following shall be exempt from the requirements of any tree replacement or planting ordinance promulgated under this section: dedicated school sites, playing fields and other nonwooded recreation areas, and other facilities and uses of a similar nature.

F. The ordinance may designate tree species that cannot be planted to meet minimum tree canopy requirements due to tendencies of such species to (i) negatively impact native plant communities, (ii) cause damage to nearby structures and infrastructure, or (iii) possess inherent physiological traits that cause such trees to structurally fail. All trees to be planted shall meet the specifications of the AmericanHort. The planting of trees shall be done in accordance with either the standardized landscape specifications jointly adopted by the Virginia Nursery and Landscape Association, the Virginia Society of Landscape Designers and the Virginia Chapter of the American Society of Landscape Architects, or the road and bridge specifications of the Virginia Department of Transportation.

G. Existing trees which are to be preserved may be included to meet all or part of the canopy requirements, and may include wooded preserves, if the site plan identifies such trees and the trees meet standards of desirability and life-year expectancy which the locality may establish.

H. For purposes of this section:

"Tree canopy" or "tree cover" includes all areas of coverage by plant material exceeding five feet in height, and the extent of planted tree canopy at 10 or 20 years maturity. Planted canopy at 10 or 20 years maturity shall be based on published reference texts generally accepted by landscape architects, nurserymen, and arborists in the community, and the texts shall be specified in the ordinance.

I. Penalties for violations of ordinances adopted pursuant to this section shall be the same as those applicable to violations of zoning ordinances of the locality.

J. ~~In no event shall any~~ A local tree replacement or planting ordinance adopted pursuant to this section ~~may exceed the requirements set forth herein (i) to generate pollution reduction credits through installation of an approved Urban Tree Canopy Expansion best management practice (BMP) or other approved BMP for compliance with the locality's municipal separate storm sewer system (MS4) Permit; (ii) in any development project located in a Chesapeake Bay Preservation Area to address recurrent flooding; (iii) in any development project located in an area that prior to the passage of the federal Fair Housing Act of 1968, 42 U.S.C. § 3601 et seq., was redlined or graded "D" by the federal Home Owners' Loan Corporation; and (iv) to ensure conformity with the comprehensive plan adopted by the locality pursuant to §§ 15.2-2223 through 15.2-2226.~~

K. Nothing in this section shall invalidate any local ordinance adopted pursuant to the provisions of this section prior to July 1, 1990, which imposes standards for tree replacement or planting during the development process.

L. Nothing in this section shall invalidate any local ordinance adopted by the City of Williamsburg that imposes standards for 10-year-minimum tree cover replacement or planting during the development process.

M. Nothing in this section shall invalidate any local ordinance adopted pursuant to the provisions of this section after July 1, 1990, which imposes standards for 20-year-minimum tree cover replacement or planting during the development process.

**§ 15.2-961.1. Conservation of trees during land development process.**

A. For purposes of this section, "tree canopy" or "tree cover" includes all areas of canopy coverage by self-supporting and healthy woody plant material exceeding five feet in height, and the extent of planted tree canopy at 20-years maturity.

B. Any locality ~~within Planning District 8 that meets the population density criteria of subsection A of § 15.2-961 and is classified as an eight-hour nonattainment area for ozone under the federal Clean Air Act and Amendments of 1990, in effect as of July 1, 2008,~~ may adopt an ordinance providing for the conservation of trees during the land development process pursuant to the provisions of this section. In no event shall any local tree conservation ordinance adopted pursuant to this section also impose the tree replacement provisions of § 15.2-961.

C. The ordinance shall require that the site plan for any subdivision or development provide for the preservation or replacement of trees on the development site such that the minimum tree canopy or tree cover percentage 20 years after development is projected to be as follows:

1. Ten percent tree canopy for a site zoned business, commercial, or industrial;
2. Ten percent tree canopy for a residential site zoned 20 or more units per acre;
3. Fifteen percent tree canopy for a residential site zoned more than eight but less than 20 units per acre;
4. Twenty percent tree canopy for a residential site zoned more than four but not more than eight units per acre;
5. Twenty-five percent tree canopy for a residential site zoned more than two but not more than four units per acre; and
6. Thirty percent tree canopy for a residential site zoned two or fewer units per acre.

In meeting these percentages, (i) the ordinance shall first emphasize the preservation of existing tree canopy where that canopy meets local standards for health and structural condition, and where it is feasible to do so within the framework of design standards and densities allowed by the local zoning and other development ordinances; and (ii) second, where it is not feasible in whole or in part for any of the justifications listed in subsection E to preserve existing canopy in the required percentages listed above, the ordinance shall provide for the planting of new trees to meet the required percentages.

D. Except as provided in subsection E, the percentage of the site covered by tree canopy at the time of plan submission shall equate to the minimum portion of the requirements identified in subsection C that shall be provided through tree preservation. This portion of the canopy requirements shall be identified as the "tree preservation target" and shall be included in site plan calculations or narratives demonstrating how the overall requirements of subsection C have been met.

E. The ordinance shall provide deviations, in whole or in part, from the tree preservation target defined in subsection D under the following conditions:

1. Meeting the preservation target would prevent the development of uses and densities otherwise allowed by the locality's zoning or development ordinance.

2. The predevelopment condition of vegetation does not meet the locality's standards for health and structural condition.

3. Construction activities could be reasonably expected to impact existing trees to the extent that they would not likely survive in a healthy and structurally sound manner. This includes activities that would cause direct physical damage to the trees, including root systems, or cause environmental changes that

could result in or predispose the trees to structural and health problems.

If, in the opinion of the developer, the project cannot meet the tree preservation target due to the conditions described in subdivision 1, 2, or 3, the developer may request a deviation from the preservation requirement in subsection D. In the request for deviation, the developer shall provide a letter to the locality that provides justification for the deviation, describes how the deviation is the minimum necessary to afford relief, and describes how the requirements of subsection C will be met through tree planting or a tree canopy bank or fund established by the locality. Proposed deviations shall be reviewed by the locality's urban forester, arborist, or equivalent in consultation with the locality's land development or licensed professional civil engineering review staff. The locality may propose an alternative site design based upon adopted land development practices and sound vegetation management practices that take into account the relationship between the cost of conservation and the benefits of the trees to be preserved as described in ANSI A300 (Part 5) — 2005 Management: Tree, Shrub, and Other Woody Plant Maintenance — Standard Practices, Management of Trees and Shrubs During Site Planning, Site Development, and Construction, Annex A, A-1.5, Cost Benefits Analysis (or the latest version of this standard). The developer shall consider the alternative and redesign the plan accordingly, or elect to satisfy the unmet portion of the preservation threshold through on-site tree planting or through the off-site planting mechanisms identified in subsection G, so long as the developer provides the locality with an explanation of why the alternative design recommendations were rejected. Letters of explanation from the developer shall be prepared and certified by a licensed professional engineer as defined in § 54.1-400. If arboricultural issues are part of explanation then the letter shall be signed by a Certified Arborist who has taken and passed the certification examination sponsored by the International Society of Arboriculture and who maintains a valid certification status or by a Registered Consulting Arborist as designated by the American Society of Consulting Arborists. If arboricultural issues are the sole subject of the letter of explanation then certification by a licensed professional engineer shall not be required.

F. The ordinance shall provide for deviations of the overall canopy requirements set forth in subsection C to allow for the preservation of wetlands, the development of farm land or other areas previously devoid of healthy and/or suitable tree canopy, or where the strict application of the requirements would result in unnecessary or unreasonable hardship to the developer.

G. The ordinance shall provide for the establishment of a tree canopy bank or fund whereby any portion of the tree canopy requirement that cannot be met on-site may be met through off-site tree preservation or tree planting efforts. Such provisions may be offered where it can be demonstrated that application of the requirements of subsection C would cause irresolvable conflicts with other local site development requirements, standards, or comprehensive planning goals, where sites or portions of sites lack sufficient space for future tree growth, where planting spaces will not provide adequate space for healthy root development, where trees will cause unavoidable conflicts with underground or overhead utilities, or where it can be demonstrated that trees are likely to cause damage to public infrastructure. The ordinance may utilize any of the following off-site canopy establishment mechanisms:

1. A tree canopy bank may be established in order for the locality to facilitate off-site tree preservation, tree planting, stream bank, and riparian restoration projects. Banking efforts shall provide tree canopy that is preserved in perpetuity through conservation easements, deed restrictions, or similar protective mechanisms acceptable to the locality. Projects used in off-site banking will meet the same ordinance standards established for on-site tree canopy; however, the locality may also require the submission of five-year management plans and funds to ensure the execution of maintenance and management obligations identified in those plans. Any such bank shall occur within the same nonattainment area in which the locality approving the tree banking is situated.

2. A tree canopy fund may be established to act as a fiscal mechanism to collect, manage, and disburse fees collected from developers that cannot provide full canopy requirements on-site. The locality may use this fund directly to plant trees on public property, or the locality may elect to disburse this fund to community-based organizations exempt from taxation under § 501(c)(3) of the Internal Revenue Code with tree planting or community beautification missions for tree planting programs that benefit the community at large. For purposes of establishing consistent and predictable fees, the ordinance shall establish cost units that are based on average costs to establish 20-year canopy areas using two-inch caliper nursery stock trees. Any funds collected by localities for these purposes shall be spent *or disbursed as set forth herein* within a five-year period established by the collection date; ~~or the locality shall return such funds to the original contributor, or legal successor.~~

H. The following uses shall be exempt from the requirements of any ordinance promulgated under this section: bona fide silvicultural activity as defined by § 10.1-1181.1 and the areas of sites included in lakes, ponds, and the normal water elevation area of stormwater retention facilities. The ordinance shall modify the canopy requirements of dedicated school sites, playing fields, and other nonwooded active recreation areas by allowing these and other facilities and uses of a similar nature to provide 10 percent

183 tree canopy 20 years after development.

184 I. 1. In recognition of the added benefits of tree preservation, the ordinance shall provide for an  
185 additional tree canopy credit of up to one and one-quarter times the canopy area at the time of plan  
186 submission for individual trees or the coalesced canopy of forested areas preserved from the  
187 predevelopment tree canopy.

188 2. The following additional credits may be provided in the ordinance in connection with tree  
189 preservation:

190 a. The ordinance may provide canopy credits of up to one and one-half times the actual canopy area  
191 for the preservation of forest communities that achieve environmental, ecological, and wildlife  
192 conservation objectives set by the locality. The ordinance may establish minimal area, dimensional and  
193 viability standards as prerequisites for the application of credits. Forest communities shall be identified  
194 using the nomenclature of either the federal National Vegetation Classification System (FGDC-STD-005,  
195 or latest version) or the Natural Communities of Virginia Classification of Ecological Community  
196 Groups, Second Approximation (Version 2.2, or latest version).

197 b. The ordinance may provide canopy credits of up to three times the actual canopy area of trees that  
198 are officially designated for preservation in conjunction with local tree conservation ordinances based on  
199 the authority granted by § 10.1-1127.1.

200 J. The following additional credits shall be provided in the ordinance in connection with tree  
201 planting:

202 1. The ordinance shall provide canopy credits of one and one-half the area normally projected for  
203 trees planted to absorb or intercept air pollutants, tree species that produce lower levels of reactive  
204 volatile organic compounds, or trees that act to reduce air pollution or greenhouse gas emissions by  
205 conserving the energy used to cool and heat buildings.

206 2. The ordinance shall provide canopy credits of one and one-quarter the area normally projected for  
207 trees planted for water quality-related reforestation or afforestation projects, and for trees planted in  
208 low-impact development and bioretention water quality facilities. The low-impact development practices  
209 and designs shall conform to local standards in order for these supplemental credits to apply.

210 3. The ordinance shall provide canopy credits of one and one-half the area normally projected for  
211 native tree species planted to provide food, nesting, habitat, and migration opportunities for wildlife.  
212 These canopy credits may also apply to cultivars of native species if the locality determines that such a  
213 cultivar is capable of providing the same type and extent of wildlife benefit as the species it is derived  
214 from.

215 4. The ordinance shall provide canopy credits of one and one-half the area normally projected for use  
216 of native tree species that are propagated from seed or tissue collected within the mid-Atlantic region.

217 5. The ordinance shall provide canopy credits of one and one-quarter the area normally projected for  
218 the use of cultivars or varieties that develop desirable growth and structural patterns, resist decay  
219 organisms and the development of cavities, show high levels of resistance to disease or insect  
220 infestations, or exhibit high survival rates in harsh urban environments.

221 K. Tree preservation areas and individual trees may not receive more than one application of  
222 additional canopy credits provided in subsection I. Individual trees planted to meet these requirements  
223 may not receive more than two categories of additional canopy credits provided in subsection J. Canopy  
224 credits will only be given to trees with trunks that are fully located on the development site, or in the  
225 case of tree banking projects only to trees with trunks located fully within easements or other areas  
226 protected by deed restrictions listed in subsection G.

227 L. All trees planted for tree cover credits shall meet the specifications of the American Association  
228 of Nurserymen *AmericanHort* and shall be planted in accordance with the publication entitled "Tree and  
229 Shrub Planting Guidelines," published by the Virginia Cooperative Extension.

230 M. In order to provide higher levels of biodiversity and to minimize the spread of pests and diseases,  
231 or to limit the use of species that cause negative impacts to native plant communities, cause damage to  
232 nearby structures, or possess inherent physiological traits that prone trees to structural failure, the  
233 ordinance may designate species that cannot be used to meet tree canopy requirements or designate  
234 species that will only receive partial 20-year tree canopy credits.

235 N. The locality may allow the use of tree seedlings for meeting tree canopy requirements in large  
236 open spaces, low-density residential settings, or in low-impact development reforestation/afforestation  
237 projects. In these cases, the ordinance shall allow the ground surface area of seedling planting areas to  
238 equate to a 20-year canopy credit area. Tree seedling plantings will be comprised of native species and  
239 will be planted in densities that equate to 400 seedlings per acre, or in densities specified by low-impact  
240 development designs approved by the locality. The locality may set standards for seedling mortality rates  
241 and replacement procedures if unacceptable rates of mortality occur. The locality may elect to allow  
242 native woody shrubs or native woody seed mix to substitute for tree species as long as these treatments  
243 do not exceed 33 percent of the overall seedling planting area. The number of a single species may not  
244 exceed 10 percent of the overall number of trees or shrubs planted to meet the provisions of this

subsection.

O. The following process shall be used to demonstrate achievement of the required percentage of tree canopy listed in subsection C:

1. The site plan shall graphically delineate the edges of predevelopment tree canopy, the proposed limits of disturbance on grading or erosion and sedimentation control plans, and the location of tree protective fencing or other tree protective devices allowed in the Virginia Erosion and Sediment Control Handbook.

2. Site plans proposing modification to tree canopy requirements or claiming supplemental tree canopy credits will require a text narrative.

3. The site plan shall include the 20-year tree canopy calculations on a worksheet provided by the locality.

4. Site plans requiring tree planting shall provide a planting schedule that provides botanical and common names of trees, the number of trees being planted, the total of tree canopy area given to each species, variety or cultivars planted, total of tree canopy area that will be provided by all trees, planting sizes, and associated planting specifications. The site plan will also provide a landscape plan that delineates where the trees shall be planted.

P. The ordinance shall provide a list of commercially available tree species, varieties, and cultivars that are capable of thriving in the locality's climate and ranges of planting environments. The ordinance will also provide a 20-year tree canopy area credit for each tree. The amount of tree canopy area credited to individual tree species, varieties, and cultivars 20 years after they are planted shall be based on references published or endorsed by Virginia academic institutions such as the Virginia Polytechnic Institute and State University and accepted by urban foresters, arborists, and horticulturalists as being accurate for the growing conditions and climate of the locality.

Q. The ordinance shall establish standards of health and structural condition of existing trees and associated plant communities to be preserved. The ordinance may also identify standards for removal of trees or portions of trees that are dead, dying, or hazardous due to construction impacts. Such removal standards may allow for the retention of trunk snags where the locality determines that these may provide habitat or other wildlife benefits and do not represent a hazardous condition. In the event that existing tree canopy proposed to be preserved for tree canopy credits dies or must be removed because it represents a hazard, the locality may require the developer to remove the tree, or a portion of the tree and to replace the missing canopy area by the planting of nursery stock trees, or if a viable alternative, by tree seedlings. Existing trees that have been granted credits will be replaced with canopy area determined using the same supplemental credit multipliers as originally granted for that canopy area.

R. Penalties for violation of ordinances adopted pursuant to this section shall be the same as those applicable to violations of zoning ordinances of the locality.

S. ~~In no event shall any~~ A local tree conservation ordinance adopted pursuant to this section *may* exceed the requirements set forth herein; ~~however, any~~ (i) *in any development project located in a Chesapeake Bay Preservation Area to address recurrent flooding;* (ii) *in any development project located in an area that prior to the passage of the federal Fair Housing Act of 1968, 42 U.S.C. § 3601 et seq., was redlined or graded "D" by the federal Home Owners' Loan Corporation;* and (iii) *to ensure conformity with the locality's comprehensive plan duly adopted pursuant to §§ 15.2-2223 through 15.2-2226. Any local ordinance adopted pursuant to the provisions of § 15.2-961 prior to July 1, 1990, may adopt the tree conservation provisions of this section based on 10-year minimum tree canopy requirements.*

T. Nothing in this section shall invalidate any local ordinance adopted pursuant to § 15.2-961.

**2. That the Secretary of Natural Resources and Secretary of Agriculture and Forestry (the Secretaries) shall convene a stakeholder work group (the Work Group) for the purpose of developing and providing recommendations to state and local governments related to policies that encourage the conservation of mature trees and tree cover on sites being developed, increase tree canopy cover in communities, and encourage the planting of trees. The Work Group shall also examine the Commonwealth's existing enabling statutes and their use related to the preservation, planting, and replacement of trees during the land development process, including §§ 15.2-961 and 15.2-961.1 of the Code of Virginia and the amendments to such sections provided in the first enactment of this act, and recommend amendments to those statutes or the adoption of new Code sections that would enhance the preservation, planting, and replacement of trees during the land development process and increase incentives for the preservation, planting, and replacement of trees during the land development process. The Work Group shall be composed of representatives of the residential and commercial development industries, representatives of agricultural and forestry industries, professional environmental technical experts, representatives of environmental and conservation organizations, representatives of local governments, solar developers, and other affected parties so that the various stakeholders are represented in the Work Group. No later than**

306 October 1, 2021, the Secretaries shall provide a report containing the Work Group's detailed  
307 findings, recommendations, and draft legislation to encourage the conservation of tree cover and  
308 mature trees, and the planting of trees, to the Chairmen of the House Committee on Agriculture,  
309 Chesapeake and Natural Resources, the House Committee on Counties, Cities and Towns, the  
310 Senate Committee on Agriculture, Conservation and Natural Resources, and the Senate Committee  
311 on Local Government.  
312 3. That the provisions of the first enactment of this act shall not become effective unless reenacted  
313 by the 2022 Session of the General Assembly.