MONTGOMERY PLANNING

FOREST CONSERVATION TECHNICAL MANUAL

2026

Montgomery Planning

THE VALUE OF FORESTS AND TREES

Forests and trees provide a range of benefits to both the natural and built environments in Montgomery County. Through photosynthesis and evapotranspiration, our trees produce essential oxygen for people and wildlife; capture and retain carbon over the long term, reducing concentrations of heat-trapping greenhouse gases in the atmosphere; and offer respite to our communities by producing shade and naturally cooling our air. The complex forest ecosystem absorbs, slows, and filters rainfall, which reduces stormwater runoff and prevents chemical pollutants and eroded soils from clogging waterways. Forests protect the biodiversity of our natural communities by providing habitat for native plants, insects, and animals. All of these ecosystem services work together to improve air and drinking water quality.

The social and economic benefits of trees in the built environment include reducing heating and cooling costs for homeowners, increasing property values, and mitigating the heat island effect and extreme weather events. Trees and forests contribute to a higher quality of life in communities and neighborhoods by providing opportunities for recreation, reducing noise levels, creating a buffer between different land uses (such as a screen of trees between a development and a natural area), increasing aesthetic appeal, and measurably improving mental well-being.

CHAPTER 1

INTRODUCTION

1.1 HISTORY OF THE FOREST CONSERVATION LAW

The Maryland Forest Conservation Law was enacted by the Maryland General Assembly in 1991 and was thereafter incorporated into the Annotated Code of Maryland as Natural Resources Article, Section 5-1601 through 5-1613. Cities and counties in Maryland may opt to pass their own Forest Conservation Law, which must be at least as strict as the state's law. If a local jurisdiction has assumed forest conservation authority, it must establish and implement programs that review regulatory applications for the required identification of existing forest stands; protect the highest priority forest stands, including in environmentally sensitive areas; and establish areas where new forests can be planted (afforestation) or replanted (reforestation). In addition, local jurisdictions must ensure appropriate implementation of approved plans and oversee the planting of trees and forests by programming the Forest Conservation Fund, which is established through contributions by development applicants in cases where reforestation on the development site is not possible.

The Forest Conservation Law has the following purposes:

- Save, maintain, and plant trees and forested areas for the benefit of County residents and future generations.
- Establish procedures, standards, and requirements to minimize tree loss as a result of development and to protect trees and forests during and after construction or other land-disturbing activities.
- Establish procedures, standards, and requirements for afforestation and reforestation of land, subject to an application for development approval or a sediment control permit.
- Establish a fund for future tree conservation projects, including afforestation and reforestation.
- Provide a focused and coordinated approach for County forest conservation activities.

1.2 WHAT IS THE FOREST CONSERVATION TECHNICAL MANUAL?

Since the Montgomery County Forest Conservation Law, Chapter 22A of the County Code (Montgomery County Forest Conservation Law, Forest Conservation Law), was enacted in 1992, Montgomery County has reduced the rate of forest loss within its boundaries through an established forest conservation program that is administered and enforced by the Montgomery County Planning Department (Planning Department), part of the Maryland-National Capital Park and Planning Commission (M-NCPPC). In addition to the Forest Conservation—Trees Regulations (COMCOR Chapter 22A, Regulations), which clarify and expand upon the requirements of the Forest Conservation Law, the law requires a technical manual to serve as a reference for qualified professionals preparing Natural Resource Inventories/Forest Stand Delineations (NRIs/FSDs), Forest Conservation Plans (FCPs), and/or Tree Save Plans (TSPs) to comply with the Forest Conservation Law.

The Forest Conservation Technical Manual (formerly referred to as the Trees Technical Manual or Trees: Approved Technical Manual) also provides required methodologies, reference lists, and technical specifications for those creating, implementing, and reviewing such plans for compliance with the Forest Conservation Law and Regulations. The chapters that follow and appendices at the end of this manual contain definitions; standards for the protection of existing trees and forests; information about planting and maintenance of trees and forested areas; information about native and invasive plants, champion trees, and specimen trees; and sample plans and worksheets.

This document is cited as the Montgomery County Forest Conservation Technical Manual, Second Edition, 2026. It replaces the M-NCPPC's Trees Approved Technical Manual, First Edition, September 1992.

Specifically, this manual provides guidance on:

1. How to prepare an NRI/FSD
2. How to prepare an FCP
3. What information must be submitted to support a request for a variance from any requirement of the Forest Conservation Law, including tree variances
4. What information must be provided with an application for an exemption from submitting an FCP (FCP exemption)
5. How to prepare a TSP
6. Specifications for tree and forest protection
7. Specifications for tree and forest planting
8. Establishing and meeting requirements through Forest Mitigation Banks

1.3 WHEN DOES THE FOREST CONSERVATION LAW APPLY?

Section 22A-4 lists the types of approvals or actions that trigger the application of the Forest Conservation Law. The Montgomery County Forest Conservation Law does not apply within the cities of Gaithersburg, Rockville, Poolesville, Laytonsville, Brookville, Barnesville, and Washington Grove. These jurisdictions have their own forest conservation laws and regulations that must be followed.

Depending on the type of project and/or amount of forest proposed to be removed, the applicant may qualify for an FCP exemption. In this case, approval of the FCP exemption is still a requirement of the Forest Conservation Law, and a TSP may be required as well. However, when a proposed development application is subject to the law and does not qualify for an FCP exemption, the project applicant is required to submit an NRI/FSD and an FCP prepared by a qualified professional (licensed foresters, landscape architects, or other qualified professional as determined by the Planning Director and Code of Maryland Regulations). Depending on what requirement makes the Forest Conservation Law applicable to the proposed project, an FCP or TSP may be reviewed along with its associated regulatory plan. Regulatory plans are listed under Section 22A-4 of the Forest Conservation Law.

Specific forest conservation requirements are determined once the NRI/FSD and FCP are submitted for review. Once a property is subject to an FCP through the development application process, that property and any subsequent subdivisions of the land are subject to the same FCP and any protective Forest Conservation Easements established by the FCP, in perpetuity, unless an amendment is approved. Applicants may reference the Forest Conservation Law Decision Tree on the Montgomery Planning website for guidance on the submission process.

1.4 OVERSIGHT OF THE FOREST CONSERVATION LAW

Successful implementation of the Forest Conservation Law requires collaboration among the Montgomery County Planning Department, The Department of Permitting Services, and other regulatory agencies, owners/applicants, developers, Maryland licensed foresters, Maryland landscape architects, International Society of Arboriculture (ISA) certified arborists, engineers, and surveyors throughout the land development process. From the design phase through construction, all parties must act in accordance with the priorities and standards established by the Forest Conservation Law and Regulations, as well as this technical manual.

Plans required to comply with the Forest Conservation Law are reviewed by Planning Department staff and acted on by either the Planning Director or the Planning Board. For those plan applications where the Planning Director has review authority, the review is completed by Planning staff, who are the Director's authorized designees. In this manual, the terms "Planning Director" and "Planning staff" are used interchangeably.

CHAPTER 2

NATURAL RESOURCES INVENTORY/FOREST STAND DELINEATION (NRI/FSD)

2.1 WHAT IS AN NRI/FSD?

A Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) is a plan drawing and associated narrative that provides information about both natural and human-made features that exist on a site proposed for development or land-disturbing activities. An NRI/FSD is used during the preliminary design stages of the proposed development project to determine how to preserve environmentally sensitive areas, assess the natural resources that are present, and evaluate the configuration and location of potential forest retention and forest planting areas, as required by the Forest Conservation Law. This plan type is also useful in identifying and selecting individual trees to be saved. An NRI/FSD is submitted by an applicant prior to submitting a Forest Conservation Plan (FCP), as the first steps in the land development process for a property that is subject to the Forest Conservation Law.

An NRI/FSD consists of two major components:

- The Natural Resources Inventory (NRI) provides information on natural and human-made features such as topography, soils, hydrology, tree information, and the aerial extent of vegetation.
- The Forest Stand Delineation (FSD) provides specific information on any forest and trees on site, including dominant species, size classes, general health, and priority ranking for forest stands.

These two components are included in one combined plan drawing (the NRI/FSD) with the associated narrative, as well as copies of any required field data sheets. The narrative is a brief description of the characteristics of each of the stands identified during the forest survey and includes information on the condition of trees and forest stands, stand structure, potential for retention and/or regeneration, and any comments on past management.

In addition to the guidance in this manual, the latest version of the Guidelines for Environmental Management of Development in Montgomery County (Environmental Guidelines) provides additional guidance for identification and delineation of the natural features to be included in the NRI/FSD.

2.2 NRI/FSD REQUIREMENTS

2.2.1 NRI/FSD Boundaries

The boundaries of the NRI/FSD must be the property boundaries as described by deed or record plat. The NRI/FSD must cover the entire tract of land on which the development application is proposed, plus the first 100 feet of adjoining land around the perimeter of the project site or the width of adjoining lots, whichever is less. However, all streams and/or drainage courses located on or within 200 feet of the subject property must be shown on the NRI/FSD summary map.

2.2.2 Simplified vs. Full NRI/FSDs

There are two types of NRI/FSDs, which differ in their required level of detail and necessary components. The conditions under which each may be submitted are as follows.

A **Simplified NRI/FSD** may be submitted if any of the following applies:

- There is no forest on the site.
- No forest on the site would be cut, cleared, or graded for the proposed use, and all forest on the site would be subject to a long-term protective agreement.
- The on-site forest is located on a portion of the tract that is exempt from submitting a Forest Conservation Plan, such as areas remaining in agricultural use as part of a subdivision.
- The project qualifies for one of the exemptions from submitting an FCP listed in section 22A-5 of the Forest Conservation Law.
- Submitting a simplified NRI/FSD is deemed appropriate by the Planning Director.

A **Full NRI/FSD** must be used whenever some or all of the existing forest on a project site is proposed for removal, and the application does not qualify for an exemption from submitting an FCP.

On a case-by-case basis, an applicant may be permitted to submit both types of NRI/FSDs for distinct portions of one project site. A Simplified NRI/FSD may be allowed for portions of the site where existing forest will remain undisturbed, and where this forest either will be protected under a long-term protection agreement, or is in an area of the site that is not subject to an FCP, such as areas remaining in agricultural use. In this case, a Full NRI/FSD would cover the remaining portions of the site where forest will be removed or impacted. Submission of a combined Simplified and Full NRI/FSD application requires prior approval from the Planning Department; written approval from Planning staff should be obtained by the applicant before preparing the NRI/FSD.

2.2.3 Requirements for All Types of NRI/FSDs

The Planning Director may waive any requirement for the following information that is unnecessary for a specific site. Otherwise, all NRI/FSDs must contain the following components (numbers correspond to those in Figure 1):

1. Scaled Drawing with North Arrow: A scaled drawing at a scale of 1" = 200' or greater (that is, less than 100 feet per inch) is required. The minimum printable drawing size is 24" x 36". All drawings shall be north-oriented to the extent possible. A graphic scale bar and north arrow must be displayed.
2. Title Information: The title information includes the name of the plan, the plan number, revision block to identify plan revision dates, the identity and qualifications of the plan preparer (including address and telephone number), and the applicant's name. The WSSC and the tax map grid numbers should be included in the title block. The plan name shown in the title block should match the name used when submitting the application. If an amendment application is submitted with a new name, include the former name in parentheses after the plan name in the title block.
3. Vicinity Location Map: The vicinity location map must be at a scale no smaller than 1" = 2,000' and must have a north arrow. The vicinity map should identify, for reference, the location of the site within a square mile, the nearest major road(s), intersections, proposed master plan roads, and local streets that are located near the property.
4. Legend: All symbology must be included in a legend.

5. **M-NCPPC Approval Stamp Placeholder:** The top left corner of all drawings must be reserved for the Planning Department's electronic stamp (dimensions: 4" width x 3" height). If a plan drawing has a delineated border near the edges of the drawing paper, the border must be located no further than 1 inch from the left edge of the paper and no more than 1/2 inch from all other edges of the paper.

6. **Name, Address, and Signature of Qualified Professional:** The plan drawing must contain the name, address, and signature of a qualified professional who prepared the NRI/FSD and Forest Conservation Plan.

7. **NRI/FSD Plan Notes:** Plan notes must include the following items.
   a. For each property included in the project tract: property tax identification number, property owner name and address, tract size, property boundaries
   b. Watershed, as defined in the Forest Conservation Law
   c. Maryland Use Class of the streams that drain the project tract
   d. Location in a Special Protection Area or Patuxent River Primary Management Area, if applicable
   e. Location in a Priority Urban Forest area, if applicable
   f. Source(s) of 100-year floodplain boundary
   g. Source of wetland information
   h. Presence or absence of Federal or Maryland rare, threatened, or endangered species that were observed on the site or previously documented by the Maryland Department of Natural Resources
   i. Presence or absence of known or documented critical habitats
   j. Whether any part of the project tract is on the Locational Atlas and Index of Historic Sites, or a note stating there are none
   k. Cultural features, if any
   l. Presence or absence of the following:
      i. National, state, or county champion trees
      ii. Trees that are at least 75% the size of the current state champion
   m. Method and tool used to measure diameter of trees (e.g., tree caliper, forestry diameter tape, Biltmore stick)
   n. Name of person(s) conducting field work
   o. Dates when field work was conducted

8. **Data Tables:** All of the following must be included.
   a. Type and slope category of soils covering the tract and adjoining land; soil types that are classified as hydric or hydric inclusions, highly erodible, prime agricultural, or serpentinite
   b. **Tree species** that are present, identified by scientific and common name, size, health condition, mitigation measures, unique identification symbol of specimen trees, any trees with a diameter at breast height (DBH) 24 inches or greater (at 4.5 feet from the ground), and trees and other plants subject to Sec. 22A-12(b)(3) of the Forest Conservation Law. Each tree or plant's identification symbol (unique identification number) in this data table must match the identification number on the plan drawing and must also be clearly numbered with corresponding tags in the field.
   c. **A Resource Data Table** that provides information on the existing natural resources of the tract: acreage of forest, acreage of environmental buffers, total acreage of forest in priority retention areas, total acreage of forest not in priority retention areas, acreage of wetlands, acreage of forest in wetlands, acreage of 100-year floodplains, acreage of forest in floodplains, total linear feet of stream buffer, linear feet of stream buffer conserved, linear feet of stream buffer afforested, linear feet of stream buffer reforested, total acreage of stream buffers, acreage of stream buffer conserved, acreage of stream buffer afforested, acreage of stream buffer reforested, and acreage of forest in stream buffers.

9. **Adjacent Properties:** The plan drawing must show boundaries of all properties that are adjacent to the project tract.

10. **Boundaries of Properties**: If the project tract includes one or more properties, the boundaries of all properties in the tract area must be clearly delineated on the NRI/FSD.

11. **Existing Buildings, Driveways, and Other Human-made Features:** Show all existing buildings, sidewalks, driveways, utilities, easements, septic fields, impervious surfaces, and other human-made features that are located on the tract and on adjoining properties if they are within the required NRI/FSD boundaries.

12. **Existing Topography:** The NRI/FSD plan drawing must show the existing topography at a minimum scale of 1" = 200' with contour intervals no greater than 5 feet. A larger scale may be required by the Planning Director on a case-by-case basis, if necessary to determine the accuracy of the plan.

13. **Perennial and Intermittent Streams and Stream/Environmental Buffers:** All perennial and intermittent streams, including seeps and springs and their buffers, must be shown on the NRI/FSD plan drawing, per the latest version of the environmental guidelines.

14. **Ephemeral Streams and Stream/Environmental Buffers:** Ephemeral streams should not be shown on the NRI/FSD for sites that are not required to buffer or protect such streams. If an applicant chooses to identify ephemeral streams on an NRI/FSD for such a site, the following note must also be included on the NRI/FSD: "Ephemeral streams are shown for illustrative purposes only. Planning Department staff have not confirmed the presence, location, or length of ephemeral streams on this site."

15. **Floodplain Boundary:** The NRI/FSD must show all existing 100-year floodplains.

16. **Source of Floodplain Boundary:** The source of the 100-year floodplain information shown on the NRI/FSD must be provided.

17. **Floodplain Building Restriction Lines:** The 100-year floodplain must be delineated on the NRI/FSD with a 25-foot building restriction line.

18. **Watershed and Special Protection Area (SPA) or Primary Management Area (PMA) Boundaries:** If a tract lies in more than one watershed, the boundaries of the watersheds must be delineated on the NRI/FSD. If only part of the tract lies within a SPA or the Patuxent PMA, the boundary of the SPA or PMA must be shown on the NRI/FSD.

19. **Danger Reach/Dam Break:** For all development applications that have a dam, subject to dam breach analysis on site, or where the property is one mile or less downstream of a dam, an applicant must show the danger reach area (area that would be inundated by a dam break flood) and include a dam break analysis in order to protect existing structures against dam failures from new ponds and to protect proposed subdivisions against an existing or proposed pond's dam breach. The danger reach area must be delineated on the record plat, with reference elevations at critical locations.

20. **Soils and Soils Contours:** The NRI/FSD must show all soil map units and their boundaries (i.e., soils contours).

21. **Slopes in Specific Ranges:** Steep slopes on an NRI/FSD must be calculated and identified by analysis of the topographic contours that are shown on the NRI/FSD. A slope will be considered steep that:

    - **Equals or exceeds 15%** in the portion of the Ten Mile Creek Watershed within the 10 Mile Creek Master Plan Amendment planning area and in the Upper Paint Branch SPA
    - **Exceeds 15%** on the steepest 50 feet within the 100 feet adjacent to the wetland within all SPAs
    - **Equals or exceeds 25%** on the steepest 50 feet within the 100 feet adjacent to the wetlands outside of SPAs
    - **Has highly erodible soils** and equals or exceeds 15%
    - **Equals or exceeds 25%** in all other areas in the County.

22. **Wetlands and Wetland Buffers:** All natural and human-made wetlands and their buffers must be shown on the NRI/FSD.

23. **Aerial Extent of Forest Canopy:** The aerial extent of forest canopy must be shown on the NRI/FSD.

24. **Aerial Extent of Tree Canopy:** The aerial extent of tree canopy must be shown on the NRI/FSD. If both forest canopy and tree canopy exist on the tract or surrounding land, the NRI/FSD must clearly distinguish between forest and tree canopy.

25. **Cultural and Historic Features:** If the NRI/FSD

plan notes indicate that the site is located on the Locational Atlas and Index of Historic Sites, the historic resource feature must be clearly identified on the NRI/FSD. If any part of the project tract is on a historic site, the resource must be clearly identified on the NRI/FSD.

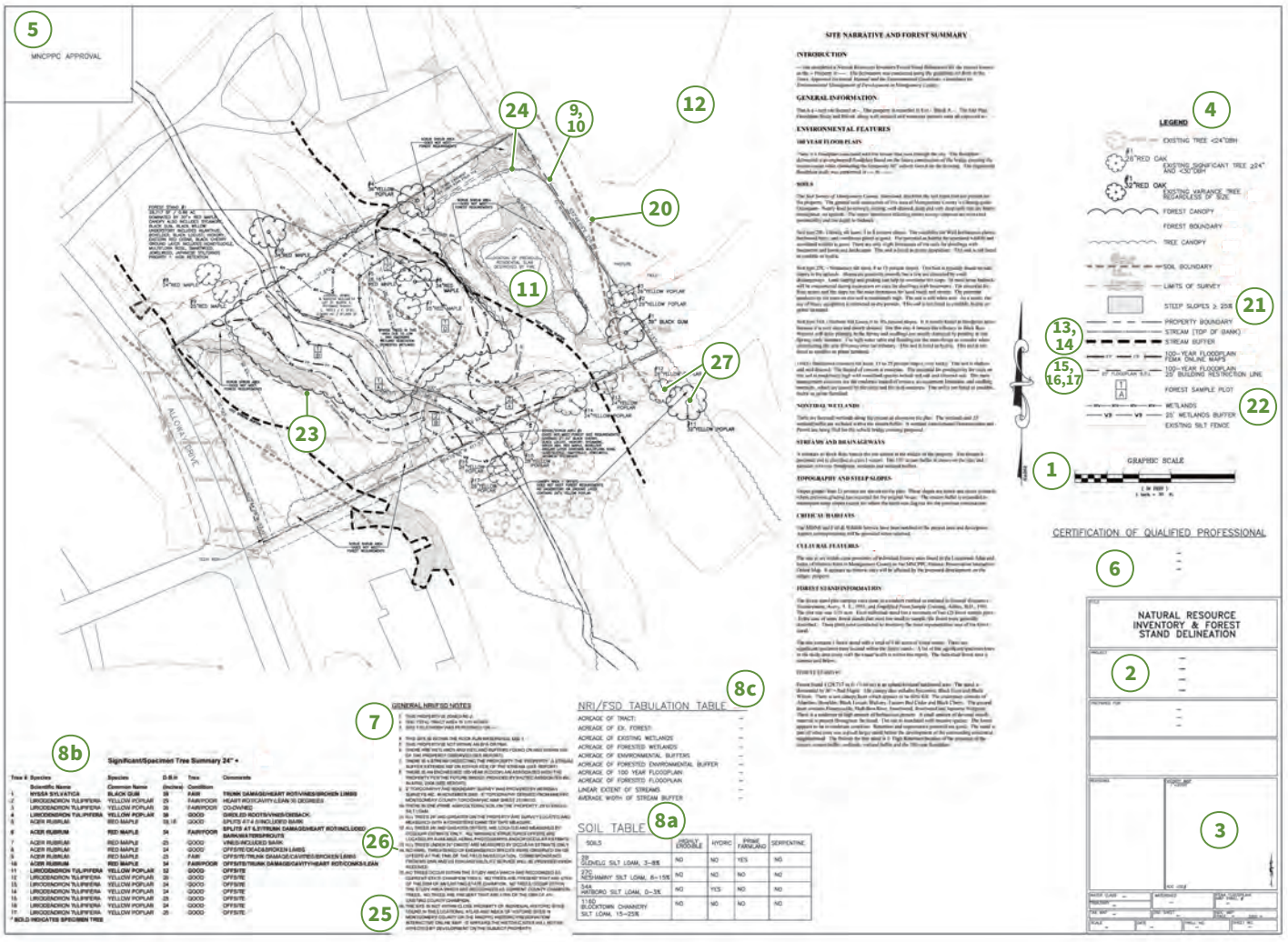
26. Tree, Shrub, or Plant Classified as Rare, Threatened, or Endangered: If a plant is located that is designated rare, threatened, or endangered federally or within the state, the species must be noted on the NRI/FSD. The general habitat area where a rare, threatened, or endangered species has been located must be shown on the NRI/FSD, and the scientific and common name of the species must be clearly noted.

27. Significant, Specimen, and Champion Trees: Significant trees and those that are 24 inches or greater in diameter; specimen trees or those greater than or equal to the DBH listed in Appendix C of this manual; and national, Maryland, or county champion trees or any tree that is 75% or greater of the current state champion for that species must:

a. be located on the NRI/FSD with its associated critical root zone (CRZ) shown. (The CRZ of trees within a forest stand do not need to be shown on the NRI/FSD.)

b. be shown by size and species either on the drawing or in the corresponding data table. Each tree's identification symbol (i.e., unique identification number or letter) on the plan drawing must match the identification symbol in the data table and must also be clearly numbered with corresponding tags in the field.

Figure 1: An example NRI/FSD with numbered components corresponding to the list above



2.2.4 Required Forest Stand Components for Simplified vs. Full NRI/FSDs

Forest Stand Delineation (FSD) is a component of the full NRI/FSD that must be prepared by a Qualified Professional, Maryland Licensed Landscape Architect or a Maryland Licensed Forester via field investigation. It includes forest and tree stand boundaries and a description of each stand. The qualified professional also assigns priority rankings of each forest stand for the purposes of determining future forest retention and planting requirements.

A forest is defined in Section 22A-3 of the Forest Conservation Law as "*a biological community dominated by trees and other woody plants (including plant communities, the understory, and forest floor) covering a land area which is 10,000 square feet or greater and at least 50 feet wide. However, minor portions of a forest stand which otherwise meet this definition may be less than 50 feet in wide if they exhibit the same character and composition as the overall stand. Forest includes areas that have at least 100 live trees per acre with at least 50 percent of those trees having a 2-inch or greater diameter measured at 4.5 feet above the ground; and forest areas that have been cut but not cleared.*"

The FSD delineates overall forest cover that meets the above definition into separate stands based upon their location in the landscape (upland versus lowland areas, and northern versus southern aspects), their association with other natural features such as soils, and the dominant and codominant tree species that make up each stand. The boundaries of the individual forest stands indicate where the characteristics of the overall forest change.

In addition to all required components outlined in the previous section, an NRI/FSD must also contain the following forest stand information. A Full NRI/FSD must include the following for the tract area of the development project and the first 100 feet of adjoining land or the width of adjoining properties, whichever is less. A Simplified NRI/FSD must include the following for the limits of disturbance and the first 100 feet of adjoining land or the width of adjoining properties, whichever is less. On-site forest that falls outside this area must either be proposed to be protected by a long-term protective easement, or part of an area that is exempt from forest conservation requirements.

- Delineation of Multiple Forest Stands: The NRI/FSD must clearly delineate the boundaries of each forest stand. Each stand must be labeled and assigned a unique identification number.
- Priority Ranking for Each Forest Stand: The NRI/FSD must identify each stand's priority ranking for forest retention. Each forest stand can have only one priority ranking. The plan drawing must include a written explanation of how the priority rankings were determined.
- Criteria for Defining a Forest Stand: This is a description or explanation of the criteria used to define and delineate a forest stand and how the forest cover is separated into different forest stands.
- Forest Stand Description: This is a narrative that includes the following items for each forest stand:
    - Location of survey reference point
    - Stand acreage
    - Dominant and co-dominant tree species within the stand, identified by scientific and common name
    - Size class by species
    - Percent canopy closure
    - Number of canopy layers (vertical structure)
    - Percent of forest floor covered by native herbaceous plants, downed woody material, and non-native invasive plant species
    - Evidence of past management
    - Condition of the classes, structure, and function
    - Retention priority
    - Notable natural regeneration or potential for natural regeneration
    - Potential to transplant individual trees
    - Priority for retention

2.2.5 Data Sources for NRI/FSD Requirements

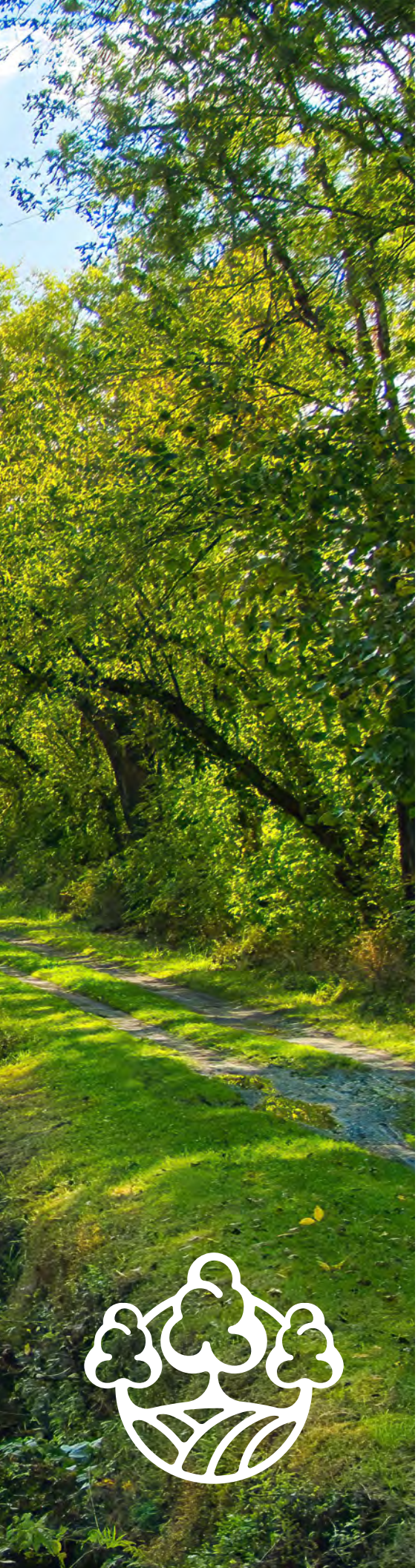
Table 1: NRI/FSD Data Sources

NRI/FSD Requirement	Data Source for Requirement
Property boundaries and property information	Record plat, deed, Maryland State Department of Assessments and Taxation, tax maps accessible via mcatlas.org or the Maryland Environmental Resource & Information Network, or approved boundary survey which may be added to Montgomery County, MD Land Records or mcatlas.org/plats during Montgomery Planning staff review.
Watershed	8- and 12-digit watersheds are shown at mcatlas.org/watersheds. See the Forest Conservation Law for specific watershed requirements.
Maryland Use class of the streams that drain the project tract	The Use classes of streams are defined by the Maryland Department of Environment.
Location in a Special Protection Area (SPA) or Patuxent River Primary Management Area (PMA)	SPAs are shown at mcatlas.org. The limits of the Patuxent PMA must be field identified as part of the preparation of the NRI/FSD per the definition and guidance in the Environmental Guidelines.
100-year floodplain boundary, source of floodplain boundary, and 25' floodplain building restriction lines	Montgomery County Department of Permitting Services approved floodplain studies or maps, U.S. Federal Emergency Management Agency floodplain maps, and/or record plat available in Montgomery County, MD Land Records. The NRI/FSD must include the source of the 100-year floodplain information shown, including the name and date of the study, the study's authors, and the approving agency or name of the government agency that funded the study. The minimum building setbacks from the 100-year floodplain as required by Montgomery Planning.
Wetlands and wetland buffers	Field delineated as part of the preparation of the NRI/FSD and with buffer widths shown per the latest version of the Environmental Guidelines. For each wetland, include field data sheets that cover enough sample points to describe the wetlands. Field information may be supplemented by the U.S. Fish and Wildlife Service's National Wetlands Inventory.

NRI/FSD Requirement	Data Source for Requirement
Presence or absence of Federal or Maryland rare, threatened, or endangered species and critical habitats	Field observations or identification by a professional who is qualified to identify Maryland- or federally designated rare, threatened, or endangered species, critical habitats, or Watchlist species with written verification from the Maryland Department of Natural Resources Natural Heritage Program.
Whether any part of the project tract is a cultural feature or on a historic site	Montgomery Planning's Designated Historic Sites and Districts map at mcatlas.org/hp2, which includes historic sites identified in the Locational Atlas and Index of Historic Sites in Montgomery County, master plans for historic preservation, or the National Register of Historic Places.
Presence or absence of national, state, or county champion trees or trees that are at least 75% DBH of the current state champion tree	Champion tree registers can be found at: County champion trees: Montgomery County, MD Forestry Board State of Maryland champion trees: the Maryland Big Tree Program National champion trees: American Forests' National Register of Champion Trees Field verification to determine whether a tree is at least 75% DBH of a state champion tree. The tree's size and species must be shown in the data table and may be shown on the drawing. If shown on the NRI/FSD, the tree's identification symbol must match the identification symbol in the data table and must also be clearly numbered with corresponding tags in the field.
Trees 24 inches DBH and greater (significant trees)	Field verification by a qualified professional of trees 24 inches DBH inches and greater with their associated critical root zone (CRZ). The tree's size and species must be shown either on the drawing or in the corresponding data table. Each tree's identification symbol on the NRI/FSD must match the identification symbol in the data table and must also be clearly numbered with corresponding tags in the field. The CRZ of trees within a forest stand does not need to be shown on the NRI/FSD.

NRI/FSD Requirement	Data Source for Requirement
Specimen trees	Defined in Appendix C of this manual. Specimen trees must be located on the NRI/FSD with their associated CRZ. The tree's size and species must be shown either on the drawing or in the corresponding data table. Each tree's identification symbol on the NRI/FSD must match the identification symbol in the data table and must also be clearly numbered with corresponding tags in the field. The CRZ of trees within a forest stand does not need to be shown on the NRI/FSD.
Data table: type and slope category of soils covering the tract and adjoining land; soils types that are classified as hydric or soils with hydric inclusions, highly erodible, prime agricultural, or serpentinite	The type of soils and their boundaries, and hydric soils or soils with hydric inclusions, can be found in the latest version of Soils Survey of Montgomery County, USDA, NRCS. Slopes and soils on slopes greater than or equal to 15% are determined by the methodology outlined in the Environmental Guidelines.
Data table: species, size, and health condition of trees; unique identification symbol for specimen trees or significant trees (24 inches DBH or greater), and trees and other plants subject to Sec. 22A-12(b)(3) of the Forest Conservation Law	Field identification and visual basic assessment by a qualified professional.
Data table: acreage of forest, acreage of environmental buffers, total acreage of forest in priority retention areas, total acreage of forest not in priority retention areas, acreage of wetlands, acreage of forest in wetlands, acreage of 100-year floodplains, acreage of forest in floodplains, total linear feet of stream buffer, total acreage of stream buffers, and acreage of forest in stream buffers	Acreage of forest: most recent aerial photographs and/or tree canopy GIS layers at mcatlas.org, and field verification by a qualified professional. Acreage of wetlands: field verification by a qualified professional. Acreage of floodplains: mcatlas.org, maps on FEMA website, DPA-approved floodplain studies, or as shown on record plat. Acreage of stream buffers: determined by the methodology outlined in the Environmental Guidelines.
Topography at a minimum scale of 1" = 200' with contour intervals no greater than 5 feet	Two-foot contours are shown on approved topographic maps at mcatlas.org. Topography may also be determined by the applicant's licensed land surveyor.

NRI/FSD Requirement	Data Source for Requirement
Perennial and intermittent streams and stream/environmental buffers, including seeps and springs and their buffers	Field verification by a qualified professional. Include any County- and State-accepted stream names, if any. Stream/environmental buffer widths are determined by the methodology outlined in the Environmental Guidelines.
Ephemeral streams and stream/environmental buffers when required by a master plan or the Environmental Guidelines	Determined by a qualified professional using the methodology outlined in the Environmental Guidelines and per specific master plans.
Steep slopes	Slopes are determined by the methodology outlined in the Environmental Guidelines, classified by the steepness within two adjacent topographic contours. A slope will be considered steep that: equals or exceeds 15% in the portion of the Ten Mile Creek Watershed within the 10 Mile Creek Master Plan Amendment planning area and in the Upper Paint Branch SPA exceeds 15% on the steepest 50 feet within the 100 feet adjacent to the wetland within all SPAs equals or exceeds 25% on the steepest 50 feet within the 100 feet adjacent to the wetlands outside of SPAs has highly erodible soils and equals or exceeds 15% equals or exceeds 25% in all other areas in the County
Aerial extents of forest and tree canopy	Determined by the most recent aerial photographs and/or tree canopy GIS layers at mcatlas.org and field verification by a qualified professional.
Delineation of forest stands, forest stand characteristics, priority ranking for each forest stand, and condition ratings of individual trees	Field observations by a qualified professional, International Society of Arboriculture (ISA) Certified Arborist, or Maryland licensed tree expert. Methodology for assigning priority rankings for each forest stand and rating the condition of individual trees, where required, is described in the following sections of this manual.
Danger reach area delineated on the record plat/dam break analysis	Dam breach field analysis by applicant, verified by the Montgomery County Department of Permitting Services. Montgomery Planning has maps showing the danger reaches for Little Seneca Lake, Lake Needwood, and Lake Frank.



2.2.6 Identifying Priority Forest and Tree Retention Areas

In order to designate the area under canopy as forest or a stand of trees, a qualified professional must take several factors into consideration. If the stand shows all characteristics of forest, including an herbaceous layer, except it lacks a native understory due to non-native invasive dominance or deer browse, the stand must be classified as forest. If the stand includes overstory and mid-story canopy and the ground level throughout the stand is being actively maintained as lawn grass, the stand must be classified as tree cover. Canopy overhanging a human-made body of water such as a stormwater management facility or farm pond must be classified as tree canopy, even if it is within a forest stand. Canopy over natural water features must be considered forest. Canopy overhanging a building or road must be classified as tree cover.

Forest and trees that must be prioritized for protection and retention are described in section 22A.00.01.07 of the Regulations. High-priority forest and trees must be identified on the NRI/FSD, and forest and trees classified as highest priority for retention must be left in an undisturbed condition unless the Planning Director or Planning Board finds that the provisions for retention contained in Section 22A-12(b)(1) of the Forest Conservation Law have been met, and the development proposal cannot be reasonably altered. The required rating system for analyzing forest structure is detailed in Appendix G.

The entirety of a forest stand must be assigned one priority rating. If any part of a forest stand is within a stream buffer, the entire forest stand must be rated as Highest Priority for Retention (Priority 1).

Highest Priority for Retention (Priority 1)

Highest priority forest or individual trees that have high condition ratings in the approved NRI/FSD are ranked as such to preserve their health and value to our communities and wildlife; to protect environmentally sensitive areas, including environmental buffers and steep slopes; and/or to safeguard the character of a historic site or historic structure.

The following forest, trees, shrubs, and other plants are designated as the highest priority for retention (priority 1), and must be designated as such on the NRI/FSD:

- Trees, shrubs, and other plants located in sensitive areas, including environmental buffers, slopes over 25% (not human-made), erodible soils on slopes of 15% or more, and critical habitats
- A contiguous forest that connects the largest undeveloped or most vegetated tracts of land within and adjacent to the site
- Trees, shrubs, or plants identified on the Maryland Department of Natural Resources list of rare, threatened, and endangered species

- A forest area that has been designated as priority for retention in master plans or functional plans, or in the absence of such plans, a forest that exhibits all of the following characteristics:
  - High structural and species diversity
  - Few non-native or invasive species present
  - Very good overall stand health
  - High potential to provide a significant amount of habitat for forest interior–dwelling plant, animal, and bird species
- A forest area located in one or more of the following areas:
  - A Tier II or Tier III high-quality watershed as identified by the Maryland Department of Environment
  - A water resource protection zone, reservoir watershed, or wellhead protection area
  - An urban area as defined in Section 5-1607(c)(vi) of the Natural Resources Article of the Maryland Code
- An individual tree and its CRZ with one or more of the following characteristics:
  - 1" caliper or larger and part of a historic site or associated with a historic structure
  - Designated as a national, state, or county champion tree
  - A diameter, measured at 4.5 feet above the ground, of 75% or more of the diameter of the designated state or county champion tree
  - A diameter, measured at 4.5 feet above the ground, of 30 inches or greater
  - A specimen of a species.

Moderate Priority for Retention (Priority 2)

Consideration should also be given, where feasible, to retain and permanently protect areas of forest and trees that are classified as Moderate Priority for Retention (Priority 2). Such areas of forest and trees include:

- A forested area that provides a corridor at least 300 feet long of primarily native vegetation between two larger forested tracts
- A forested stream buffer up to 300 feet wide on either side of a stream channel
- Trees that act as a buffer between incompatible land uses and between dwellings and roads
- A forest stand, or portions of a stand, with good forest structural diversity
- An individual tree with a diameter, measured at 4.5 feet above the ground, of 24 inches or greater whose preservation will significantly enhance the site.

Low Priority for Retention (Priority 3)

Stands with poor forest structural diversity or areas with none of the characteristics of Highest Priority, Moderate Priority, or Disturbed areas should be targeted for major construction activity.

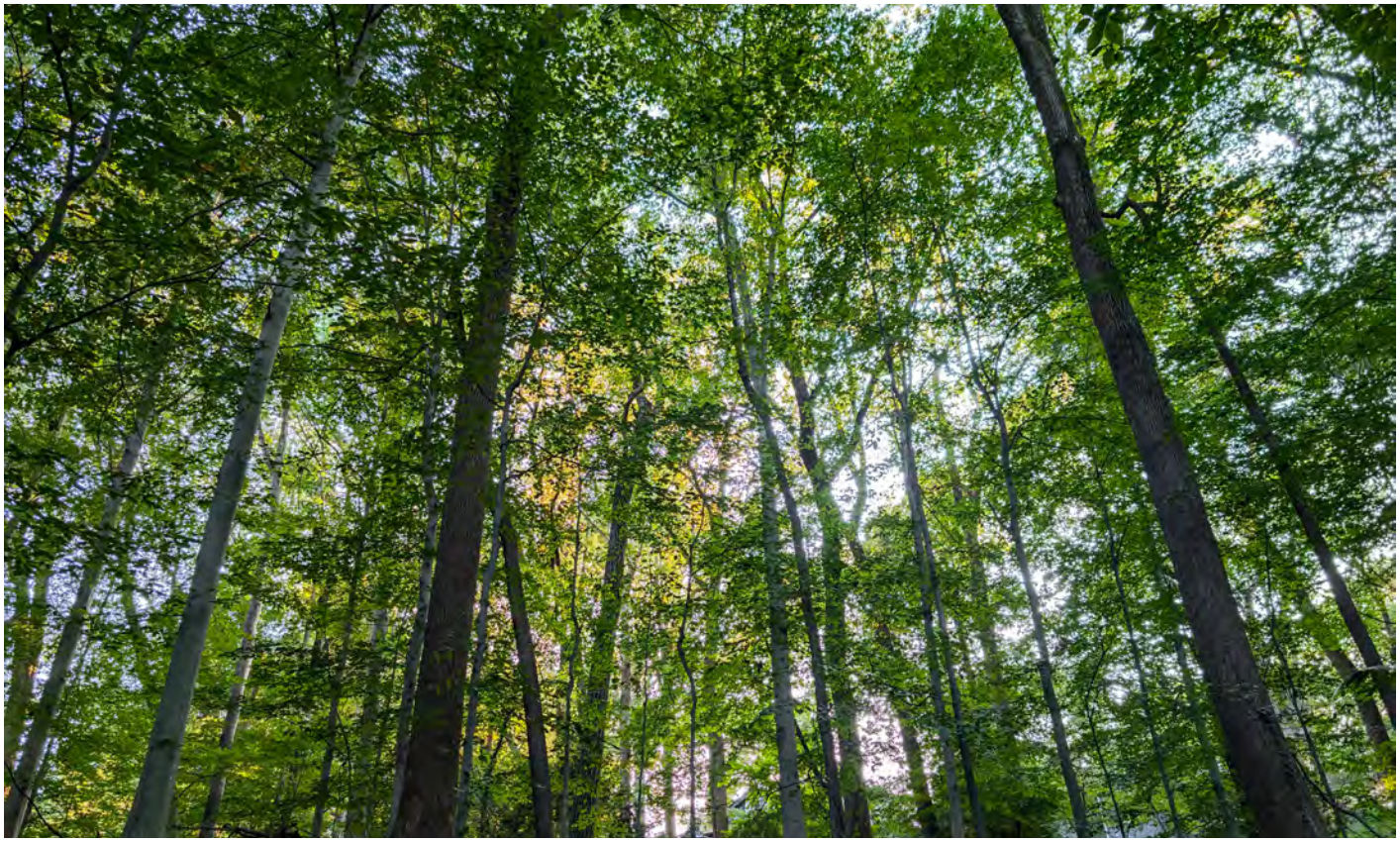
Disturbed Areas (Priority 4)

Stands with approximately 40% or more of land covered with non-native invasive species should also be targeted for major construction activity. (See Appendix C for a list of non-native invasive plants that may be found in Montgomery County, MD.)

Table 2: Sample Forest Stand Delineation Data

	Stand 1	Stand 2	Stand 3	Stand 4
Number of sample points	3	2	3	1
Size in acres	9.7	5.37	8.6	0.63
Dominant species (size class)	red oak (>30”)	tulip poplar (10–18”)	white oak (>24”)	black cherry (6–10”)
Co-dominant species (size class)	white oak (>18”)	red maple (10–18”)	black gum (10–18”), sycamore (10–18”) bitternut hickory (6–10”)	Virginia pine (2–6”), eastern red cedar (2–6”), tulip poplar (6–10”)
Associated species (size class)	American beech (6–10”), pignut hickory (6–10”), red maple (10–18”)	black gum (6–10”), red oak (10–18”)	American beech (2–6”), red maple (2–6”); redbud (6–10)”	red oak (2–6”), sycamore (2–6”)
Percent canopy closure	95	50–75	75	20
Understory	serviceberry, hickory, American beech, flowering dogwood	multiflora rose, greenbriar	pawpaw, Eastern redbud, multiflora rose, flowering dogwood, elderberry	greenbriar, multiflora rose
Shrub species	spicebush, black haw viburnum	spicebush	black haw viburnum	spicebush
Herbaceous species	lowbush blueberry, garlic mustard, Japanese stiltgrass	Japanese stiltgrass	Japanese stiltgrass	Japanese stiltgrass, garlic mustard
Percent herbaceous	40	45	35	25

	Stand 1	Stand 2	Stand 3	Stand 4
Invasive species	garlic mustard, Japanese stiltgrass, honeysuckle	multiflora rose, Japanese stiltgrass, tree of heaven	multiflora rose, Japanese stiltgrass	multiflora rose, Japanese stiltgrass, tree of heaven
Percent invasive	15	30	25	35
Percent of downed woody vegetation	10	15	10	0
Priority for retention	Priority 1	Priority 1	Priority 1	Priority 2
Comments	Upland forest, area between stream buffer and four-lane road	Stream valley buffer area between the north and south streams, past evidence of harvesting	Stream valley buffer	Former fallow agriculture field



2.2.7 Rating Conditions of Individual Landscape Trees

The condition of each individual landscape tree that is required to be identified and located on an NRI/FSD must be evaluated by a qualified professional. Table 3 provides a description of each possible condition rating, ranging from poor to excellent.

Table 3: Condition Ratings with Descriptions for Landscape Trees

Condition	Tree Structure	Tree Health
Excellent	CRZ is undisturbed and clear of obstructions. Normal root flare. No visible trunk defects, wounds, cavities, or indicators of decay. Branch spacing/structure are healthy and free of any defects.	Excellent form and vigor. Well-balanced crown. Trunk is sound and solid. No apparent pest problems. Normal shoot length on new growth. Leaf size and color normal for the species.
Good	Form and habit typical of species. Minor trunk defects. Wounds from any previous injuries have closed. Good branch structure that may exhibit minor dieback. Trunk in excellent condition with form typical of species. Little or no disturbances to the CRZ or, if in an urban setting, the root zone has formed over a period of years without disturbance.	Imperfect canopy in parts of the tree or lacking natural symmetry. Less than 10% of the typical canopy is missing. Live growth or buds apparent at the terminal ends of branches. Normal leaf size, distribution, and color. Few pest issues and non-native invasive vines, and the damage is controllable. Normal branch and stem development.
Fair	Generally good condition, with some minor problems. Form and habit typical of species or with some deviations that may impair future preservation. Trunk condition may be impaired by a structural defect. Trunk is damaged or has cavities with decay present. Limited areas of disturbance to the root zone, or if in an urban setting, the root zone has formed over a period of years with some minor disturbances.	Up to 30% decline or dieback in the crown. Poor crown symmetry. Live growth or buds are apparent at the terminal ends of some/most branches. Leaf size, distribution, and/or color atypical of species. Obvious signs of pest problems contributing to disease/decay.
Poor	Generally poor condition, with some major problems. Branching extremely poor. Trunk condition impaired by one or more structural defects. Wounds have not healed and decay is present. Extensive disturbance to the root zone has occurred over a period of years.	More than 50% of the crown is missing. Major decline and dieback in surviving crown with dead and/or broken branches and/or dead leaves. Insect infestation and/or disease may be severe. Live growth or buds are not present at the terminal ends of most/all branches. Leaf size, distribution, and/or color atypical of species.

If multiple individual landscape trees are required to be identified on the NRI/FSD, the trees' condition ratings must be provided in a table format such as in Table 4.

Table 4: Sample Specimen and Significant Tree Table

Tree No.	Common Name	Scientific Name	DBH (inches)	Condition Rating	Comments
1	red maple	Acer rubrum	26	Good	Some crown dieback.
2	northern red oak	Quercus rubra	32	Good	Back corner of property. Minor dieback present.
3	northern red oak	Quercus rubra	24	Good	Near #2 and canopies intermingle. Needs minor pruning.
4	northern red oak	Quercus rubra	38	Fair	Significant crown dieback, sucker growth, fungus on trunk, poor past pruning, large lightning impact zone down trunk length.
5	red maple	Acer rubrum	24	Fair	Significant pruning by utility companies has impacted crown shape and form. New sidewalk in public right-of-way severed CRZ.

2.3 EXISTING CONDITIONS PLANS

In some cases where an FCP exemption application is required, an Existing Conditions Plan may be submitted in lieu of a Simplified NRI/FSD. In general, an Existing Conditions Plan may be submitted if the site being developed does not contain any forest, specimen or significant trees, existing conservation easements, or environmentally sensitive features. If the plan proposes to impact a stream or environmental buffer, remove any forest or specimen trees, or impact the CRZ of a specimen tree, the FCP exemption application will not be eligible to submit an Existing Conditions Plan. In those instances, an NRI/FSD will need to be submitted as part of the FCP exemption application.

An applicant must submit a request to Montgomery Planning, providing the reasons why the applicant believes an Existing Conditions Plan is appropriate for the proposed project and site. The request must also include the nature of proposed work to be conducted. The applicant must receive written approval from Montgomery Planning staff to submit an Existing Conditions Plan; this written approval must be provided as part of the application submittal along with all supporting documentation, application forms, and fees. An Existing Conditions Plan need not be prepared by a qualified professional, but it must contain the name, address, and signature of the plan preparer.

Montgomery Planning provides a tool via mcatlas.org that applicants can use to generate an existing conditions plan like the sample on the following page.

An Existing Conditions Plan must include the following components. To find the recommended data sources for these components, see section 2.2.5 above.

1. Scaled drawing with north arrow: A scaled drawing at a scale of 1" = 200' or greater (that is, less than 200 feet per inch) is required unless an alternative scale is permitted by Montgomery Planning staff. The minimum printable drawing size is 24" x 36". All drawings shall be north-oriented to the extent possible. A graphic scale bar and north arrow must be displayed.

2. Title information: The title information includes the name of the plan, the plan number, revision block to identify plan revision dates, the identity of the plan preparer (including address and telephone number), and the applicant's name. The WSSC and tax map grid numbers should be included in the title block. The plan name shown in the title block should match the name used when submitting the application. If an amendment application is submitted with a new name, include the former name in parentheses after the plan name in the title block.

3. Vicinity location map: The vicinity location map must be at a scale no smaller than 1" = 2,000' and must have a north arrow. The vicinity map should identify, for reference, the location of the site within a square mile, the nearest major road(s) and intersections, proposed master plan roads, and nearby local streets that are located near the property.

4. M-NCPPC approval stamp placeholder: The top left corner of all drawings must be reserved for the Planning Department's electronic stamp (dimensions: 4" width x 3" height). If a plan drawing has a delineated border near the edges of the drawing paper, the border must be located no further than 1 inch from the left edge of the paper and no more than 1/2 inch from the top edge of the paper.

5. Boundary outlines of all properties within the project tract area: The project tract is composed of one or more properties. The boundaries of all properties in the tract area must be clearly delineated on the NRI Plan Drawing.

6. Existing buildings, driveways, and other human-made features: Show all existing buildings, sidewalks, driveways, utilities, easements, septic fields, impervious surfaces, and other human-made features that are located on the tract and on adjoining properties if they are within the required NRI/FSD boundaries.

7. Existing topography: The NRI/FSD plan drawing must show the existing topography at a minimum scale of 1" = 200' with contour intervals no greater than 5 feet.

8. Natural features including streams and forests as outlined in section 2.2.3 above.

9. Proposed improvements: The footprints of buildings, accessory structures, driveways, paths, and landscape areas must be shown.

10. Proposed lot lines: If a future subdivision is proposed, the boundaries of all new lots within the tract must be shown.

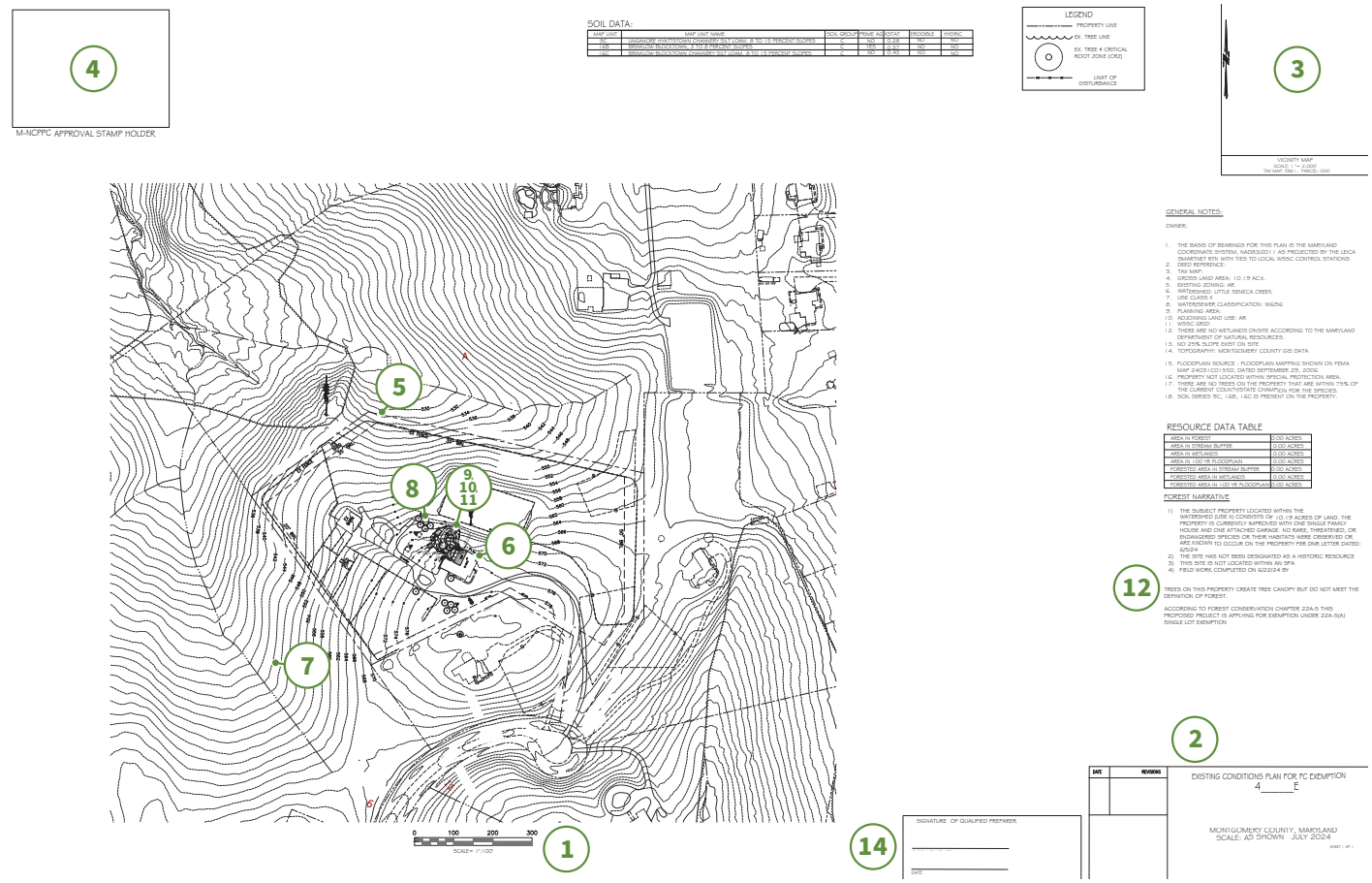
11. Proposed limits of disturbance: Conceptual grading and limits of disturbance for proposed construction and access to the construction area must be included on the plan drawing.

12. If an Existing Conditions Plan is being prepared to support an FCP exemption application where forest may be cleared, a note stating the proposed acreage of forest to be cleared based on the aerial extent of forest canopy must be included.

13. Photographs of the existing conditions: Photographs may be provided, but are not required.

14. Signature, date, and, if applicable, professional seal of plan preparer.

Figure 2: An example Existing Conditions Plan with numbered components corresponding to the list above.



2.4 REQUIREMENTS FOR SPECIFIC PROJECT TYPES

2.4.1 Linear Projects

A linear project, as defined in the Forest Conservation Law, is a land development project whose configuration is elongated with nearly parallel sides. A linear project may traverse multiple fee-simple properties through defined boundaries or through easement rights. Linear projects include:

A road, sidewalk, bicycle path, or pathway used to provide a public service not otherwise to be constructed or improved as part of an application for subdivision approval, such as for trains, pedestrians, and vehicles.

A public utility such as electricity, gas, water, sewer, or communications.

A county or municipal Capital Improvement Program road projectA stream restoration project intended to stabilize existing stream channels and/or enhance stream function or habitat.

For a linear project, net tract area is the area of a right-of-way (ROW) width or the limits of disturbance (LOD) as shown on the development application, whichever is greater. The NRI/FSD must include the LOD or public ROW width plus 100 feet on either side of the LOD or ROW. In some cases, it is not necessary for applicants to inventory the entire 100 feet from the LOD or ROW, such as if there are specimen trees behind existing dwellings if these trees will not be impacted by construction. However, all trees with a DBH of 24 inches and greater and specimen trees that are located between existing road pavement and dwellings must be identified on the NRI/FSD.

Stream restoration projects are typically implemented by the Montgomery County Department of Environmental Protection or M-NCPPC Parks Department and in some cases private landowners. The NRI/FSD for a stream restoration project covers the LOD plus 100 feet on either side of the LOD; in some cases the extent of the NRI/FSD for a stream restoration project is the stream buffer. Stream restoration projects must identify all trees 1 caliper inch and greater on the NRI/FSD that are within the proposed LOD. Sample plots, discussed in Chapter/Appendix X, can be used to estimate the number of trees 1 caliper inch and greater within the proposed LOD.

2.4.2 M-NCPPC Park Projects and Park Development Plans

A park project or park development plan in which the applicant and landowner is M-NCPPC often covers multiple properties. However, the area of the park project is often much smaller than the legal boundaries of the park properties on which it lies. In some cases, park projects may qualify for an FCP exemption and may submit a Simplified NRI/FSD in support of the FCP exemption application. However, if an NRI/FSD and FCP is required, the following rules apply:

- Detailed and field-located data for the NRI/FSD should cover the area within the project's proposed LOD and 100 feet around the LOD.
- For the remainder of the park properties where the project lies, NRI/FSD information for streams, wetlands, forest, and tree cover should be shown and must be based on field-determined data. All other NRI/FSD information must be shown as well but can be determined from publicly available data.
- An applicant for a park project should consult with Montgomery Planning prior to submitting an NRI/FSD application to determine the exact area that should be included on the NRI/FSD.

2.4.3 Stormwater Management Facility Maintenance and Retrofits

Stormwater management facilities and their access areas often cover multiple properties or may be part of a much larger property. In some cases, stormwater management facility maintenance and retrofit projects may qualify for an FCP exemption and may submit a Simplified NRI/FSD in support of the FCP exemption application. However, if an NRI/FSD and FCP is required, the following rules apply:

- Detailed and field-located data for the NRI/FSD should cover the area within the project's proposed LOD and 100 feet around the LOD.
- For the remainder of the property or properties, NRI/FSD information for streams, wetlands, forest, and tree cover should be shown and must be based on field-determined data. All other NRI/FSD information must be shown as well but can be determined from publicly available data.

2.5 REVIEW, APPROVAL, AND EXPIRATION OF NRI/FSDs AND EXISTING CONDITIONS PLANS

A Simplified NRI/FSD or Existing Conditions Plan must be reviewed by Montgomery Planning staff to confirm an FCP exemption application. For any development application that requires an FCP, such as a development plan, floating zone plan, project plan, preliminary plan of subdivision, biohealth priority campus plan, or site plan, an NRI/FSD must be completed and submitted to Montgomery Planning before any site planning has been done for the development project. The NRI/FSD must then be reviewed and approved before an FCP can be submitted.

2.5.1 Review Timeline

The Forest Conservation Law requires the Montgomery Planning Director to review and act on NRI/FSDs. Montgomery Planning staff act as the Director's designee for these reviews. Regardless of whether the NRI/FSD supports an FCP exemption application or development application that requires approval of an FCP, Planning staff review the NRI/FSD application and notify the applicant as to whether it is complete and correct within 30 calendar days of the application being accepted and deemed complete by Montgomery Planning's intake staff. If notification is not given within this time frame, the application is considered complete and correct. The review and comment period may be extended by an additional 15 calendar days under extenuating circumstances.

The applicant must submit revised drawings to address Montgomery Planning staff's comments within 90 days from the date comments are sent to the applicant; once resubmitted, Montgomery Planning staff have an additional 30 calendar days to review the NRI/FSD. If an NRI/FSD application for a project site is withdrawn due to the applicant's inactivity, the applicant must file a new NRI/FSD application and pay new fees. Upon finding that the requirements of the NRI/FSD have been met, Montgomery Planning staff will provide an approval letter to the applicant and sign and date each sheet of the NRI/FSD.

2.5.2 Expiration and Recertification of NRI/FSDs

Once approved, the NRI/FSD is valid for two years. An expired NRI/FSD may be recertified within one year after the expiration date, if the original plan preparer attests that there are no changes to the size and shape of the application tract, existing conditions, forest acreage, tree canopy, or any other detail of the originally approved NRI/FSD. Even if no other components have changed, the NRI/FSD must be updated with the new DBH of all trees, and any trees that are now classified as significant or specimen trees must be noted. An NRI/FSD may only be recertified one time and within three years of the initial approval date.

2.5.3 Amendments to Approved NRI/FSDs

An approved NRI/FSD may not be amended. To make revisions or add data to an approved NRI/FSD, such as a change in the acreage of the project site, a change in property ownership, or a change in the project applicant or engineer, a new NRI/FSD application must be submitted. However, in some cases where very minor alterations are needed, an approved NRI/FSD may be altered during the FCP application review, with permission from Montgomery Planning staff.

FOREST CONSERVATION PLANS

3.1 STANDARD SUBMITTAL REQUIREMENTS

A Forest Conservation Plan (FCP) must show trees and forest within the development site that have been designated for retention, forest to be cleared, and areas that have been designated for reforestation and/or afforestation. Priority must be given to techniques for retaining existing forest on the site, and certain trees, shrubs, plants, and specific areas per Section 22A-12(b)(3) of the Forest Conservation Law must be left in an undisturbed condition unless the Planning Board or Planning Director finds that the applicant qualifies for a variance under Section 22A-21 of the Forest Conservation Law. Below is an overview of the process of FCP development:

1. Determine Forest Retention Areas, including priority areas and the conservation threshold.
2. Complete the Forest Conservation Worksheets to calculate reforestation/afforestation requirements.
3. Prepare and Submit Preliminary FCP (if applicable). Determine retention and planting locations; include the completed forest conservation worksheets.
4. Prepare and Submit Final FCP. Analyze forest edge/critical root zones (CRZs), determine final acreage of retention and planting locations (planting plan), and evaluate reforestation/afforestation methods. In some instances, the preliminary and final FCPs may be combined into one application, while in other cases, such as when the final FCP is submitted with a site plan, the final FCP is submitted after approval of the preliminary FCP to allow time for the applicant to finalize plans.
5. Prepare and Submit Supporting Items, including the maintenance agreement and long-term protection agreement.

An applicant must submit the preliminary or final FCP with the development applications and land-disturbing activities listed under Section 22A-4 of the Forest Conservation Law, unless the application qualifies for one of the FCP Exemptions listed under Section 22A-5 of the Forest Conservation Law. The FCP and development plan should be the same scale (minimum 1": 200' with 5' contour intervals) so that they can be overlaid. The FCP should always be a separate drawing and should show the proposed development. The basic components of a FCP include:

- Forest Conservation Plan Drawings (see detailed requirements in Section 3.5.1 of this chapter)
- Forest Conservation Worksheets
- Narrative of sequential analysis of afforestation/reforestation methods
- Variance request when applicable
- Development plan
- Management agreement
- Qualifications of plan preparers

3.1.1 Preliminary Forest Conservation Plan

Development applications that need more than one approval per Section 22A-11 of the Forest Conservation Law may submit a preliminary FCP in conjunction with the first approval. In most instances, the information about protection, planting, and maintenance can be limited to a description of the likely measures that will be taken. Details can then be provided in the final FCP, which is submitted in conjunction with the last approval.

3.1.2 Final Forest Conservation Plan

If only one approval per Section 22A-11 of the Forest Conservation Law is required, an applicant must submit a final FCP at the time of the development application. The final FCP must be based on final site grading.

3.2 MONTGOMERY PLANNING REVIEW AND APPROVAL

3.2.1 Forest Conservation Plan Review

A preliminary FCP will be reviewed concurrently with the development application for which it applies.

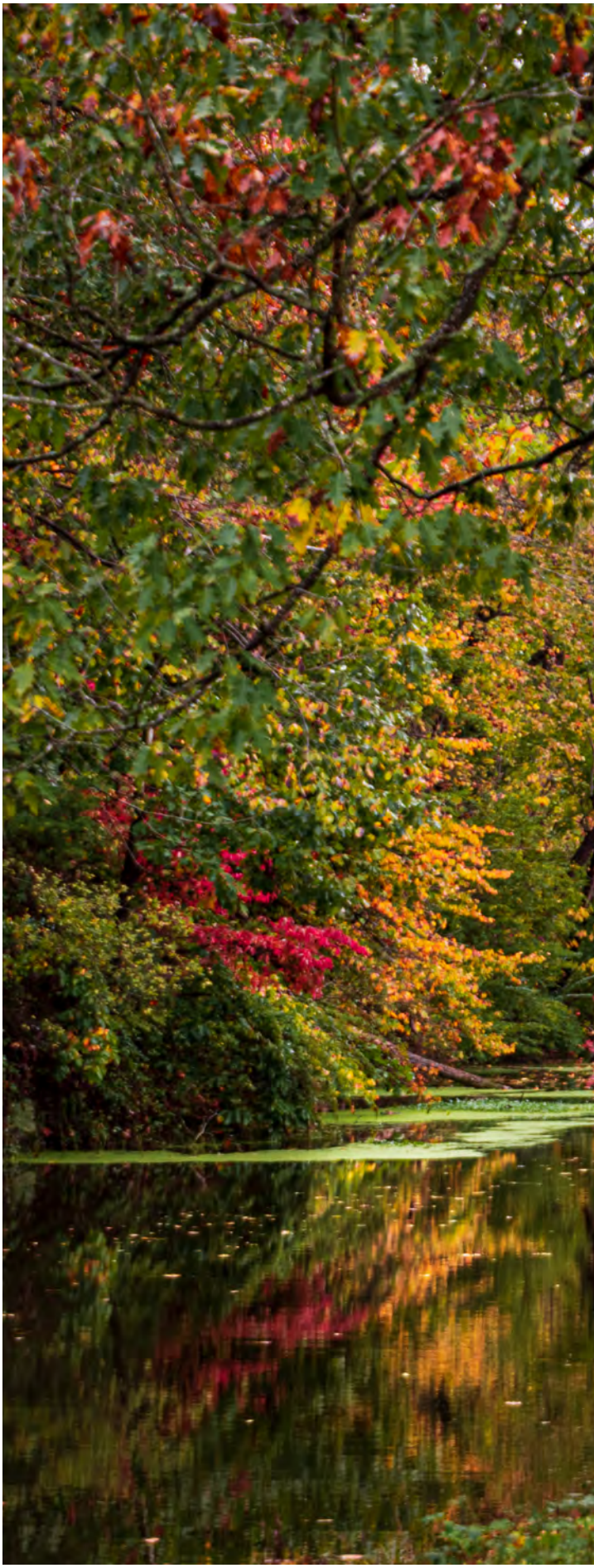
Within 45 days from acceptance of a final FCP, including a plan that is not reviewed in two stages, Montgomery Planning staff will notify the applicant whether the FCP is complete and approved for submission to the Planning Board as part of the development application. If the applicant is not notified within 45 days, the plan will be treated as complete and approved for submission. Montgomery Planning staff may require further information or provide for one extension of this deadline for an additional 15 days for extenuating circumstances. In addition, at the request of the applicant, Montgomery Planning staff may extend this deadline further for extenuating circumstances. If the FCP includes a request for a variance, these time requirements are suspended until the Planning Board or Planning Director acts on the request.

3.2.2 Approval Of Forest Conservation Plans

providing the final FCP. This conditional approval will occur concurrently with the approval of the application for which it is submitted. Action on the final FCP will be taken by the Planning Board concurrent with their action on the development application, or by Montgomery Planning staff for plans that do not go to the Board. Some components may be required for submittal to the Board, such as tree protection and tree planting plans. However, in general, approval of the final FCP can be conditioned to address specified requirements before the start of clearing and grading, such as maintenance agreements or enhancements to the tree protection and tree planting plans. In some instances, however, these items may be required for submittal to the Board.

3.2.3 Amending An Approved Forest Conservation Plan

A request for an amendment to a FCP must be submitted and reviewed under the procedures outlined above. Refer to the Forest Conservation Regulations for review requirements for major and minor FCP amendments. Any proposal to remove a forest conservation easement must be submitted as part of a FCP amendment and approved by the Planning Board.



3.3 FOREST RETENTION AREAS

The primary objective of an FCP is to avoid reforestation and retain the forests, trees, and habitats designated below and in Section 22A-12 of the Forest Conservation Law, unless the findings below can be made. The state of Maryland also requires the retention of state-designated Priority Urban Forests unless the findings below can be made. Maryland's Priority Urban Forests were determined by assessing habitat connectivity, biodiversity conservation, and environmental justice measures; the Priority Urban Forests for Montgomery County, Maryland, can be viewed at mcatlas.org.

- The development makes maximum use of any available planning and zoning options that would result in greatest possible forest retention. For example, in some cases applicants may be able to use the optional method of development (cluster method) to retain more forest.
- Reasonable efforts have been made to protect specific areas and vegetation. For example, as an alternative to grading a slope that would impact forest, an applicant could install a retaining wall to avoid clearing.
- The development proposal cannot be reasonably altered. In some cases, the cost of altering the development may be prohibitive and unreasonable.

The priority retention areas listed in Section 22A-12 of the Forest Conservation Law include:

- Floodplains, stream buffers, steep slopes, and critical habitats
- Contiguous forests
- Forests suitable for forest interior-dwelling species
- Forests located in a Tier II or Tier III high-quality watershed as identified by the Maryland Department of Environment
- Forests located in a water resource protection zone, a reservoir watershed, or a wellhead protection area
- Priority Urban Forests defined by the State of Maryland in the Natural Resources Article of the Maryland Code
- Habitats that contain rare, threatened, and endangered species
- Trees connected to an historic site
- Champion trees and other exceptionally large trees, and
- Areas designated as priority, save areas in a master plan or functional plan.

In cases where the three findings above can be made, the methodology below may be followed to determine areas to be cleared and priority areas for retention and reforestation. As discussed later in this chapter and per Section 22A-12 of the Forest Conservation Law, each site has a forest conservation threshold depending on its land-use category that specifies the percentage of forest on site which, at a minimum, should be preserved.

3.3.1 Criteria For Determining Area To Be Cleared

3.3.1.1 Minimum Area for Development

The area to be cleared on a tract shall generally be limited to the area needed for the following construction elements:

- Access routes and designated areas for staging
- Street construction and necessary slope construction
- Necessary clearing for public service or utility easements and rights-of-way
- Building roof coverage area and ancillary structures such as patios and porches, plus the area needed on all sides for construction activity and necessary slope construction
- Driveways, alleyways, walkways, parking lots, and other land areas necessary for the installation of the proposed development or use
- Sediment basins, stormwater management structures, septic fields, and other environmental and health-based site improvements
- Minimum yard areas and, where necessary, common open play areas.

3.3.1.2 Additional Area

The following factors will be considered when reviewing applications for clearing more than the minimum area that should be preserved based on the applicable forest conservation threshold. These factors may also be used when deciding between multiple forest stands on the site with apparently equal value.

Development factors:

- The extent to which the actual or intended use of the property, as developed or proposed to be developed in accordance with the regulations of the zoning ordinance and/or area master plans, requires clearing of trees.
- Whether an urban or suburban form of development is desired at a particular location.
- Any hardship to the applicant that may result from a modification or rejection of the application, provided that the hardship is not self-imposed.
- The desirability of preserving tree canopy in densely developed or densely populated areas to serve as landscape buffers, mitigate the heat island effect, and assure compatibility with adjacent properties.
- The ability of the trees to complement the project design, architecture, and overall landscape.

Environmental factors:

- The priority classification of a forest stand.
- The extent to which the area would be subject to environmental degradation due to removal of trees/ forest.
- Whether the forest ecosystem can tolerate environmental change (e.g., increased sunlight, heat, wind; alteration of water regime or water table level).
- Likelihood of trees surviving if invasive species or disease are spread or introduced (e.g., insect infestation).

Safety factors:

- Whether any tree is diseased, injured beyond restoration, in danger of falling, interferes with utility services, or hinders visibility.
- Other factors:
- The desirability of preserving any tree because of its size, age, quality, or rarity (e.g., it is a specimen or champion tree).
- The desirability of the tree species as a permanent part of the forest.
- Whether the forest stand extends to an off-site area which, in combination with the portion of the forest stand on site, would be important to retain.

3.3.2 Criteria for Determining Retention Area Boundaries

3.3.2.1 General

Both planted reforestation areas and existing forest to be protected must be protected in perpetuity by a long-term protective measure, which may include a Category I forest conservation easement, planting or protection on parkland, deed restrictions, covenants, or another agreement type. The forest retention area boundaries that are shown on a preliminary FCP plan may be a conservative estimate. This estimate will be refined on the final FCP. The final forest retention area boundaries should be delineated using the methods described below. Some details may not be finalized until the preconstruction field meeting between the applicant and Montgomery Planning enforcement and monitoring staff prior to clearing of the site.

A retention area must qualify as forest per the definition in Section 22A-3 of the Forest Conservation Law and must be at least 10,000 square feet in size and 50 feet wide in order to be credited toward forest retention. At the discretion of Montgomery Planning staff, minor portions of an existing forest stand that otherwise meet the definition of forest but are less than 50 feet wide may be considered part of the forest retention area, but may be required to be planted to meet the 50-foot width criteria (additional planting beyond 50 feet may also be required).

3.3.2.2 Critical Root Zone Analysis

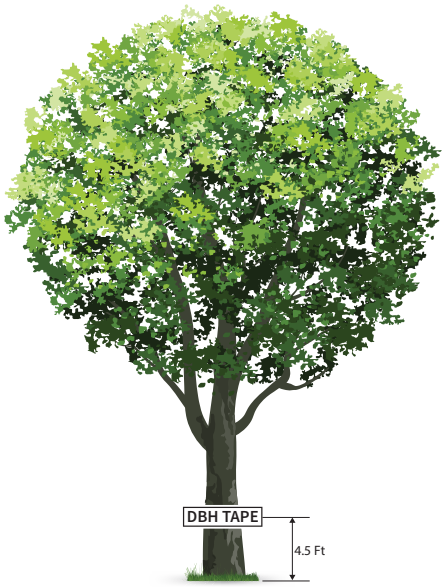
The CRZ of a tree is the zone in which the majority of the tree's roots lie. A tree's roots are often concentrated in the upper 12–18 inches of the soil and may spread beyond the edge of the canopy. Protecting the majority of the CRZ of trees to be retained is equally as important as protecting the aboveground components. In most instances, the CRZ can be estimated using the method described in Figure 3. However, when staking retention edges in the field, the condition and species of each individual tree should also be taken into account, along with the estimated CRZ based on the formula in Figure 3.

The CRZ analysis must be shown for trees 24 inches and greater at 4.5 feet above the ground (DBH) within 50 feet on either side of the limits of disturbance (LOD). Montgomery Planning staff may request that the CRZ be shown for trees of other sizes as needed to determine the feasibility of proposed retention areas. There may be a need to analyze trees beyond 50 feet of the LOD if they are large enough that their CRZ would be impacted. In some cases, applicants may choose to document CRZs by hiring an arborist to complete an investigative root analysis by air spade and GPS/survey.

If the CRZ will be impacted, proper measures must be taken to preserve the tree, when determined to be necessary by Montgomery Planning staff. In addition to appropriate protection, these measures must include necessary treatment such as limb pruning, root aeration, fertilizing, etc. The preservation measures shown on the FCP must be certified by a Maryland Licensed Tree Expert or ISA Certified Arborist. In some instances, Montgomery Planning staff may recommend that a highly impacted tree be removed and replaced by reforestation. Applicants will be expected to use creative techniques to minimize any impacts to forest edge.

Figure 3: Methods for calculating the diameter at breast height (DBH) and critical root zone:

Calculating DBH of a tree with a single central leader:



Measured at 4.5 feet from the ground using a DBH tape.

Calculating DBH of a multi-stem tree:

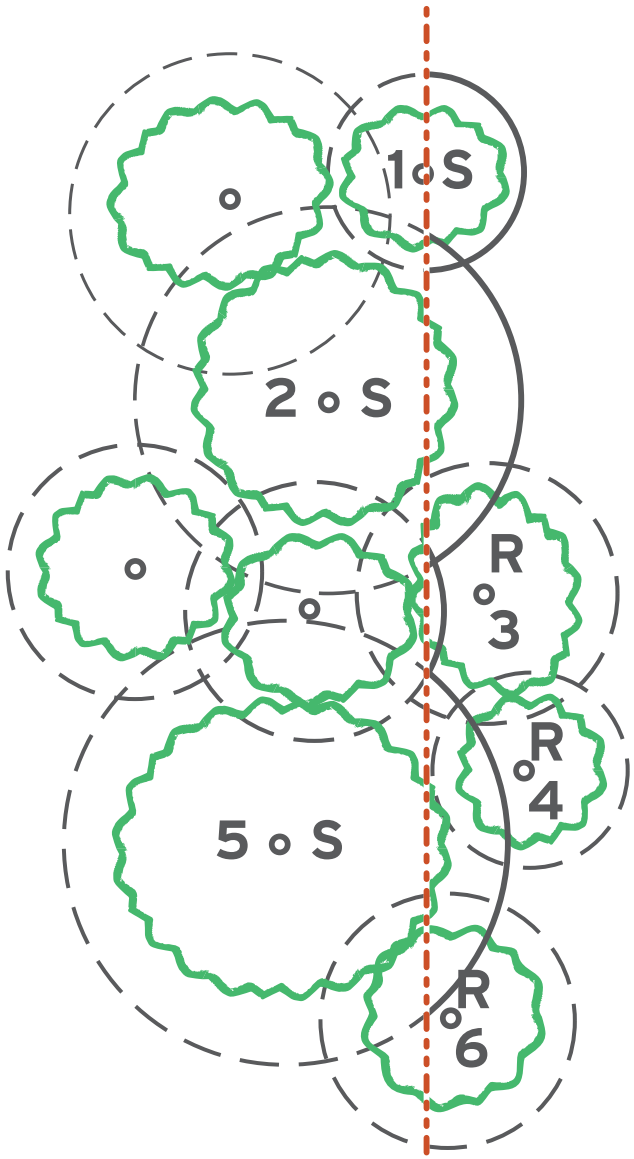
DBH (multi-stem) = $\sqrt{(d1^2 + d2^2 + d3^2 + \ldots + dn^2)}$

where d1, d2, d3, ... dn are the diameters of the individual stems measured with a DBH tape at 4.5 feet from the ground.

Calculating CRZ once DBH is known:

1" DBH = 1.5' radius of CRZ

Figure 3: Methods for calculating the diameter at breast height (DBH) and critical root zone (continued)



Tree #	Status	Notes
1	Save	Preliminary retention edge impacting more than 30% of the CRZ can be more to accommodate
2	Save	Preliminary retention edge can be moved to protect the entire CRZ
3	Remove	Tree is completely within the disturbance zone
4	Remove	is completely within the disturbance zone
5	Save	Preliminary retention edge can be moved to protect the entire CRZ
6	Remove	Preliminary retention edge is over trunk

3.3.2.3 Selective Clearing of Edge Trees

In some instances, it may be appropriate or necessary to selectively clear highly impacted edge trees and replace them. For example, it may be advantageous to remove edge trees that are susceptible to impacts from adjacent significant grade changes or compaction that may become hazardous after construction. It may also be appropriate to use selective clearing to lessen the effects of non-construction impacts (such as increased temperature, light, and wind) on newly created forest edges. Justification for the use of selective clearing should be provided by the applicant with the FCP. Old or dead trees are an essential part of a healthy forest ecosystem and provide valuable habitat for wildlife. Selective clearing should only be considered for individual trees that may be in danger of falling on structures or into a yard or park where outdoor activities are likely to take place.

3.3.2.4 Individual Trees and Tree Stands Less Than 10,000 Square Feet

Specimen or champion trees will receive a credit equal to the area of their CRZ when the entire CRZ is protected on site. When the entire CRZ is not protected, the retention credit will be adjusted accordingly. Individual trees that are not a priority for retention and forest stands that are smaller than 10,000 square feet and 50 feet wide, and that are not within the forest retention areas, may be credited toward afforestation and reforestation requirements as part of landscaping credit.

3.4 AFFORESTATION/REFORESTATION

After all attempts to maximize the areas of forest retention on a tract have been exhausted, applicants should follow a specific protocol for reforestation or afforestation. This procedure includes determining the acreage and priority areas for the trees that must be planted, conducting a sequential analysis of reforestation and afforestation methods, carrying out a planting plan, and following an agreement that spans at least five years of management for planted areas. After the five-year maintenance period, the planted areas must be preserved as forest with a forest conservation easement as a long-term protection measure. Reforestation and afforestation plans must be designed to integrate native forest associations into developed landscapes and to promote diverse, stable forests that are able to provide multiple benefits to a community. In some cases, the afforestation and reforestation plans may emphasize planting trees and landscaping to allow for higher density development without losing the benefits trees provide.

3.4.1 Afforestation Requirements

Afforestation is the establishment of forest cover in accordance with the Forest Conservation Law on areas from which it has always been absent or has been absent for a long time, or the planting of open areas that are not in forest cover. Figure 4 shows the afforestation thresholds that determine the extent of afforestation required by the Forest Conservation Law, depending on the land use category of the property to be developed. If an applicant can demonstrate that afforestation using forest cover is inappropriate for a site, afforestation requirements may be satisfied by an alternative method, such as those listed in the preferred sequence in Section 22A-12(e)(1)(A) of the Forest Conservation Law. Afforestation requirements must be accomplished within one year or two growing seasons after the completion of the development project, unless specified otherwise by the approved FCP. In some instances it may be appropriate to satisfy the afforestation requirements using tree cover, such as for:

- Developments located in an urban setting
- Redevelopments
- High-density residential developments
- Commercial and industrial development
- Planned unit developments
- Some institutional areas.

3.4.2 Reforestation Requirements

Reforestation is the creation of a biological community dominated by trees and other woody vegetation (including plant communities, the understory, and the forest floor). Reforestation may be required if an applicant has shown that it is necessary to clear existing forested areas in order to develop a tract. The forest conservation threshold dictates the reforestation requirements for a development; reforestation requirements vary depending on the acre age of forest clearing proposed (whether the applicant is clearing forest above or below the forest conservation threshold) and the land-use category of the

property (see Figure 5). As required for afforestation, reforestation should conform to the preferred sequence in Section 22A-12(e)(1)(A) of the Forest Conservation Law and must be accomplished within one year or two growing seasons after the completion of the development project, unless specified otherwise by the approved FCP.

3.4.3 Priorities for Afforestation and Reforestation

3.4.3.1 Requirements

The following areas must be delineated on the FCP and afforested/reforested:

- Stream valley buffers. If the stream valley buffer is not suitable to establish and retain planted forest, a substitute environmental protective measure, such as planting meadow or floodplain vegetation, must be implemented.

3.4.3.2 Functional Priorities

When afforestation or reforestation planting is required, the following list of priorities must be considered. These priority areas should be delineated on the FCP as they were on the approved NRI/FSD.

- Establish or enhance forest in buffers adjacent to ephemeral streams, when such streams are required to have buffers as recommended in an applicable Master Plan or in the latest version of the environmental guidelines.
- Establish or enhance forest in 100-year floodplains.
- Establish or increase existing forested corridors to connect existing forest within or adjacent to the site. Where practical, forested corridors should be a minimum of 300 feet in width to facilitate wildlife movement.
- Establish or enhance forest buffers adjacent to critical habitats where appropriate.
- Establish planting to stabilize natural slopes of 25% or greater and 15% or greater with erodible soils, including slopes of ravines or other natural depressions.
- Establish buffers adjacent to areas of differing land use where appropriate, or adjacent to highways or utility rights-of-way.
- Establish forest areas adjacent to existing forests to increase the overall area of contiguous forest cover, when appropriate.

Other areas that should be considered for reforestation and afforestation include buffers for nontidal wetlands and stream buffers along streams flowing through existing farmland. When evaluating areas for reforestation or afforestation, review staff will consider why trees do not currently exist in the area. In some instances, planting trees may not be a preferred alternative. For example, nontidal wetland areas and areas that provide significant habitat for non-forest dwelling animals or plants may not be appropriate sites for tree planting.

3.4.3.3 Locational Priorities

The Forest Conservation Act specifies a procedure for choosing the method to use in planting reforestation or afforestation areas. The options are listed below, in order of priority. Applicants must provide justification for their chosen methodology with the afforestation or reforestation plan submittal. To assist in this analysis, evaluation criteria for the different methods has been reprinted from the State of Maryland Forest Conservation Manual in Appendix H. Required reforestation or afforestation must occur in both the county and the eight-digit watershed in which the project is located. When off-site afforestation or reforestation can be justified, the applicant must find a planting location in a priority eight-digit watershed, special protection area, or the Patuxent Primary Management Area (PMA) in the same county in which the project is located. If the applicant can demonstrate that reforestation or afforestation cannot be reasonably accomplished in a priority eight-digit watershed, special protection area, or the Patuxent PMA in the same county in which the project is located, then the reforestation or afforestation may occur anywhere in that same county. Priority eight-digit watersheds can be viewed at mcatlas.org.

The preferred sequence for meeting the afforestation and reforestation requirements is:

- On-site afforestation or reforestation
- Off-site afforestation or reforestation
- Enhancement of existing forest through on-site selective clearing, supplemental planting, or both
- Acquiring credit(s) from an off-site forest mitigation bank
- Paying a fee in-lieu, and
- Landscaping with an approved plan.

Variations from the preferred sequence above may be allowed. Applicants should refer to the variations from the preferred sequence noted in the Forest Conservation Law and must provide appropriate justification to be reviewed by Montgomery Planning staff.

3.4.4 Other Considerations

3.4.4.1 Nontidal Wetlands

Tree clearing within the net tract area that occurs either wholly or partly in areas regulated as nontidal wetlands under the Maryland Nontidal Wetlands Regulations is subject to the mitigation requirements of both the Maryland Nontidal Wetlands Regulations and the Forest Conservation Law. Forested nontidal wetlands that are retained will be counted toward the forest conservation requirements. Forested nontidal wetlands that are permitted to be cleared require mitigation to meet both the Maryland Nontidal Wetlands Regulations and Forest Conservation Law requirements. Clearing within forested nontidal wetlands shall be shown on the FCP, but the area shall be subtracted on an acre-for-acre basis from the total amount of forest to be cut or cleared. The reforestation requirements will then be calculated using the reduced acreage. Montgomery Planning review staff may request a copy of an applicant's nontidal wetlands permit or mitigation plan approved by the state of Maryland.

3.4.4.2 Landscaping Credit

The Planning Board or Planning Director must find that all opportunities for establishing forest have been incorporated into on-site afforestation and reforestation plans before any credit for landscaping is applied. Landscaping credit may only be applied to reforestation and afforestation in the specific instances outlined below. Full credit means that the square footage provided as landscape credit is equal to the square footage of the required afforestation and reforestation. One quarter credit means one fourth of the full credit amount. Trees receiving credit toward forest conservation requirements must not also be credited toward landscaping requirements.

Landscaping, retention of tree stands, and retention of individual trees may be credited toward a site's reforestation requirements only for projects located within an equity focus area as follows:

- Landscaping areas or retained tree stands that are at least 2,500 square feet in size and 35 feet wide may receive full credit for their area.
- Landscaping areas and retained tree stands that are less than 2,500 square feet in size or 35 feet wide may receive one quarter credit for their area.
- Individual landscape trees may receive one quarter

credit for the projected area of their canopy at 20 years.

- Individual non-priority trees that are retained may receive one quarter credit for the protected area of their CRZ when at least two thirds of the entire CRZ is protected.
- The total credit from these areas must not exceed 20% of the overall protected area of their CRZ when at least two thirds of the entire CRZ is protected.
- The total credit from these areas must not exceed 20% of the overall reforestation requirement for a site.
- Landscaping, retention of tree stands, and retention of individual trees may be credited toward a site's afforestation requirements as follows:
- For sites with tree cover requirements per the Forest Conservation Regulations:
    - Landscaping areas or retained tree stands of any size may receive full credit for their area.
    - Individual landscape trees that are retained may receive full credit for the projected area of canopy at 20 years.
- For sites with special provisions for meeting minimum requirements per Section 22A-12(f) of the Forest Conservation Law:
    - Landscaping areas or retained tree stands that are at least 2,500 square feet in size and 35 feet wide may receive full credit for their area.
    - Landscaping areas or retained tree stands that are less than 2,500 square feet in size or less than 35 feet wide may receive one quarter credit for their area.
    - Individual non-priority landscape trees may receive one quarter credit for the projected area of their canopy at 20 years.
    - Individual trees that are retained may receive one quarter credit for the protected area of their CRZ when at least two-thirds of the entire CRZ is protected.
    - The total credit from these areas must not exceed 20% of the overall afforestation requirement for a site.

3.4.4.3 Soil Restoration

Areas that are to be afforested, reforested, or planted for landscape credit may require replenishment of topsoil and other enhancements, in order to ensure the successful establishment of new trees and vegetation. Soil restoration generally improves the physical and biological function of compacted and depleted urban and post-construction soils in order to support reestablishment of vegetation. Poor soil structure in disturbed areas can inhibit root growth, water infiltration, availability of oxygen, and storage of nutrients in the soil if the soil is not amended before planting. Soil restoration can reduce overall watering requirements due to enhanced infiltration and improve establishment and long-term survivability rates of trees in afforested/reforested areas.

Soil restoration techniques involve mechanical decompaction of the soil to a depth of approximately 24–30 inches using deep tillage or subsoiling equipment, followed by incorporation of organic amendments (typically high-quality compost) into upper soil layers. This technique loosens the compacted soil, creating veins of compost in the subsurface. This approach rebuilds soil porosity, improving drainage, aeration, and percolation, and resulting in less stormwater runoff. The added organic matter reintroduces microbial activity; retains more moisture, allowing plants to become more drought resistant; and improves the carbon sequestration potential of the soil. Appendix XX provides technical specifications that applicants can follow if soil restoration is included on the FCP; however, alternative methods may be approved by Montgomery Planning staff or the forest conservation inspector on a case-by-case basis.

If recommended or required by Montgomery Planning staff, applicants should include the following soil restoration details on the FCP:

- Soil restoration notes and specifications
- Proposed locations for soil restoration in afforestation/reforestation areas
- Soil restoration incorporated into the planting timeline.

Applicants may also need to consider expanding the LOD shown on the FCP to include the area where soil restoration is taking place (if required outside of the general area where construction activity is occurring).

3.4.5 Standards

A minimum of five native tree species and two species of understory shrubs must be planted in areas that will be forest cover unless the site is to be actively managed under a Forest Management Plan approved by the Maryland Department of Natural Resources. The plant list should contain a mixture of dominant and understory trees and early to late seral stage trees. Plants must be native to the Piedmont province of Maryland or approved by Montgomery Planning staff (see Appendix C for a list of native species). All planting stock must meet one of the following standards at a minimum, or a combination that yields appropriate final density and is approved by Montgomery Planning staff:

- 100 1.5–2” caliper trees/acre, balled and burlapped or container grown (minimum 15-gallon container) spaced 15–20’ on center, with a required survival rate of 100% or 100 trees per acre.
- 200 0.75–1” caliper trees/acre, balled and burlapped or container grown (minimum 7-gallon container) spaced 12–15’ on center, with a minimum required survival rate of 75% or 150 trees per acre.
- 33 shrubs/acre, 18–24” in height, well branched, and container grown (minimum 3-gallon container) spaced 6’ on center.

3.5 DETAILED FOREST CONSERVATION PLAN SUBMITTAL REQUIREMENTS

3.5.1 FOREST CONSERVATION PLAN DRAWINGS

A preliminary FCP drawing must include:

- The shape and dimensions of lots, showing locations of any existing structures and improvements, including paved areas.
- Locations and dimensions of all existing and proposed rights-of-way, setbacks, easements, stockpile areas, and stormwater management facilities (road and utility rights-of-way that will not be improved as part of the development application must be identified).
- Location of building restriction lines and areas to be conserved, including environmental buffers.
- Conceptual locations of proposed structures and improvements, drainage systems, and sediment control measures.
- Preliminary LOD of the natural terrain, and location of forest and tree retention areas, including acreage, with appropriate justification and proposed long-term protection methods (a conceptual grading plan and/or a more detailed tree survey may be required to determine the feasibility of proposed retention areas).
- Proposed locations of afforestation and reforestation areas, if required.
- A table containing the following information:
    - Acreage of the tract remaining part of an agricultural use
    - Acreage of road and utility rights-of-way that will not be improved as part of the development application
    - Acreage of total existing forest
    - Acreage of total forest retention
    - Acreage of forest in priority retention areas
    - Acreage of total forest retention in priority retention areas
    - Acreage of total forest retention not in priority retention areas
    - Acreage of total forest cleared in priority retention areas
    - Acreage of forest cleared not in priority retention areas
    - Land-use category and conservation and afforestation thresholds from subsection 22A-12(a) of the Forest Conservation Law
    - Acreage of forest retained, cleared, and planted within wetlands
    - Acreage of forest retained, cleared, and planted within 100-year floodplains
    - Acreage of forest retained, cleared, and planted within stream buffers
    - Total acreage of forest retained, cleared, and planted within priority planting areas
    - Linear feet of stream buffer conserved
    - Linear feet of stream buffer afforested
    - Linear feet of stream buffer reforested
    - Acreage of stream buffer conserved
    - Acreage of stream buffer afforested
    - Acreage of stream buffer reforested.
- Forest conservation worksheets showing calculation of forest conservation requirements (see details below).

In addition to the components above, a final FCP drawing must also show:

- Conceptual or final grading plans that include building locations and footprints, retaining walls, road and parking layout, sidewalks and pathways, and location of recreation facilities.
- A survey of trees with a diameter of 24 inches and greater at 4.5 feet above the ground (or trees of other sizes if requested by Montgomery Planning staff to determine the feasibility of proposed retention areas), within 50 feet of the LOD, with CRZs delineated. The distance from the tree face to the LOD may be required to be shown on the plan or in an associated table in some cases, as determined by Montgomery Planning staff. Which trees will be retained must be shown on the plan or in an associated table as well.

- A LOD line that reflects the limits of all clearing and grading on the tract, and the proposed location of sediment and erosion control devices and staging areas.
- Retention areas, including forest, tree stands, and other individual trees to be saved, including acreage.
- A note describing whether on-site downed woody material is to be retained and incorporated into retention, afforestation, or reforestation areas to build habitat.
- An afforestation and/or reforestation planting plan, if required, that contains:
    - A note indicating whether soil restoration techniques will be implemented
    - Location and acreage of areas to be planted
    - An analysis of the suitability of the site for planting and a description of necessary methods
    - A list of target trees and shrub species, chosen based on analysis of site conditions, that can be used for site planting
    - A plant materials table including species, size of plants to be installed, and quantities
    - Planting and inspection schedule tied to the construction sequence for the project
    - A maintenance plan, with a minimum of two annual treatments, that provides for necessary watering; control of competing vegetation; protection from disease, pests, and mechanical injury; removal of protective measures, such as deer caging; and reinforcement planting if plant survival falls below the requirements stated above.
- Permanent protection area boundaries with proposed informative sign locations, and building restriction lines.
- A protection plan that shows:
    - The location of temporary protection devices that must be installed if clearing, grading, or construction occurs within 50 feet of a retention area boundary
    - Stockpile areas and borrow pits
    - Specifications and details for temporary and permanent protection devices
    - A narrative of stress reduction or other measures that are needed for specific trees
    - A field inspection schedule
    - The location of permanent protection devices
    - The arborist's tree preservation notes
    - An arborist report as required, on a case-by-case basis, for trees less than 24" DBH, when 30% or more of the CRZ is impacted
    - Identification of how the off-site planting requirements will be met, either through a fee-in-lieu payment, by acquiring mitigation credits from an approved forest mitigation bank, or by planting off-site
    - If off-site planting is going to occur and the off-site planting area is known, the FCP must include a map of the proposed planting site showing location, soils, and environmental features that are priority planting areas as stated in Section 22A.00.01.08E(2) of the Forest Conservation Regulations. If the off-site planting area is not finalized prior to approval of the FCP, it may be finalized prior to clearing and grading, and a Category I Forest Conservation Easement Agreement must be recorded in land records before clearing and grading can begin.

3.5.2 Supporting Items For Forest Conservation Plans

The following items shall be submitted with the FCP. As noted below, the information may vary between preliminary and final FCPs.

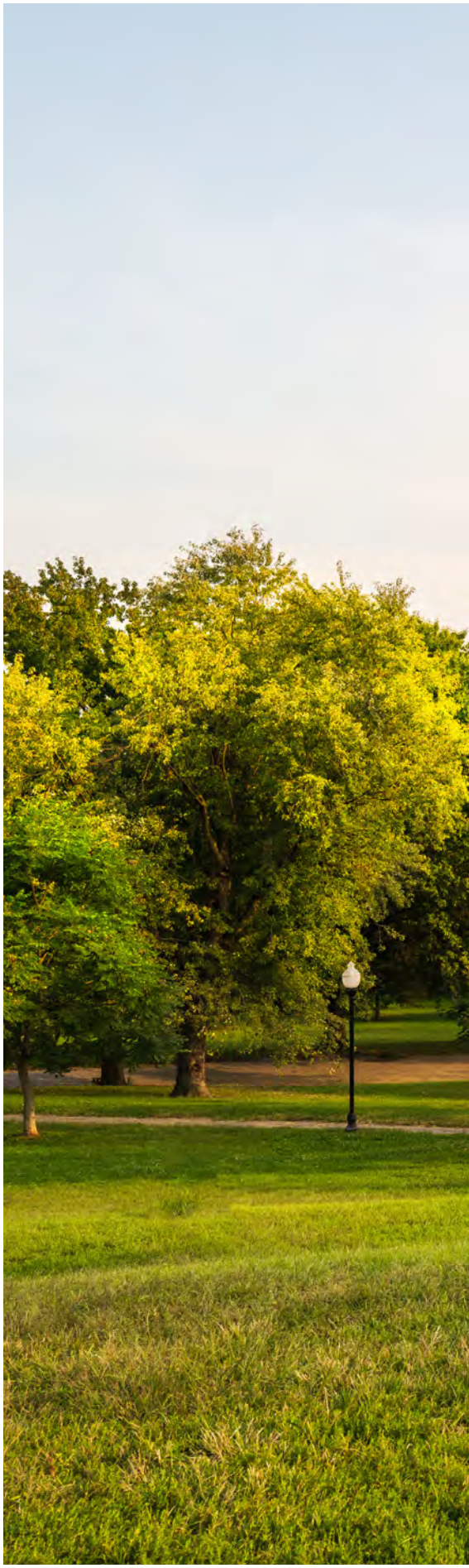
3.5.2.1 Forest Conservation Worksheets

The forest conservation worksheets (Figures 4 and 5) are used to determine the forest retention, afforestation, and reforestation requirements on a tract, depending on where within Montgomery County reforestation occurs (both worksheets must be included in the preliminary and final FCPs). The worksheets for preliminary FCPs may be based on conceptual forest retention and replanting area boundaries. The requirements for each tract are based on the type of land use and the forest conservation threshold or afforestation threshold for that land use, as described in Figure 6. The forest conservation threshold is the minimum percentage of a forested tract that an applicant should strive to preserve as forest cover.

For all existing forest cover measured to the nearest 1/10 acre cleared on the net tract area below the applicable forest conservation threshold, the area of forest removed must be reforested at a ratio of two acres planted for every one acre removed if reforestation is occurring within the same eight-digit watershed as the project or a priority eight-digit watershed, special protection area (SPA), or the Patuxent PMA; or 2½ acres planted for every one acre removed if reforestation is occurring within the County outside of the same eight-digit watershed and outside of a priority eight-digit watershed, SPA, or the PMA.

For all existing forest cover measured to the nearest 1/10 acre cleared on the net tract area above the applicable forest conservation threshold, the area of forest removed must be reforested at a ratio of ½ acre planted for every one acre removed if reforestation is occurring within the same eight-digit watershed as the project or a priority eight-digit watershed, SPA, or the PMA; or one acre planted for every one acre removed if reforestation is occurring within the County outside of the same eight-digit watershed and outside of a priority eight-digit watershed, SPA, or the PMA.

The afforestation threshold is the percentage of a non-forested site that must be planted in forest. In some instances, the afforestation requirements may be satisfied by establishing tree cover. (See Figures 9 and 10 for examples of reforestation and afforestation requirements.)



3.5.2.2 Information Needed to Complete the Worksheets

The following information is needed to complete both forest conservation worksheets:

- Land-use category: Figure 6 compares the county zoning categories with the land-use categories defined in the Forest Conservation Law.
- Conservation and afforestation thresholds (from Figures 9 and 10)
- Total tract area
- Areas remaining in agricultural production: A declaration of intent to farm is required for these areas.
- Areas within WSSC rights-of-way or easements for which WSSC is responsible: These areas generally include projects that will be constructed by WSSC or their subcontractors.
- Areas within road rights-of-way that will be constructed partially or wholly with public funds: Certification from the appropriate government authority should be provided by the applicant to justify subtracting this area.
- Existing forest cover (from the approved NRI/FSD).
- Forested area to be cleared.

Figure 4: Forest Conservation Worksheet for reforestation occurring outside the same eight-digit watershed, Special Protection Area (SPA), or Primary Management Area (PMA)

FOREST CONSERVATION WORKSHEET

PROJECT NAME AND PLAN NUMBER

NET TRACT AREA

A.	Total tract area =	25.00
B.	Additions to tract area (Off-Site Work, etc.; construction required by this plan)	1.03
C.	Land dedication acres (parks, county facility, etc.)	0.00
D.	Land dedication for roads or utilities (construction not required by this plan)	0.00
E.	Area to remain in commercial agricultural production/use	0.00
F.	Other deductions (specify)	0.00
G.	Net Tract Area	26.03

LAND USE CATEGORY (from Chapter 22A-3. Definitions)

Input the number "1" under the appropriate Land use,Limit to one entry

ARA	CDR	MDR	IDA	HDR	MPD	CIA
0	1	0	0	0	0	0

G.	Afforestation Threshold	20%	X G =		5.21
H.	Conservation Threshold	45%	X G =		11.71

EXISTING FOREST COVE

I.	Existing forest cover =	12.00
J.	Area of forest above afforestation threshold =	6.79
K.	Area of forest above conservation threshold =	0.29

BREAK EVEN POINT

L.	Forest retention above threshold with no mitigation =	11.77
M.	Clearing permitted without mitigation =	0.23

PROPOSED FOREST CLEARING

N.	Total area of forest to be cleared =	1.05
O.	Total area of forest to be retained =	10.50

PLANTING REQUIREMENTS

P	Reforestation for clearing above conservation threshold =	0.29
Q.	Reforestation for clearing below conservation threshold =	3.03
R.	Credit for retention above conservation threshold =	0.00
S.	Total reforestation required =	3.32
T.	Total afforestation required =	0.00
U.	Credit for landscaping (may not be used to meet reforestation requirements if project is located outside an equity focuse area (EFA). For projects within EFA, may not exceed 20% of "s")	0.00
V.	Total reforestation and afforestation required =	3.32

Worksheet Date: 4/3/2023

Figure 5: Forest Conservation Worksheet for reforestation occurring within the same eight-digit watershed, or within a Special Protection Area (SPA) or Primary Management Area (PMA)

FOREST CONSERVATION WORKSHEET

PROJECT NAME AND PLAN NUMBER

NET TRACT AREA

A.	Total tract area =	25.00
B.	Additions to tract area (Off-Site Work, etc.; construction required by this plan)	1.03
C.	Land dedication acres (parks, county facility, etc.)	0.00
D.	Land dedication for roads or utilities (construction not required by this plan)	0.00
E.	Area to remain in commercial agricultural production/use	0.00
F.	Other deductions (specify)	0.00
G.	Net Tract Area	26.03

LAND USE CATEGORY (from Chapter 22A-3. Definitions)

Input the number "1" under the appropriate Land use,Limit to one entry

ARA	CDR	MDR	IDA	HDR	MPD	CIA
0	1	0	0	0	0	0

G.	Afforestation Threshold	20%	X G =	5.21
H.	Conservation Threshold	45%	X G =	11.71

EXISTING FOREST COVE

I.	Existing forest cover =	12.00
J.	Area above afforestation threshold =	6.79
K.	Area of forest above conservation threshold =	0.29

BREAK EVEN POINT

L.	Forest retention above threshold with no mitigation =	11.77
M.	Clearing permitted without mitigation =	0.23

PROPOSED FOREST CLEARING

N.	Total area of forest to be cleared =	1.05
O.	Total area of forest to be retained =	10.50

PLANTING REQUIREMENTS

P	Reforestation for clearing above conservation threshold =	0.14
Q.	Reforestation for clearing below conservation threshold =	2.43
R.	Credit for retention above conservation threshold =	0.00
S.	Total reforestation required =	2.57
T.	Total afforestation required =	0.00
U.	Credit For Landscaping (may not be used to meet reforestation requirements if project is located outside an equity focuse area (EFA). For projects within EFA, may not exceed 20% of "s")	2.57
V.	Total reforestation and afforestation required =	2.57

Worksheet Date: 4/3/2023

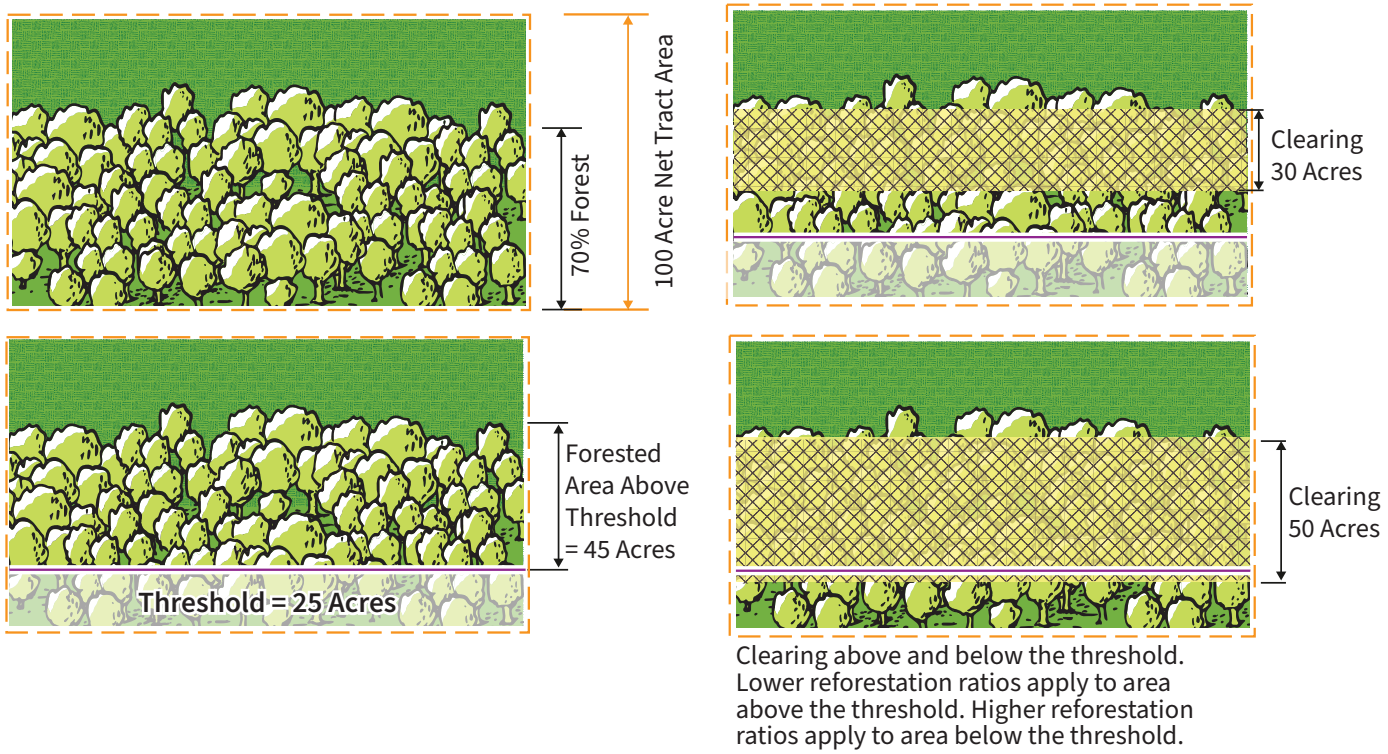
Figure 6: Comparison of land-use categories from Forest Conservation Law and Montgomery County zoning categories. Applicants should reference the land-use requirements and compatible county zoning categories in the most recent version of the Forest Conservation Law and Montgomery County Zoning Code.

Comparison of Land Use Categories from Forest Conservation Law & Montgomery County Zoning Code		
Land Use Category Name	**Land Use Abbreviation**	**Compatible County Zoning Categories**
Agricultural and Resource Areas	ARA	RDT, Rural Zone
Cluster Medium-Density Residential Areas	CDR	RE2C, RNC, RE1 (cluster), RC
Medium-Density Residential Areas	MDR	RDT, RE-2, RE-1
Institutional Development Areas	IDA	Various uses that may occur in all zoning categories including schools, colleges and universities, military installations, transportation facilities, utility and sewer projects, government offices and facilities, golf courses, recreation areas, parks, and cemeteries (includes the PCC zone).
High-Density Residential Areas	HDR	R-200, R-200 (cluster), RMH-200, R-MH, R-150, R-90, R-90 (cluster), R-60, R-60 (cluster), R-40, RT-8.0, RT-10.0, RT-12.5, R-30, R-20, R-10, R-H, RMX, standard method, TS-R, TDR Zones (except as noted below)
Mixed-Use Development Areas	MDP	MXPD, P-D, Town Sector, TS-M, P-R-C, RMX-1/TDR, CR, CRN, CRT, RMX-2/TDR, RMX-3/TDR, CBD-0.5
Commercial and Industrial Use Areas	CIA	C-O, O-M, C-P, C-T, C-1, C-2, C-3, C-4, Country Inn, IL, IM, IH, CBD-1, CBD-2, CBD-3, H-M, MRR

Figure 7: Land-use thresholds. Applicants should reference the land-use thresholds in the most recent version of the Forest Conservation Law of the Forest Conservation Law and Montgomery County Zoning Code.

Forest Conservation Threshold and Required Afforestation as a Percentage of Net Tract Area		
Land Use Category	**Forest Conservation Threshold**	**Required Afforestation**
Agricultural and resource areas	55%	20%
Cluster medium-density residential areas	45%	20%
Medium-density residential areas	35%	20%
Institutional development areas	25%	20%
High-density residential areas	20%	15%
Mixed-use development areas	20%	15%
Planned unit development areas	20%	15%
Commercial and industrial use areas	15%	15%

Figure 8: Example showing clearing up to and below the Forest Conservation Threshold on Institutional Property



Clearing above and below the threshold. Lower reforestation ratios apply to area above the threshold. Higher reforestation ratios apply to area below the threshold.

Figure 9: Example of determining afforestation requirements on Institutional Property

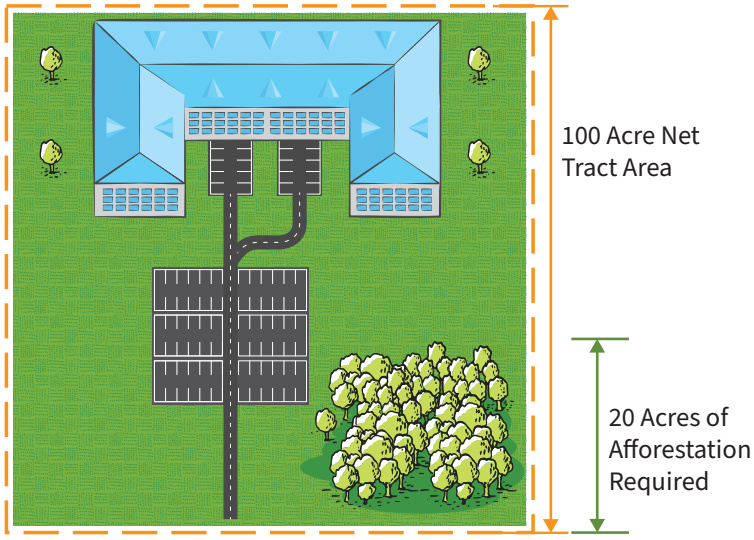
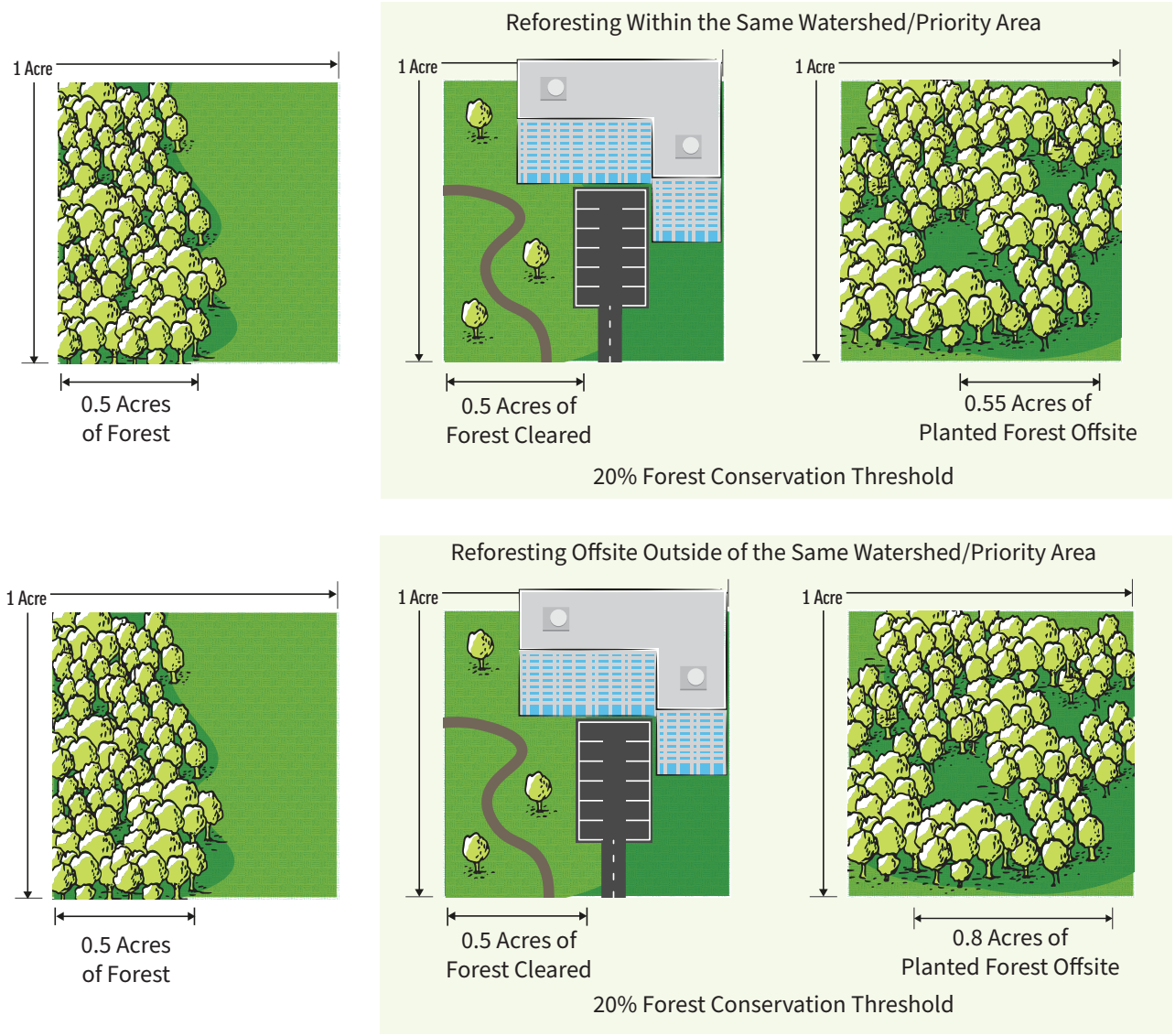


Figure 10: Example of determining reforestation requirements on High Density Residential Property



3.5.2.3 Planting Plan

A planting plan shall be required for all reforestation or afforestation areas prior to the start of clearing and grading. For preliminary FCPs, it is sufficient to provide the planting locations and the analysis of site suitability for planting and description of necessary preparation measures. The following must be provided with the planting plan:

- An analysis of the suitability for planting and a description of necessary measures.
- A list of target tree and shrub species for planting based upon an analysis of site conditions (e.g., soil, water, sun exposure) and plant availability. An indication of the appropriate species may be found by identifying the forest association to the region or evaluating forest land adjacent to the proposed planting site (see Appendix C for common species within various forest associations and a list of native species).
- A plant materials table including species, size of plants, and quantity.
- A plan drawing illustrating planting locations, spacing, and planting details. (See Appendix B for suggested methods.)
- A planting and inspection schedule tied to the planned construction sequence for the project. Planting must be accomplished no later than one year after completion of the development project. (See Appendix B for planting specifications.)

3.5.2.4 Development Program

The development program is a schedule for provision of the required elements of the final FCP that are conditioned as part of Planning Board or Planning Director approval. Items that must be included are:

- Development phasing, if applicable
- Tree planting/reforestation planting schedule
- Schedule for provision of financial security and/or fee-in-lieu payment

The development program must be submitted and approved prior to the start of any clearing and grading.

3.5.3 Conditions Of Approval For Forest Conservation Plans

3.5.3.1 Financial Security

Any land development project with a final FCP that requires forest planting, either on- or off-site, must post a financial surety instrument. The purpose of the financial security is to ensure that all requirements associated with a FCP, including afforestation, reforestation, maintenance of planted areas, invasive species management control, planting of mitigation trees, and so on are performed in a timely fashion. Financial security may also be required when fee-in-lieu payment (payment into the forest conservation fund) is required. Details regarding acceptable forms for financial security and the required processes for estimating and releasing financial security are provided in Chapter 6 of this manual.

3.5.3.2 Maintenance and Management Agreement

Reforestation and afforestation areas must be maintained for a period of five years unless reduced pursuant to Section 22A-12(h)(1) as specified in a maintenance and management agreement between the applicant and the Planning Board or Planning Director. The maintenance and management agreement must be signed prior to the recording of the record plat and starts upon satisfactory inspection of the plantings or maintenance required under the FCP. The maintenance and management agreement shall be an agreement between the applicant and the Planning Board that states how the areas designated for afforestation or reforestation will be planted and maintained to ensure protection and satisfactory establishment of forest. Existing forest to be protected on M-NCPPC parkland does not require a maintenance and management agreement. Two standard maintenance and management agreement templates are available on the Montgomery Planning website for plantings to be located on the project site or off-site. The agreement must include the following components.

Plan maintenance:

- Watering
- Feeding/fertilizing
- Pest and disease management, including deer protection measures
- Controlling competing vegetation
- Non-native invasive plant control, including along forest edge or in adjacent areas that may impact forest conservation
- Protection from mechanical injury
- Replanting of areas to be afforested or reforested

Inspection information:

- Permission for inspection staff to enter the site
- Criteria the forest conservation inspector uses to determine whether planted areas meet minimum standards at specified points in time during the maintenance period
- Required notification for final inspection
- Responsibility of applicants to conduct semi-annual inspections

Other:

- Provisions for release of the financial security
- Name of the company or individual responsible for care and maintenance of the reforestation/afforestation/planting area(s)
- An exhibit demonstrating the applicant's legal right to implement the proposed maintenance agreement on the site. This document may be an executed deed conveying title to the site, an executed conservation easement restricting use of the site, a fully executed non-contingent contract of sale for the site, or other written evidence of a possessory or ownership interest in a selected site.

3.5.3.3 Long-Term Protection

The final FCP must include provisions for long-term protection of forest retention areas, reforestation areas, and afforestation areas. The areas must be delineated on the final FCP. Long-term protective measures may include conservation easements or covenants, deed restrictions, and dedication to M-NCPPC Parks as a conservation area. A Forest Management Plan approved by the Maryland Department of Natural Resources may be included as part of a long-term protective agreement if the Planning Director finds it is consistent with County forest conservation objectives.

Site features that are required to have long-term protection include:

- Forest or tree save areas that are assigned forest retention credit in the FCP
- Environmentally sensitive areas, such as floodplains, and streams and wetlands and their associated buffers, regardless of whether these areas include existing or planted forest, except if the area is in one of the allowable uses as outlined in the Environmental Guidelines
- Forest or tree planting areas that are assigned forest planting credit in the FCP.

A forest conservation easement is a perpetual property right granted to M-NCPPC; its terms, conditions, and area are recorded in the County's land records. The easement boundary must be shown on the record plat with a note that references a recorded easement agreement, and any revised easement must be recorded by the applicant concurrently with the plat as well. The two types of forest conservation easements are described in Chapter 6 of this manual, and templates for both forest conservation easement categories are available at montgomeryplanning.org.

3.6 SUMMARY OF THE REQUIREMENTS

Step 1: Determine Forest Retention Areas

- Consider priority areas from NRI/FSD and area to be cleared.

Step 2: Complete Forest Conservation Worksheets

- Determine reforestation/afforestation requirements, if applicable.

Step 3: Preparation of Preliminary or Final FCP

- Designate retention areas. Include:
  - priority rating and acreage
  - edges reflecting CRZs on final FCPs
  - specimen/champion trees and their CRZs
- Locate afforestation/reforestation areas, considering priority areas for afforestation/reforestation. Include afforestation/reforestation methods.

Step 4: Submit FCP and Supporting Items

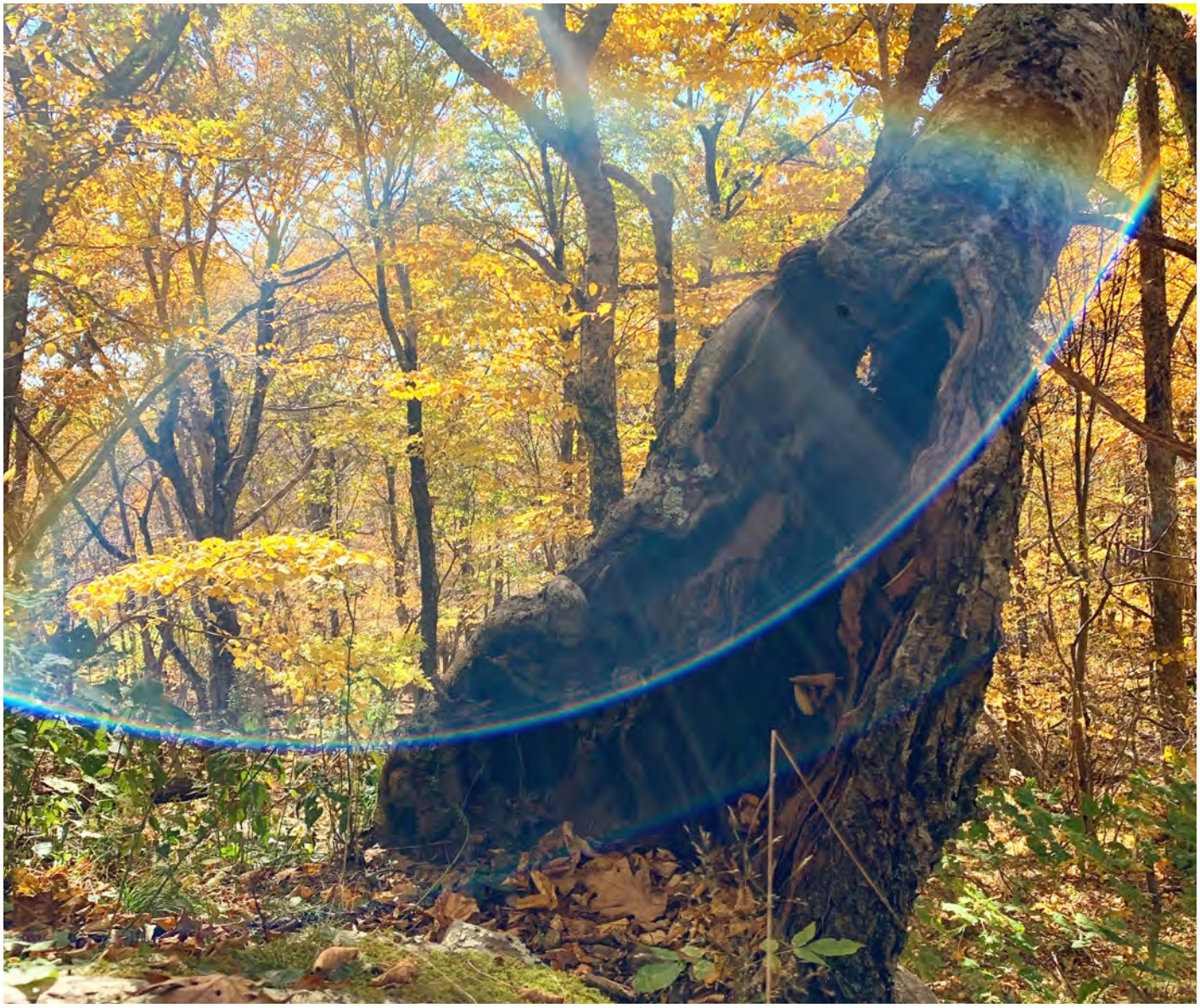
- Forest Conservation Worksheets
- Narrative of sequential analysis of afforestation/ reforestation methods
- Maintenance agreement
- Protection plan
- Long-term protection measures/agreements
- Development plan
- Preliminary or final FCP
- Qualifications of plan preparers(s)

Step 5: Implementation

- Submit financial security and record long-term protection agreement (forest conservation easement)

CHAPTER 4

VARIANCES



The Forest Conservation Law allows an applicant for an activity that is subject to the Forest Conservation Law to request a variance from any section of the Forest Conservation Law or associated regulations. The applicant must submit a written request for a variance and provide information to establish how the proposed project meets specific criteria for the variance to be granted.

4.1 VARIANCES TO THE FOREST CONSERVATION LAW AND REGULATIONS

All variance requests from any part of the Forest Conservation Law or associated regulations must be submitted in writing to the Planning Director for processing and review. The Planning Board or Planning Director, as appropriate, acts on the variance request. An approval of a variance request may include appropriate conditions of approval that the applicant must meet so that objectives of the Forest Conservation Law and Regulations are met and so that the public interest is protected.

Requests for variances from the Forest Conservation Law are most frequently made by applicants for land development projects that are subject to FCP requirements and that propose to impact or remove trees or other plants that are a high priority for retention. However, as stated above, variances from other sections of the Law, such as to impact or remove forest in a floodplain or stream buffer can be requested. This chapter identifies the requirements for all of these types of variances.

4.2 TYPES OF VARIANCES

If a development application requires a FCP and the project proposes to impact or remove the CRZ, canopy, or branches of any of the trees, shrubs, plants, and specific areas listed as a priority for retention in Section 22A-12 of the Forest Conservation Law, the applicant must submit a variance request as part of the FCP application, as outlined in Section 22A-21 of the Forest Conservation Law. Variance requests must be approved before such impacts can occur.

4.2.1 Variances to Remove/Impact Trees and Vegetation (Tree Variances)

Requests to impact the trees, shrubs, and plants protected under Section 22A-12 of the Forest Conservation Law are known as "tree variances." Tree variances are the most common type of variance request submitted with FCP applications.

The trees, shrubs, and plants that are protected under Section 22A-12 and cannot be impacted or removed without an approved tree variance include the following:

- Trees that measure 30 inches or greater in diameter at 4.5 feet above the ground
- Trees that are 1 inch in caliper or larger and part of a historic site, located within a historic district, or associated with a historic structure
- Trees that are designated as national, state, or county champion trees
- Trees that are at least 75% of the DBH of the current state champion tree of that species
- Trees, shrubs, or plants that are designated as federal or state rare, threatened, or endangered species.

A tree or plant that meets one of the criteria listed above that is dead but still standing does not require a variance for impacts or for removal.

4.2.2 Variances to Impact/Remove Forest in a Floodplain or Stream Buffer

Impacts or removal to any forest in a floodplain or stream buffer are also protected under Section 22A-12 and would necessitate approval of a variance request to be impacted or removed, except if the activity occurring within the floodplain or stream buffer is permitted under the environmental guidelines.

4.3 APPLYING FOR A VARIANCE

An applicant's request for a variance is a required element of the project's preliminary FCP application. The variance can be modified during the review and approval of a final FCP. However, any changes to the variance must be incorporated into the final FCP.

4.3.1 Submission Requirements

The applicant for a variance must demonstrate compliance with Section 22A-21 of the Forest Conservation Law by doing all of the following:

- Describing the special conditions peculiar to the property or other conditions that would cause unwarranted hardship if the Forest Conservation Law and Regulations were to be enforced in their entirety
- Describing how enforcement of the Forest Conservation Law and Regulations will deprive the landowner of rights commonly enjoyed by others in similar areas
- Verifying that State of Maryland water quality standards will not be violated and that a measurable degradation in water quality will not occur as a result of granting the variance
- Providing any other appropriate information that supports the request.

The above information must be included in written format in the preliminary FCP or provided with the FCP application as a separate narrative document.

For tree variance requests, in addition to the narrative, Montgomery Planning staff may require the applicant to submit a separate plan exhibit that shows the LOD, the location of variance trees and their CRZs, and the proposed activities. The narrative describes how the activity meets findings (1) through (4) listed in Section 4.3.3 below. A sample narrative is also shown in Section 4.3.3.

In addition, the preliminary FCP must include a table with the following information about each variance tree. Sample variance tree data tables are also shown in Section 4.3.3.

- Tree identification number corresponding to the plan drawing
- Tree species
- DBH
- General health per the approved NRI/FSD or updated with an explanation
- Proposed impact, quantified (e.g., the percentage of the CRZ that will be disturbed; the percentage of the crown that will be trimmed, pruned, or sheared)
- The reason for the proposed impact
- Whether the tree is proposed to be retained or removed
- 4.3.2 Referral to Other Agencies

The review of a variance may require referral to the County Arborist for a written recommendation after a FCP application with a variance request is accepted, and the Planning Director may send a copy of each variance request to any other appropriate agency for a written recommendation as well. The County Arborist is integrated into the review process for the application and provides comments to the applicant through the regulatory review process. The County Arborist's recommendations may be considered by the Planning Board or Planning Director, but they are not binding. If the County Arborist or any other agency fails to provide a written recommendation within 10 days after the referral, the recommendation is assumed to be favorable.

4.3.3 Review of the Variance Request

The review of a variance request is an integral part of the FCP review. A variance may only be granted if the Planning Board or Planning Director finds that enforcement would result in an unwarranted hardship for the applicant. A variance must not be granted if granting the request would result in any of the following:

- Will confer on the applicant a special privilege that would be denied to other applicants
- Is based on conditions or circumstances that result from the actions by the applicant
- Is based on a condition relating to land or building use, either permitted or nonconforming, on a neighboring property
- Will violate State water quality standards or cause measurable degradation in water quality.

One of the required findings for granting a variance is that the development application will be able to meet Maryland water quality standards and avoid a measurable degradation in water quality. In the accompanying narrative for the water quality finding, the applicant preparing the variance request may elaborate on how mitigation trees will replace the form and function of any impacted variance tree(s) or forest removed by reducing surface water runoff during storm events and aiding in water infiltration. Any additional features of the proposed development project, such as increased green space and/or reduced imperviousness, should also be noted in the narrative.

A variance is granted when the FCP is approved. If the necessary findings for a requested variance cannot be made, the variance cannot be granted, and in this case, the associated FCP cannot be approved as submitted. In some cases, the variance request may be partially denied, in which case the overall application is approved but certain impacts or removals to variance trees are not.

Sample Narrative Prepared by Applicant

Proposed activity: Updated apartment buildings, ADA improvements to parking lots and sidewalks, and necessary stormwater management treatment on a 9.5-acre high-density residential property. There is a 0.5-acre forest in a stream buffer on the subject property. The 0.5-acre forest is proposed to be removed, which results in a total afforestation/reforestation requirement of 1.93 acres if satisfied within the same watershed or priority area, or 2.18 acres if satisfied outside the same watershed or priority area. In addition, six trees protected under Section 22A-12 will be impacted or removed by the activity.

1. *Will not confer on the applicant a special privilege that would be denied to other applicants.* Older high-density residential communities need regular maintenance and typically contain trees protected under Section 22A-12 of the Forest Conservation Law. Most renovations of this kind on similar properties would require impacts and/or removals of such trees. Furthermore, design changes were made to avoid/minimize impacts where possible, appropriate stress reduction/tree protection measures will be implemented, and mitigation plantings for any removals is provided. Therefore, the granting of this variance would not be a special privilege that would be denied to other applicants.
2. *Is not based on conditions or circumstances that are the result of the actions by the applicant.* The requested variance is not based on conditions or circumstances that are the result of actions by the applicant. The requested variance is based on existing site conditions and the requirements to meet current development standards.
3. *Is not based on a condition relating to land or building use, either permitted or non-conforming, on a neighboring property.* The requested variance is a result of the existing conditions and the required improvements, and not a result of land or building use on a neighboring property.
4. *Will not violate State water quality standards or cause measurable degradation in water quality.* The variance will not violate State water quality standards or cause measurable degradation in water quality. The proposed activity will result in a net reduction in impervious surfaces that will be further offset by the necessary stormwater management improvements. The stormwater management improvements include installing bioretention facilities that will include mitigation plantings, resulting in an improvement in water quality.

Sample Variance Tree Impacts Table Prepared by Applicant								
Tree ID Number	**Tree Species**	**Size (DBH)**	**Overall Tree Health**	**% CRZ Impacted**	**Reason for CRZ Impact**	**Other Impacts**	**Reason for Other Impacts**	**Tree Retained or Removed**
9	Tulip Tree	32”	Good	2	Along edge of disturbance for septic field	None	Not Applicable	Retain
26	Northern Red Oak	32”	Good	3	Off site. CRZ impacted by new driveway			Retain
13	Tulip Tree	37.5”	Good	100	Within house footprint	NA	NA	Remove
15	Tulip Tree	39”	Good	42	Along LOD for proposed house location	Branch removals would result in lopsided canopy	NA	Remove
17	White Oak	47”	Poor, dead branches, struck by lightning	15	Near proposed driveway	Crown pruning	Removal of dead and diseased wood	Remove
18	White Oak	30”	Good	100	Within house footprint	NA	NA	Remove

4.3.4 Mitigation Plan

If a project's FCP proposes the unavoidable and necessary removal of one or more variance trees, a plan to mitigate that loss is a required component of the tree variance request. The minimum mitigation criteria for the loss of variance trees is as follows:

- Mitigation trees must be native to the Piedmont region of Maryland.
- For every 4 inches of DBH lost by the removal of a variance tree, the mitigation tree must equal at least 1 caliper inch, regardless of whether that tree is within or outside of a forest area.
- Mitigation for trees that are part of an historic site or associated with an historic structure is only required for the removal of trees located outside of forest.
- The preferred size of a mitigation tree is 3 caliper inches unless otherwise requested by Montgomery Planning staff. Larger stock trees may be necessary if the area of land that is available for planting is constrained.
- Mitigation trees must be planted on the project site in a location where they are not in danger of removal or significant impacts.
- Mitigation trees should be planted in locations where the natural spread of the tree canopies over time does not interfere with existing or proposed structures or with above-ground utilities. Mitigation plantings cannot occur within a Public Utility Easement, stormwater management easement, public right of way, parcel for a private street, septic reserve field, or other easement. Property owners are encouraged to plant the mitigation trees at least five feet away from these utilities, areas, and easements.
- Planting details for mitigation trees must be part of the final FCP, including provision of adequate soil volume (soils of at least 1,000 cubic feet in volume and four feet in depth).
- Financial security must be submitted for the mitigation trees before any land disturbance occurs.
- Mitigation trees do not need to be permanently protected by a conservation easement. However, mitigation trees may be planted within conservation easement areas if portions of the conservation easement are not required to be reforested by other requirements.
- Mitigation trees cannot be used to meet the forest conservation planting requirements established by the FCP worksheet.
- Mitigation trees cannot be used to meet the zoning ordinance requirements for parking lot coverage and/or screening.
- The planting plan for mitigation trees (i.e., planting details and list of trees to be planted, approximate location, and so on) must be included on the final FCP.

In certain instances, such as the proposed removal of a plant that is a federal or state rare, threatened, or endangered species, a mitigation plan that has been approved by Maryland Department of Natural Resources may be limited to the relocation of those species on the project site or at a protected off-site location. Such a protected area would need to have the same or very similar habitat conditions as the area in which the plant was originally established. The review of options to avoid or minimize impacts, or to identify an acceptable mitigation plan, should involve close coordination with those professionals who are knowledgeable in the life cycle and habitat requirements of the species of interest including staff biologists from the Maryland Department of Natural Resources Wildlife and Heritage Service and/or a hired qualified consultant. The property owner will need to confer with that agency, or other experts, for the appropriate means to protect or transplant the species.

If a project's FCP proposes the unavoidable and necessary disturbance of forest in a floodplain or stream buffer, a plan to reforest is a required component of the variance request. The applicant must:

- Reforest at a minimum ratio of 2:1 if the reforestation is occurring within the same eight-digit watershed as the project or a priority eight-digit watershed under Section 22A-12, or
- Reforest at a minimum ratio of 2½:1 if the reforestation is occurring within the County outside of the same eight-digit watershed as the project and outside of a priority eight-digit watershed.

4.4 MODIFICATIONS TO AN APPROVED VARIANCE

As previously mentioned, a variance request must be submitted and approved with the preliminary FCP. If a development application requires a two-step approval process such as typically found with a project subject to both a preliminary plan of subdivision and a site plan, a variance request must be submitted with the final FCP that modifies the previously approved variance. If a final FCP associated with a site plan proposes to modify the variance approved with the preliminary FCP, the applicant must submit the same information required under 4.2.2.1 of this manual, and new findings must be made for the new impacts. Additional mitigation may also be required.

In some circumstances, the proposed impact that has been granted to a tree or plant protected under Section 22A-12 of the Forest Conservation Law may change due to field conditions or modifications requested by the project applicant. Forest conservation inspectors do not have the authority to allow any additional impact to a tree or plant protected under Section 22A-12 of the Forest Conservation Law beyond what was approved by the Planning Board or Planning Director. Any proposal that would increase adverse impacts or now requires removal of the tree or plant requires an amendment to the final FCP. However, forest conservation inspectors can authorize a reduction to the approved impact to a tree or plant protected under Section 22A-12 of the Forest Conservation Law and change the protection mechanism described on the approved final FCP to provide improved protection for the tree or plant.

There are instances where a proposed disturbance or impact to a variance tree should be identified in the applicant's tree variance request as a worst-case scenario to avoid having to submit an amendment to the final FCP after approval. The final FCP and associated tree variance request may identify the variance tree as proposed for removal even if the proposed disturbance activity may not warrant the tree's removal. If measures will be taken to preserve the tree, they should be noted on the final FCP. This allows for slight adjustments of the LOD that may be approved in the field and may result in a change from high to low impacts to the variance tree.

For example, consider an approved final FCP and associated tree variance that shows approximately 40% of a healthy variance tree's CRZ to be cut for the installation of underground utilities. Although the proposed impact would not definitively require the tree's removal, the final FCP designates the tree for removal with a note that preservation may be possible. At the pre-construction meeting, the various utilities require greater separation from each other than initially expected to meet safety regulations. This adjustment results in underground utilities being moved closer to the variance tree, thereby increasing the impact to the variance tree. At the site, the forest conservation inspector determines that the impacts, combined with field conditions, are too great to retain the tree. Since the approved final FCP and associated tree variance already identifies the tree under its worst-case scenario as removed, no amendment to the final FCP is needed to implement the change. Whenever a variance is approved for such a situation, the applicant must provide mitigation for the potential loss of the variance tree if it is not already included as part of the required reforestation/afforestation requirements on the final FCP.

FOREST CONSERVATION PLAN EXEMPTIONS

Certain land disturbance activities and land development projects that are subject to the Forest Conservation Law are exempt from Article II of the Forest Conservation Law and are therefore not required to obtain approval of an FCP. If a property owner believes that their proposed activity meets requirements of one of the FCP exemptions listed under Section 22A-5 of the Forest Conservation Law, the property owner must submit an application to Montgomery Planning demonstrating that the activity meets the criteria of one of exemptions sought. The FCP exemption application is then reviewed and either confirmed or denied by Montgomery Planning staff. If confirmed by Montgomery Planning, the FCP exemption releases the property owner from requirements to prepare, submit, obtain approval for, and implement an FCP. A confirmed FCP exemption does not mean that the development project is exempt from all the requirements of the Forest Conservation Law; in addition to Article I, the project is still subject to Article III, including inspection and enforcement, and may have planting requirements depending on the criteria and requirements of the relevant FCP exemption.

A property that has an approved FCP is not eligible for an FCP exemption, as the property remains subject to Article II of the Forest Conservation Law because of the existing FCP. In this case, an amendment to the previously approved FCP may be required before any new disturbance occurs on the property.

If the property where a proposed activity will occur is subject to a Tree Save Plan (TSP) required by a previously confirmed FCP exemption, the applicant may need to submit a new FCP exemption application and revised TSP. The only exception to this requirement would be if the applicant is proposing only minor revisions that the Montgomery Planning forest conservation inspector approves in the field. If the proposed activity on the property with an existing TSP cannot meet the criteria of the new FCP exemption for which the applicant is applying, the applicant must prepare, submit, and obtain approval of an FCP (and a prerequisite NRI/FSD) prior to commencing the new development activity.

Many FCP exemptions require the land development project to avoid or minimize the removal of specimen or champion trees in order to receive confirmation of the FCP exemption. However, for FCP exemptions where removal of a specimen or champion tree is allowable and unavoidable, mitigation for the removal of those trees is required. For every four inches of trunk diameter (DBH) removed, one caliper inch must be replaced (see Section 22A-6 of the Forest Conservation Law).

5.1 CRITERIA TO QUALIFY FOR FCP EXEMPTIONS

The Forest Conservation Law identifies specific types of activities that may be exempt from submitting an FCP. For each of the activities listed below, specific criteria must be met to receive a confirmed FCP exemption; applicants should review the detailed requirements for each applicable FCP exemption activity below and in Section 22A-5 of the Forest Conservation Law.

5.1.1 (a) Single Lot

Certain land development activities on an existing, single lot of any size may qualify for an exemption from submitting an FCP. Section 22A-5(a) of the Forest Conservation Law establishes a number of criteria that applicants must meet in order to receive a confirmed (a) Single Lot FCP exemption. Applicants submitting a request for a single lot FCP exemption must document that the proposed activity:

- is required to construct a dwelling house or accessory structure, such as a pool, tennis court, or shed, intended for the use of the owner,
- does not require a special exception,
- does not occur within an environmental buffer except for the allowable uses stated in the Environmental Guidelines,
- does not result in the cutting, clearing or grading of:
    - more than a total of 20,000 square feet of forest
    - any forest in a stream buffer
    - any forest on a property located within a Special Protection Area (SPA)
    - any specimen or champion tree, or
    - any trees or forest subject to a previously approved FCP or TSP, and
- is subject to a Declaration of Intent (DOI) filed with the application stating that the lot will not be the subject of additional activities regulated by the Forest Conservation Law within five years of the cutting, clearing, or grading of forest.

A property that qualifies for this FCP exemption must be a recorded single lot or have achieved the status of a lot per the Montgomery County Subdivision Regulations (Chapter 50) and be able to receive a building permit. If subdivision is required as a prerequisite for obtaining a building permit for the property, the proposed activity on the property cannot qualify for the (a) Single Lot FCP exemption.

A parcel that has achieved the status of a lot and does not require any further subdivision to be able to obtain a building permit may also qualify for this FCP exemption if construction is for a single-family house or accessory structure. A letter from Montgomery Planning that verifies the property's exemption from platting may be required with the FCP exemption application.

This FCP exemption only covers the construction of a single-family dwelling or accessory structure such as a stand-alone garage, shed, pool, or tennis court. Activities such as grading, filling, or construction of retaining walls that are not associated with the initial construction of the single-family residence do not constitute accessory structures and the construction of those features would not qualify for the (a) Single Lot FCP exemption.

Applicants may still qualify for this FCP exemption if the activity meets all criteria except that it would result in the removal of a specimen or champion tree. In these instances, Section 22A-6 of the Forest Conservation Law applies and a TSP is required (see Section 5.2 below for details).

5.1.2 (b) Agricultural Activities

This FCP exemption applies only to farming activities conducted as part of a recognized commercial enterprise. These activities include plowing, tilling, and harvesting of crops for the production of food or fiber; the grazing and raising of livestock; aquaculture; sod production; orchards; and nurseries. An applicant may only be eligible for this FCP exemption if the activity is exempt from the requirement to obtain a sediment control permit.

The construction of agricultural support buildings does not require building permits and, therefore, may qualify for this FCP exemption.

As part of the FCP exemption applicant, the applicant must submit supporting documentation to confirm that the proposed activity meets the requirements of the exemption. Typically, the exemption application requires a Simplified NRI/FSD as a supporting document. Applicants should discuss with Montgomery Planning what additional supporting documentation is required. Applicants must also show that the agricultural support buildings and related activities are exempt from needing a building permit and will be built using best management practices. Typically, to meet this requirement, the applicant must provide a statement from the Montgomery County Department of Permitting Services confirming that the proposed activity is not subject to Chapter 19 of the Montgomery County Code (the Erosion, Sediment Control, and Stormwater Management Law), and a statement from the Maryland Department of Agriculture stating that all agricultural support buildings will be built using best management practices.

A Declaration of Intent (DOI) must be filed with the Planning Director by the property owner, stating that the property that receives this confirmed FCP exemption will stay in commercial agriculture for at least five years. The beginning of this five-year period is the date the DOI is signed. If any portion of the property that receives this confirmed FCP exemption do not stay in commercial agriculture during the period covered by the DOI, the owner of the property may be required to either submit an FCP or meet the forest conservation threshold established in the Forest Conservation Law and pay a noncompliance fee.

The (b) Agricultural Activities FCP exemption can be applied in three different scenarios:

1. When an existing commercial agricultural operation is proposing to remove more than 5,000 square feet of forest to expand their existing agricultural operations and there is no requirement to obtain a sediment control permit, nor is there a subdivision required.

   In this scenario, the property owner must:

   - Submit a plan drawing that shows the location and acreage of forest to be removed.
   - File a DOI with Montgomery Planning stating that the tract of land will not be subject to additional activities regulated under the Forest Conservation Law within five years of the cutting, clearing, or grading of forest.

2. The owner of a large agricultural property may propose a subdivision on part of the property. In this case, the property owner must:

   - Submit an application for a subdivision plan (defined in Chapter 50 of the Montgomery County code) to create a subdivision on part of the property. The proposal would result in the non-subdivided portion of the property remaining in commercial agriculture and not being platted. The non-platted portion of the property may still qualify for a FCP exemption, while the land proposed for subdivision would be subject to an FCP.
   - Delineate the portion of the property to remain in commercial agriculture on the FCP; this acreage would be deducted from the net tract area on the FCP worksheet.
   - Submit a DOI with Montgomery Planning at the time of FCP submission stating that the non-platted tract of land will not be subject to additional activities regulated under the Forest Conservation Law within five years of approval of the final FCP.

3. The owner of a large agriculture property may propose a subdivision on the entire property. In this case, the property owner must:

   - Submit an application for a subdivision plan to create a subdivision for the entire property. The portion of the property that would remain in commercial agriculture may qualify for FCP exemption and only the land used for residential uses (yards, septic fields, well arcs, houses, structures accessory to the residential use, driveways and all other impervious uses) would be subject to an FCP.
   - Delineate the portion of the property to remain in commercial agriculture on the FCP and the acreage deducted would be deducted from the net tract area on the FCP worksheet.

- Submit a DOI with Montgomery Planning at the time of FCP submission stating that the commercial agricultural lands will not be subject to additional activities regulated under the Forest Conservation Law within five years of recordation of the plat in the Montgomery County Land Records. Since the developer of the property would be unlikely to retain ownership of the newly created lots, the DOI must be recorded in the Montgomery County Land Records with a note that it will transfer to all assigns and heirs for five years after the start of construction on each of the newly created lots(s).

5.1.3 (c) Tree Nursery

This exemption applies to recognized commercial tree nursery enterprises and any activity necessary to operate a tree nursery, as long as the activity does not result in the cutting, clearing, or grading of forest. If, at any time, the nursery operation ceases and an application is made for a different regulated activity, the property owner will need to either apply for a different FCP exemption or submit an FCP application. In some cases, the area that encompasses abandoned nursery trees may have evolved into a vegetated area that meets the definition of forest, with plant communities, an understory, and a forest floor, and, thus, may be identified as forest on all plan drawings submitted for the proposed regulated activity.

5.1.4 (d) Commercial Logging and Timber Harvesting Operations

This FCP exemption applies to all commercial logging and timber harvesting operations on agricultural land. To receive a confirmed (d) Commercial Logging and Timber Harvesting Operations FCP exemption, the property owner must:

- Obtain approval from the County Arborist with the Montgomery County Department of Environmental Protection that the proposed logging or timber harvesting is consistent with Montgomery County's forest management objectives and is appropriate for the subject site. The County Arborist's approval must be submitted with the FCP exemption application.
- Apply for and obtain a sediment control permit from the Montgomery County Department of Permitting Services and post the required financial security per Chapter 19 of the County Code. The Montgomery County Department of Permitting Services must send a copy of the sediment control permit to Montgomery Planning, and the applicant must provide the approved sediment control permit with their FCP exemption application.
- File a DOI with Montgomery Planning stating that the tract of land will not be subject to additional activities regulated under the Forest Conservation Law within five years of the logging and timber harvesting operation.

The Planning Department review for the timber harvest FCP exemption application is limited to the determination of whether the proposed operation meets the three requirements listed above.

5.1.5 (e) State, County, or Local Highway Construction

5.1.5.1 State Highway Construction

New or expanded state roads are typically subject to the State of Maryland Forest Conservation Law, regulated by the Maryland Department of Natural Resources. Therefore, the construction and expansion of state roads are exempt from submitting an FCP under the Montgomery County Forest Conservation Law. In order to receive a confirmed FCP exemption in this case, applicants must submit to Montgomery Planning a letter signed by the Maryland Department of Natural Resources stating that the construction of the new or expanded road is subject to the Maryland Forest Conservation Law. This letter should include the project's name, plan number, location, and review timeline. Applicants may be required to submit a Mandatory Referral application to receive a confirmed (f) Government Projects FCP exemption (see Section 5.1.6 below).

5.1.5.2 County and Municipal Highway Construction

A Montgomery County or independent municipality road or bridge project that is covered by an approved Capital Improvements Program project may qualify for this FCP exemption. These projects may still be required to mitigate for the loss of forest or trees per Section 22A-9 of the Forest Conservation Law. County and municipal highway construction projects must minimize forest removal and loss of significant, specimen, or champion trees as much as possible. Per Section 22A-9 of the

Forest Conservation Law, if forest cleared equals or exceeds 20,000 square feet, reforestation is required at a rate of one acre reforested for every one acre removed. Standards for this reforestation and requirements for long-term protection are detailed in Section 22A-12 of the Forest Conservation Law. The inspection and enforcement provisions of Article III of the Forest Conservation Law apply to County and municipal highway construction project that are exempt from Article II of the Forest Conservation Law.

5.1.6 (f) Government Projects Reviewed by the Maryland Department of Natural Resources

State and federal projects subject to the Maryland Forest Conservation Law are exempt from submitting an FCP under the Montgomery County Forest Conservation Law. If a project spans both state and federal property, the project may be submitted for Montgomery Planning/Planning Board review and comment as a Mandatory Referral application, which includes a letter to Montgomery Planning that confirms that the portion of the proposed project on state property is subject to the Maryland Forest Conservation Act and the FCP will be reviewed by the Maryland Department of Natural Resources; therefore, the project is exempt from the FCP requirements of the Montgomery County Forest Conservation Law.

Examples of construction activities solely on state-owned land are projects in Seneca Creek State Park or the creation of commuter parking lots within a state-owned right-of-way. Projects initiated by the Washington Suburban Sanitary Commission (WSSC) also typically fall into this category. However, in some instances, Montgomery Planning may request permission from the Maryland Department of Natural Resources to review the project as an (f) Government Projects FCP exemption application because of the impact to local resources. In addition, if the proposed activity on WSSC property would impact trees or forest in a M-NCPPC-held forest conservation easement, WSSC must sign and comply with a Memorandum of Understanding (MOU) with M-NCPPC to protect the trees and forest within the easement.

Examples of federal projects that qualify for this FCP exemption include federal facility expansions on land owned by the federal government, such as the Chesapeake and Ohio National Historical Park, the National Institutes of Health, or the U.S. Food and Drug Administration's White Oak Campus. In cases such as these where the proposed activity would solely take place on federal property, there is no need for the applicant to submit an application for an FCP exemption for review by Montgomery Planning.

5.1.7 (g) Clearing of Access Roads and Routine Maintenance of Public Easements and Rights -of-Way

This FCP exemption includes clearing of forest to create access roads or to maintain public utility easements and rights-of-way.

Public utility easements and rights-of-way are typically maintained on a regular schedule. However, if the easement or right-of-way becomes overgrown with trees and other vegetation and the area meets the definition of forest, then clearing of the easement or right-of-way for routine maintenance is considered forest clearing. If more than 5,000 square feet of forest must be removed to create the access road or complete the maintenance or if the activity requires a sediment control permit, then the activity is subject to the Forest Conservation Law and may qualify for the (g) Clearing of Access Roads FCP exemption. However, if the activity requires less than 5,000 square feet of forest removal or is limited to the trimming of trees and if a sediment control permit is not required, the maintenance activity is not subject to the Forest Conservation Law and there is no need to submit an FCP exemption application.

5.1.8 (h) Utility or Other Work of an Emergency Nature

Primarily, the (h) Utility or Other Work FCP exemption is used to authorize urgent work that is necessary due to unforeseen circumstances including accidents and extreme weather events. If a utility company or department of transportation must conduct emergency work within a forested area to repair broken or damaged utilities or public infrastructure that have caused the loss of services to a community, authorized personnel must enter an area immediately in order to safely restore services. If more than 5,000 square feet of forest must be removed to address the emergency, the company responsible for the repairs must submit a (h) Utility or Other Work FCP exemption application after the emergency is addressed.

The following are examples of emergency projects that have submitted (h) Utility or Other Work FCP exemption applications after addressing the emergency at hand:

- A utility company removed forest to stop the spillage of raw sewage or to reconnect potable water lines.
- A company repaired retaining walls that had failed in a subdivision community.
- A construction company rebuilt a bridge after an extreme flood.

Any repair work scheduled in advance, such as to repair failing utilities as part of a Capital Improvements Program, is not considered work of an emergency nature, and such projects must comply with the requirement to submit an FCP if no FCP exemption applies.

5.1.9 (i) Noncoal Surface Mining

All mining activities regulated by the Environment Article of the Maryland code are eligible to receive a confirmed (i) Noncoal Surface Mining FCP exemption. However, any new land development application after mining operations cease, as well as removal of established mine buffers that are outside the maximum expansion limits of the mine, are not regulated by the Environment Article of the Maryland code and therefore will be required to submit an FCP.

5.1.10 (j) A Property That Received Approval of a Sediment Control Permit Before July 1, 1991, or Amended After That Date at the Initiation of the Permittee

Few properties will qualify for the (j) A Property That Received Approval FCP exemption because of the limited validity period for a sediment control permit and the many changes to sediment and erosion control requirements that have occurred since 1991. For a property to qualify for this FCP exemption, the property owner must submit documentation to Montgomery Planning sufficient to demonstrate that:

(1) a sediment control permit was issued for the proposed project on the property before July 1, 1991, or the original permit was issued before July 1, 1991 and amended after that date at the initiation of the permittee; and

(2) the new activity will not result in the cutting of more than 5,000 square feet of additional forest.

5.1.11 (k) Any Lot Covered by a Preliminary Plan of Subdivision or Site Plan Which Did Not Receive a Sediment Control Permit prior to July 1, 1991

As with the (j) A Property That Received Approval FCP exemption, few properties will qualify for the (k) Any Lot Covered FCP exemption because the applicant must demonstrate that the Preliminary Plan of Subdivision or Site Plan was either approved before July 1, 1984 and has less than 40,000 square feet of forest cover, or was approved or extended between July 1, 1984 and July 1, 1991. In addition, the applicant must demonstrate that the construction will not result in the cutting, clearing, or grading of any forest in a stream buffer or within an a Special Protection Area (SPA).

A Preliminary Plan of Subdivision or Site Plan approved before July 1, 1991, that is revised after that date that results in the cutting of more than 5,000 square feet of additional forest will not qualify for this FCP exemption. Development or redevelopment of property which requires subdivision will not qualify for this FCP exemption. This FCP exemption does not apply to a planned unit development.

5.1.12 (l) Any Planned Unit Development Approved by the District Council or for Which a Project Plan and Site Plan Approval was Obtained Before July 1, 1992 for the Tract

This FCP exemption is limited to only a few areas in Montgomery County, including Leisure World, Montgomery Village, and Churchill Town Sector.

Even if site plan approval was not obtained prior to July 1, 1992, the planned unit development may qualify for this exemption if it was 75% or more complete on January 1, 1992. This determination should be made by measuring the total acreage subject to the planned unit development that has received site plan approval.

If the planned unit development area, or a portion of the area, is subsequently rezoned, the property will not qualify for this FCP exemption when a new development application is submitted. The new development application may qualify for a different exemption from submitting a FCP or may be required to submit and implement an FCP.

All amendments to a development plan or project plan approved after January 1, 1992 would not qualify for this FCP exemption and must submit a FCP application if it results in the cutting of more than 5,000 additional square feet of forest.

5.1.13 (m) Real Estate Transfer

This exemption applies to the change in security, leasehold, or other legal or equitable interest in a portion or all of a lot or parcel. If there is no change in land use or no new development or redevelopment is proposed on the subject lot or parcel, this FCP exemption may apply to the property. Both the grantor and grantee must file a DOI. If an (m) Real Estate Transfer FCP exemption is confirmed but an application for a sediment control permit or a new development application is submitted during the validity period of the DOI, the confirmed FCP exemption is invalidated, and the property owner must submit and obtain approval of an NRI/FSD and FCP.

5.1.14 (n) Minor Subdivision

This FCP exemption applies to:

- a minor subdivision for the conversion of an outlot that was originally created because of inadequate or unavailable sewerage or water service to a lot; or
- a minor subdivision for the conversion of two or more properties into one single lot.

To receive a confirmed (n) Minor Subdivision FCP exemption, applicants must demonstrate that:

- the only development on the resulting single lot is a single-family dwelling or an accessory structure such as a swimming pool, tennis court, shed, or garage, or
- there is no proposed land disturbance.

If the only development on the resulting lot is a dwelling or accessory structure, the activity must not result in the cutting, clearing, or grading of any of the following in order to receive a confirmed FCP exemption:

- more than a total of 20,000 square feet of forest,
- any forest in a stream buffer,
- any forest on a property located within an SPA which must submit a water quality plan,
- any specimen or champion tree, or
- any tree or forest that is subject to the requirements of a previously approved FCP or TSP.

If there is no proposed land disturbance, a DOI must be filed stating that the lot will not be the subject of additional regulated activities under the Forest Conservation Law within five years of approval of the minor subdivision.

A parcel is not eligible for this FCP exemption, nor is a project that proposes to construct a structure other than a single-family residence or associated accessory structure.

5.1.15 (o) Cutting or Clearing of Public Utility Rights-of-Way or Land for Electric Generating Stations

Cutting or clearing of forest for public utility rights-of-way or electric generating stations that are licensed under the Public Utility Companies Article of the Maryland code is exempt from submitting a FCP if:

- the utility has obtained any required certificates of public convenience and necessity in accordance with Section 5-1604(f) of the Natural Resources Article of the Maryland code; and
- the cutting or clearing of forest is conducted in a method to minimize forest loss.

Electric generating stations, including solar farms, may qualify for this exemption if they have obtained their certificate of public convenience and necessity. In some cases, the installation of solar panels may qualify for the (t) Modification to Developed Property FCP exemption unless a developed property is already subject to an approved FCP; in this case, the applicant must submit a FCP amendment application.

5.1.16 (p) Construction of Public Utilities and Highways Not Exempt Under Section 22A-5(e) or 22A-5(o) of the Forest Conservation Law

Construction of public utilities or highways in utility rights-of-way are exempt from submitting an FCP. If the construction is not exempt under the (e) State, County, or Local Highway Construction or (o) Cutting or Clearing of Public Utility Rights-of-Way FCP exemptions, this FCP exemption may apply if the right-of-way existed prior to July 1, 1992. If the right-of-way was created after this date, this FCP exemption is not applicable. In addition to the right-of-way existing prior to July 1, 1992, to qualify for this FCP exemption, the construction must not result in clearing of:

- at least 20,000 square feet of forest,
- any forest in a stream buffer,
- any forest on a property in a Special Protection Area,
- any specimen or champion tree, or
- any forest subject to a previously approved FCP or TSP.

5.1.17 (q) Special Exception or Conditional Use Applications

A property subject to a special exception or conditional use application may qualify for a FCP exemption if any of the following criteria apply:

- the application is for an existing structure and the proposal will not result in clearing of any existing forest or trees,
- the application modifies an existing special exception use that was approved prior to July 1, 1991, and the revision does not result in clearing of more than a total of 5,000 additional square feet of forest or any specimen or champion tree, or
- the total disturbance area for the proposed special exception use, or conditional use, will not exceed a total of 5,000 square feet of forest or include any specimen or champion tree.

5.1.18 (r) An Equestrian Facility in an Agricultural Zone

An equestrian facility is exempt from submitting an FCP if the facility and buildings are located in an agricultural zone that is exempt from platting requirements and the buildings are constructed using best management practices. For construction of equestrian facilities, a sediment control permit may or may not be required. If the construction will remove any specimen or champion trees, a TSP must be submitted per Section 22A-6 of the Forest Conservation Law.

A development activity cannot qualify for this FCP exemption if any forest or tree preserved under a previously approved FCP or TSP would be cut, cleared, or graded. In these cases, a FCP amendment application must be submitted.

The (r) Equestrian Facility FCP exemption cannot be confirmed if:

- any forest was cleared as part of an agricultural activity within five years before the FCP exemption application is submitted for review,
- any forest or tree in a stream valley buffer would be cleared,
- the on-site forest that will be retained is less than 25% of the tract area or does not include all of the existing forest when the FCP exemption application is submitted for review (whichever is less), or
- more than 50% of the tract area is forest, and the amount of forest that will be retained is less than 50% of the net tract area.

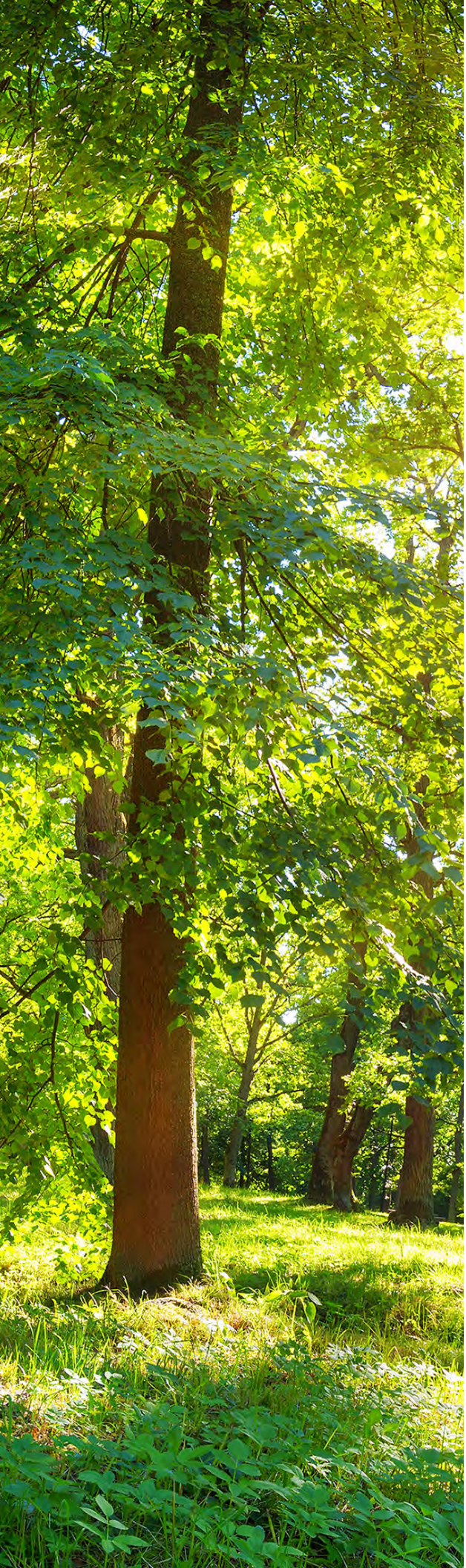
If any forest will be retained on the equestrian facility site, a conservation easement is not required to protect that forest, regardless of whether this construction activity is confirmed as a FCP exemption or is subject to an FCP. Another type of long-term protection agreement may be required to protect the retained forest.

5.1.19 (s) Small Property

A project on a small property may apply for the (s) Small Property FCP exemption if the applicant can demonstrate that the property and activity meets the following criteria:

(s)(1) The tract of land is less than 1.5 acres and is not located in a Commercial Residential (CR) zone; there is no existing forest, specimen tree, or champion tree on the property; development will not occur in an environmental buffer; and if the development were required to submit an FCP, the resulting afforestation requirement would not exceed 10,000 square feet.

Applicants should note that any existing forest, specimen trees, or champion trees on the property will preclude this exemption, even if the development activity would not impact these features.



(s)(2) The tract of land is less than 1 acre and is not located in the Commercial Residential (CR) zone; the proposed project would not result in the clearing of more than 20,000 square feet of existing forest or any existing specimen or champion trees; development will not occur in an environmental buffer; and if the development were required to submit an FCP; the resulting afforestation requirement would not exceed 10,000 square feet. In order to receive a confirmed (s)(2) FCP exemption, all forest in any on-site floodplains, stream buffers, steep slopes, critical habitats, and areas designated as priority save areas in a master plan or functional plan must be preserved.

Applicants should note that in order to receive a confirmed (s)(2) FCP exemption where the development activity requires removal of an existing specimen or champion tree, the FCP exemption can still be confirmed if the applicant submits a TSP per the requirements of Section 22A-6 of the Forest Conservation Law and provides mitigation, such as newly planted trees, to account for the loss of the specimen and/or champion tree.

5.1.20 (t) Modification to Existing Developed Property

This FCP exemption may apply to either a residential or non-residential property where development features exist and are to remain, and additional features are proposed.

(t)(1) non-residential developed properties can qualify for the (t)(1) FCP exemption if the application meets all of the following criteria:

- no more than 5,000 square feet of forest is ever cleared at one time or cumulatively after an exemption is confirmed,
- the modification does not result in the cutting, clearing, or grading of any forest in a stream buffer or forest located on property in a SPA which must submit a water quality plan,
- the development does not occur within an environmental buffer,
- the modification does not require approval of a preliminary plan of subdivision or administrative subdivision plan, or conditional use/ special exception,
- the modification does not increase the developed area by more than 50%, and the existing principal buildings, as defined in Chapter 59, are retained, and
- the pending development application does not propose any residential uses.

The (t)(1) FCP exemption is intended for development activities that occur on already developed non-residential properties, such as the building of a structure or a pad site in an existing retail mall parking lot or an addition to an existing building such as adding square footage or a loading dock to an existing warehouse.

(t)(2) residential developed properties can qualify for the (t)(2) FCP exemption if the application meets all of the following criteria:

- forest is not impacted or cleared,
- the development does not occur within an environmental buffer,
- the modification does not require approval of a preliminary plan of subdivision or administrative subdivision plan, or conditional use/special exception,
- the modification does not increase the developed area by more than 50%,
- the existing structure is not modified, and
- the pending development application does not propose any new buildings or parking facilities.

The (t)(2) FCP exemption could apply to a single recorded lot, a site that is part of a residential community that is commercially owned and operated, or common areas operated by a homeowner's association, such as a condominium complex. To qualify for the (t)(2) FCP exemption, the entity that owns the property must be requesting additions or changes that require only a sediment control permit. Examples of the types of projects that could receive a confirmed (t)(2) FCP exemption may include:

- grading on a single recorded lot where the property owner is not proposing any new buildings or parking facilities,
- retrofitting of an existing stormwater management facility or installation of a stormwater management structure for a residential community where none previously existed,
- resurfacing of the residential parking lot by the homeowner's association for a condominium complex, or
- a swimming pool.

5.1.21 (u) Maintenance or Retrofit Activities for an Existing Stormwater Management Facility

Any projects necessary to retrofit or maintain an existing stormwater management structure may qualify for a FCP exemption if:

- the tract on which the facility is located is not part of a previously approved FCP,
- any removal of trees and vegetation is for maintenance or retrofit of the facility, and
- any removal of trees and vegetation is within the original limits of disturbance (LOD) or within any maintenance easement currently used to access to the facility.

To qualify for this FCP exemption, the applicant must demonstrate that the activity meets the criteria listed above. However, if the activity proposes to remove or trim trees or vegetation in order to create new access to the facility outside of the original LOD, the activity will not qualify for this FCP exemption.

5.1.22 (v) Stream Restoration Projects

Stream restoration projects may qualify for this FCP exemption if the applicant demonstrates that the following criteria will be met:

- Every tree one inch caliper and greater that is within the proposed LOD must be replanted at a 1:1 ratio before the end of the first planting season after final stabilization; the location of these planting areas for the replacement trees must be shown on the planting plan that is required as part of the FCP exemption application. Each impacted tree must be documented on the NRI/FSD using the sampling method specified below and in Appendix G of this manual.
- A five-year binding maintenance agreement is required between the applicant and the affected property owners or M-NCPPC if the stream restoration project is being completed on the applicant's own property; a copy of this maintenance agreement must be submitted with the FCP exemption application. If an applicant is performing a stream restoration project on their own property, financial security is required.

To estimate the number of trees one inch caliper and larger on a tract, applicants should count the trees using sample plots and then extrapolate the results to the entire tract area. The most commonly used sampling methods, fixed plot and variable plot sampling, are explained in Appendix G. This technical manual does not require the use of one option over the other.

Plot sampling field data sheets must be submitted with the FCP exemption application. In addition, all sampling locations must be shown on the NRI/FSD and marked/flagged in the field by the applicant so they can be located by Montgomery Planning review staff.

If the sample plot methodology is not used, then all trees one inch caliper and greater within the proposed LOD must be counted, included on the field data sheet, and identified on the NRI/FSD.

5.1.23 (w) Cutting or Clearing of Trees by an Existing Airport

Existing airports operating with all applicable permits may qualify for a FCP exemption if the Federal Aviation Administration has determined that tree(s) or forest creates a hazard to aviation. Property owners wishing to apply for this exemption must include the Federal Aviation Administration's determination that tree(s) or forest are a hazard. If the tree(s) or forest is on adjoining property not owned by the applicant, the adjoining property owner must consent to the removal of the tree(s) or forest.

5.1.23 (x) Demolition of an Existing Structure

Any project that proposes to remove an existing structure and reduce impervious surfaces to plant trees and groundcover and return a site to its natural topography may qualify for the (x) Demolition of an Existing Structure FCP exemption. Applicants must demonstrate that there is no proposed future development, including no plans to use the property for a parking lot, material or equipment storage, or a recreational playing field; and that impervious surfaces will be substantially removed.

To qualify for this FCP exemption, applicants must submit a TSP showing that no forest or specimen trees will be removed, and including plans to plant all disturbed areas with trees and groundcover. A DOI must also be filed with Montgomery Planning stating that the property will not be the subject of additional development activities within five years of demolition of the existing structure.

5.2 EXCEPTIONS FOR FCP EXEMPTIONS THAT IMPACT SPECIMEN OR CHAMPION TREES

The criteria for certain exemptions identify that the regulated activity may not impact any specimen or champion tree unless a TSP is approved under Section 22A-6(a).

Applicants that are subject to the Forest Conservation Law solely because their activity requires a sediment control permit must submit the TSP with their FCP exemption application; in these cases Montgomery Planning staff review TSPs as part of the FCP exemption application review. For any other activity that triggers the Forest Conservation Law, the applicant must submit the TSP with the future development application.

The TSP must show mitigation for the specimen or champion trees to be removed by including replanting at a ratio of one caliper inch replaced for every four inches of trunk diameter removed, measured at 4.5 feet above the ground. If trees within a scenic buffer between public parkland and the proposed development are impacted, mitigation for trees smaller than specimen size may also be required.

For example, if an applicant is applying for the (s)(2) Small Property FCP exemption and can demonstrate that the activity qualifies for all criteria required for the FCP exemption except that the activity impacts a specimen tree on the property, the applicant can submit a TSP with their FCP exemption application that shows replanting to mitigate for the loss of the specimen tree, as outlined above. Montgomery Planning staff will review the TSP along with the other submittal requirements and may request additional mitigation if necessary. Section 5.4 below includes additional details about the requirements of TSPs.

5.3 TREE SAVE PLAN REQUIREMENTS

As discussed in section 5.2 above, a TSP is required to be submitted with an FCP exemption application in some cases. The applicant prepares and submits a TSP as part of the FCP exemption application that is reviewed by Montgomery Planning staff and approved by staff or the Planning Board as applicable. For some FCP exemption applications, the TSP may be reviewed and approved separately after the FCP exemption is confirmed. If the property that is exempt from submitting an FCP requires the approval of an administrative subdivision, preliminary plan of subdivision, site plan, mandatory referral, or conditional use, the TSP must be reviewed concurrently with the related plan. Activities on tracts of land that do not require one of the above-mentioned plan types, including applications for the (n) Minor Subdivision FCP exemption, are required to submit a TSP to be reviewed concurrently with the FCP exemption application.

An overview of the general steps for the preparation and implementation of a TSP is provided in Figure 11.

Figure 11: Overview of Steps for Preparing and Implementing a Tree Save Plan

1. Applicant prepares and submits a TSP as part of the FCP or FCP exemption application that is reviewed by Montgomery Planning staff and approved by staff or the Planning Board as applicable.
2. After all required plan/permitting approvals occur, preconstruction activities begin:
   a. Applicant stakes out LOD per approved FCP or FCP exemption plan.
   b. Applicant's team sets up pre-construction meeting with the Montgomery Planning forest conservation inspector and applicable sediment control inspector, along with the applicant's Maryland Licensed Tree Expert (LTE). Forest conservation inspector verifies that the staked LOD is acceptable.
   c. Applicant's team installs tree save measures and sediment and erosion control measures per approved plans (and/or as determined at the preconstruction meeting).
   d. Forest conservation inspector inspects installed measures and notifies applicant's team if all measures are acceptable.
   e. Once the applicant receives all required approvals from other agencies, including from the applicable sediment control inspector, the applicant proceeds with land-disturbing activities.
3. Construction phase begins with periodic inspections by the applicant's Maryland LTE and the forest conservation inspector.
4. Applicant requests post-construction inspections by forest conservation inspector. During these inspections, the forest conservation inspector inspects protected trees and forest areas. If these areas are in acceptable condition, the inspector authorizes the applicant to remove installed protection measures. If the protected areas are not in an acceptable condition, the inspector will require the applicant's team to install appropriate corrective measures.
5. The applicant's team plants any required mitigation plantings, trees, and/or forests and installs permanent protection measures, which the forest conservation inspector then inspects.

5.4 FCP EXEMPTIONS AND VARIANCE TREES

A development project that qualifies for an FCP exemption is not subject to Section 22A-12(b) of the Forest Conservation Law, which requires that certain trees or vegetation be retained unless it qualifies for a variance under Section 22A-21. Therefore, a project with a confirmed FCP exemption may involve impacts to or the removal of a variance tree under Article II of the Forest Conservation Law, as long as:

- the area where the tree is located is not part of a long-term protection agreement or an approved landscape plan,
- there is no new development activity proposed, such as an amendment to a previously approved subdivision plan or site plan, or there is no need to obtain a new sediment control permit, and
- the site where the tree is located is not subject to a DOI that prohibits a property owner from removing trees.

5.5 FCP EXEMPTION REQUEST SUBMISSION REQUIREMENTS

If a property owner believes that their development activity qualifies for one of the FCP exemptions discussed in Section 5.1, an FCP exemption application must be submitted and confirmed prior to submitting an application for the associated regulatory plan, if applicable. An application for an FCP exemption for a development activity that only requires a sediment control permit must be submitted and confirmed prior to approval of the sediment control permit.

All applicants for FCP exemptions must submit the following with their application:

1. Payment of the application fee: The applicant must first pay the FCP exemption application fee before the FCP exemption application can be accepted for review. The fee schedule that identifies the applicable fee is available on the Montgomery Planning website.
2. A completed NRI/FSD and FCP exemption form: The application must include a completed form providing detailed information about the property, applicant, and proposed activity. A blank copy of this form is available on the Montgomery Planning website.
3. NRI/FSD or Existing Conditions Plan: A Simplified NRI/FSD may be submitted if no forest removal is proposed. An Existing Conditions Plan can be submitted with permission from Montgomery Planning if there is no forest removal, no removal or impact to specimen or champion trees, and no impacts to environmentally sensitive land areas, including stream buffers and wetlands (Section 2.5 of this manual lists the requirements for Existing Conditions Plans). A Full NRI/FSD must be submitted if forest is proposed to be removed or if there are impacts to environmentally sensitive land areas. Chapter 2 of this manual outlines the requirements for Simplified NRI/FSDs, Full NRI/FSDs, and Existing Conditions Plans. The NRI/FSD or Existing Conditions Plan should include a statement that justifies the FCP exemption by explaining how the proposed activity meets all the criteria of the specific FCP exemption for which the applicant is applying.

Applicants may need to submit one or more of the following items with their FCP exemption application, depending on the unique requirements of the FCP exemption for which they are applying or the characteristics of the property or activity:

1. Development Plan: If development is proposed, the applicant must submit a drawing showing the proposed development; limits of disturbance; forest to be removed and retained; specimen and champion trees to be removed or retained; streams, wetlands, and their associated buffers; and all existing features, such as buildings, driveways, swimming pools, decks, sidewalks, stormwater management facilities, and utilities. The development plan may be combined with the NRI/FSD or Existing Conditions Plan for FCP exemption applications.
2. Letter of Authorization: If the applicant is not the property owner, a letter from the property owner that authorizes the applicant to undertake the proposed activity and submit the request for the FCP exemption must be included with the application.
3. Tree Save Plan: As outlined in Section 5.2 above, activities that require the removal of a specimen or champion tree can still qualify for certain FCP exemptions if the applicant submits a TSP.
4. DOI: If required by the specific FCP exemption type, the applicant must submit a DOI signed and dated by the applicant, which confirms that the proposed project meets certain requirements of the FCP exemption type for which the applicant is applying, such as that no additional development activities will take place on the tract for five years. The DOI must be notarized by a notary public and is valid for the term identified within the DOI. Some DOIs must be recorded in the Montgomery County Land Records to ensure that they transfer to future property owners. DOIs are required for the following four FCP exemption categories; Montgomery Planning provides standard templates for these DOIs at montgomeryplanning.org.
    - (a) Single Lot
    - (b) Agricultural Activities
    - (d) Commercial Logging and Timber Harvesting
    - (m) Real Estate Transfer
    - (n)(2) Minor Subdivision
    - (x) Demolition of an Existing Structure

5.6 FCP EXEMPTION VALIDITY PERIODS

Once an FCP exemption has been confirmed for a proposed project, the construction activities authorized to begin by the forest conservation inspector (after the preconstruction meeting and acceptance of tree protection measures) must start within five years from the date of the FCP exemption confirmation. If the confirmed FCP exemption pertains to a subdivision with a validity period of more than five years, the confirmed exemption does not expire until the end of the subdivision validity period. Once the authorized construction starts, the activity is exempt in perpetuity.

If an FCP exemption is invalidated because of inactivity, the property owner can submit a new FCP exemption application that must meet the Forest Conservation Law requirements in effect at that time.

If the activity that has received a confirmed FCP exemption is proposed to be changed, the changes must be reviewed by Montgomery Planning staff to determine whether the altered project would still qualify for the same FCP exemption as the original project. The following types of changes are examples of alterations that would require the submission of either a new FCP exemption application or an FCP application (if the changes disqualify the project from meeting FCP exemption criteria):

- Change in the LOD: Either a new application for an FCP exemption or application for a new NRI/FSD and new FCP must be submitted for review and approval. Minor changes in the LOD, where no additional forest is removed and no additional specimen or champion tree is impacted, may be approved as a field change by the forest conservation inspector on a case-by-case basis. However, significant changes to the LOD will require submission of a new FCP exemption, NRI/FSD, or FCP application.
- New/additional development activity or change in use: If a proposed activity receives a confirmed FCP exemption for a single lot and then the property owner wishes to or is required to submit a new application for the same property, such as those listed below, the new activity will need to have a new Forest Conservation Law finding. The new activity may still qualify for an FCP exemption, but if not, the applicant will be required to submit an application for an NRI/FSD and FCP. Examples of new applications that would require a new Forest Conservation Law finding include:
    - subdivision application
    - conditional use application

5.7 COUNTY HIGHWAY PROJECTS

County or municipal highway construction projects that are part of an approved Capital Improvements Project are exempt from Article II of the Forest Conservation Law but must comply with Section 22A-9 of the law. In all instances, these projects should minimize forest clearing and the removal of significant, specimen, and champion trees. If a highway construction project removes more than 20,000 square feet of forest, the constructing agency must provide mitigation at a 1:1 ratio (i.e., for each acre of forest removed one acre of forest must be planted). Ideally, the reforestation project should occur in the vicinity of the highway construction project. In certain instances, the reforestation can occur elsewhere but must follow the replanting requirements of Section 22A-12 of the Forest Conservation Law.

To receive a confirmed FCP exemption, the county or municipal highway constructing agency must submit a FCP exemption application, including obtaining approval of an NRI/FSD for the project area and 100 feet around the LOD, or the width of the adjoining property, whichever is less. In certain instances, such as sidewalk projects within existing County or municipally maintained rights-of-way, the LOD can be limited to the rights-of-way to be amended or constructed and adjacent existing features. After the FCP exemption application is approved, the constructing agency must submit a plan that conforms to Section 22A-9 of the Forest Conservation Law (22A-9 Plan) with their mandatory referral submission.

The 22A-9 plan must show:

- the location and area of any forest to be removed,
- the location and area of any forest to be preserved with a long-term protection agreement,
- how planting requirements will be met if more than 20,000 square feet of forest will be removed,
- mitigation for the removal of significant, specimen, and champion trees,
- tree protection methods, and
- appropriate inspection notes.

Government agencies are not required to submit financial security for mitigation planting that will be protected with a long-term protection agreement but must have a signed and approved maintenance and management agreement prior to starting any land-disturbing activities.

5.8 WHO MAY PREPARE AN APPLICATION TO REQUEST A FCP EXEMPTION?

If the applicant is required to submit an NRI/FSD or 22A-9 plan, the plan preparer must be a qualified professional as defined in Chapter 1. If the applicant has been granted permission by Montgomery Planning staff to submit an Existing Conditions Plan, any individual may prepare the plan, but it is strongly recommended that the plan preparer be a qualified professional so that the Existing Conditions Plan is accurate and complete.

CHAPTER 6

IMPLEMENTATION

6.1 INTRODUCTION

This chapter describes the necessary steps to implement an approved/certified FCP or TSP and also covers the agreements that must be executed to provide long-term protection of afforestation, reforestation, and tree protection areas.

There are five phases for implementing an approved FCP or TSP:

- Surety and Agreements: Any required forest conservation surety, maintenance and management agreements, and conservation easement agreements are reviewed, approved, and if necessary recorded during this phase.
- Pre-construction Phase: This phase covers the period after the approval/certification of the final FCP, or the TSP associated with an exemption from submitting an FCP, until the approval to begin project construction. Required forest conservation plantings may occur during this phase; this can be a requirement for plantings occurring in Special Protection Areas (SPAs). Stakeout of the project limits of disturbance and, if applicable, any conservation easement(s) occur at this time. Installation of permanent conservation easement fencing and markers are often required prior to any construction activity. In addition, any human-made debris or encroachments in new conservation easement areas that have not been approved on the FCP or TSP must be removed during this phase.
- Construction Phase: Land disturbance and construction of the project occurs in this period. Before construction begins, the forest conservation inspector must approve measures to protect and preserve existing trees and forest stands, and/or environmentally sensitive areas, in conformance with the approved plan. Most forest clearing, tree care work, and control of competing non-native invasive vegetation occur during this phase, along with some required forest conservation plantings.
- Project Completion Phase and Short-Term Maintenance: The applicant secures the forest conservation inspector's approval to removal any temporary tree protection fencing and completes any required post-construction stress reduction measures. Any outstanding forest conservation plantings occur in this phase. Any remaining permanent protection measures for protected areas, such as fences and/or signs, are installed. In accordance with the relevant maintenance and management agreement, the applicant should conduct necessary inspections of planted areas and implement a program to control non-native and invasive plants, adjust deer protection, conduct maintenance for planted trees, and protect trees from pests during this phase. The applicant also secures the forest conservation inspector's approval of any on-site forest or mitigation planting during this phase.
- Long-Term Management Phase: The property owner and any occupants take over the responsibilities from the project developer for the care and preservation of conservation easements and other protected areas, in conformance with the approved plan. This phase can begin any time after planting and usually begins after the end of the maintenance and management period for any tree/forest planting area, with the approval of the forest conservation inspector.

Figure 12 provides summaries of the required steps necessary to implement an approved FCP or TSP that was approved as part of a confirmed FCP exemption.

Figure 12. Phases of Implementing an Approved Final FCP or TSP

I. PRE-CONSTRUCTION PHASE – FCPs ONLY

1. If forest conservation easements are required:
   - ✓ Applicant prepares and submits forest conservation easement agreement to Montgomery Planning for review and approval.
   - ✓ Applicant records forest conservation easement in land records once approved.
2. If forest and/or tree plantings are required:
   - ✓ Applicant submits cost estimate to Montgomery Planning for review, including the costs for required plant materials and installation, maintenance, permanent conservation easement fencing and signage, and control of non-native and invasive plants if required.
   - ✓ Applicant submits financial security to Montgomery Planning for review and approval.
   - ✓ Applicant submits Maintenance and Management Agreement to Montgomery Planning for review and approval.
3. If FCP allows reforestation/afforestation requirements to be met via fee-in-lieu payment, applicant submits fee-in-lieu payment to Montgomery Planning, with the payment made to M-NCPPC.
4. If FCP allows reforestation/afforestation requirements to be met by purchasing forest mitigation bank credits, applicant works with a forest mitigation bank manager to submit a Certificate of Compliance for Montgomery Planning review and approval. Once approved, the forest mitigation bank manager records the Certificate of Compliance in the Montgomery County land records; this recordation must occur prior to the pre-construction meeting.

II. PRE-CONSTRUCTION PHASE: BEFORE LAND DISTURBANCE

1. Applicant stakes out limits of disturbance (LOD), per approved FCP or TSP, then requests pre-construction meeting with the Montgomery Planning forest conservation inspector. Attendees at the forest conservation pre-construction meeting are the property owner or owner's representative, the site contractors, the applicant's Maryland Licensed Tree Expert (LTE), the Department of Permitting Services sediment control inspector, and the forest conservation inspector.
2. Montgomery Planning forest conservation inspector accepts and schedules pre-construction meeting if the applicant has completed all steps listed above in Phase I, for FCPs.
3. At the pre-construction meeting, the forest conservation inspector:
   - ✓ Verifies staked LOD against the approved FCP or TSP.
   - ✓ Verifies that there are no conflicts between required plantings and sediment and erosion control measures or stormwater management measures.
   - ✓ Identifies selective clearing of any construction-impacted edge trees.
   - ✓ Verifies that tree protection measures are sufficient and requests any necessary modifications.
   - ✓ Makes field changes if field conditions do not match the certified FCP.
   - ✓ Authorizes applicant to install tree protection measures.
   - ✓ Conveys the responsibilities of all participants, consequences of violations, and the importance of all preservation areas.
4. Applicant requests that the forest conservation inspector inspect measures installed after pre-construction meeting. Forest conservation inspector accepts measures in writing if they conform with approved FCP or TSP, or new requirements from the pre-construction meeting.

III. CONSTRUCTION PHASE

1. Applicant must maintain tree protection fencing throughout the construction phase and immediately report any violations to protected areas to the forest conservation inspector.
2. Forest conservation inspector conducts periodic inspections to ensure ongoing compliance with the FCP or TSP.

IV. POST-CONSTRUCTION AND FINAL STABILIZATION

1. Applicant contacts the forest conservation inspector to request a post-construction inspection.
2. During post-construction inspection, forest conservation inspector:
   - ✓ Inspects protected trees and forest areas
   - ✓ Authorizes applicant to remove protection measures if protected areas are found to be acceptable and in accordance with the approved final FCP or TSP or requires the applicant to implement corrective measures.
3. Applicant implements corrective measures as directed by the forest conservation inspector, then requests another post-construction inspection.
4. Forest conservation inspector approves corrected measures and directs the applicant to remove any remaining temporary protection measures.

IV. PROJECT COMPLETION PHASE: TREE AND FOREST PLANTING AND MAINTENANCE

Tree and Forest Planting

1. Applicant schedules pre-planting meeting with forest conservation inspector. A stakeout of the boundary of the forest planting area may be required. The property owner/owner's representative, the landscaper (if applicable), and the forest conservation inspector must attend this meeting. Any species substitutions, sizes, quantities, and planting locations are proposed, reviewed, and approved by the forest conservation inspector prior to planting. Any remaining site preparation, including stakeout of individual planting locations, pre-planting herbicide treatments, or mechanical treatments, are discussed.
2. The forest conservation inspector may require an on-site review of the planting material required by the approved final FCP or TSP prior to planting occurring. The inspector accepts or rejects the planting material.
3. Applicant:
   - ✓ Plants required trees and forest per the planting plan from the approved final FCP or TSP. Planting must occur during this phase and no later than final stabilization, when all soil-disturbing activities conclude.
   - ✓ Installs protection measures, including deer protection, staking, mulching, permanent signage, and fencing per approved final FCP or TSP.
   - ✓ Schedules post-planting meeting with the forest conservation inspector.
4. Forest conservation inspector reviews plantings and protection measures and either requests corrections or authorizes the maintenance and management period to begin.

Maintenance and Management Period

1. Applicant maintains planted areas and trees for the entire length of the maintenance period.
   - ✓ Pursuant to a signed Maintenance and Management Agreement, the applicant is required to submit semi-annual reports to the forest conservation inspector about the planting maintenance done to sustain the planting.
     a. The forest conservation inspector often visits forest planting every six months to verify if the applicant is completing maintenance.
   - ✓ The applicant should meet with the forest conservation inspector at least one a year during the maintenance period. The forest conservation inspector checks tree and shrub survival rates and checks that non-native invasive plants are controlled, if required. The forest conservation inspector requests additional maintenance activities as needed for the remainder of the maintenance and management period.
   - ✓ Three years after the start date of the maintenance and management period, the applicant may request the final inspection if the applicant feels that all requirements of the maintenance and management agreement and final FCP or TSP have been met (unless the project site is located in a SPA). Otherwise, the applicant requests the final inspection at the end of the maintenance and management period.
   - ✓ The forest conservation inspector checks planted areas to ensure that any required non-native invasive plant control has been completed successfully, that planted trees and forest meet survivability rates required by the Forest Conservation Regulations, and that permanent protections have been installed. For FCPs, if all requirements of the maintenance and management agreement have been met, the forest conservation inspector authorizes the release of financial security, ending the maintenance and management period.

V. LONG-TERM MAINTENANCE

1. For forest conservation easements, the property owner and tenants are responsible for knowing the location, requirements, and permitted and prohibited activities of all easements and protected areas per the approved final FCP and as recorded in land records. Property owners and tenants manage and steward all protected areas on the property within the terms of the forest conservation easement.
2. For trees planted as part of a TSP, property owners and tenants become stewards for the planted trees by watering, mulching, adjusting, and/or removing (where and when applicable) protective fencing and pruning as needed.
3. The forest conservation inspector is available as needed to meet with property owners and tenants to advise on maintenance tasks to be done to sustain the plantings or existing forest. The forest conservation inspector also periodically conducts reviews and field visits to assess compliance with the terms of all forest conservation easements and protected areas.

6.2. PRE-CONSTRUCTION PHASE

The pre-construction phase of a land development project covers the time after the FCP or TSP is approved or certified, and before the start of clearing and grading. During this phase, the initial steps of an approved FCP or TSP are implemented, and approved measures are put in place by the applicant's team.

6.2.1. LONG-TERM PROTECTION

6.2.1.1 Forest Conservation Easements

As described in Chapter 3 of this manual, if a development project is subject to an FCP and includes site features identified for permanent protection, a conservation easement must be placed over those resources. The FCP identifies the location where conservation easements must be recorded in land records to protect these resources.

After approval or certification of an FCP and before requesting a pre-construction meeting on the project site, the applicant must prepare and submit legal documents to provide long-term protection of all areas identified on the approved FCP as conservation easements. These documents must be in a form that is acceptable to the M-NCPPC Office of the General Counsel; forest conservation easement templates are provided for applicants' use on the Montgomery Planning website. After the documents are approved, signed, and notarized, the applicant must record the documents in the Montgomery County Land Records. If a record plat is required for the development application, the conservation easements must be shown on the plat and the easement agreement including the metes and bounds of the easement must be referenced on the plat.

There are two standard types of forest conservation easements, as outlined below. However, the terms of each forest conservation easement may vary from these general descriptions; refer to the language of each recorded easement for prohibited and allowable uses for each specific easement area.

- **A Category I Forest Conservation Easement** is for the perpetual protection of existing and future forest, including forest retention areas, reforestation areas, and afforestation areas. A Category I easement may also be placed over environmentally sensitive areas, such as stream buffers, wetlands, and floodplains, even if no forest exists in these areas. Category I easements generally prohibit clearing of vegetation, construction or grading, and any dumping of trash and other non-biodegradable materials. Trees or tree limbs may be removed to prevent possible property damage or personal injury, but only after reasonable notice is given to the Planning Director. Category I easements do not prohibit entry into the easement nor create a right of public entry to the area; property owners may access easement areas for maintenance and stewardship purposes aligned with the terms of the recorded easement.
- **A Category II Forest Conservation Easement/Tree Save Easement** is typically placed over an area with trees preserved as part of a TSP or landscape areas that receive forest conservation credit. A Category II easement may protect areas with significant or specimen trees, landscape screening or buffers, and/or credited plantings. In a Category II easement, trees over 6 inches DBH or 30 feet tall may not be removed without prior written authorization from the Planning Director. Activities such as mowing and clearing of understory are allowed, provided that these activities do not damage or kill the trees covered by the easement. Similar to Category I Forest Conservation Easements, activities including construction, paving, and grading of land are prohibited, and property owners are allowed access for maintenance and stewardship purposes.

6.2.1.2 Long-Term Protection In M-NCPPC Parkland

For a project that is located on M-NCPPC parkland, a forest conservation easement cannot be placed over areas requiring permanent protection, as M-NCPPC would be both the grantor and grantee of the easement. Instead, in these scenarios, the requirement for long-term protection of these areas is met by the stewardship practices of Montgomery Parks to keep the areas protected and undeveloped.

If a development project involves the creation of parkland that is to be dedicated to M-NCPPC at a later date, any areas requiring forest retention or forest planting may be required to be protected through a modified Category I easement until Montgomery Parks accepts the dedication. The modified Category I easement will include language that notes that the easement is automatically extinguished at the time Montgomery Parks takes ownership of the area.

6.2.2 FINANCIAL SECURITY

The financial security must be submitted to Montgomery Planning and approved by Planning staff and the M-NCPPC Office of the General Counsel before the record plat is recorded and prior to the applicant scheduling a pre-construction meeting with the forest conservation inspector.

6.2.2.1 Forms of Financial Security

The following forms of financial security are acceptable:

- Cash payable by check to the Maryland-National Capital Park and Planning Commission
- Irrevocable letter of credit from a financial institution authorized to conduct business in the state of Maryland
- Performance bond from a financial institution authorized to conduct business in the state of Maryland

Financial security must last for a minimum of five years but may be reduced to three years upon request if the forest conservation inspector finds that the binding maintenance agreement has been fulfilled, unless the forest conservation plan is in an SPA. A certificate of guarantee or a surety bond may be used as an alternative security measure if approved by Montgomery Planning and its legal cousel. The bond must be made payable to M-NCPPC and the Montgomery County Planning Department.

The financial security must be issued by a financial institution authorized to do business in Maryland. The letter of credit should expressly state that the total sum is guaranteed to be available and payable directly to M-NCPPC on demand in the event of forfeiture. Government projects are exempt from providing financial security.

6.2.2.2 Amount and Conditions

The amount of the financial security must be equal to the fee-in-lieu rate that is effective at the time of the proposed land disturbance or be based on the estimated cost of the afforestation/reforestation and maintenance, which must be approved by Montgomery Planning staff before the applicant submits the financial security. When appropriate, the amount of the financial security may be adjusted according to the actual cost of afforestation/reforestation and maintenance if justification is provided by the applicant.

The estimate must include all costs associated with required planting and maintenance, including unit and labor costs for:

- Trees and shrubs to be planted
- Site preparation work
- Installation of the plantings
- Deer protection measures
- Permanent and temporary fencing
- Forest conservation easement markers
- Periodic watering, mulching, and pruning of the plantings for the entire length of the maintenance and management period, and
- Non-native invasive plant and pest management control throughout the entire maintenance and management period.

Once approved, the cost estimate becomes an exhibit to the Maintenance and Management Agreement.

Once approved by Montgomery Planning, financial security must continue until all planting, maintenance, and plan implementation requirements are fulfilled to the satisfaction of the forest conservation inspector. Failure to maintain the financial security during this time period may result in enforcement actions, including but not limited to the issuance of a stop work order and/or civil administrative citation and associated fine.

6.2.2.3 Release

The financial security must remain in effect until planting and maintenance requirements have been fulfilled to the satisfaction of Montgomery Planning, or until the fee-in-lieu fee has been paid to the forest conservation fund. A surety bond or other alternative form of security may not be canceled by the surety, bank, or other issuing entity unless both of the following conditions are satisfied:

- The surety notifies the Planning Director and the applicant of its intent to cancel the bond, in writing, by registered mail, not less than 90 days before cancellation.
- At least 45 days before the cancellation date indicated in the notice, the applicant files a commitment from a surety, bank, or other issuing entity to provide a substitute security which will be effective on the cancellation date indicated in the notice.

6.2.2.4 Partial Release

After planting has been completed and the planting is accepted by the Montgomery Planning forest conservation inspector, the planted area may qualify for a partial reduction of up to half of the financial security. The applicant must request the partial reduction in order for the forest conservation inspector to determine if the requested reduction will be approved. The forest conservation inspector may authorize a reduction in the financial security after an initial inspection of the planting is completed and accepted. If there are a high concentration of non-native and invasive plants or signs of deer predation in adjoining forests, the forest conservation inspector may determine that a reduction is not warranted. Acceptance of the plantings by the forest conservation inspector starts the required maintenance and management period.

If the forest conservation inspector approves a partial reduction of a financial security, the applicant may post a new financial security or amend the existing one. Once a new financial security is submitted and approved by the Montgomery Planning and the M-NCPPC Office of the General Counsel, the original financial security is returned to the applicant, who can then return it to the appropriate financial institution. If an applicant submits an amendment or rider to a financial instrument, the original financial instrument is retained by Montgomery Planning Department.

6.2.2.5 Full Release

The financial security instrument is fully released at the end of the maintenance period and after the forest conservation inspector has determined that all requirements of the approved FCP are satisfactorily met. At that time, written notice will be provided from Montgomery Planning to the applicant, and Montgomery Planning will return the original financial security instrument to the applicant. If, at an earlier point in the project, the applicant was authorized to reduce the original financial security amount and an amendment/rider was submitted to the original performance bond or letter of credit, the amendment and the original financial security instrument will be released together. If the financial security is an irrevocable letter of credit, Montgomery Planning staff return it to the financial institution. If the financial security is a performance bond, Montgomery Planning staff return the security to the property owner. If Montgomery Planning staff fail to send written notice within 60 days after the end of the monitoring and maintenance period, the financial security shall be automatically released.

6.2.2.6 Forfeiture

If the applicant's project manager does not start planting within one year after final stabilization of the project site, or if they have entered into bankruptcy, Montgomery Planning can start the process for forfeiture. Montgomery Planning can either require the financial institution to undertake the requirements of the FCP, as stipulated in the financial agreement or receive payment from the financial institution for the full amount of the financial security instrument. Prior to contacting the financial institution, Montgomery Planning will contact the applicant to allow them 30 days to show why the financial security should not be forfeited by either fulfilling the plan requirements or submitting a schedule that covers the complete implementation of all plan requirements. If there is no response from the applicant within the 30 day period or the applicant fails to show why the financial security should not be forfeited, then Montgomery Planning will contact the financial institution for forfeiture.

6.2.3 MAINTENANCE AND MANAGEMENT AGREEMENT FOR PLANTINGS

As discussed in Chapter 3 of this manual, all planted forest and existing forest to be protected on private property require a maintenance and management agreement with the applicant and Montgomery Planning, which identifies the general maintenance and management requirements for the applicant.

The applicant's maintenance and management agreement must be approved and accepted by Montgomery Planning and the M-NCPPC Office of the General Counsel prior to the applicant scheduling a pre-construction meeting. The effective period of the maintenance and management agreement begins when the forest conservation inspector accepts the plantings and protection measures and ends after the final warranty inspection when the forest conservation inspector indicates in writing that the planting has reached required survival rates and the invasives control program has been appropriately fulfilled.

6.2.4 FEE-IN-LIEU PAYMENTS

A fee-in-lieu payment may be made to meet the FCP afforestation/reforestation requirement if any of the following conditions is true:

- The applicant cannot reasonably meet the requirement through on-site or off-site forest planting; and
- The applicant cannot satisfy all forest mitigation with purchasing credits at a planted forest bank or existing forest bank.

A fee-in-lieu may also be approved as part of the Final FCP, even if forest mitigation bank options exist, when the forest mitigation requirement is less than 0.5 acres.

Fee-in-lieu payments are contributions to the Montgomery County Forest Conservation Fund, which is utilized by Montgomery Planning staff to implement the tree and forest planting programs of Reforest Montgomery.

Where required, the applicant must make the fee-in-lieu payment to Montgomery Planning before a pre-construction meeting with the forest conservation inspector can be scheduled. The fee-in-lieu rate is set by the Montgomery County Planning Board per Montgomery County Council resolution, and the applicant must pay the rate that is effective at the time the payment is made rather than the rate that was effective at the time the FCP was approved. The fee-in-lieu rate can be calculated by multiplying the acreage of the forest mitigation requirement (as shown on the certified plans) by the current fee-in-lieu rate, which can be found on the Montgomery Planning website.

6.2.5 FOREST MITIGATION BANK CREDITS

If an applicant has a forest mitigation requirement that cannot be met through on-site or off-site forest planting, the applicant may work with the operator of an approved forest mitigation bank to acquire the necessary forest mitigation credits. Chapter 9 of this document goes into greater detail about how landowners can create forest mitigation banks and how applicants may purchase credits from an approved forest mitigation bank with available credits. A list of approved forest mitigation banks with available credit and contact information for each bank operator can be found on the Montgomery Planning website.

In order to complete the purchase of forest mitigation bank credits, the forest mitigation bank operator provides applicants with a Certificate of Compliance (COC) to complete. The COC is then submitted to Montgomery Planning for review, signature, and notarization. Once approved and recorded by the applicant in the Montgomery County Land Records, this COC confirms that the off-site forest mitigation requirement for the project has been met.

6.2.6 PRE-CONSTRUCTION MEETING

Prior to any land disturbance occurring on a project site that is subject to an FCP or confirmed FCP exemption, the applicant must request a pre-construction meeting with the Montgomery Planning forest conservation inspector. Before the pre-construction meeting occurs, all prerequisites must be addressed by the applicant, including (but not limited to) the forest conservation easement recorded, the maintenance and management agreement approved and signed, financial security posted, fee-in-lieu paid if required, and COC for purchasing forest mitigation bank credits recorded if required. The applicant must also have the limits of disturbance (LOD) staked by a professional surveyor

prior to the pre-construction meeting. If the LOD has not been staked, the applicant will need to reschedule the pre-construction meeting. It is the responsibility of the applicant to ensure that all necessary representatives listed below are in attendance at the pre-construction meeting:

- The Montgomery Planning forest conservation inspector
- The Montgomery County Department of Permitting Services (DPS) sediment control inspector
- The property owner or their representative, which can be the applicant's project manager
- The foreman or superintendent in charge of land-disturbing, clearing, sediment control, and grading work
- The Maryland LTE who is contracted by the applicant and who will perform any mitigation work on retained trees and forest. (All tree care professionals practicing in Maryland must be Maryland LTEs. The Maryland Department of Natural Resources provides more information about Maryland LTEs on its website.)
- The M-NCPPC parks inspector, if the project is encroaching onto, or adjacent to, existing M-NCPPC parkland, or if the project includes the dedication of land as M-NCPPC parkland.

As shown in Exhibit XX, at the pre-construction meeting, the forest conservation inspector will walk the LOD with the meeting attendees to confirm that it has been staked per the approved FCP or TSP and review all tree protection measures shown on the approved FCP or TSP. If there are discrepancies between the approved plan and field conditions, the forest conservation inspector can request additional tree protection and can, in limited instances and with concurrence from the sediment control inspector, change the LOD to reflect field conditions.

The forest conservation inspector can only authorize an enlarged LOD as a field change if there are no additional impacts to forest or variance trees compared with the approved plan. The forest conservation inspector cannot authorize an enlarged LOD as a field change if it results in more forest removal than shown on the approved plan or if it would result in additional impacts to variance trees. If changes to the proposed LOD are deemed necessary in the field and would impact additional forest and/or variance trees, the applicant's team must amend the approved FCP or TSP. As with the original approved FCP or TSP, the FCP or TSP amendment must be reviewed and approved by Montgomery Planning staff or the Planning Board before the pre-construction meeting can be rescheduled.

Examples of acceptable LOD field changes could include the following:

- The LOD on the approved FCP includes the connection of utilities from the public utility easement to a proposed house. The locations of these utilities, and the associated LOD, can be changed in the field with authorization from the forest conservation inspector if the changes do not result in additional impacts to forest, variance trees, or other features where distance needs to be maintained, such as a historic feature, utility, or other protected area not shown on the plan.
- The forest conservation inspector may determine that areas not identified on the FCP or TSP require tree protection fencing or root pruning, and the LOD may need to be adjusted accordingly. Alternatively, the forest conservation inspector may determine that tree protection fencing or root pruning shown on the FCP or TSP may not be necessary; in this case, the LOD encompassing this work may change.
- The forest conservation inspector may approve adjusting the LOD to accommodate changes in construction access points or access roads if the changes do not result in additional impacts to forest, variance trees, or other areas shown as protected on the plan.

Once the pre-construction meeting is completed, the forest conservation inspector authorizes the applicant's project manager to install the tree protection measures per the approved plan and any changes the forest conservation inspector has required or approved during the pre-construction meeting. The applicant must request a second inspection by the forest conservation inspector after all tree protection measures are installed. If the applicant has installed all tree protection measures per the approved plan and as approved or required by the forest conservation inspector, the site will pass inspection.

Both the forest conservation inspector and the sediment control inspector issue the final authorization for land disturbance to commence.

If land disturbance occurs prior to approval of all required tree protection measures, stress reduction measures, and any other required changes, the applicant is in violation of the approved FCP or TSP. In this case, the forest conservation inspector will require the applicant to complete corrective actions to remediate the violation as applicable. The forest conservation inspector may also issue a stop-work order that covers the entire project until all appropriate stress reduction and tree protection measures are installed and inspected. If the unauthorized land disturbance impacted any protected areas or trees, Montgomery Planning staff may require a FCP amendment before work can continue.

6.2.6.1 Selective Clearing of Individual and Edge Trees

Trees along the edge of a forest retention area and individual stand-alone trees that require protection per a FCP or TSP are often subject to various stresses during land disturbance activities. Off-site trees with a critical root zone (CRZ) at least partially within the LOD could also be stressed. All these trees must be evaluated by the applicant's Maryland LTE in coordination with the forest conservation inspector to determine the extent and type of impacts during project construction, and the measures that must be applied to reduce impacts and preserve the affected trees.

The forest conservation inspector can authorize the selective removal of trees located along the edge of a forest retention area at any point during the pre-construction and construction phases. Typical reasons that these trees may be authorized to be removed include:

- The tree was mis-located on the approved plan and is closer to the LOD than shown on the plan.
- The tree condition has significantly declined since the time of plan approval.
- There would be large and irreversible impacts to the tree's CRZ that would weaken the structural integrity of the tree.
- The tree is in a hazardous condition and is an imminent threat to construction personnel.

If the forest conservation inspector has authorized the removal of trees that are located within a forest conservation easement or outside of the LOD, the inspector can require mitigation planting. The intention of mitigation planting is to recreate the same habitat conditions in time as a scenario in which no trees were removed.

6.2.6.2 Stress Reduction Measures

Stress reduction measures are identified on the approved, or certified, final FCP or TSP. At the pre-construction meeting, the Forest Conservation Inspector can modify or replace any of the stress reduction measures shown on the approved, or certified, final FCP or TSP. Such changes to these measures are usually directed by the inspector because the inspector determines that site-specific conditions warrant the changes. The modified or new measures are expected to provide better outcomes with respect to tree protection than those included in the approved, or certified, final FCP or TSP.

6.2.7 INSTALLATION OF PROTECTION DEVICES

Temporary short-term tree protection measures and permanent long-term tree protection measures are installed at different points during implementation of the final FCP or TSP. Tree protection devices should be located during the field surveys that are conducted as part of plan implementation. Short-term tree protection measures must be installed after the pre-construction meeting but before the forest conservation inspector authorizes land disturbance activities to proceed.

Permanent long-term tree protection measures are typically installed after construction is completed. These permanent protection devices, such as split rail fencing, replace the temporary short-term tree protection measures that were in place during construction; the locations of the long-term tree protection measures must be approved by the forest conservation inspector before and after installation. As with stress reduction measures, the locations of tree protection devices are specified on the final FCP or TSP, but modification to these locations can be made by the forest conservation inspector at the pre-construction meeting.

6.3 CONSTRUCTION PHASE

Throughout the construction phase, the forest conservation inspector performs periodic inspections to ensure compliance with the approved FCP or TSP. These inspections typically take place during and just after any clearing or land disturbance has occurred, after major storm events, during and after required tree plantings, and in response to complaints from neighbors or other interested individuals.

During this phase, the forest conservation inspector checks for the following on site:

- Tree protection fencing is unaltered and standing.
- No equipment, topsoil, or materials are stored within any of the tree protection areas.
- Land disturbance is occurring only in those parts of the project site that are approved for clearing and grading.

Construction activities cannot take place in a designated forest retention or protected environmentally sensitive area. Any activity not included on the approved final FCP or TSP is prohibited within protected areas.

If the forest conservation inspector finds that the project site is not in compliance with the approved FCP or TSP, including any field changes authorized by the forest conservation inspector, the forest conservation inspector can issue a Notice of Violation or an Administrative Citation and require:

- Damaged tree protection measures to be repaired.
- Additional tree protection measures to be installed.
- An arborist to assess damaged trees and provide appropriate tree care to treat damaged trees.
- Other corrective actions, including plan amendments, mitigation, stabilizing disturbed areas, and non-compliance penalties, as stipulated in the Forest Conservation Law.

If the forest conservation inspector finds that the project site is not in compliance, the forest conservation inspector will provide written notice of violation and/or the Administrative Citation to the property owner or agent, who must bring the project site into compliance in a timely manner as stated on the notice. Recommendations from a Certified Arborist or Maryland LTE may be required if the inspector determines that it is necessary. Failure to respond appropriately to the forest conservation inspector's written notice will result in an Administrative Citation that can accrue daily and additional enforcement actions, including a stop-work order, which will in effect stop all activities in the development area until the site is in compliance.

Unauthorized activities that can occur during the construction phase and that may result in a non-compliant status include, but are not limited to, the following:

- Dead or dying hazardous trees or tree limbs not removed from the project site in a timely manner as specified in the approved plan.
- Damaged tree or forest protection barriers not repaired or removed in a timely manner.
- Storage of materials, stockpiles, trash/debris, or vehicles in designated protected areas.
- Excessive flooding or siltation of protected areas due to construction activities.
- Excessive clearing of existing forest or protected areas not allowed by the approved plan or authorized by the forest conservation inspector.

6.4 PROJECT COMPLETION PHASE

6.4.1 CORRECTIVE MEASURES

At the end of construction and after final stabilization occurs, the applicant's project manager must contact the forest conservation inspector for a final inspection before removing any tree protection measures. At this time, the forest conservation inspector may require that a Certified Arborist or a Maryland LTE provide an evaluation of trees that remain on or near the project site and provide any recommendations for corrective actions. All tree removal, pruning, or tree care work must be performed by a Maryland LTE. The forest conservation inspector can also require measures that include, but are not limited to, the following:

- Removal of dead or dying trees that are hazardous. This may include trees that have been in a forest setting, but, due to approved clearing and grading, are now subject to edge effects. (If dead or dying trees are within a protected forest stand and do not pose a danger to construction workers or future residents or users who may enter the property, such trees should be left in place to provide micro-habitats for forest plants and wildlife.)
- Pruning of dead or dying limbs of protected trees.
- Soil aeration in and around protected trees.
- Fertilization of tree root zones.
- Watering of trees.
- Repair of wounds to damaged trees.
- Clean-up and removal of any trash discarded in protected areas.
- Replacement of trees that were originally identified on the approved final FCP or TSP but must be removed due to severe damage during construction.

The forest conservation inspector may require the Maryland LTE on the applicant's team to certify that the required corrective measures have been taken and/or to assess the likelihood of survival of specific trees remaining on the project site.

6.4.2 FINAL INSPECTION AND APPROVAL

Once all corrective measures are complete and permanent protection measures have been installed, the applicant must contact the forest conservation inspector to conduct a final inspection of the entire site. The forest conservation inspector will determine whether the requirements of the final FCP or TSP are satisfied. For large projects that have many phases, the forest conservation inspector will typically conduct multiple final inspections at the end of each individual construction phase.

At this stage, the forest conservation inspector will authorize the applicant's project manager to remove all temporary short-term tree protection measures and signage. In addition, the forest conservation inspector will check that there is:

- No burial of discarded materials within the protected areas.
- No additional clearing or disturbance around protected trees or in designated conservation areas, except by hand and as authorized by the forest conservation inspector. This may include hand removal of vines, excessive dead material, pre-existing trash, and non-native and invasive plants.
- No clearing for the purpose of sodding or planting grass within forest retention or protected environmentally sensitive areas, unless DPS requires the planting of grass to provide immediate stabilization.

At some locations, trees on properties adjoining the development site may show signs of stress during the final inspection. The Maryland LTE and the forest conservation inspector should assess the health of these trees, if the property owner for the adjoining property grants them the right to enter the property. If the stressor is inherent or structural, such as girdling roots, poor past arboricultural practices, or disease common to that species in Montgomery County, the property owner is responsible for care and/or removal of that tree. If the tree is stressed by activities directly related to construction or loses more than 40% of its CRZ, the applicant's Maryland LTE should consult with the forest conservation inspector to make a recommendations for the tree. It is the responsibility

of the applicant and/or the applicant's project manager, and the owner of the property where the tree resides, to come to a resolution on the treatment or removal of the tree. The forest conservation inspector may make recommendations, but ultimately the final decision on the treatment or removal of the tree is made by the adjoining property owners.

6.4.3 TREE AND FOREST PLANTING

During this phase of the development, the project applicant initiates and completes all required tree and forest planting. The forest conservation inspector conducts inspections during and after planting; if work has been completed successfully, the forest conservation inspector accepts the planting and begins the maintenance and management period.

Two years after the start date of the maintenance and management period, the applicant requests the first maintenance inspection. During this inspection, the forest conservation inspector may request additional maintenance activities as needed for the remainder of the maintenance and management period. Three years after the start date of the maintenance and management period, the applicant may request the final inspection if the applicant asserts that all requirements of the maintenance and management agreement and final FCP or TSP have been met (unless the project site is located in an SPA). Otherwise, the applicant requests the final inspection at the end of the maintenance and management period.

During the final inspection, the forest conservation inspector checks planted areas to ensure that any required non-native invasive plant control has been completed successfully, that planted trees and forest meet survivability rates required by the Forest Conservation Regulations, and that permanent protections have been installed. For FCPs, if all requirements of the maintenance and management agreement have been met, the forest conservation inspector authorizes the release of financial security, ending the maintenance and management period.

See Chapter 7 of this manual for more information on planting.

6.5 LONG-TERM MANAGEMENT PHASE

After construction of the project is completed and all requirements of the final FCP or TSP have been met, the property owner or owners of the new development, as well as the landscapers that maintain the grounds, must become educated on all aspects of forest conservation easements and other protected areas of the property. The property owners and landscapers must:

- Know the location and configuration of all forest conservation easements and other protected areas on the property.
- Know the terms of the forest conservation easements, including the activities that are allowed and those that are prohibited within the easement area.
- Maintain and/or manage the protected areas as the land steward.
- Avoid any activities within the protected areas that are prohibited.
- Keep in place and maintain or replace as needed all permanent signage and/or fencing that physically demarcate the boundary of the forest conservation easements and other protected areas.

As discussed earlier in this chapter, areas identified for long-term preservation and protection are typically covered by a Category I or Category II forest conservation easement. All restrictions and limitations apply to these dedicated areas in perpetuity unless the approved plan is amended, and the property owner or tenant must abide by the terms of either the recorded forest conservation easement or the approved final FCP or TSP.

To ensure that the property owner knows the specific locations and limitations of these protected areas, it is highly recommended that the applicant's project manager provide the property owner with copies of the certified FCP or TSP and any forest conservation easement agreements recorded on the property. In addition, to prevent tenants from violating these protections, the property owner should provide copies of the forest conservation easements along with the certified FCP or TSP to the tenants.

CHAPTER 7

PROTECTING TREES AND FOREST BEFORE, DURING, AND AFTER CONSTRUCTION

7.1 INTRODUCTION

Preserving the health and structural condition of trees and forests impacted by development requires careful planning. Applicants and their team should integrate plans for existing trees and forests during the project's planning and design stages. If trees and forests are not considered as a key component of the design during these stages, plan approval may be delayed, numerous field changes may be necessary, or formal amendments may be needed to approved plans. It is imperative that details about trees and forests, and the measures that will be used to protect them from construction impacts, are included in the Forest Conservation Plan (FCP) or Tree Save Plan (TSP). This information must be as accurate and well informed as possible, from the early stages of a project through plan approval, to ensure that trees and forests at the project site have the best chance to thrive during and after construction.

This chapter provides the details and specifications for various physical tree protection and stress reduction measures that must be implemented or installed on a project site before, during, and after construction to ensure successful survival of forest stands and trees designated for retention as part of a land development project. The plan preparer, in consultation with an International Society of Arboriculture (ISA) Certified Arborist or Maryland Licensed Tree Expert (LTE) when appropriate, proposes specific measures for use on the project site and includes these measures on the FCP or TSP. The descriptions and details of the measures provided in this chapter are not comprehensive; other measures not detailed in this manual may be approved by Montgomery Planning review staff on a case-by-case basis depending on site conditions. However, the measures proposed on the FCP or TSP must follow the established standards for tree preservation during construction adopted by ISA.

Most tree protection measures are implemented before and during the physical construction and development phase of the site project. Often, post-construction protection measures may be needed to foster long-term tree and forest vitality and survival. Some tree protection measures are permanent, such as those that delineate the boundaries of conservation easements, and provide information about the scope of these protections for the benefit of all users and land managers.

7.2 LAND DEVELOPMENT IMPACTS TO TREES

7.2.1 HOW TREES RESPOND TO CONSTRUCTION DAMAGE

A wide variety of construction activities can adversely impact the health and structural condition of trees by causing soil disturbance and compaction. Construction traffic, demolition of structures, and stockpiling of materials can also damage trees. Tree damage during construction can result in tree mortality, and while some trees decline quickly, others do not show external signs of poor health until several years after an injury.

Injuries, such as wounds, increase the tree's rate of respiration and use of stored carbohydrates as the tree expends more energy attempting to repair the injury or fight pests or disease. This depletion of stored carbohydrates can threaten a tree's health at the time of injury and can lead to its decline in the future.

Soil compaction occurs when pore spaces in the soil that normally allow air, water, and nutrients to move freely become restricted. This leads to oxygen deprivation in the root zone, making it difficult for roots to respire and expand. Soil compaction can result from the presence or movement of equipment in the root zone. Trees affected by it show reduced root growth and impaired water and nutrient uptake. As a result, they often have stunted growth, leaf yellowing, branch dieback, and increased susceptibility to pests and diseases. Soil compaction also reduces the soil's ability to absorb rainfall, causing water to run off instead of infiltrating, which further stresses the tree.

The impacts of construction-related damage can be categorized as direct or indirect. A tree can experience cumulative impacts from a series of both direct and indirect impacts. Direct impacts take place within the vicinity of affected trees and cause immediate physical damage to the tree. The effects on tree health and vigor tend to become discernable shortly after the initial damage occurs. When severe, these impacts can cause rapid decline or death of the tree. Indirect impacts can be triggered by changes in the environmental conditions on which trees rely for their fundamental biological processes. Indirect impacts can also be a result of direct impacts. The effects of indirect impacts on a tree tend to be subtle, and as a result, they are more difficult to detect than direct impacts.

A tree's response to direct and indirect impacts depends on factors such as the severity of the injury; the tree's age, health, and vigor; the tree's location; the presence of pests or non-native invasive plants that may take advantage of a stressed tree; and weather conditions.

7.2.2 IMPACTS OF CONSTRUCTION ACTIVITIES

The International Society of Arboriculture (ISA) publishes comprehensive resources on construction impacts to trees and managing trees during construction; applicants should refer to these resources for all potential impacts and best management practices. Some common impacts caused by construction activities include:

- Root damage caused by construction activities resulting in cutting, tearing, crushing, and removal.
- Construction activities hitting, scraping or damaging roots, bark, trunk, leaves, or branches.
- Soil compaction and associated root damage within the critical root zone (CRZ) due to activities like dumping of excess soil fill or presence of construction equipment.
- Changes to soil properties such as pH and porosity due to activities like dumping of harmful materials and/or chemicals.
- Shifting groundwater hydrology patterns due to grading for construction or installation of new impervious surfaces.
- Changes to microclimates, including changes to light, wind, hydrology, and temperature conditions, due to activities like the removal of other trees or shade from the construction of new buildings.

7.3 GENERAL RULES OF TREE PROTECTION

To protect individual trees and forests, applicants should consider the characteristics of the resources to be protected, the potential impacts to trees and forests due to construction activities, and the unique conditions of the project site. These considerations factor into the methods of tree protection, which, if planned or required, should be identified clearly on the FCP or TSP. There are several general rules to avoid or minimize construction impacts to trees and forests identified for preservation:

- First, the approved FCP or TSP should accurately show the spatial relationships between trees and development, along with accurate species and size information. Location errors of even a few feet can make a tremendous difference in impacts and the nature of the required measures. Problems caused during the construction phase because of inaccurate information on the approved plan can be expensive in terms of the time required to modify the approved plan and additional methods that may be required to protect a tree or forest edge.
- Minimize soil disturbance whenever possible. This is especially important in and around the root zones of protected trees and forests. The applicant should work closely with landscape architects, tree care experts, and engineers to ensure that the area of soil disturbance shown on the submitted FCP is realistically sized to allow approved structures and facilities to be properly located and constructed. An LOD that has been adequately sized for construction is more likely to remain unchanged over the entire project timeline. An undersized, unrealistic LOD that needs to be expanded at a later stage could require numerous field changes and/or could require a FCP amendment to be submitted.
- Avoid trenching within the CRZ of protected trees, or minimize it if it must be done.
    - Use caution when locating and installing sediment control devices. Sediment control measures that require trenching within the CRZ of a protected tree may cause severe, direct, adverse impacts to the tree. Alternative sediment control measures that do not require trenching next to or near protected trees or forest areas may be advisable, but applicants must coordinate closely with Department of Permitting Services staff.
    - Trenching for features such as underground utilities can cause considerable damage to the structural roots of a tree, hindering the tree's absorption capacity and stability and possibly causing the tree to become hazardous. It is preferable to locate underground utilities within the already established LOD and outside a tree's CRZ.
- Avoid soil compaction within the CRZ of protected trees when possible. If it is unavoidable, minimize soil compaction in these areas by installing tree protection fencing around the tree's CRZ; keeping construction equipment, access routes, and foot traffic out of the tree's CRZ; cutting and adding fill in the CRZ; and/or laying down geotextile fabric, wood chips, and timber matting in the CRZ at grade.

7.4 LIMITS OF DISTURBANCE

For a project that involves the preservation of forests or trees, it is particularly important that the approved LOD be accurately identified on the FCP or TSP, along with the following:

- All forested areas and their corresponding CRZs
- Regulated trees outside the forest and their corresponding CRZs
- Measures that are to be installed along the LOD
- Proposed grading and structures within the LOD

The location of the LOD on the project's sediment control plan must match the LOD on the FCP or TSP. Prior to the required pre-construction meeting for the project, the LOD is demarcated by the applicant's surveyor with sturdy stakes that are made highly visible with the use of brightly colored surveyor flags or ribbons. Measures are then implemented as directed by the forest conservation inspector.

7.5 MODIFICATIONS IN THE FIELD

An approved FCP or TSP includes the details of specific protective measures to be used on the project site for trees or forest areas that are designated for preservation. The forest conservation inspector uses the approved plan as the basis for each inspection. At each inspection, the forest conservation inspector verifies the project's LOD, the boundaries of approved preservation areas, and the use and location of specific measures. The forest conservation inspector can approve modifications to adjust certain elements on the approved FCP or TSP to implement more appropriate measures based on the site conditions observed in the field.

For example, the forest conservation inspector may require parts of the approved LOD to be adjusted at the project site so that specific trees identified at the site can be better protected and retained along the edge of a forest preservation area. The forest conservation inspector may also require the planting of additional trees to mitigate the necessary removal of trees along the new forest edge that become hazardous during construction. However, the forest conservation inspector does not have the authority to enlarge an LOD if it would increase the total amount of forest removed or increase the impacts to a tree that requires an approved variance for impacts, rather than an approved variance for removal. Impacts such as these would require an amendment to a previously approved plan.

7.6 TREE PROTECTION DURING EACH PHASE OF CONSTRUCTION

Tree preservation measures are an important tool for maintaining the health and structural integrity of trees and forest ecosystems. Trees that will be impacted by a land development project and that are identified to be preserved typically require measures before the site is disturbed to increase their tolerance to construction impacts and chances of survival. These measures can enhance trees' natural defenses and protect them from foot and vehicle traffic, equipment, and building and grading activities. The measures are implemented in the pre-construction phase, then either completed or removed during the project completion phase. Exhibit XX in Appendix XX shows how short-term pre-construction measures work together to protect trees and forest.

Some measures, such as directional boring, root aeration, and soil decompaction, are completed in their entirety during the pre-construction phase. These long-term pre-construction measures are determined by a qualified tree care professional and tailored to meet the needs of each unique tree that will be impacted. The measures must be shown on the final FCP and implemented by a Maryland LTE. Changes in the field may occur if approved or required by the forest conservation inspector.

During construction, trees and forest are primarily protected by maintaining the measures installed during the pre-construction phase, irrigating, managing pests, and cleaning tree wounds, all detailed in section 7.7. Any removal of tree protection fencing or signage may occur only at the direction of the forest conservation inspector. Any temporary encroachment into the tree protection area must also be authorized by the forest conservation inspector before that encroachment occurs.

For FCPs that require the creation of forest conservation easements during the project completion phase, the boundaries of forest conservation easements must be demarcated on the property by a surveyor with permanent fencing, permanent signs, and/or permanent survey markers (see Exhibit XX in Appendix XX). See the next section for more details about requirements for forest conservation easement fencing and signage.

7.7 TREE PROTECTION MEASURES

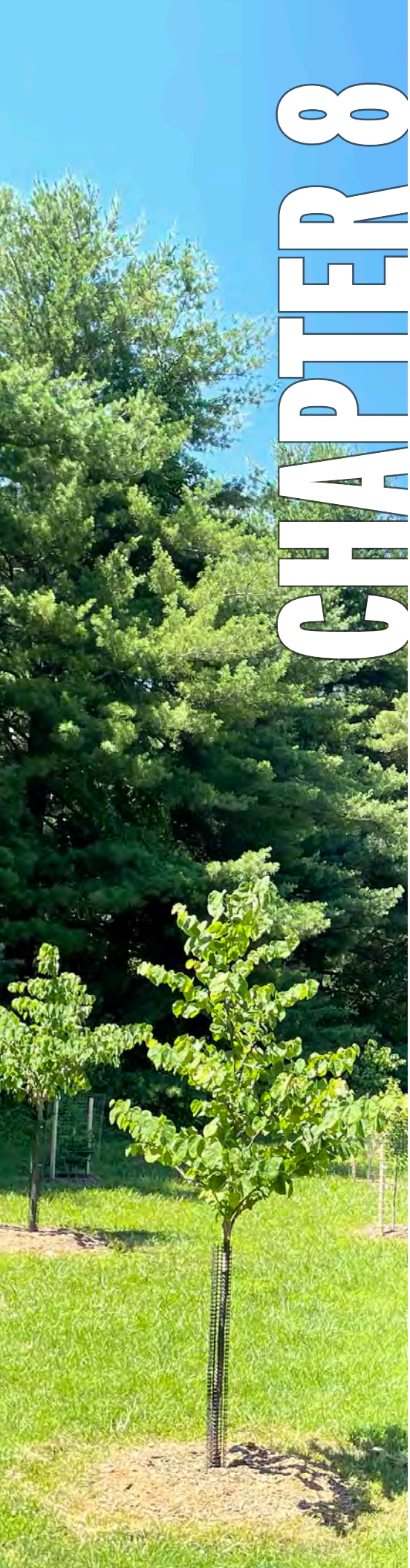
Tree Protection Measure	Description
Removal of hazardous trees	Trees that are deemed hazardous at the pre-construction meeting may be removed with permission from the forest conservation inspector. However, standing dead trees offer tremendous habitat value, especially for insects, birds, and small mammals, and continue to trap carbon and nourish the soil. If the dead tree poses a hazard, try to remove only the parts that are deemed hazardous and retain the remainder to contribute to habitat value. The applicant's Maryland LTE should evaluate the structure and condition of trees on and near the project site so that these characteristics can be properly noted on the TSP or FCP.
Pest and disease management	Any pests identified during the construction phase can have significant impacts on the long-term health of a tree. Construction impacts such as wounds make trees more vulnerable to certain pests and pathogens, and trees may be less able to withstand the impacts of pests and diseases due to the reduction in vigor that trees experience from pruning and loss of critical roots. Therefore, protected trees should be carefully monitored during construction for evidence of a pest infestation or signs of disease, and trees should be treated appropriately by a certified pesticide applicator using the pest management methods on the approved FCP and/or recommended by the applicant's Maryland LTE and Montgomery Planning forest conservation inspector.
Pruning	Pruning may be used to provide adequate clearance for structures and construction activities. It can also remove dead, weakened, diseased, and/or crossing branches to improve tree structure. Pruning of dead branches prior to construction can also make a new decline in a tree's health more apparent. No standard drawing specifications for pruning are required to be shown on the plan. Instead, FCP or TSP notes must identify that pruning will be performed by or under the supervision of a Maryland LTE and must specify that the work be conducted according to ANSI A300 standards for tree care. Pruning must be limited to only what is necessary to accomplish the clearance or safety objectives. See Exhibit XX in Appendix XX.

Tree Protection Measure	Description
Watering	Trees under drought stress must receive supplemental watering before any construction starts and throughout the entire construction project. This is an extremely important treatment for any tree that will be impacted by construction activities; well-hydrated trees are more resilient to stresses from root disturbance, soil compaction, and changes in drainage. The TSP or FCP should recommend an appropriate watering schedule to be implemented prior to the preconstruction meeting. Irrigation of preserved trees and forest is also essential during construction. The frequency and amount of watering should be based on the specific needs of the protected trees and the direction of the forest conservation inspector. Trees identified for preservation that will be significantly impacted during construction may require more frequent watering. The presence or absence of recent rainfall should also be considered when determining watering needs.
Soil nutrient management	The selected soil nutrient management methods must be based on existing soil conditions, the stated goal for protecting the tree (such as promoting root growth), the tree species, and the site conditions. If fertilization of the soil around one or more existing trees is proposed, the forest conservation inspector may also require soil nutrient analyses to identify specific deficiencies at the project site and determine the appropriate corrective soil amendments. Application of a high nitrogen fertilizer may not be advisable for a tree undergoing planned root loss, as it promotes canopy growth that may not be sustainable for the tree once its roots are cut.
Mycorrhizal inoculant	Mycorrhizal inoculants are soil amendments containing beneficial fungi that form symbiotic relationships with plant roots, resulting in significantly expanded root systems and enhancing water/nutrient uptake, stress resistance, and growth.
Mulching	Placing chemical dye-free natural mulch over the root zones of trees or along the border of a protected retained forest benefits trees by moderating soil temperatures, conserving moisture, suppressing competing and non-native invasive vegetation, and improving soil structure. The FCP or TSP should identify which trees are to be mulched and include mulching specifications. Mulch should be applied at a depth of two to four inches, with a maximum depth of six inches, extending to the drip line for each identified tree. Mulch should never be applied touching the trunk or root flare of the tree.
Tree growth regulator	A systemic tree growth regulator, in the form of a soil drench, injection, or spray, can temporarily reduce new canopy growth while promoting root density. Tree growth regulators improve stress tolerance from construction impacts and other stresses.

Tree Protection Measure	Description
Vine removal	Removing vines from trees is essential for maintaining tree health, structural integrity, and safety. Vine removal from trees prevents girdling, increases light absorption, reduces competition for nutrients, and eliminates excess weight that can otherwise cause branch breakage or overall tree failure.
Root pruning	Where the LOD crosses the CRZs of protected trees, physically separating protected roots from unprotected roots may reduce the likelihood of progressive root diseases. Proper pruning equipment must be used before clearing and grading begin to ensure that the roots are cleanly cut, and cut roots must be immediately covered to prevent desiccation. The applicant's Maryland LTE must document the root pruning and provide photos to the forest conservation inspector upon request. See Exhibit XX in Appendix XX.
Crown reduction or pruning	If the crown was not previously pruned to remove dead, diseased, crossing, weak, and low-hanging branches, crown reduction can occur during the pre-construction phase. Pruning must occur according to ANSI A300 standards.
Tree protection fencing	Tree protection fencing is required to clearly demarcate the boundaries of tree protection or forest retention areas on a project site. Fencing should be installed after the forest conservation inspector approves the staked LOD on the site, but before any clearing or grading activity begins. The fencing is maintained during the entire construction phase, including final grading and final seeding and stabilization of the site. The fencing must be self-supporting and not be anchored or attached in any way to the trees it is installed to protect. There are several different types of commonly used tree protection fencing that are effective and durable. Exhibit XX in Appendix XX presents one acceptable type of fencing for tree protection, but other types or methods may be accepted by Montgomery Planning staff. Tree protection fencing must be a minimum of three feet in height to ensure that it is highly visible to construction personnel.
Tree trunk protection	Exhibit XX in Appendix XX shows the method to protect the trunks of trees that are located near the edge of the LOD and that either lean into the area of construction or are at risk of being struck by construction equipment.
Temporary tree protection signage	Along the edge of a tree protection or forest retention area, temporary tree protection signs are installed in combination with tree protection fencing. These signs clearly distinguish between areas for preservation and retention and areas for clearing and disturbance. Temporary tree protection signs should be placed approximately 50 feet apart along straight segments of the tree protection or forest retention boundary, or at appropriate intervals determined by the forest conservation inspector. Boundary segments that are curved or angular may require signs installed at smaller intervals for visibility, as determined by the forest conservation inspector. See Exhibit XX in Appendix XX.

Tree Protection Measure	Description
Directional boring or air spade excavation	A development project typically includes the installation of new utility lines. Utility lines must be within the established LOD and should lie outside the CRZ of trees proposed for preservation. If it is not possible to avoid CRZs, use directional boring or air spade excavation to route utility lines or conduits beneath the root systems of protected trees. This practice can minimize the root loss that is typically associated with utility installation. See Exhibit XX in Appendix XX.
Soil decompaction	Grading activities, foot traffic, and use of construction vehicles adjacent to protected trees or forest can compact soils, which limits root growth and the roots' ability to absorb water, nutrients, and oxygen from soil pore space. Compaction creates soils that are unsuitable for root stimulation or future forest planting. The applicant's LTE should recommend an appropriate method for restoring soil structure that is conducive to tree health, with approval by the forest conservation inspector. This measure needs to be identified on the FCP or TSP, if it is proposed to be used during the project completion phase, and may be required by the forest conservation inspector in the field as situations arise. See Exhibit XX in Appendix XX.
Root aeration systems	The purpose of using root aeration is to deliver water, oxygen, and nutrients to the deeper soil below an existing or planted tree. There are numerous options for root aeration systems. One design uses PVC plastic pipes with cross-drilled holes that provide the opening into the soil for aeration. With this design, there is a limited amount of oxygen exchange because of the impervious nature of the PVC. Another method is auger aeration, in which three-inch-wide, 8–12 inch deep holes are drilled into the ground 2½ feet apart in a grid pattern within the tree's drip line up to three feet from the trunk. The holes are then filled with organic soil and compost. Another option is root aeration matting, in which a porous mat is placed on the soil to improve airflow, drainage, and oxygen access to roots and to prevent soil compaction. Typically, root aeration matting is installed as a pre-construction measure; fill is then placed on top as part of the subsequent construction activity. See Exhibit XX in Appendix XX.
Retaining walls	Retaining walls can be used to allow grade changes while preserving root health, soil stability, and long-term tree viability. The exact specifications for retaining walls are unique to each project and depend on the characteristics of the tree to be preserved. Retaining walls should be designed with input from the applicant's Maryland LTE. Details of the retaining wall footer and placement adjacent to forest and tree save areas must be included on the FCP or TSP. Retaining wall elements must not be located within any forest and tree save areas. See Exhibit XX in Appendix XX.

Tree Protection Measure	Description
Wound cleaning	The most common type of injuries encountered on construction sites are bark wounds and broken branches. Both should be addressed immediately by a qualified arborist. If bark has been torn by equipment, the qualified arborist should carefully trim the loose, torn bark using a clean, sharp tool, while avoiding cutting into healthy, firmly attached bark or wood. This technique allows the tree to compartmentalize the wound(s) naturally, forming a barrier internally to limit decay.
Permanent forest conservation easement fencing	Permanent fencing to demarcate the boundaries of a forest conservation easement area may be split-rail, paddock style, or a similar open design fence. This design allows for the passage of wildlife into and out of the easement area so that it functions as natural habitat. The easement fencing must be maintained in perpetuity. See Exhibit XX in Appendix XX.
Permanent forest conservation easement signage	Permanent signage to identify the boundaries of a forest conservation easement area reduces the likelihood that prohibited activities, such as removal of native vegetation, grading, or dumping of trash will occur within the protected area. This signage must be maintained in perpetuity. Signs should be mounted on posts at boundary corners, within sight distance of the next sign, and along extended border segments no greater than 100 feet apart. See Exhibits XX and XX in Appendix XX.



CHAPTER 8

MEASURES FOR PLANTING NEW FOREST

8.1 INTRODUCTION

This chapter summarizes the steps to successfully establish a new forest stand. The specific measures required to successfully create a new forest stand depend on the existing conditions of the area to be planted, the approved activities that will occur prior to planting, and the adjacent land uses that will be created as part of the project. A qualified professional who prepares the planting plan as part of the final FCP should be knowledgeable about how specific project plans and features may affect the forest planting and should be able to identify which planting measures are most appropriate for the planting site.

Forest planting areas are identified on the Forest Conservation Plan (FCP). Standards for planting this new forest, including the required sizes of plant materials, acceptable planting density, and survival requirements per the Forest Conservation Regulations, are covered in Chapter 3 of this manual, and native species are identified in Appendix XX. The planting measures identified on the FCP are usually implemented in either the construction phase or during the completion phase, depending on the other elements of the development project.

8.2 OPTIONS FOR CREATING NEW OR HEALTHIER FOREST STANDS

The most common planting plan for creating a new forest stand is the installation of a mix of native trees and shrubs. However, in some cases, supplemental planting can create a stand that meets the definition of forest in areas where trees and/or shrubs are already present. Alternatively, forested sites that have a significant amount of non-native invasive vegetation may be treated and managed to enhance the quality and long-term viability of the forest.

Options that **create new or enhanced forest** include:

- Planting an existing open field or area where grading or other disturbance has occurred.
- Converting an existing native tree stand into a forest habitat via supplemental planting. The specifications for supplemental planting must meet the criteria for stocking rates and survival requirements of native trees and shrubs identified in the Forest Conservation Regulations (also covered in Chapter 3 of this manual).
- Improving a stand of native trees that does not currently meet the definition of forest and that is overgrown with non-native invasive vegetation. If the applicant removes and manages the non-native invasive vegetation, plants trees and shrubs, and protects the forest by recording a forest conservation easement, the stand may be counted as planted forest.
- Doing supplemental planting along the edges of an existing, retained forest stand. This increases the total size of the forest stand, and the additional stand area can be counted in the applicant's forest conservation worksheet as forest planting.
- Infill planting an existing forest stand that has extensive gaps in its canopy or widening a narrow forest to enhance habitat or create additional environmental buffer.

8.3 PLANTING AND MAINTENANCE GUIDELINES AND REQUIREMENTS

Exhibit XX in Appendix XX provides a recommended schedule for all required tree planting and maintenance measures.

8.3.1 PREPARING FOR PLANTING

Before trees and shrubs are installed in the ground, the planting site needs to be prepared to receive the new plantings. This includes but is not limited to removal of non-native invasive vegetation and amending/decompaction of existing soils (in Appendix XX). In addition:

- If the forest planting area is covered with grass or other low-growing vegetation, the vegetation must be removed within a five-foot diameter circle around each future tree location. This can be done by cutting out the vegetation with a shovel or weed trimmer prior to planting. This reduces competition for nutrients and gives trees a better chance of survival.
- If the forest planting site has existing non-native invasive vegetation, a program to control the non-native invasive vegetation must be initiated before the forest planting begins; multiple rounds of treatment may be necessary. The treatment and maintenance of non-native invasive vegetation should extend beyond the perimeter of the planting site if possible.
- Planting should occur between early October and late April when the ground is not frozen. Work related to planting trees and shrubs should be properly coordinated and timed with the installation of utilities or any other work that may need to be completed prior to or adjacent to the planting.
- All construction trash, debris, and non-biodegradable materials must be removed from the planting areas prior to planting.

8.3.2 SELECTING AND TRANSPORTING TREES AND SHRUBS

Property owners must select tree and shrub species that are native to or naturalized in the Piedmont region of Maryland, listed in Appendix XX, and must avoid freshly dug balled and burlapped trees, undersized trees and shrubs, and trees with girdled roots. Follow ANSI Z60.1 Standards for Nursery Stock and ANSI A300 Standards for Planting and Transplanting when selecting trees and shrubs for the planting site. Once the soil is prepared for planting, all new plants need to be protected from the time they are received from the nursery until the time that they are planted by following these principles:

- Keep the roots moist.
- Cover the canopy with a shade structure or nursery tarp to prevent plants from drying out.
- Protect the tree's trunks and branches from damage during loading and unloading by lifting them by their container or root ball, not by their stem or trunk.
- Transport trees in slightly off-site layers to minimize spacing and potential for branches to be broken in transport.

Planting should occur within 24 hours of delivery to the planting site after inspection by the forest conservation inspector. If planting is delayed due to unforeseen circumstances, the roots must be protected from excessive exposure to sun and wind and kept moist.

8.3.3 PLANTING TREES AND SHRUBS

Trees and shrubs may be planted in off-set rows spaced 12 to 15 feet apart from the center to accommodate mowers. Mowing may be necessary to control regrowth of non-native invasive vegetation after planting. The property owner must consult with the forest conservation inspector prior to conducting any mowing, as it is typically note permitted within a Category I forest conservation easement.

Installation of the plantings must follow the ANSI A300 Standards for Planting and Transplanting and avoid damaging the roots of protected trees as much as possible. General guidelines include the following, also outlined in Exhibits XX and XX in Appendix XX:

- The diameter of the planting hole on level ground should be two to five times the diameter of the root ball.
- Tamp the soil at the base of the planting hole just before planting to create a firm floor for the root ball.
- Any excess soil should be removed from the top of the root ball to expose the tree's root flare prior to beginning planting.
- Once the tree is set plumb and upright in the center of the planting hole, backfill the hole with the soil that was excavated from the planting hole. In some cases, the soils within a planting bed may need to be amended to ensure that the tree has sufficient access to nutrients.
- As the hole is filled, the root ball will need to be braced by tamping the planting soil around the lower portion of the root ball. The tree's container, burlap, and other packaging materials are removed as needed, and then additional soil is placed around the base and sides of the root ball; each time, soil should be lightly tamped using foot pressure or hand tools to settle backfill, support the tree, and eliminate voids.
- When the planting hole has been backfilled to three-quarters of its depth, water should be poured slowly around the root ball to settle the soil and eliminate air pockets. Backfilling should then continue until the planting soil has been brought to grade level. No soil should be placed directly on top of the root ball, and the root flare should remain exposed. The soil and root ball should be slowly watered once more immediately after planting.

Directly after planting:

- Two to four inches of mulch must be placed over the root area of each newly planted tree, but not against the trunk so as to avoid direct contact with moisture, which can lead to decay and fungal growth. Mulch helps deter growth of non-native invasive vegetation, helps maintain the soil moisture level, and provides a buffer for any equipment such as mowers that may be used to maintain the area. Mulch should never be "volcano-shaped" or piled against the trunk of the tree. Mulch should be applied in a three to five foot radius around the stem. It may be necessary to reapply mulch each year during the maintenance and management period.
- Deer protection enclosures are necessary around all forest plantings. Typically, recommended enclosures are circular welded wire fencing fastened to at least one stake at two points. On a case-by-case basis, the forest conservation inspector may accept buck guards, bio bark guards, or multiple wooden stakes installed around the tree. Exhibit XX in Appendix XX details acceptable deer protection fencing.

8.3.4 POST-PLANTING MAINTENANCE AND REPORTING

8.3.4.1 Maintenance and Management

Maintenance of planted materials during the early years following planting is critical. All property owners with retained forest that requires ongoing treatment of non-native invasive vegetation must maintain their plantings for a five-year period, as established by their maintenance and management agreement. Template maintenance and management agreements are available for download on the Montgomery Planning website.

The maintenance and management period starts when the forest conservation inspector accepts the plantings as completed according to the final FCP and ends after the five-year period ends and the forest conservation inspector confirms that the plantings have met the survivability requirements established by the forest conservation regulations and reiterated in the maintenance and management agreement. The property

owner's team is responsible for the maintenance and management of all planted material throughout the maintenance period. Maintenance measures include, but are not limited to, watering, removal of non-native invasive vegetation, mulching, providing replacement plantings as needed, repairing and replacing deer protection fencing, and pruning planted trees and shrubs.

Watering is essential for the first year following installation. Newly planted trees and shrubs may need water as often as once a week for the entire first growing season. During the remainder of the maintenance and management period, trees and shrubs may only require watering a few times during summer months and additional watering as needed during droughts.

At the end of the third year, the applicant can request to be released from the remaining two years of their maintenance and management agreement. This option is only applicable to applicants whose plantings are not located in Special Protection Areas (SPAs). The forest conservation inspector will have the sole authority to determine whether the maintenance and management period can be reduced or should be continued. The inspector will consider:

- The percentage of planted trees that are alive and vigorous with main leader intact
- Evidence of deer browse
- The size of trees planted
- The growth of trees in caliper inches and height
- The extent of canopy closure
- Any decrease or increase in the percentage and types of non-native invasive vegetation
- The submission of semi-annual reports and timeliness of those reports
- Evidence of regular maintenance

8.3.4.1 Inspections and Reporting

The applicant must request pre-planting and post-planting inspections before conducting any transplanting or new planting. The property owner is required to submit semi-annual reports documenting the number of live trees and maintenance activities that occurred in the previous six-month period for each planting area. The Forest Conservation Regulations requires the submission of semi-annual monitoring reports by April 30 and October 31 each year. The reports may include photos for the forest conservation inspector's reference. Figure 13 is a template semi-annual report, also available for download from the Montgomery Planning website.

Figure 13: Template Semi-Annual Maintenance and Management Monitoring Report

Forest Conservation Planting Maintenance Report	
Project Name/Address:	
Plan Number:	
Property Owner:	
Date of Maintenance Visit:	
Name and Address of Contractor:	
MD Pesticide Applicator License #:	
Planting Areas Maintained:	
Name/Email Address of Report Preparer:	
Assigned Forest Conservation Inspector:	

Non-Native Invasives Identified

- ☐ Norway Maple (Acer platanoides)
- ☐ Tree-of-heaven (Ailanthus altissima)
- ☐ Fiveleaf akebia (Akebia quinata)
- ☐ Garlic mustard (Alliaria petiolata)
- ☐ Porcelainberry (Ampelopsis brevipedunculata)
- ☐ Japanese barberry (Berberis thunbergii)
- ☐ Asiatic bittersweet (Celastrus orbiculatus)
- ☐ Canada thistle (Cirsium arvense)
- ☐ Autumn olive (Elaeagnus umbellata)
- ☐ Wintercreeper (Euonymus fortunei)
- ☐ English ivy (Hedera helix)
- ☐ Japanese honeysuckle (Lonicera japonica)
- ☐ Bush honeysuckle (Lonicera spp.)
- ☐ Japanese stilt grass (Microstegium vimineum)
- ☐ Running bamboos (Phyllostachys spp.)
- ☐ Japanese knotweed (Polygonum cuspidatum)
- ☐ Mile-a-minute (Polygonum perfoliatum)
- ☐ Kudzu (Pueraria Montana var. lobata)
- ☐ Lesser celandine (Ranunculus ficaria)
- ☐ Multiflora rose (Rosa multiflora)
- ☐ Wineberry (Rubus phoenicolasius)
- ☐ Other (please specify): Click or tap here to enter text.

Maintenance Performed

Mechanical Methods (check all that apply):

- ☐ Mowing around individual plantings
- ☐ Mowing of entire planting area
- ☐ Bush-hogging
- ☐ Hand-clearing
- ☐ Watering
- ☐ Mulching
- ☐ Other (please specify):

Equipment Used:

- ☐ Mower
- ☐ Chainsaw/Power Pruner
- ☐ Weed Whacker
- ☐ Hand Tools
- ☐ Other (please specify):

Chemical Application Methods (check all that apply):

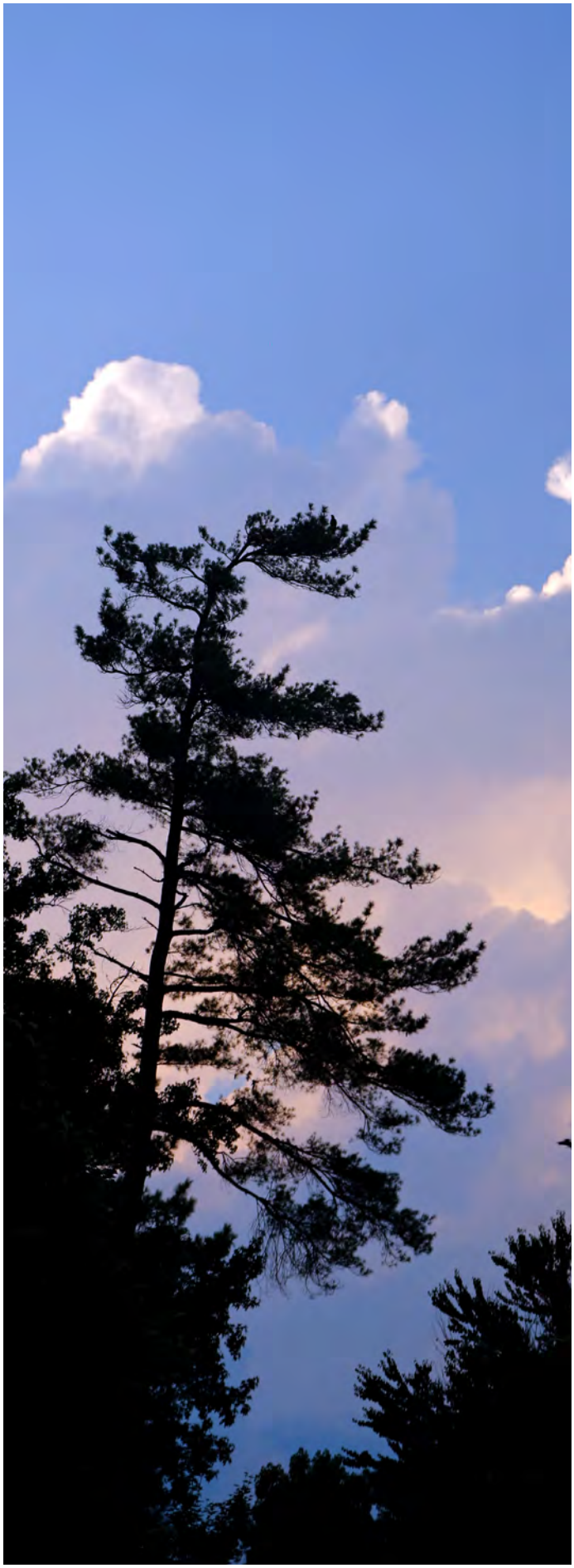
- ☐ Cut stem treatment
- ☐ Basal bark treatment
- ☐ Foliar treatment
- ☐ Other (please specify):

Products used:

- ☐ Glyphosate
- ☐ Triclopyr
- ☐ Other (please specify):

Additional Information	
Were insect pests observed? If yes, please specify type of pest and any treatments performed:	
Were any diseases observed? If yes, specify type of disease and any treatments performed:	
Were abiotic stress conditions observed? If yes, specify symptoms and any treatments performed:	
What is the current survival rate of the plantings? (100%, 75%, etc.)	
Are any replacement plantings required? If yes, please specify the species and quantity and reach out to the assigned forest conservation inspector.	
Does staking/deer protection caging need to be replaced? Would you recommend removal of any staking/deer protection caging? If yes, please explain why:	
Future visit schedule:	
Use this space to address any additional comments or concerns resulting from the maintenance visit:	

FOREST MITIGATION BANKS



9.1 INTRODUCTION

A forest mitigation bank may be composed of existing forest, planted forest, or a combination of both. Forest mitigation banks are located on properties within Montgomery County that have obtained approval from Montgomery Planning, through an application process, to sell forest mitigation credits to development applicants that cannot meet forest mitigation requirements either on-site or through other means, and that have received approval from Montgomery Planning to meet their forest mitigation requirements by purchasing credits from an approved, active forest mitigation bank. The areas included in the forest mitigation bank are protected in perpetuity by a Category I forest conservation easement. This chapter will explain:

- How private landowners can create forest mitigation banks and sell forest mitigation bank credits.
- The requirements for a forest mitigation bank to be approved to sell credits, including restrictions once the bank is created.
- How development applicants seeking forest mitigation bank credits can find a Forest Mitigation Bank and purchase credits.
- How Montgomery Planning staff track forest mitigation bank credits sold and available for purchase and monitor forest mitigation banks after they are approved.

9.2 THE PROCESS OF ESTABLISHING A FOREST MITIGATION BANK

A property owner who is considering establishing a forest mitigation bank is encouraged to review all requirements on the Montgomery Planning website and meet with the Montgomery Planning forest mitigation bank program manager, along with the forest conservation inspector, prior to submitting a formal application. This meeting will allow the property owner (and/or bank operator) to better understand the requirements, costs, and commitments necessary to establish and operate a viable forest mitigation bank. If the property owner or potential bank operator decides to proceed and establish a forest mitigation bank, Montgomery Planning can assist the

owner/operator proceed through the application and review process.

A forest mitigation bank may be proposed either as:

- A stand-alone forest mitigation bank application on a property not subject to a development application, or
- Part of a development application that requires approval of a Forest Conservation Plan (FCP).

Property owners who want to create and operate a forest mitigation bank must submit a forest mitigation bank application, which is reviewed and approved by Montgomery Planning staff. The bank must meet the minimum criteria listed in the next section (see the Montgomery Planning website for the latest criteria). To create a forest mitigation bank, property owners must document existing natural resources and forest with a Natural Resource Inventory/Forest Stand Delineation (NRI/FSD), submit a planting plan for any planted forest mitigation bank, record a Category I forest conservation easement, install permanent signage to protect the forest mitigation bank in perpetuity, sign a maintenance and management agreement if applicable, and work with Montgomery Planning's forest mitigation bank manager to establish mitigation credits available for sale. Forest mitigation bank credits may be sold only after the Montgomery Planning forest mitigation bank manager approves the application, the forest conservation easement is recorded, and the forest mitigation bank manager authorizes the forest mitigation bank operator to begin sale of credits.

Forest mitigation bank credits may be publicly available for purchase by any land development project or limited to a bank owner's own use for specific projects of their choice. A forest mitigation bank owner may also choose to designate an agency representative to operate the bank on their behalf.

The sale and purchase of forest mitigation bank credits is a private transaction in which the bank operator and purchaser negotiate a price, timing, and transaction method. Montgomery Planning is not involved in this private transaction. To document the sale of credits, the bank operator submits a Certificate of Compliance to Montgomery Planning. This certificate is reviewed and approved by Montgomery Planning staff, then recorded in land records by the bank operator for the property where the bank is located (a template Certificate of Compliance is available in Appendix XX and on the Montgomery Planning website). The Montgomery Planning forest mitigation bank manager then updates the credits remaining in the forest mitigation bank for purchase.

Once Montgomery Planning initially approves a forest mitigation bank, the forest mitigation bank manager provides the bank owner or operator with an approval letter that includes the total number of mitigation credits available for sale. The number of mitigation credits is based on whether the forest is planted or existing.

- For planted forest mitigation banks, credits must be sold at a ratio of one acre of forest mitigation bank credit sold to meet each acre of forest mitigation required (1:1 ratio).
- For existing forest mitigation banks, credits must be sold at a ratio of two acres of forest mitigation bank credit sold to meet each acre of forest mitigation required (2:1 ratio), and mitigation credit may account for no more than 50% of the forest mitigation requirement of the FCP.
- A Category I forest conservation easement must cover all approved forest mitigation bank areas before credits can be sold to provide permanent protection over the planted and/or existing forest. The Category I forest conservation easement must be recorded in the Montgomery County Land Records by the forest mitigation bank owner or operator with an attached exhibit that documents the total amount of forest mitigation bank credits available for that specific forest mitigation bank. This exhibit is typically the forest mitigation bank plan and survey.

9.3 GENERAL CRITERIA FOR A FOREST MITIGATION BANK

To be approved, a forest mitigation bank must meet the following minimum criteria:

Size	Forest mitigation banks must contain at least one acre of planted or existing forest.
Location	Forest mitigation banks may be accepted on any undeveloped land in Montgomery County with no existing easements. Land that contains agricultural easements may be acceptable if the agricultural easement is subordinated to the Category I forest conservation easement protecting the forest mitigation bank. If an agricultural easement exists, the property owner will need to work with the grantee of the agricultural easement to subordinate the agricultural easement to the Category I forest conservation easement before the conservation easement is recorded. However, the property owner should contact the Montgomery Planning forest mitigation bank manager to request a preapplication meeting prior to contacting the grantee of the agricultural easement to discuss the property's suitability or limitations as a forest mitigation bank site. Any existing forest to be included in a forest mitigation bank must lie outside of any stream, wetland, or other environmental buffer as defined by the latest version of the Environmental Guidelines and shown on the approved NRI/FSD.
Quality	Proposed forest mitigation bank locations will be assessed by Montgomery Planning staff for the presence of non-native invasive vegetation, trash, or rubble. Areas that have excessive non-native invasive vegetation will also be excluded from the forest mitigation bank, unless the non-native invasive vegetation has been sufficiently treated and removed, and the native tree canopy restored; such areas treated and restored with native trees would be considered separate planted forest mitigation bank areas. Areas that have been used for dumping will be excluded from the forest mitigation bank unless the refuse is removed and approved restoration measures are implemented.
Planting	One of the following ratios of appropriate Balled & Burlapped or container-grown native trees must be planted: **200 trees per acre, sized ¾ inch–1 inch caliper** **100 trees per acre, sized 1.5 inch–2 inch caliper** **33 shrubs per acre, sized 3 gallon** Proper planting methods and deer protection must be used. Applicants should refer to Chapters XX and XX and Appendix XX of this manual for details. The above information must be included on the forest mitigation bank plan.
Funding restrictions	Forests that are planted using funds or other incentives from state, federal, or local programs such as the Conservation Reserve Enhancement Program (CREP), Maryland Stream Releaf, or Reforest Montgomery, may not become part of a forest mitigation bank.
Ownership	The forest mitigation bank application must be submitted by the property owner or by an agent who is authorized by the property owner. If the bank operator will be a different entity than the owner of the property, Montgomery Planning must be provided with a copy of the agreement or a signed letter of authorization from the property owner.

A property that has been approved for use as a forest mitigation bank may include areas of land that are excluded from the bank's delineated area and therefore not counted towards the available forest mitigation bank credits. These areas would include, but are not limited to:

- Non-forested features such as large ponds or wetlands that are not under forest canopy or meadows.
- Areas of forests covered by utility easements, including Washington Suburban Sanitary Commission (WSSC) and storm drain easements.
- Areas that have been used for dumping refuse such as trash or rubble. If such an area lies within a forest, the part of the forest that includes the dump site would be excluded from being assigned bank credits unless all the refuse is removed and restoration measures approved by Montgomery Planning staff are implemented by the bank owner.
- Areas of forest that are dominated by non-native and invasive vegetation unless the bank owner implements an approved Invasive Species Management Plan and restoration measures that have been approved by Montgomery Planning staff.
- Paved and/or impervious surfaces, including driveways, pathways, and other areas not approved to be included in the forest mitigation bank area by Montgomery Planning staff.

9.4 APPROVAL OF FOREST MITIGATION BANK CREDITS FOR SALE

9.4.1 APPROVAL OF EXISTING FOREST MITIGATION BANK CREDITS

If there are no required maintenance, management, or restoration measures, existing forest mitigation bank credits may be sold after the Montgomery Planning forest mitigation bank manager provides the approval letter that confirms the total amount of forest mitigation bank credits approved for sale. Any required Category I forest conservation easement must be recorded and permanent signage installed before the Montgomery Planning forest mitigation bank manager will provide this approval letter.

9.4.2 APPROVAL OF PLANTED FOREST MITIGATION BANK CREDITS

For planted forest mitigation banks, and for the portions of existing forest banks that require restoration measures, the sale of credits will only be approved after all restoration measures have been completed by the bank owner and any new plantings have satisfied maintenance and survival requirements. Alternatively, the bank owner/operator may expedite the sale of credits by providing a form of financial security that guarantees the plantings. The planting area must then be maintained per a signed maintenance and management agreement throughout the warranty period before the security is released.

9.4.3 SUSPENSION OF THE SALE OF FOREST MITIGATION BANK CREDITS

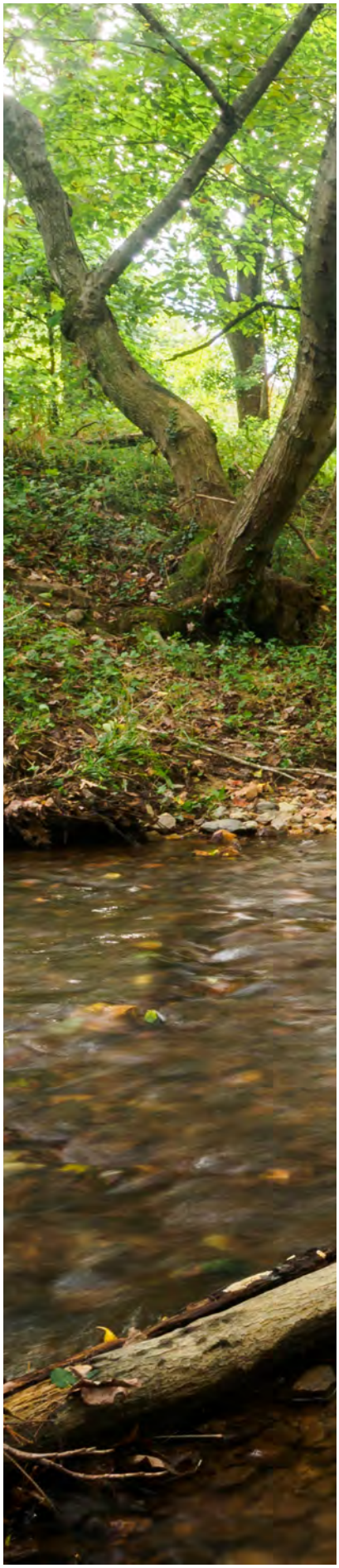
Changing site conditions may affect the sale of forest mitigation bank credits. Montgomery Planning may suspend the sale of credits if the bank deteriorates to the point where it no longer meets the definition of forest in the Forest Conservation Law. Events that result in the loss of large areas of forest, such as forest fires, pests, diseases, or erosion, may require the suspension of remaining unsold credits from the forest mitigation bank. Noncompliance with the terms of the Category I forest conservation easement may also result in a suspension of the sale of forest mitigation bank credits.

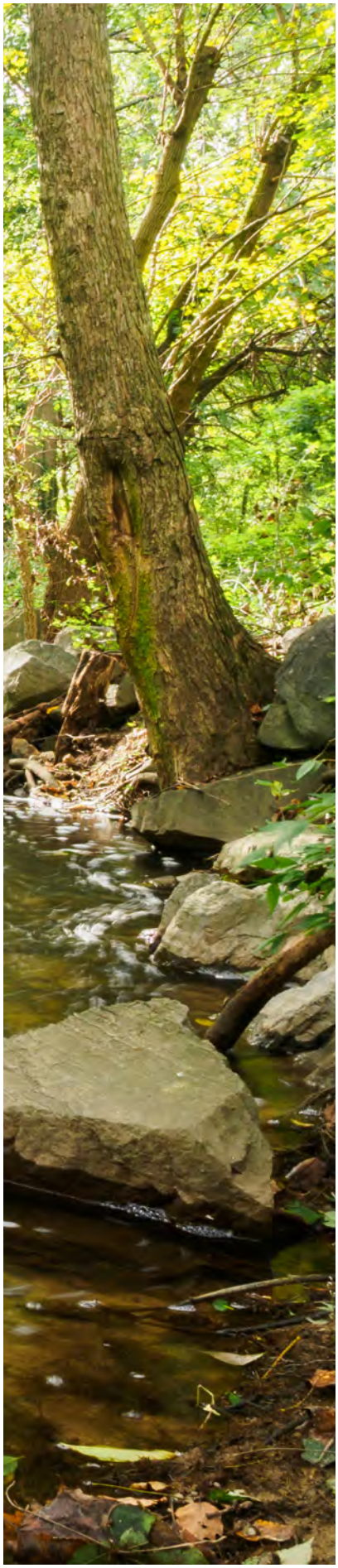
9.5 LAND OWNERSHIP OF A FOREST MITIGATION BANK

The operator of a forest mitigation bank may or may not own the property on which the forest mitigation bank is located. Land ownership may change after the bank is approved.

If the bank operator and the property owner are not the same individual, there must be a signed legal agreement that allows the bank operator to operate the forest mitigation bank and sell bank credits. A copy of the executed agreement must be provided to Montgomery Planning staff with the forest mitigation bank application.

The rights to a forest mitigation bank belong to the current property owner. If a property owner sells their property while operating an active forest mitigation bank, the bank transfers to the new owner of the property, unless there is an agreement specifying otherwise. Forest mitigation bank owner or operators are





encouraged to consult a private attorney before any real estate transaction to ensure that the rights and operation of the forest mitigation bank are accounted for.

Montgomery Planning must be provided a copy of any conveyance transaction. If a property is sold or dedicated to the Montgomery County Parks Department, a defined sunset date after which forest mitigation bank transactions will no longer be allowed must be part of the parkland dedication deed, and Montgomery Planning must be provided a copy of the parkland dedication deed.

9.6 CREATING A FOREST MITIGATION BANK WITHOUT A FOREST CONSERVATION PLAN

An applicant who proposes to create a forest mitigation bank on a site that has no proposed development activity or FCP must follow the steps below.

9.6.1 PREAPPLICATION MEETING AND SITE ASSESSMENT

Property owners who wish to create a forest mitigation bank are encouraged to reach out to the Montgomery Planning forest mitigation bank manager as a first step. The property owner should provide the forest mitigation bank manager with the address, tax account number, lot and block number or subdivision name (if applicable), proposed forest mitigation bank location, and whether the property owner would like to create a forest mitigation bank of existing and/or planted forest.

The Montgomery Planning forest mitigation bank manager conducts an initial analysis of the site using aerial imagery, property records, and GIS data. A site visit may also be conducted. If it is determined through this initial review that the proposed site meets the minimum bank criteria identified earlier in this chapter, the Montgomery Planning forest mitigation bank manager notifies the applicant that the proposed site can be formally reviewed, and the property owner can submit a forest mitigation bank application.

9.6.2 FOREST MITIGATION BANK APPLICATION

After the preapplication meeting and site assessment, the applicant must submit a NRI/FSD for Montgomery Planning review and approval, as further described below and in Chapter 2 of this manual. Once the NRI/FSD is approved, the applicant must then submit a forest mitigation bank plan application. Both applications must include the respective application fee, shown on the fee schedule on the Montgomery Planning website.

9.6.2.1 Natural Resource Inventory/Forest Stand Delineation

The owner/operator of a prospective forest mitigation bank must submit a full NRI/FSD of the property that includes the proposed bank area and the first 100 feet adjacent to this property. The Natural Resources Inventory portion must cover the entire property, but the Forest Stand Delineation portion need only show the existing forest that is proposed to be banked, or the area where forest

will be planted to create a forest mitigation bank. Chapter 2 of this manual provides detailed guidance on the elements required to be included in an NRI/FSD. All NRI/FSD requirements listed in Chapter 2 of this manual are required for forest mitigation bank NRI/FSDs except for the tree table. Significant trees with a DBH of 24 inches and greater, specimen trees, and champion trees are not required to be identified on the forest mitigation bank NRI/FSD.

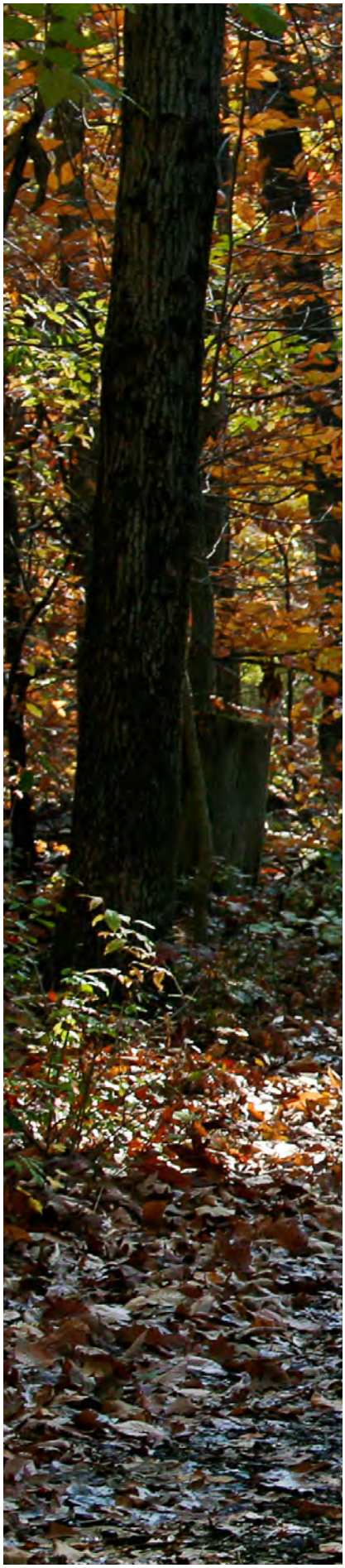
9.6.2.2 Forest Mitigation Bank Plan

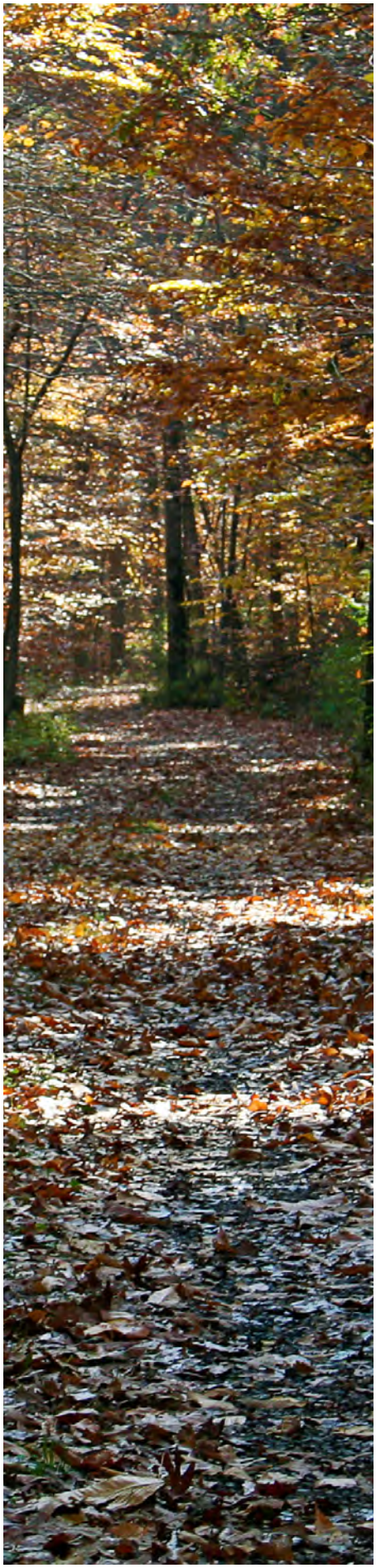
After the NRI/FSD is approved by Montgomery Planning, the owner/operator of a prospective forest mitigation bank must submit a forest mitigation bank plan. The purpose of the forest mitigation bank plan is to identify:

- the total acreage and location of any existing forest on the properties.
- the total acreage and location of existing forest proposed to be included in the forest mitigation bank.
- the total acreage and location of existing forest that could meet the criteria for a forest mitigation bank if supplemental planting occurs.
- the total acreage and location of unforested land to be planted to create a forest mitigation bank.
- a detailed planting plan for each planting area that shows the number, size, and species of trees and shrubs to be planted; deer protection fencing to be used; a detailed Invasive Species management Plan if needed; and the location and removal plan for any debris or structures found within a planting area.
- a phasing plan if the planting or recordation of multiple forest conservation easements will be completed in phases.
- whether the planted areas will be ensured with a financial security instrument, such as a performance bond. If there is no financial security, then credits for the planted forest mitigation bank area(s) cannot be sold until the maintenance and management agreement has been fulfilled, the planted forest mitigation bank meets the definition of forest, and the Montgomery Planning forest mitigation bank manager approves the sale of credits. If a financial security instrument is provided, credits may be sold after the planting is completed and accepted by the Montgomery Planning forest conservation inspector, who will provide notice of when the maintenance warranty period has begun.

9.6.3 STAFF REVIEW

During review of the forest mitigation bank application, the Montgomery Planning forest mitigation bank manager determines whether the property and proposed planting or existing forest bank area qualifies to become a forest mitigation bank. The bank manager will also identify any measures that may be required to restore the health of poorer quality existing forest stands on the site, such as management of non-native invasive vegetation or supplemental forest planting.





During review of the NRI/FSD, Planning Department staff will consider the following items, including but not limited to:

- Correct delineation of streams, wetlands, seeps, floodplains, etc.
- Location and width of environmental buffers
- Slopes
- Quality of the forest stands, based on the sampling points and descriptions included.

During review of the forest mitigation bank plan, the bank manager will consider the following items, including but not limited to:

- The condition of existing forest
- The need for treatment of non-native invasive vegetation
- The need and possible locations for supplemental planting
- Possible new forest planting locations
- Existing easements that prohibit the protection or establishment of a forest in perpetuity
- Possible phasing of any proposed forest planting.

9.6.4 BANK SURVEY AND EASEMENT RECORDATION

After the forest mitigation bank plan is approved, but before the Category I forest conservation easement can be recorded in the land records and forest mitigation credits sold, the owner/operator of the forest mitigation bank must have the bank areas surveyed by a professional surveyor. The survey must distinguish between planted and existing forest portions of a bank. Once the survey is complete, the survey is submitted to Montgomery Planning for review. Montgomery Planning staff check the survey to ensure that the metes and bounds correctly demarcate the easement areas and the total acreage for existing and planted forest match what was shown on the forest mitigation bank plan and what was approved by the bank manager. Once the survey check is complete, the bank owner/operator must attach the survey as an exhibit to the Category I forest conservation easement, which then must be recorded in the Montgomery County Land Records. As detailed in Chapter 6 of this manual, Category I forest conservation easement templates are provided on the Montgomery Planning website. After a copy of the recordation receipt is submitted to the bank manager, an approval letter will be provided that states the total number of forest mitigation bank credits that can be sold once the bank owner/operator satisfies all remaining conditions.

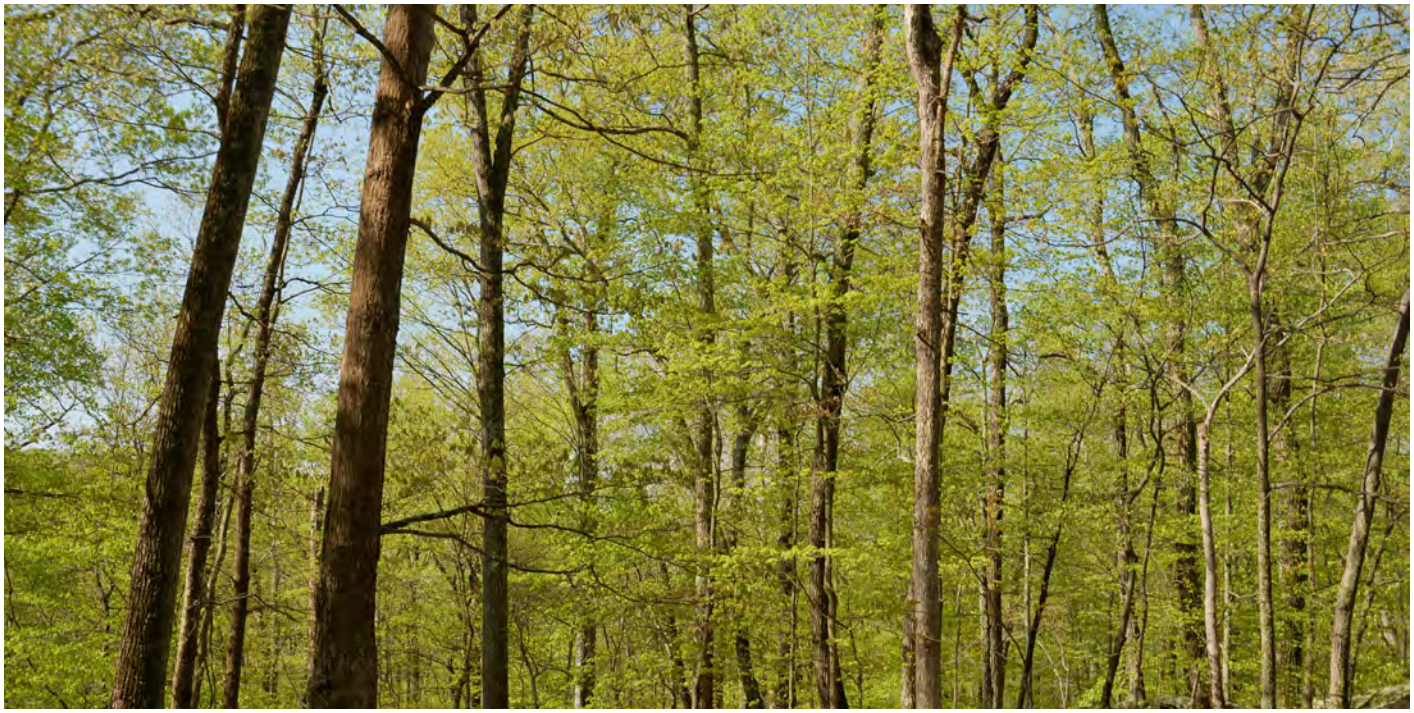
9.7 CREATING A FOREST MITIGATION BANK AS PART OF A FOREST CONSERVATION PLAN

The owner of a property subject to a development application that requires an FCP may propose to create a forest mitigation bank as part of the FCP. The portion of the tract area that is proposed for a forest mitigation bank must meet the minimum forest mitigation bank criteria covered earlier in this chapter. In addition, the existing or planted forest that makes up the forest mitigation bank cannot be counted toward meeting forest retention or planting requirements for the project's FCP. Forest mitigation banks on properties requiring an FCP must be proposed and approved in conjunction with the FCP. A forest mitigation bank cannot be proposed for a site after the project's final FCP has been approved, unless the final FCP is amended to include the forest mitigation bank proposal.

9.7.1 REVIEW OF THE FOREST MITIGATION BANK PLAN AS PART OF A FOREST CONSERVATION PLAN

When a forest mitigation bank is created as part of another activity that requires an FCP under the Forest Conservation Law, the forest mitigation bank area must be identified and shown on the FCP. If multiple separate regulatory applications are required, the proposed forest mitigation bank area must be identified and shown on all of them. The forest mitigation bank plan included on the FCP must identify and include the same components listed in section 9.6.2.2 above. A preliminary review of the proposed forest mitigation bank is conducted with the review of the FCP. However, because of the amount of time required to review the forest mitigation bank application, the FCP may identify the proposed bank area as a "potentially eligible forest mitigation bank area subject to more detailed evaluation." This allows review of the forest mitigation bank portion to continue after the primary components of the FCP are approved. In addition, the Planning Board approval of the FCP may include a condition that the forest mitigation bank area must be identified and approved prior to certification of the FCP.

In the detailed review of the FCP, Planning staff uses the NRI/FSD that was approved prior to the FCP to help determine whether the area proposed for a forest mitigation bank will qualify. If the proposed forest mitigation bank plan that is part of the FCP meets all criteria for a forest mitigation bank, the Montgomery Planning forest mitigation bank manager will identify approximately how many forest mitigation credits could be approved for sale once the bank area is professionally surveyed and the Category I forest conservation easement is recorded, following the same procedure and requirements outlined in section 9.6.4 above. The Montgomery Planning forest mitigation bank manager will issue an approval letter to document the number of credits eligible for sale.



9.8 USING FOREST MITIGATION BANKS TO MEET FOREST PLANTING REQUIREMENTS

When eligible, FCP requirements may be met by purchasing credits from an approved, active forest mitigation bank. The FCP worksheet, included on the FCP, identifies the afforestation/reforestation requirement, and the FCP specifies how the requirement is to be met. If the applicant demonstrates to the satisfaction of the Planning Director or Planning Board that the forest mitigation requirement cannot or should not be met on site, then the FCP requirements may be met off-site, which may include the purchase of credits from a forest mitigation bank. Once the FCP mitigation measures have been formally approved, development applicants can contact a forest mitigation bank operator for an active forest mitigation bank with available credits to purchase credits and satisfy their requirement.

9.9 LOCATION OF FOREST MITIGATION BANKS

The applicant must purchase forest mitigation credits from a bank that is located in the same watershed as the development, a priority eight-digit watershed, SPA, or the Patuxent Primary Management Area (PMA) (identified at mcatlas.org and on the Forest Mitigation Bank webpage of the Montgomery Planning website). If there is no active forest mitigation bank located in the same watershed as the development, a priority eight-digit watershed, SPA, or the Patuxent PMA, then the applicant may purchase credits from any active forest mitigation bank within Montgomery County, Maryland

.The availability of credits from a forest mitigation bank is determined when an applicant with an approved FCP is ready to purchase bank credits.

9.10 FINDING A FOREST MITIGATION BANK

Applicants with approval to meet their forest mitigation requirement by purchasing credits from an approved forest mitigation bank can find all active forest mitigation banks, along with available credits, contact information for the bank operator, and the location of the banks, on the Montgomery Planning website. The Montgomery Planning forest mitigation bank manager updates this resource as credits are sold and new forest mitigation banks are approved.

The applicant first contacts the bank operator to confirm credit availability and determine pricing.

Once the applicant and bank operator agree to move forward, the following steps are taken:

- The forest mitigation bank operator and the development applicant sign a Certificate of Compliance Agreement, that documents the sale of credits and identifies the forest mitigation bank. The Certificate of Compliance identifies the applicant's forest mitigation requirement and the number of credits purchased to satisfy the requirement. A template for a Certificate of Compliance Agreement is available for on the Montgomery Planning website.
- The forest mitigation bank operator submits the signed and notarized Certificate of Compliance Agreement to Montgomery Planning for review and approval.
- After the Certificate of Compliance Agreement is executed and approved by Montgomery Planning, the document is returned to the forest mitigation bank operator to be recorded in the Montgomery County Land Records.
- The forest mitigation bank operator must provide proof that the Certificate of Compliance has been recorded in the Montgomery County Land Records (recordation receipt and/or liber folio) to Montgomery Planning before a pre-construction meeting for the development can be scheduled.