



# Forest and Tree Preservation Ordinance Notes

NOVEMBER 2019

## SEQUENCE OF EVENTS

The permittee is responsible for strict adherence to the sequence and details as outlined. During each stage of the project, forestry staff may provide additional direction based on site conditions, unforeseen circumstances, or approved revisions.

### PRE-CONSTRUCTION

1. Permittee shall obtain a Forestry Permit (FTP) for the project and secure copies of the approved Forest Conservation Plan (FCP) for distribution to contractors. The Permittee is responsible for obtaining a Maryland Roadside Tree Permit if applicable. Contact Miss Utility at 1-800 257-7777.
2. The Permittee must coordinate and schedule an onsite preconstruction meeting with the following attendees: Permittee, Construction Superintendent, Maryland LTE/ISA Certified Arborist (if required by Forestry Department), the City Forestry Inspector, City Project Inspector, and City Sediment Control Inspector. The limits of disturbance must be staked and flagged prior to the preconstruction meeting. No land disturbance shall occur prior to this meeting. This includes, but is not limited to, the installation of tree protection fencing, sediment control measures, clearing, grading and tree stress reduction measures. The limits of disturbance will be reviewed, and tree protection and tree care measures will be discussed.
3. No land disturbance shall begin before stress-reduction measures as indicated on the approved FCP, or otherwise directed by the Forestry Inspector have been implemented and approved by Forestry Inspector. Measures not specified on the plan may be required as determined by the Forestry Inspector in consultation with the Permittee's MD LTE/ISA Certified Arborist. Appropriate stress-reduction measures may include, but are not limited to:
  - a. Root pruning
  - b. Crown reduction or pruning
  - c. Watering
  - d. Fertilizing
  - e. Surface mulching
  - f. Vertical mulching
  - g. Root aeration matting
4. A professional with the dual credentials of Maryland Department of Natural Resources Licensed Tree Expert (LTE) and International Society of Arboriculture Certified Arborist (ISA CA) must perform all stress reduction measures. Documentation of these qualifications may be required. The measures must be done in accordance with *ANSI Standards for Tree Care Operations* (A300) and other industry best management practices. Implementation of the stress reduction measures must be observed by the Forestry Inspector or written documentation, including photographs must be sent via mail or email to the City Forestry Inspector.
5. Temporary tree protection devices, including signage, shall be installed per the approved Forest Conservation Plan, or as otherwise directed by the Forestry Inspector, and prior to any land disturbance. Tree protection fencing locations must be staked and flagged prior to the pre-construction meeting. The Forestry Inspector, in coordination with the City Sediment Control Inspector, may make field adjustments to increase the survivability of trees and forest shown as saved on the approved plan. The Permittee must contact the Forestry Inspector to schedule a follow up construction inspection after installing all tree protection measures and performing all stress reduction measures. Upon a satisfactory inspection by the Forestry Inspector and Sediment Control Inspector, a Notice to Proceed will be issued and clearing and grading can commence. Temporary tree protection devices may include:
  - a. Chain link fence (four feet high)
  - b. Super silt fence with wire strung between the support poles (minimum 4 feet high) with high visibility flagging.
  - c. 14 gauge 2 inch x 4 inch welded wire fencing supported by steel T-bar posts (minimum 4 feet high) with high visibility flagging.

6. The Permittee and contractor shall maintain the temporary tree protection devices for the duration of the project and the location must not be altered without prior approval of the Forestry Inspector. No equipment, trucks, materials, debris, or any other items may be stored within the tree protection fence areas during the entire construction project. No access beyond the fenced area will be permitted. Tree Protection fencing shall not be removed without prior approval of the Forestry Inspector.
7. Long term tree protection devices/techniques, as shown on the FCP or as directed by the Forestry Inspector may include but are not limited to:
  - a. Root aeration systems
  - b. Retaining walls
  - c. Raised sidewalks
  - d. Tunneling of utilities
  - e. Pier and panel walls
  - f. Porous pavers

## DURING CONSTRUCTION

1. Periodic inspections at the discretion of the Forestry Inspector will occur during the construction project. Corrections and repairs to all tree protection devices and other protective measures, as determined by the Forestry Inspector, must be made within the timeframe established by the Forestry Inspector.
2. The Permittee must immediately notify the Forestry Inspector of any damage to trees, forests, understory, ground cover, and any other undisturbed areas shown on the plan. Remedial actions to restore these areas will be determined by the Forestry Inspector and the corrective actions must be made within the timeframe established by the Forestry Inspector.
3. Failure to comply with the approved FCP or any directive of the City Forester's office is a violation of the Forest and Tree Preservation Ordinance (FTPO). Pursuant to Section 10.5-34 of the FTPO, a fine in the amount of \$1,000 may be imposed for each violation. Each day a violation continues is a separate violation. In addition, a stop work order may be issued until the violation has been abated and the fine has been paid or an appeal has been filed pursuant to Section 10.5-35 of the FTPO. Additional punitive measures as stated under Section 10.5-34 of the FTPO may be imposed.

## POST CONSTRUCTION

1. After construction is completed, the Permittee must request a final inspection in writing with the Forestry Inspector. At the final inspection, the Forestry Inspector may require additional corrective measures, which may include, but is not limited to:
  - a. Removal and replacement of dead and dying trees
  - b. Pruning of damaged, dead or declining limbs
  - c. Surface mulching
  - d. Soil aeration
  - e. Fertilization
  - f. Watering
  - g. Wound repair
  - h. Clean up of retention areas including trash removal
2. After the final inspection and completion of all corrective measures the Forestry Inspector will request all temporary tree and forest protection devices be removed from the site. Removal of tree protection devices that also operate for erosion and sediment control must be coordinated with both the City Sediment Control Inspector and the Forest Conservation Inspector. No additional grading, sodding, or burial may take place after the tree protection fencing is removed.

## INSTALLATION OF PLANT MATERIAL

1. The Permittee is responsible for obtaining the approved Forest Conservation Plan/Landscape Plan and providing a copy to the Landscape Contractor. The Permittee shall ensure that the Landscape Contractor can secure the plants shown on the FCP/Landscape Plan. Plant substitutions are not allowed. It is strongly recommended that plant material be secured from supplier by the project start date.

2. A pre-planting meeting is required before installation of landscaping, afforestation, or reforestation. The applicant must schedule an on-site pre-planting meeting with the City Forestry Inspector. Attendees must include the Permittee, landscape contractor, and Forestry Inspector. Trees and shrubs shall conform to the current edition of the American Standard for Nursery Stock (ANSI Z60.1).
3. Comply with appropriate City Soil Specification:
  - I. Soil Specification FOR TREE PLANTING WHERE EXISTING PAVEMENT OR OTHER IMPERVIOUS SURFACES WERE PREVIOUSLY LOCATED OR WHERE EXISTING GREENSPACE HAS BEEN SEVERELY DEGRADED<sup>1</sup>
    1. Site preparation
      - a. Demolish existing impervious surface and remove all existing asphalt, concrete, stone and construction materials to expose subsoil free of debris.
      - b. Excavate so that final planting bed will provide quality soil to a depth of forty-eight (48) inches, and to a radius of 10' minimum or to new hard edge of planting bed, whichever is less.
      - c. Loosen exposed subsoil below 48" by ripping 18" into the sub grade elevation.
      - d. Test to ensure that planting bed drains at a rate of at least 1 inch/per hour.
      - e. Install imported soil to fill excavated planting bed. Imported soil shall have a texture of LOAM, per the USDA soil classification system and a chemical composition compatible with healthy tree growth. When installing the soil, it should be installed in lifts or layers of < 12 inches (30 cm), tamping or watering (not both) between lifts to minimize potential settling.
    2. Immediately prior to installation of plant material, the soil must be tested and must have a pH range between 5.5 and 7 and a nutrient content which corresponds to an adequate rating, per current industry standards. Amend soil, if necessary, to achieve the current industry standard.
    3. The Forestry Inspector may require additional soil specifications, based on site conditions.
  - II. Soil Specification FOR PLANTING WHERE EXISTING GREEN SPACE HAS NOT BEEN PROTECTED FROM CONSTRUCTION IMPACTS BUT IS NOT SEVERELY DEGRADED.
    1. Site Preparation:
      - a. Remove all construction debris and top four to six inches of existing soil.
      - b. Test remaining existing soil to verify a pH range between 5.5 and 7, and has a nutrient content which corresponds to an adequate rating, per current industry standards.
      - c. Apply four (4) inches of mature compost evenly over the entire planting surface. (4" = 12 Cubic Yard/1,000 s.f.). Provide compost supplier information and specifications to the City Forestry Inspector for approval prior to install
      - d. Till the compost into the existing soil to a minimum depth of thirty-six (36) inches using the city's soil profile rebuilding specification.
      - e. If soil does not meet nutrient standards, mitigate soil chemistry to meet the chemical parameters.
    2. The Forestry Inspector may require additional soil specifications, based on site conditions.
  - III. Soil Specification FOR PLANTING WITHIN EXISTING GREEN SPACE AREAS WHICH HAVE BEEN PROTECTED FROM CONSTRUCTION IMPACTS (One of two options, as determined by Forestry Inspector) Refer to approved City of Rockville Detail A-7
    1. Test existing soil to verify it has a pH range between 5.5 and 7, and a nutrient content which corresponds to an adequate rating, per current industry standards. If soil does not meet nutrient standards, one of two options will be performed to mitigate the soil:
      - a. Option 1- Till Method- Depth of tilling for planting must be at least twenty-four (24) inches:
        - i. Apply four (4) inches of mature compost evenly over the entire planting surface (4" = 12 cubic yards/1,000 s.f.). Provide compost supplier information and specifications to the City Forestry Inspector for approval prior to install.
        - ii. Till the compost into the existing soil to a minimum depth of twenty-four (24") inches.
      - b. Option 2 – Aeration and Vertical Mulching
        - i. Using a 2- 3" Auger, drill a series of holes in the soil to a depth of twenty-four (24) inches.
        - ii. Begin at the edge of the hole dug for the root ball and continue drilling at one-foot intervals (maximum), in concentric rings around the tree out to ten (10) feet from the tree.
        - iii. Each hole must be refilled with mature compost.
      - c. The Forestry Inspector may require additional soil specifications, based on site conditions.

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<sup>1</sup> See definitions section #9

- IV. Soil testing of the existing soil may be conducted with PRIOR approval from the City's Forestry Inspector to determine the number and location of the samples. The above requirements may be reduced if soil testing shows the following:
    - 1. Soil pH is between 5.5 and 7
    - 2. The top 24" of existing soil contains a minimum of 4-6% organic matter by weight
    - 3. The soil is free of contaminants
    - 4. The soil texture is sandy loam or loam
    - 5. The soil has an infiltration rate not less than 1" per hour
    - 6. The soil does not contain debris or stones greater than one inch
    - 7. The soluble salt content is less than 3 dS/m
    - 8. Consult the University of Maryland Extension website: <http://extension.umd.edu/> for a listing of commercial soil testing facilities.
  
  - V. Soil preparation is required for street trees planted within the city's rights-of-way and private street trees, if they are part of the approved plan.
4. The depths and grades shown on plan drawings are final grades after settlement and shrinkage of the organic material. The contractor shall install the soil mix at a higher level to anticipate this reduction of volume. All grades are assumed to be 'as measured' to be prior to the addition of any surface compost till layer or mulch or sod.
  5. All details of the planting plans regarding plant quality and proper planting will be discussed including but not limited to:
    - a. Plant quality.
    - b. Proper form for species.
    - c. Proper ratio of caliper size/height to container size/root ball size.
    - d. Proper pruning cuts if applicable in accordance with current ANSI A300 pruning standards (generally there should be no recent pruning).
    - e. No co-dominant stems or multiple trunks (unless approved by FCP or by The Forestry Inspector).
    - f. Sound graft union.
    - g. Free of girdling roots, or the ability to remove girdling roots without damaging the tree.
    - h. Trees shall be healthy, vigorous, insect/disease free, and without cankers/cracks or trunk damage.
  6. Proper Installation
    - a. Root flare no higher than 3 inches from existing grade.
    - b. Exposed root flare (not graft); removing more than several inches of soil to expose the root flare may result in the rejection of the plant material.
    - c. Wire baskets/twine/burlap removed from at least the top half of root ball, or as directed by Forestry Inspector.
    - d. All burlap or twine removed completely.
    - e. No hose and wire; staking and strapping per City planting detail.
    - f. Planting Hole a minimum of twice the width of the root ball; could be greater. Planting detail assumes soil has been prepared per the city's specifications (Planting, #3).
    - g. Mulched properly, per City planting detail.
    - h. Wildlife protection installed, if required; type approved by the Forestry Inspector.
  7. Trees not complying with the above requirements may be rejected at the discretion of the City Forestry Inspector.
  8. Tree planting will generally not be permitted between the dates of June 1 and September 1, or when the ground is frozen.
  9. DEFINITIONS
    - a. Topsoil
      - i. Soil can be considered topsoil if it originates from an A horizon of a natural soil or is a mineral soil with 4-6% organic matter content, and a NRCS textural class similar to pre-development conditions A horizon soils for the site, or as specified by the City Forestry Division. The city Forestry Division will specify a LOAM texture in the absence of native conditions listed above. Blended soils shall not be used unless specified by the City Forestry Division. In addition, topsoil shall:
        1. Be friable and well drained
        2. Have a pH between 5.5-7.

3. Have an organic matter content between 4-6%.
  4. Have low salinity as indicated by a soluble salt content which is less than 3 dS/m
  5. Be free of debris, stone, gravel, trash, large sticks, heavy metals, and other deleterious contaminants, (if screening is used to remove debris, screen size must be ¾ inch or larger).
  6. Have a nutrient profile such that it has an adequate rating, per current industry standards.
  7. Be free of noxious weed seeds
- b. Compost
- i. Compost shall be composed of leaves, yard waste, or food waste. Biosolid-based composts shall not be used. A compost sample with analysis shall be submitted for approval to the City Forestry Division before application.
  - ii. Stability refers to the rate of biological breakdown, measured by carbon dioxide release. Maturity refers to completeness of the aerobic composting process and suitability (lack of plant toxicity) as a plant growth media, often measured by ammonia release and by plant growth tests. Compost manufacturers that subscribe to the US Composting Council's testing program may document stability as compost testing 7 or below in accordance with TMECC 05.08-B, "Carbon Dioxide Evolution Rate". Maturity (suitability for plant growth) may be documented as compost testing greater than 80% in accordance with TMECC 05.05-A, "Germination and Vigor". Compost is considered mature and stable if it tests at 6.0 or higher on the Solvita Compost Maturity Index Rating, which is a combination of Carbon Dioxide and Ammonia Maturity Tests (test information and equipment available at [www.solvita.com](http://www.solvita.com)).
  - iii. Compost shall also be:
    1. Free of weed seeds.
    2. Free of heavy metals or other deleterious contaminants.
    3. Have a soluble salt content which is less than 3 dS/m.
- c. Severely Degraded Soil
- i. Soil shall be considered severely degraded if grade was lowered or raised more than 14 inches OR soil was compacted in lifts regardless of the final grade OR was used as a staging area for construction materials, equipment or processes.
  - ii.

## POST INSTALLATION

1. The Permittee shall notify the City Forestry Inspector IN WRITING when the planting is complete and request a post planting inspection. The inspection must include the Permittee, landscape contractor and Forestry Inspector. The maintenance and warranty period will not begin until the City Forestry Inspector has accepted ALL plantings.
2. Trees will be inspected for plant quality and proper planting in accordance with City specifications and nursery standards. Once the maintenance period has begun, the applicant is responsible for maintaining plant health in accordance with the signed Warranty and Maintenance Agreement.
3. Routine inspections will be conducted throughout the warranty period and the applicant will be notified in writing when corrective measures are required. Failure to complete the corrective measures by the given date may result in fines being issued, permits revoked, extension of warranty period or other punitive measures.
4. Such maintenance shall include when appropriate, but not necessarily be limited to:
  - a. Weekly watering equal to 10 gallons per caliper measure of tree diameter. (ex: 2.5" caliper tree =25 gallons/week.) Documented drenching natural rainfall may substitute for weekly watering.
  - b. Control of competing vegetation throughout the maintenance period as necessary.
  - c. Fertilizing, as required by soil analysis.
  - d. Pruning, mulching, tightening of strapping, resetting of plants to proper grades or upright position.
  - e. Furnishing and applying pesticides or other items necessary to thwart damage from insects and disease.
  - f. Providing protection measures such as fencing and interpretive signs as necessary, to prevent destruction or degradation of the planting site.
  - g. Replacement of dead and dying trees. Survival standards contained in the State Forest Conservation Manual shall be followed for the protection and satisfactory establishment of forest where applicable.

- h. Eradicate, suppress and control non-native and invasive plant species during the maintenance period to the satisfaction of the City Forestry Inspector.
- i. Installing and maintaining devices to protect against wildlife damage.
- j. Removal of staking and strapping after six months, or as directed by the Forestry Inspector.

NON-NATIVE INVASIVE PLANT CONTROL:

1. The City of Rockville maintains a list of non-native and invasive plants for certain available on the City's website. The State of Maryland maintains a noxious weed list. The Permittee shall submit a Non-Native and Invasive Management Plan to the City Forestry Inspector for review and approval prior to the pre-planting meeting. Details to be included in the management plan are:
  - a. Narrative and/or plan stating the location, type and amount of non-native and invasive plants present on the site.
  - b. Proposed treatment measures and methods of control by plant type.
  - c. Timing and frequency of treatments by plant type.
  - d. Plan for seeding and/or re-planting following management/eradication treatment.
  - e. Proposed signage type and locations for installing herbicide application notification signs.
  - f. Copies of contractor certifications/pesticide licenses.
2. Contractor is responsible for complying with MDE, EPA and other government agency regulations as well as obtaining proper permits from these agencies as applicable. The Forestry inspector must be notified 48 hours in advance prior to commencing any and all treatments.
3. The Forestry Inspector will perform periodic inspections of the non-native and invasive treatments throughout the warranty and maintenance period. The applicant may be required to submit proof of treatment.