**SECTION 31 13 00**

**SELECTIVE TREE AND SHRUB REMOVAL AND TRANSPLANTING**

**BASED ON DFD MASTER SPECIFICATION DATED 02/17/2016**

This section has been written to cover most (but not all) situations that you will encounter. Depending on the requirements of your specific project, you may have to add material, delete items, or modify what is currently written. The Division of Facilities Development expects changes and comments from you.

**PART 1 - GENERAL**

**SCOPE**

Work includes the felling or removal by tree spade of trees or larger shrubs designated in the contract to be removed from the project site, and related work as indicated in the drawings.

PART 1 - General

Scope

Related Work

Definitions

Quality Assurance

PART 2 - Products

Materials

PART 3 - Execution

Felling

Pruning

Transplanting by Tree Spade

Transplanting by Hand Digging

Finishing Transplanting

Cleaning

**RELATED WORK**

Applicable provisions of Division 1 shall govern all work under this section.

Related Work Specified Elsewhere:

Section 31 10 00 – Site Clearing

Section 31 12 16 – Selective Tree and Shrub Protection and Trimming

Section 32 93 00 - Plants

**DEFINITIONS**

Caliper: Diameter of a trunk measured by a diameter tape at 4’-6” above the ground or DBH (diameter at breast height). (Standard as defined by the ISA – International Society for Arboriculture).

Arborist or Certified Arborist: As referenced here in all “arborists” or “certified arborists” shall be at minimum an ISA Certified Arborist or and ASCA Registered Consulting Arborist unless other specified.

**QUALITY ASSURANCE**

Tree Pruning Standard: Comply with ANSI A300 Pruning Standards.

Oak Wilt Prevention: Wisconsin Department of Natural Resources Forestry Division Publication PUB-FR-127 2009.

**PART 2 - PRODUCTS**

**MATERIALS**

Tree caliper measurements shall be taken 4’-6” (1.4 m) above ground level.

Wood chips or shredded bark (as specified on plans) mulch, free of material detrimental to healthy plant growth. Wood chips shall be 1/8” (3.2 mm) nominal thickness, with at least 50% having an area of not less than 1 sq. inch (6.45 sq. cm), and no piece having an area of more than 6 sq. inches (38.7 sq. cm). *(Note to Specifier: either wood chips OR shredded bark mulch should be specified.)*

Adequate supplies of water suitable for irrigation and free of harmful materials.

Staking materials shall be as follows: stakes shall be 6-8 ft. (1.8 - 2.4 m) long sections of unflanged metal, or 2” x 2” (5.1 cm x 5.1 cm) hardwood. Support ties shall be 2” (5.1 cm) or wider bands of polypropylene, or elasticized or webbed strapping.

Biodegradable geotextile (fabric) trunk wrap or waterproofed crepe wrapping paper, secured with 1” (2.5 cm) wide masking tape.

**PART 3 - EXECUTION**

**FELLING**

Fell trees to prevent damage to adjacent structures and to those trees and shrubs designated to remain. Remove stumps and roots to a clear depth of 36” (0.9 m) below existing grades in areas of lawn, and to full depth in areas of paving, building footings, or utility structures.

**PRUNING**

Only those branches of existing trees that interfere in some way with the Contractor’s operations or with the spading operation are to be pruned.

Pruning shall be performed by a certified arborist. Prune trees over winter, between the months of November and March. Trees may be pruned at other times of the year, provided that the Contractor submits to the owner for acceptance a scheduled time, and a description of pruning methods and materials.

Prune trees according to ANSI A300 Pruning Standards.

To prevent Oak wilt, do not prune, cut or injure Oaks between April 1 and October 1. If an Oak is wounded during this period, cover the wound **immediately** with tree wound paint (water-based paint). November through March is the preferred period for pruning and tree removal. Refer to Wisconsin Department of Natural Resources Forestry Division Publication PUB-FR-127 2009 for further Oak tree protection information.

Where necessary, repairs to damaged wood shall be performed under the direction of the Owner, or a certified arborist.

Evergreens shall only be pruned to remove dead, broken or damaged branches.

Perform pruning using scissors-style cutting devices, and not anvil-style hand pruners, pole pruners or loppers.

**TRANSPLANTING WITH TREE SPADE**

Stake all planting areas and notify Digger’s Hotline (1-800-242-8511 statewide) to verify the location of all underground utilities prior to excavation.

To minimize soil compaction, damage from tires, etc., the Contractor shall lay down wood planking as surface protection during tree spade operations.

For trees up to 10” (25.4 cm) caliper, the tree spade size used should allow a minimum root area equivalent of 9-10” (22.9-25.4 cm) of soil per inch of trunk diameter. (Example: A 4” caliper tree should be dug with a 40” tree spade.)

Tree spades or mechanical diggers shall be in good operating condition, with properly aligned, sharpened and damage-free blades. Hydraulic systems shall be free of leaks.

In preparing a tree for removal by tree spade, branches are to be tied up or down to allow access by spade. Presoaking the area around the tree for 24-48 hours prior to removal is advisable. Two to three hours prior to transplanting spray tree to run-off with an approved anti-transpirant at a 1:10 dilution rate.

Carefully set trees into pits to the same elevation as the tree’s original grade, with no more than 1/8 of rootball higher than grade. Level and straighten tree as tree spades are being removed. Fill voids between the pit and the rootball with clean excavated soil.

Pack excess soil tightly around rootball edge using a shovel handle or similar tool, creating a saucer surrounding the tree. Fertilizer shall be applied as per soil test recommendations.

In slope situations, dig the pit with the base of the tree spade level with the upper side. Carefully shave certain areas of rootball as necessary to avoid root exposure on lower side. Fill voids with topsoil, and pack saucer around tree.

Remove weeds and excess topsoil from the root ball prior to removal. Match the size of the root ball with the hole dug for transplanting.

Barricade with proper warning devices any planting pit left open when planting work is not in progress, and that poses a hazard to vehicles and/or pedestrians.

Prior to transporting, wrap tarp around both the upper portion of tree to prevent moisture loss from leaves and stems and around the bottom of the root ball.

Spade blades are to be dropped one at a time, alternating one side with the other to ensure even penetration. After lifting tree, cut any roots protruding from spades with sharp hand tools.

**TRANSPLANTING BY HAND DIGGING**

Stake all planting areas and notify Digger’s Hotline (1-800-242-8511 statewide) to verify the location of all underground utilities prior to excavation.

Prior to transporting, wrap tarp around both the upper portion of tree to prevent moisture loss from leaves and stems and around the bottom of the root ball.

Excavate planting areas where shown in the contract drawings. The planting pit shall be at least 2.5 to 3 times the diameter of the soil ball, or to a dimension otherwise specified, with the soil loosened around the sides of the pit. The soil at the base of the planting pit is to remain undisturbed, the depth of which shall correspond to the distance from the bottom of the soil ball to the root flare, or slightly less.

The walls of the planting pit are to be sufficiently roughened prior to setting.

Notify DFD’s Project Representative in writing of any soil conditions, obstructions, or concerns about water drainage deemed detrimental to healthy plant growth. These conditions or obstructions must be detailed, along with any suggestions for correction, removal or relocation. Where problems of soil conditions, poor drainage or other obstructions cannot be easily remedied, the Architect/Engineer and the DFD Construction Representative will designate alternate transplanting locations.

**FINISHING TRANSPLANTING**

Finish-grade planting areas to the specified elevation after the plant has fully settled.

Only trees so designated shall be protected with tree wrap. Secure wrapping at a minimum of 5 locations, including the top, middle and bottom of the trunk. Cover the trunk’s entire surface in a spiral manner, starting at the tree’s base and extending to just above the height of the lowest main branches. Overlap material at 1/2-1” (1.3 -2.5 cm). Owner will be responsible for removing the tree wrap after the recommended period.

No soil is to cover the top of the root ball. All plants shall be completely mulched over the root system with a 3” (7.6 cm) layer of specified mulching material immediately after planting. The mulch shall be pulled back no less than 3” (7.6 cm) and no more than 6” (15.2 cm) from the trunk.

Plants shall be thoroughly watered by the Contractor immediately after planting and before mulching.

All twine and rope shall be removed after planting, along with any labels attached around the trunk or branches.

**CLEANING**

All trimmed branches and other debris shall be removed from the site by the Contractor at the end of each work day.

END OF SECTION