

## **580-33 CHEMICAL VEGETATION CONTROL.**

**(REV 6-24-15) (1-22)**

The following new Section is added after Section 571:

### **SECTION 580-33 CHEMICAL VEGETATION CONTROL**

#### **580-33.1 Description.**

Furnish and apply herbicides to treat undesirable weed, grass and brush growth

1. around appurtenances,
2. in surface joints on paved surfaces, and around ornamental plantings
3. in aquatic vegetation along outfall ditches, roadside ditches, around drainage structures, side drains,
4. in and around retention ponds and canals.

The location of work to be performed will be detailed on the work document.

Before commencing work, furnish a plan for accomplishing the required work, including a list of chemicals, equipment and personnel to the Engineer for approval.

#### **580-33.2 Materials.**

Prior to beginning work, submit the manufacturer's label and Safety Data Sheets for all herbicides and adjuvants intended for use to the Engineer.

Use herbicides and adjuvants in accordance with the requirements of the labeling provided by the manufacturer. Use a surfactant or other adjuvant of a type specified when recommended by the herbicide label. Use a drift retardant when conditions warrant or when directed by the Engineer.

#### **580-33.3 Permits.**

**580-33.3.1 General:** The charges and fees for permits and necessary licenses will be incidental to the type of work being performed and all cost will be included in the contract unit prices for the related bid items. Post any permit placards in a protected location at the work site.

#### **580-33.4 Method of Application.**

**580-33.4.1 General:** Use the Department's publication entitled A Guide for Roadside Vegetation Management (current edition) as the standard in determining desirable treatments.

Some areas receiving herbicide-wiping treatments may require two applications of wiping, due to vegetation species or density. When determined necessary by the Engineer, apply the second application in the opposite direction and within the same day's operation. Payment will be per acre for each wiping application.

When using chemical wiping equipment, do not drip chemicals onto turf when moving or stopped.

Complete Daily Herbicide Reports on the forms provided by the Department for each location where weed and grass control is taking place. Submit completed forms to the Engineer on a weekly basis or as directed by the Engineer.

Performance will be inspected and evaluated by the Engineer for each application. The quality and acceptance of workmanship will be determined during these inspections. Treat

areas determined to be unacceptable by the Engineer again at no additional cost to the Department.

**580-33.4.2 Truck Mounted Equipment:** Use equipment specifically designed for commercial application of herbicides through a computerized injection system.

Use a system that will automatically dispense the correct ratio of chemical to the nozzles.

Use a system capable of utilizing a combination of spray bars, nozzles, adjustable boom extensions, or handguns for strip or spot applications of herbicide to paved shoulders or slopes, pavement joints, guardrail, curb and gutter, signs, culvert ends, bridge abutments, sidewalks, fences, or other roadway features.

Use a computer that will automatically signal the operator with an audible alarm and a visible diagnostic error message should the vehicle ground speed and selected application rate exceed the pump output capacity or become too slow for uniform application of materials. The computerized system console must display the accumulated area treated, the accumulated distance traveled, the speed and the rate of application. The computerized system must provide daily computer generated documentation of the total area treated and the total quantity of chemical applied.

Where deemed appropriate and if approved by the Engineer, utilize tank mix systems mounted on a tractor, all-terrain vehicle, or boat. Commercial application equipment that is not a computerized chemical injection system will be used only for spot applications by handgun or in areas inappropriate for truck mounted systems to operate. Calibrate equipment at frequencies determined by the Engineer.

The Engineer will remove from service any equipment not functioning to satisfaction.

**580-33.4.3 Inside Mower Deck Application:** Use a computerized control system to dispense chemical inside the mower deck or an enclosed chamber simultaneous to the mowing operation. Apply herbicide directly to the cut of the surface tissue of the plant at the moment of cut. Equip each deck with an independent control to provide simultaneous or singular use of each particular deck.

Use a computer that will automatically signal the operator with an audible alarm and a visible diagnostic error message should the vehicle ground speed and selected application rate exceed the pump output capacity or become too slow for uniform application of materials. The computerized system console must display the accumulated area treated, the accumulated distance traveled, the speed, and the rate of application. The computerized system must provide daily computer generated documentation of the total area treated and the total quantity of chemical applied.

The Engineer will specify when to use the herbicide by mower application, the estimated number of acres to be accomplished within a specified number of calendar days (cycle), when to begin herbicide by mower application cycle, and the number of cycles. Complete each herbicide by mower application within [redacted] calendar days of the beginning the cycle, weather permitting. Approximate number of cycles for each herbicide by inside mower deck application will be as follows:

Herbicide (Inside Mower Deck Application) [redacted] cycles

**580-33.4.4 Herbicide Root Control Fabric:** Use a long-term root control fabric system containing time-release nodules consisting of 18.9% active ingredient of trifluralin (a, a, a-trifluoro-2, 6-dinitro-N, N-dipropyl-p-toluidine) and 81.1% inert ingredients consisting of

spunbonded polypropylene, polyethylene, and carbon black. Place the root control fabric vertically in the trench, attach in place, and back-fill with dirt so that the top of the fabric barrier is equal to the top level of the surrounding area. The width of the fabric will be 20 inches unless otherwise approved by the Engineer. An alternate root control system may be used if approved by the Engineer.

**580-33.4.5 Basal Bark Application:** Apply herbicide directly to the bark around the circumference of each stem/tree up to 16 inches above the ground. Use an herbicide solution formulated with penetrating oil. Ensure the sprayers and spray guns have chemical resistant seals for the herbicides and carriers being used.

**580-33.4.6 Frill and Girdle Application:** Make downward cuts into the tree's bark and cambium layer completely around the circumference of the tree with no more than three inch intervals between cut edges. Continuous cuts (girdle) are required for large trees with a circumference greater than 12 inches. Using a backpack or handheld sprayer, apply herbicide to each cut until the exposed area is thoroughly wet.

**580-33.4.7 Stump Treatment:** Within 15 minutes of cutting and removing large trees, brush, spray or paint herbicide onto the cut surface. Ensure the cut surface is free of dirt and sawdust and as level as possible to minimize runoff.

#### **580-33.5 Disposal of Debris.**

By direction of the District Maintenance Engineer or designee, in designated areas remove and dispose of dead plant material flush with the ground in accordance with the herbicide manufacturer's recommendations or when the plant material is dead.

With the approval of the District Engineer or designee, dead plant material may be shredded and distributed evenly in designated areas. Material used must be 100% free of invasive weed species.

#### **580-33.6 Method of Measurement.**

The quantities to be paid for will be for the following items, completed and accepted.

1. The area, in acres, treated with herbicide using the strip, hand, wiping, or mower methods of application.
2. The area, in square feet, treated with herbicide using the spot or basal bark (trees less than 12 inches in diameter) methods of application.
3. The length, in linear feet, of root control fabric installed.
4. For each tree treated with herbicide using the basal bark and frill and girdle (trees greater than 12 inches in diameter) methods of application.

#### **580-33.7 Basis of Payment.**

Prices and payment will be full compensation for all work specified in this Section including furnishing and applying all materials, labor, equipment, and incidentals necessary to complete the work as authorized.

When applying herbicide utilizing inside mower deck application, price for the herbicide application includes the mowing operation and no separate payment for mowing will be made.

Payment will be made under the items as specified in the Bid Price Proposal.