

Approved:

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Office: Maintenance

Topic No.: 850-000-015-j


Department of Transportation

ROADWAY AND ROADSIDE MAINTENANCE

PURPOSE:

To establish procedures for cost effectively maintaining the right of way (ROW) of the State Highway System (SHS) for safety, preservation, and aesthetics.

To assist in establishing uniform maintenance operations throughout the State of Florida.

To provide for safe, effective, and efficient use of labor, equipment and materials to maintain the SHS ROW.

AUTHORITY:

Sections 20.23(4)(a) and 334.048(3), Florida Statutes (F.S.)

SCOPE:

The principal users of this procedure will be Maintenance Engineers, Operations Engineers, Maintenance Administrators, Contract Managers, Contractors and Maintenance Personnel who plan, organize, direct, and manage maintenance work.

REFERENCES:

Sections 334.035, 334.044 (24), 334.046, 335.091, 335.167, 339.24, 339.2405, 376.30, and 482.1562 (F.S.)

Chapter 5E-9 and 62C-20, Florida Administrative Code (F.A.C.)

The following user handbooks may be used as reference:

- Guide for Roadside Vegetation Management
- Guide to Asphalt-Pavement Repair
- A Guide to Non-Paved Shoulder Repair
- Maintenance Rating Program Handbook
- Guide Maintenance Plan for Lowering Devices of High Mast Light Poles
- Routine Maintenance Activities
- Best Maintenance Practices for Stormwater Runoff
- Guide for Tree, Palm Maintenance for Urban Roadside and Landscape Areas.

The State Maintenance Office is responsible for the review and revision of these user handbooks. Copies may be obtained from the Maps and Publications Sales Office, 605 Suwannee Street, Mail Station 12, Tallahassee, Florida 32399-0450, telephone (850) 414-4050. The user handbooks are intended to be used when more details about a particular maintenance operation are needed.

GENERAL:

All maintenance work shall be done in accordance with the maintenance activity standards, ***Standard Specifications for Road and Bridge Construction, Design Standards, Topic No. 625-010-003***, the ***Manual on Uniform Traffic Studies, Topic No. 750-020-007***, ***FDOT Loss Prevention Manual, Topic No. 500-000-015***, and American Association of State Highway and Transportation Officials (AASHTO) policies and procedures. Any deviation from these standards must be approved by the engineer in charge.

PROCEDURE

The District Maintenance Engineer (DME), or the DME's designee, is responsible for coordination and compliance with the following requirements:

- 1.0** The Maintenance Rating Program (MRP) is used to evaluate the quality and effectiveness of routine maintenance activities. It is a systematic and formal method of collecting data and can be used to make policy decisions for desired levels of operation.

Maintenance Engineers shall use data provided by the MRP to prioritize and schedule routine maintenance work. Short and long range work plans shall be consistent with the following objectives:

Each district is to maintain a minimum annual maintenance rating of 80; and all elements (roadway, roadside, traffic services, drainage and vegetation/aesthetics) shall have a rating of 75 or above; and the characteristics of each element shall meet the desired conditions of the MRP Handbook at least 70.

- 2.0** Turf management consists of the range of integrated management activities used to establish and sustain a turf stand at a desired level of quality. Proper management is critical to the development of successful turf. A high quality turf is usually the result of correct grass selection for the site conditions, proper establishment procedures, and effective cultural practices. General guidelines are listed in the ***Guide for Roadside Vegetation Management***.
- 2.1** A well-maintained turf stand and ROW can and will reduce the amount and

extent of other maintenance activities, such as shoulder work, ditch cleaning, mowing, pipe cleaning, and herbicide application.

- 2.2** Each district shall develop and implement a comprehensive and balanced vegetation management plan. This plan should address soil testing, seeding, soil amendments, aeration, herbicides, tree trimming, control of invasive species, and proper mowing techniques.
- 2.3** Each maintenance unit shall document and maintain in writing the location of Cogongrass and Tropical Soda Apple sites, to include Global Positioning System (GPS) location data, the total amount of area infested at each site, date, and type of treatment, products used (to include percent of active ingredient) .
- 2.4** All maintenance equipment before being used on and when departing the State ROW, shall be cleaned of all invasive weed seeds, spores, and active rhizome at a designated containment area. A designated containment area is an area or areas where all equipment is cleaned and which can be monitored for invasive species. Each maintenance unit shall treat any invasive species found growing in a containment area.
- 2.5** Roadside mowing is the Department's primary method of controlling roadside vegetation within clear zone areas as defined in the ***Plans Preparation Manual, Topic No. 625-000-007***. General guidelines for mowing requirements on each type of roadway (e.g. rural, or urban) are listed in the ***A Guide for Roadside Vegetation Management***.
- 2.6** The minimum mowing height is six inches for all rural areas. A lower mowing height may be required for office complexes, sites within urban limits, and when necessary to control invasive species.
- 2.7** Slopes with a grade steeper than 3:1 shall be mowed with hand-held or boom/slope equipment specifically designed for the task. Equipment used for slope maintenance that damages turf by sliding, scalping, rutting or is susceptible to overturning shall not be permitted. Trees, shrubs or ground covers, whether planted or regenerated naturally that can prevent erosion, decrease slope maintenance costs and enhance aesthetics should be considered as part of a slope management program.
- 2.8** Trimming of trees and large brush shall be accomplished with suitable equipment to provide an aesthetically pleasing cut. Boom mowers with rotary or flail cutting heads shall not be used for tree trimming or brush control. At no time shall boom mower cutting heads be operated higher than twelve inches above ground level.

- 2.9** Fertilizers may be used on new sod or seed for the establishment of turf areas only after soil testing to determine the type of fertilizer required.
- 2.10** Each District shall document the application of all fertilizers on the state right of way (ROW) using form number 850-000-26 located in the forms library at the following web site, and retain a copy for review.
<http://procnet.co.dot.state.fl.us/forms/ByNumber.asp?form number 850-000-26>

- 2.11** All Department personnel applying fertilizers shall be trained through the Green Industry Best Management Practices (BMP) Program, document the training in Training Records, Evaluation and Scheduling Systems (TRESS), and retain a copy of the completion certificate on file. Department personnel, completing the training, are not required to be licensed commercial applicators.

All contractors and/or permittee who contract the application of fertilizer shall ensure they are licensed commercial applicators who have been trained through the Green Industry BMP Program, and have obtained a limited certification for urban landscape commercial fertilizer application under section 482.1562, F.S. with a current copy of the license on file.

- 2.12** Fertilizer should not be stored near petroleum products or chemicals, or in areas subject to open flames or temperatures exceeding those normally experienced from sunlight.

- 3.0** Herbicides should only be considered for use on vegetation which cannot be controlled by mechanical methods. The use of herbicides is allowed around obstructions when the cost of controlling by other means is prohibitive. General guidelines for herbicide use and handling are included in A ***Guide for Roadside Vegetation Management***.

- 3.1** High volume broadcast application of herbicide **is prohibited** without prior approval from the Director of the Office of Maintenance. High volume broadcast application is defined as spraying large areas along the roadside or median with large quantities of herbicides to control invasive or undesirable weed species. Approval is not required when spraying or treating large areas for the control of exotic invasive species (like cogon grass, tropical soda apple, kudzu...etc.).

- 3.2** Restricted use herbicides shall not be used in the Department's roadside vegetation management program.

- 3.3** Herbicides shall not be used as a seed head suppressant or plant growth

regulant without obtaining approval from the Director of the Office of Maintenance.

- 3.4** All herbicide applicators shall hold a current license or work directly under a current licensed applicator, in the following three categories: core curriculum, right of way, and aquatics; and comply with all rules and regulations of the Department of Agriculture and Consumer Services.
- 3.5** A daily ***Herbicide Application Log (Form No. 850-000-15)*** is required for any herbicide application. This form is available from the Department's Forms Library.
- 3.6** The Department or its designee shall file a ***Pesticide-Use Proposal*** and a ***Pesticide-Use Report*** to perform any pesticide work done on the rights of way within the jurisdiction of the National Forest in Florida. This permit shall be filed with the United States Department of Agriculture.
- 3.7** All aquatic plant control efforts or attempts to control aquatic plants through mechanical, manual, or chemical means shall be governed by the most current rules and regulations of the Department of Environmental Protection (DEP).
- 3.8** In case of accidental spill or an error in application of a herbicide, prompt action shall be taken to minimize damage. The DME and local DEP office shall be notified of any leak or spill greater than 0.2642 gallon or 1 liter of concentrated chemical (unmixed herbicides), or 499.3 gallons or 1,890 liters mixed chemical (mixed herbicides) by the applicator and the Department and the notification documented. The local DEP office should advise the Department how to clean up the leak or spill.
- 3.9** Storage and handling methods: Chemicals are to be stored in a clean and dry secured storage facility protected from the weather. The storage facility should have a concrete floor, or be an approved metal type storage building with a built in containment floor system.
 - 3.9.1** All herbicide and fertilizer containers are to be correctly labeled, as required by State law, with labels that are authorized and registered through the Environmental Protection Agency (EPA).
 - 3.9.2** Containers will be discarded in authorized disposal areas or as recommended by the manufacturer. The Department requires the rinsing of containers a minimum of three times with proper solvent prior to disposal. The solvent rinse is to be recovered and saved as the diluent for the next application. Under no circumstances shall a Department employee drain or wash equipment where the

wash water can discharge directly into a lake, stream, or storm sewer.

- 3.10** In cases of alleged damage to non-target species, the damage claim shall be documented by using daily log reports, daily crew reports, written statements, and other documentation, as necessary, as soon as possible. Any written or verbal statement indicating an intention to file a claim shall be reported immediately to the Office of the General Counsel.
- 3.11** When spot spraying around obstructions, a selective, non-residual broadleaf herbicide is recommended. Non-selective herbicide applications to roadway components, such as paved shoulders or slopes, ditch pavement, curb and gutter, etc., may be made where elimination of all vegetation is necessary.
- 4.0** Areas identified as wildflower sites shall not be mowed, treated with non-compatible herbicides, or otherwise disturbed during their growing, blooming, and seed-ripening seasons.
- 4.1** Areas designated as wildflower sites shall not be allowed to develop to the extent that they pose a safety hazard.
- 4.2** For Landscape and Bold Landscape Areas (defined as an area dedicated to the use of landscape plants and related materials), owned by the Department and not under a memorandum of agreement (MOA), the District Maintenance office, shall develop a maintenance plan. The plan should specify the different varieties of landscape materials used in each landscape area. Also document in writing a schedule of all maintenance activities to be performed including, but not limited to, the type of mulch, soil amendments, fertilizers, irrigation, pruning, weed control (by hand, or herbicide), and mowing to be used. In addition, name all products, and their percent of active ingredients or analysis to be used to maintain these landscape areas, in as an attractive and vigorous manner possible.
- 5.0** Roadway shoulders are constructed primarily to protect and provide lateral support to the pavement edge, base, and subgrade of the roadway. They also provide a sloped surface for pavement drainage and areas for emergency parking, temporary detours, and partial recovery zones for vehicles.
- 5.1** Maintenance activities which disturb roadway shoulders, slopes, or ditches shall provide and maintain all adequate measures necessary for the prevention, control, and abatement of dust, erosion, and water pollution to ensure compliance with applicable local, state and federal regulations.

- 5.2** Restrict the use of blowers for removal of grass clippings, soils, sand and debris; provide adequate measures to contain all dust and solids within the right of way. Operate equipment so grass clippings, soils, sand, and debris are directed away from traffic, and all drainage structures.
- 5.3** All Department employee's working within the right of way shall complete and document in TRESS The Tier 1 Illicit Discharge Detection & Elimination (IDDE) training.
- 6.0** When pavement deficiencies are identified they shall be scheduled for repairs in a timely manner (depending on the level of safety concern). Repair techniques should generally follow those detailed in the ***Guide to Asphalt Pavement Repair***. All repairs to pavement surfaces shall reflect sound engineering judgment, and be performed in the most effective and efficient manner.
- 6.1** All excess asphalt plant mix and petroleum products must be picked up and disposed of in properly designated areas immediately after completion of work,.
- 6.2** When cleaning tools and equipment, employees shall not allow solvents to come into contact with plants, grass, shrubs, or bodies of water. Solvent solutions must be directed into containers when equipment is cleaned.
- 7.0** Approval from the Federal Highway Administration (FHWA) shall be obtained by the District prior to any interstate access control modifications. The District Maintenance Office is responsible for maintaining a current file with written FHWA approval for all interstate access control modifications within that district. This does not include temporary control modifications within construction projects.
- 8.0** All highway lighting located within the Department's right of way, shall be monitored quarterly. Lighting outages shall be reported for each lighting type and roadway system for each contract / local agreement area and cost center area. All deficiencies found under a local agreement area shall be reported to the maintaining agency for corrective action. These highway lighting systems shall meet the following requirements:
- a.** Lighting outages shall not exceed 10% for any lighting type (high mast, standard, under deck, sign) or roadway system (interstate, toll, turnpike, and primary); and
 - b.** No more than two (2) consecutive lighting outages within the same lighting type.

- C. Lighting outages identified during the department's monitoring cycle or by others shall be repaired within 30 days. No single light shall remain out for two consecutive quarters, unless it can be demonstrated the light is not operational for a different defect/condition than what caused the outage during the first quarterly survey.

8.1 High Mast Lighting, shall be inspected annually, from the date of the last inspection performed. Each District shall develop a management plan and checklist for the lowering and inspection of all high mast lighting. The inspection results shall be documented in writing using the check list. An example of minimum checklist requirements is located on the Office of Maintenance share point, and internet sites at the following links:
<http://www.dot.state.fl.us/statemaintenanceoffice/divisions.shtm#RoadwayOperations>

<http://cosharepoint.dot.state.fl.us/sites/maintenance/roadway/Shared%20Documents/Forms/AllItems.aspx>

8.2 Vegetation shall be maintained to prevent blocking, obstructing or interfering with any standard luminaire type highway lighting from illuminating the roadway as originally intended.

9.0 Permits shall be issued and administered in compliance with the current applicable **F.A.C. Rule Chapter**. The forms used for permitting shall be the most current version as detailed in the appropriate **F.A.C. Rule Chapter**.

The following permits shall be entered, administered, and tracked in the Permits Information Tracking System or in the One Stop Permitting System, as applicable:

Rule Number	Rule Title
14-20	General Use
14-20	Construction Agreements
14-28	Rest Area Solicitation
14-4010	Vegetation Management at Outdoor Advertising
14-40	Landscaping
14-43	Banners
14-46	Utilities

Rule Number	Rule Title
14-63	Building Moving
14-65	Temporary Road Closure and Filming
14-86	Drainage Connections
14-96	Access/Driveway Connections

District and area permit personnel shall be responsible for inputting the required permit data into the Permits Information Tracking System. The permit information shall be input into the system as the actual permit process takes place in order to provide a current record of the permit status.

10.0. Pursuant to **section 335.091, F.S.**, certain roads may be designated as a Blue Star Memorial Highway upon written request of the Executive Board of the Florida Federation of Garden Clubs, Inc. to the Department Secretary. The Department Secretary may also designate certain roads as a Blue Star Memorial Highway.

A designation letter signed by the Department Secretary with copies to the Public Information Office, District Secretary, local governing authority, and Department of State, shall be mailed to the Executive Board of the Florida Federation of Garden Clubs, Inc.

10.1. Upon official designation by the Department Secretary, the local garden club may purchase at its own expense, and request the placement of the Blue Star Memorial Marker as depicted in Figure 1. The installation of a Blue Star Memorial Marker will be by General Use permit for a 5 year term, with additional time extensions if needed to be made in the Permits Information Tracking System (PITS). The local Department Operations Center will process permit applications submitted by the Garden Club or the local municipality acting on behalf of the Garden Club. Department Operations Centers will assist with selection of appropriate locations for Marker placement.



Figure 1

Criteria for placement and installation of Blue Star Memorial Markers are as follows:

- a.** Markers should be placed in a rest area, scenic overlook, recreational area, or other appropriate location where parking is provided. If the

installation of a Marker off the main roadway is not practical, a Marker may be installed on the main line.

- b.** Markers and posts are not crash tested, and must be placed outside the clear zone or horizontal clearance.
- c.** Marker placement must preserve visibility of highway signing, and the safety and efficiency of traffic flow.
- d.** Markers may be placed at an appropriate location in each route direction.
- e.** Markers may be removed or relocated by the Department at any time without notice.

10.2. Memorial Marker maintenance is the sole responsibility of the local garden club affiliated with the Florida Federation of Garden Clubs, Inc. Marker maintenance, removal or replacement by the Florida Federation of Garden Clubs, Inc. shall be permitted by the nearest Department Maintenance Office or Operations Center.

10.3. The Office of Maintenance will maintain a record of the Blue Star Memorial Markers and shall provide the information to the Department of State. The inventory will be updated as Blue Star Memorial Highways are designated, and markers are installed or removed. The District Maintenance Engineer or designee will provide to the Office of Maintenance the following information:

- a.** Start and end point of designated Memorial Highway.
- b.** Location of Markers, nearby landmarks, coordinates, city, county, state road mile post, and Global Positioning System (GPS).
- c.** Photographs of Markers, close up and showing the sign in its context
- d.** Marker and Post materials and mounting type. Close up photos may be used.
- e.** Copies of agreements, resolutions, or letters documenting process or commitments.
- f.** Local contact persons from local garden club.
- g.** Posted speed of Memorial Highway.

11. TRAINING

Illicit Discharge Detection & Elimination (IDDE) training.

12. FORMS

Form 850-000-15, Herbicide Application Log, may be obtained from the Department's Forms Library.

Form 850-000-26, Fertilizer Application Log, may be obtained from the Department's Forms Library.

Form FS-2100-2, Pesticide-Use Proposal, and Form FS-2100-1, Pesticide-Use Report for National Forest System Lands, may be obtained from the U.S. Forest Service.