



MAINTENANCE FIELD SUPPORT

Vegetation Management

Pits and Quarries

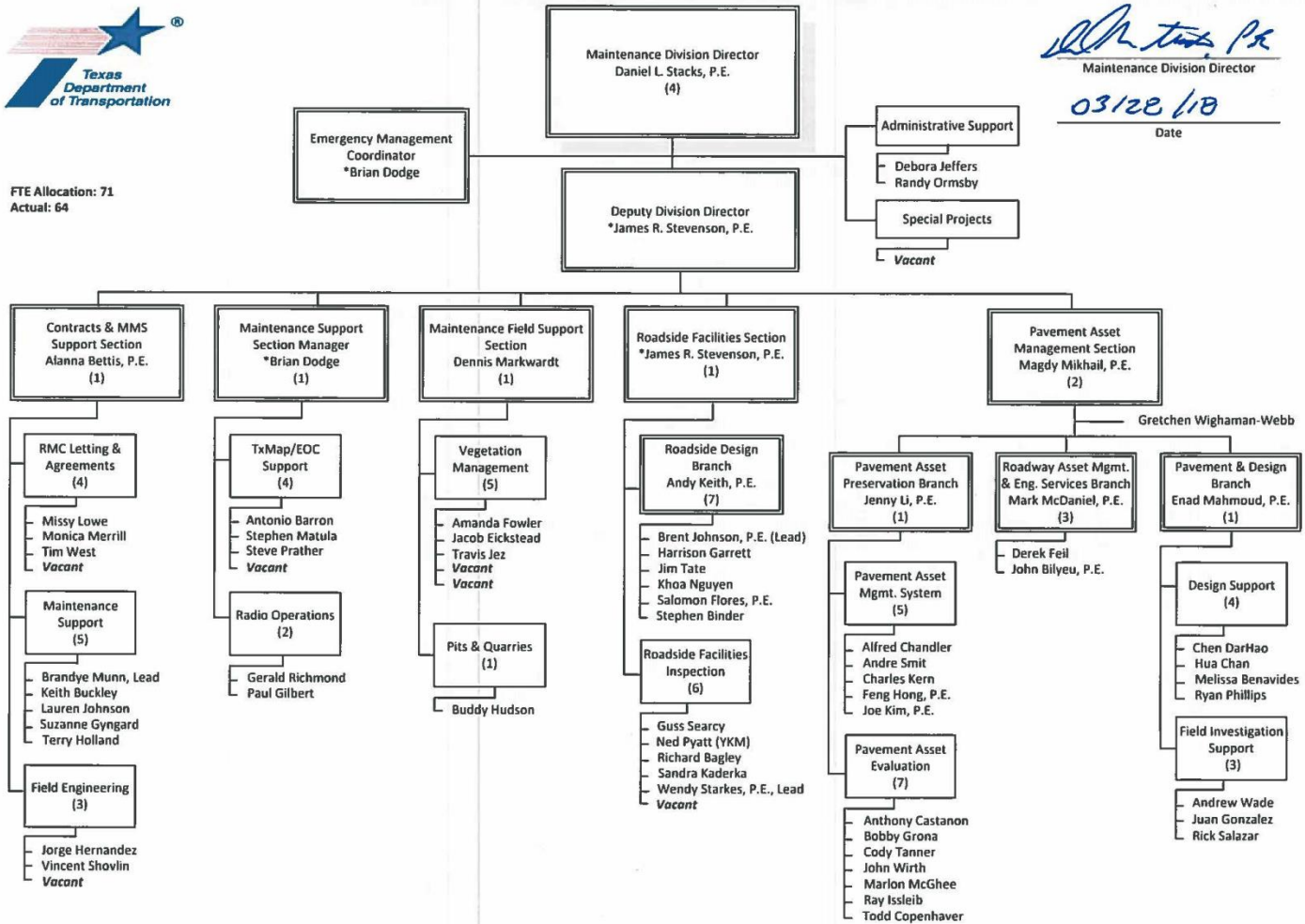




TEXAS DEPARTMENT OF TRANSPORTATION



FTE Allocation: 71
Actual: 64



Daniel L. Stacks, P.E.
Maintenance Division Director
03/28/18
Date



TEXAS DEPARTMENT OF TRANSPORTATION

VEGETATION MANAGEMENT

MNT Field Support

Seeding/Revegetation

- South Texas Natives Plant Restoration Project
 - Introduced 18 new species of Native Grasses
- 79,000 state-maintained centerline miles
 - 2,500 construction projects
- Purpose of Roadside Vegetation
 - Stewardship
 - Driver Safety
 - Erosion Prevention
 - Wildlife Habitat
 - Aesthetics



Wildflowers

- Seeding Rates and Specifications



Nectar Plants for Pollinators within TxDOT ROW

Examples of nectar plants

- Mexican hat (long-horned bees)
- Gayfeather (butterflies)
- Maximilian sunflower (monarch butterfly)
- Milkweed (monarch butterfly)
- goldenrod (wasps and bees)
- Beebalm (bees)
- Red sage (humming birds)
- Turk's cap (swallowtail butterfly)
- Texas lantana (butterflies)
- Salvia (hummingbirds and butterflies)
- Mistflower (butterflies and bees)
- frostweed (monarch and queen butterflies)
- Agave (Mexican long-tongued bat)



Mowing Policy & Guidelines

■ **Policy:**

- Urban – 3 cycles per year
- Rural – 2 cycles per year
- South Region-1 additional strip mow

■ **Guidelines:**

- Don't start mowing until June 1
- Spot mow for safety
- Make sure wildflowers have set seed
- Start fall cleanup mow in October thru November
- This will ensure wildflower establishment
- Regrowth will be slow due to cooler nighttime temperatures
- Wildflowers germinate September thru November
- Grass needs to be reduced for good establishment
- Mow at 7 inches in rural
- Mow at 5 inches in urban
- Coordinate with herbicide program
- Cease spray operations 10 days prior to mowing operations

Invasive Species

- Invasive Weed Council
- Endangered Species Agreements (TPWD)
- Noxious Weed Working Group
- Groundwater Advisory Board
- Cooperative Weed Management Group
- Monarch Butterfly Working Group
- LCRA Mid-Basin Regional Council



Erosion Control

■ Texas Transportation Institute (TTI)

- Hydraulics, Sedimentation & Erosion Control Laboratory, College Station
 - Evaluates field performance of rolled and hydraulically-applied erosion control products promoted by Industry for use as slope protection, flexible channel liner, or hydraulic mulch applications
- Approved Product List
 - Latest research data for products evaluated
 - http://ftp.dot.state.tx.us/pub/txdot-info/mnt/erosion/product_evaluation/approved-products.pdf
- Sediment Control Device Evaluation Laboratory, College Station
 - 1st Sediment Control Evaluation Facility in US
 - Evaluates the effectiveness of Sediment Control Devices
- Determines:
 - % Filtering Efficiency
 - Filtration Rate
 - Turbidity Evaluations
 - Ponding Volume
- Assists in the selection of appropriate Sediment Control Devices that meet EPA and TCEQ Effluent Discharge Guidelines



Environmental Issues

- Texas Commission on Environmental Quality
- Texas Department of Agriculture
- Item 506, SP 506.02
 - Temporary Erosion, Sedimentation, and Environmental Controls



Wildlife Control



Compost

■ Compost Demonstrations

- Abilene
- Dallas
- San Antonio
- Tyler
- Waco



■ Encourage the potential of compost for the establishment of vegetation cover

- High in Organic Matter
- Optimal Nutrition to stabilize and foster plant growth

■ Especially helpful when topsoil is limited

- New Construction
- MNT Activities

■ Erosion Control Practices In Addition to Compost


- Slopes
- Other Highly Erodible Areas

Contract Assistance

- Inspections
- Writing Specifications

180

Item 180
Wildflower Seeding



1. **DESCRIPTION**
Prepare the surface, provide and sow wildflower seed as shown on the plans or as directed.

2. **MATERIALS**
Provide seed of the previous season's crop meeting the requirements of the Texas Seed Law, including the testing and labeling for pure live seed (PLS = purity x germination). Furnish seed of the designated species in unopened bags or containers to the Engineer before planting, with labels showing the date of the analysis to be no more than 12 mo. before the time of use.

3. **EQUIPMENT**
Use equipment shown on the plans or as directed that will evenly distribute the seed over the area.

4. **CONSTRUCTION**
Mow locations designated for wildflower planting to an approximate height of 4 in. Distribute the seed or seed mixture uniformly at the rates and locations shown on the plans or as directed.

5. **MEASUREMENT**
This item will be measured by the acre.

6. **PAYMENT**
The work performed in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Wildflower Seeding." This price is full compensation for seed, equipment, labor, tools, and incidentals.

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Herbicide Recertification Trainings

- Conducted in ALL 25 Districts, Annually
- ~1,400 TxDOT Employees are Licensed as Non-Commercial Political Pesticide Applicators
- Satisfies required Continuing Education Units (CEU's)
- Train and Test unlicensed TxDOT Employees
- Laws
- Applications
- Pesticide Product
- Environmental Concerns
- Toxicology
- Equipment and Operator Calibration

De-Icing Training

■ Classroom Session

– Covers PRE & De-Icing

- Situations
- Materials
- Applications
- Application Equipment
- Equipment Calibration



■ Calibration Session

– Calibrates Equipment

- MgCl
- Brine

– Training for proper equipment operation



Equipment Training and Calibration

- Conducted Bi-Annually, 25 Districts
- Ensures that Operator Can Operate Equipment
- Ensures that Equipment is Operational
- Ensures Proper Applications of Chemicals
 - Herbicides
 - Liquid De-Icing Material



Equipment Design

- Purpose:
 - To design Ergonomic equipment that provides for ease of application for TxDOT employees, safely
 - To provide equipment that allows for efficient applications, saving time and money
- Application control made from cab by the Licensed Operator
- Front-mounted application booms covers the entire width of the trucks with edge and guardrail nozzles on both sides
- Flex-Five spray head that can make an application of up to 36-feet into the ROW on either side of the truck
- Herbicide Injection Tanks added for safety
- Manufactured In-house by TxDOT FOD
- Equipment is multi-faceted
 - Herbicide Applications
 - Pre and De-Icing Applications
 - Water Trucks for Construction Projects, Vegetation and Fire



Pesticide Research

- Every Pesticide used in TxDOT's Herbicide Program tested for at least 3 years throughout Texas
- MNT Field Support Section approaches districts in order to test new products
- District approaches our section to look for solutions to weed problems
- New chemicals
- New Adjuvants (Drift Control, Surfactants)
- Combinations of products
- Johnsongrass
- Edge of Pavement
- Side Trimming (Chemical Pruning)
- Brush Species



Complaint Resolution

- Inspect Site
- Meet with Complainant
- Provide assistance with damage claims
- Provide assistance with TDA inspectors during complaint investigations and inspections
- Assist TxDOT Operators with TDA Notice's of Violation



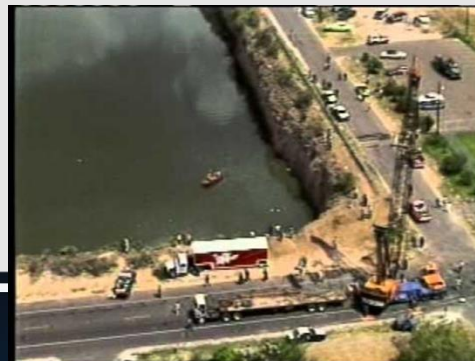
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TEXAS AGGREGATE QUARRY AND PIT SAFETY ACT

MNT Field Support

Texas Aggregate Quarry and Pit Safety Act

- Purpose:
 - To protect the traveling public from the potential dangers of open quarries and pits.
 - Requires Safety Devices for certain Aggregate Quarries and Pits
 - Preserves landowners' property from erosion into neighboring Quarry/Pit
- Rules and Regulations:
 - Texas Natural Resources Code-Chapter 133
 - Texas Administrative Code-Title 43, Part 1, Chapter 21, Subchapter M
 - 1991, 72nd Legislature
- Violations:
 - Quarry or pit owners who fail to comply with the Act may be fined up to \$10,000 for each violation.



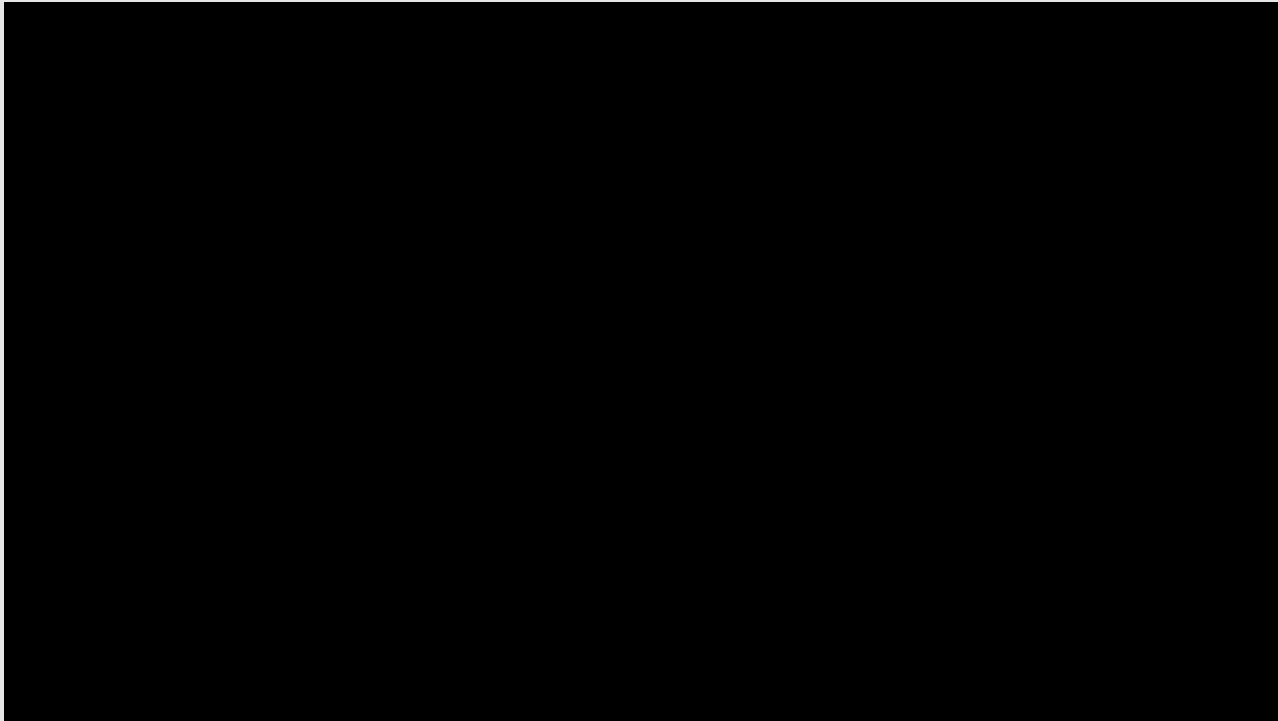
Other responsibilities include:



- Acquire and Maintain Emergency and Safety Equipment for Division Vehicles
- Collaborate with EOC & SOC Operations
- Deliver, Set-up, and Maintain TxDOT Fire Trailers
- Assist with Emergency Fuel Plan operations to including but not limited to the delivery of Trans Cubes

Safety

- Strive to make safety FIRST
 - Participate in Agency-wide Safety Policies and Procedures
 - Encourage Safe Practices
- Backing Video



MNT Field Support Section

- Dennis Markwardt-Vegetation Management Section Director
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- Vegetation Management
 - Amanda Fowler-Vegetation Specialist
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 - Travis “TJ” Jez-Vegetation Specialist
(512) 416-3091
 - Jacob Eickstead-Vegetation Specialist
(512) 416-3092
- Pits & Quarries
 - Tasker “Buddy” Hudson-Quarry/Pit Safety Program Specialist
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