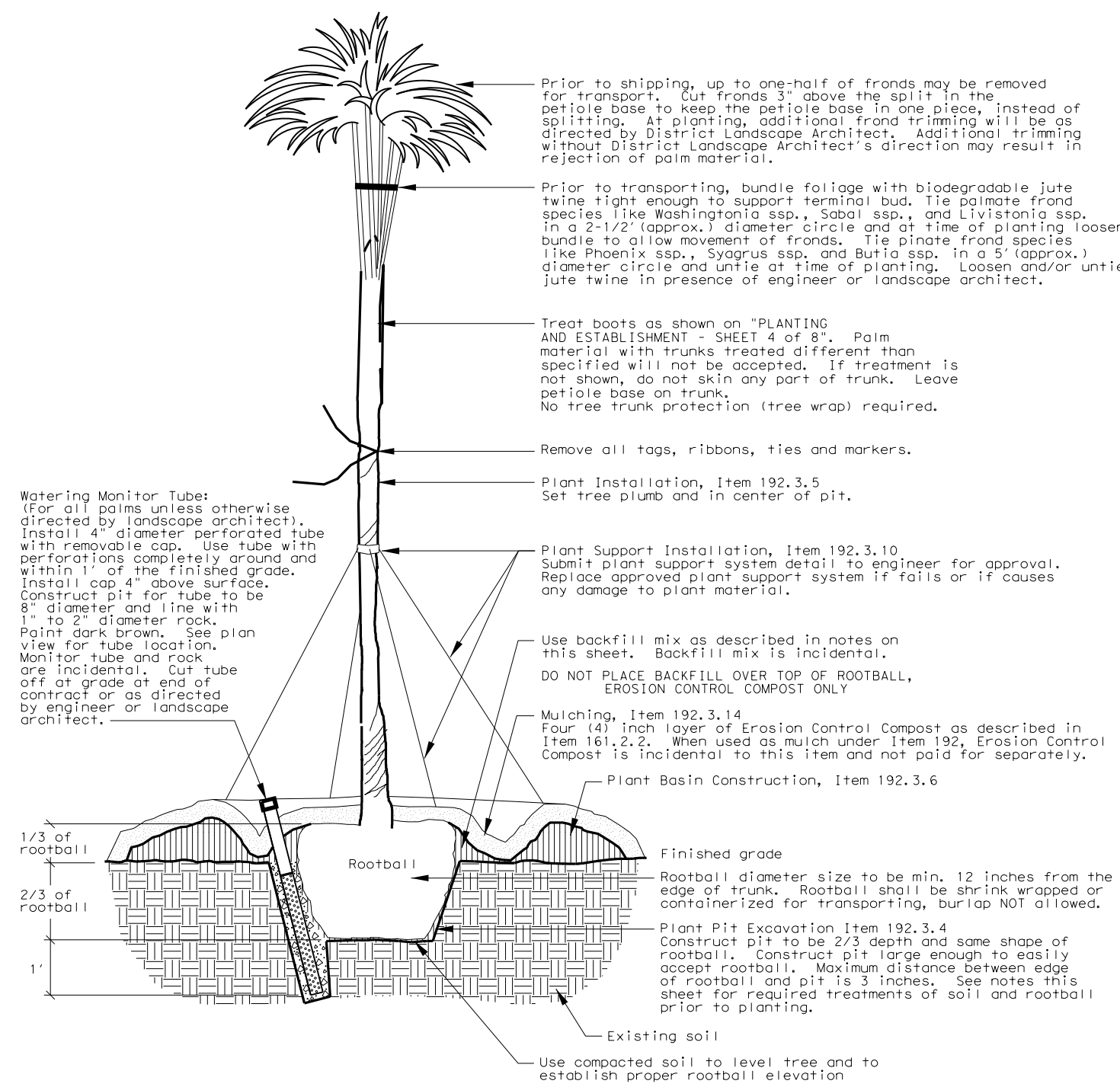


**PLAN VIEW
PALM TREE AND PERFORATED TUBE**

IF PALM MATERIAL FALLS TO THE GROUND DURING DELIVERY, CONSTRUCTION, ESTABLISHMENT, OR MAINTENANCE, IT IMMEDIATELY BECOMES THE PROPERTY OF THE CONTRACTOR AND MUST BE REPLACED AT CONTRACTOR'S EXPENSE.



PALM TREE PLANTING

VEGETATIVE WATERING SCHEDULE FOR PALMS ONLY

PHASE	ITEM DESCRIPTION	FREQUENCY AND RATE
Item 192.3 Construction	Item 192.3.7. Watering is incidental to Item 192 and is not paid for separately	Maintain the root ball and surrounding backfill evenly moist, but never saturated. See notes this schedule. Submit watering schedule to engineer for approval prior to installation.
Item 192.3.15 Maintenance	Item 192.3.15.1. Watering is incidental to Item 192 and is not paid for separately	
Item 193 Landscape Establishment (When Shown In Plans)	Item 193.3.3. Watering is incidental to Item 193 and is not paid for separately.	

NOTES:
 Apply water over the rootball within the tree well only. Adjust rate and frequency to meet site conditions and/or weather as approved or directed by engineer.
 Monitor watering to maintain rootball and surrounding backfill evenly moist, but not saturated. Inspect monitor tubes and pump out standing water. Daily inspection and pumping is required when rootball is over-saturated by rain, run-off, watering or other events.
 Plant material in poor condition due to the failure to apply the specified amount of water within the time allowed or overwatering will be replaced at contractor's expense.
 PROVIDE MONTHLY METER READINGS OF WATER APPLIED.
 Prior to arrival at project or storage area, provide watering plan(s) of plants to be installed or stored. Watering plan(s) must be approved by engineer prior to delivery to project or storage area.

GENERAL NOTES:

- Reference Item 192 of the Texas Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges 2014 for specifications, dimensions, volumes, and measurements not shown.
 - Reference Item 19.3, mark plant locations and bed outlines.
 - Verify that all planting meets the following clear zone minimum distance requirements from the edge of the travel lane:
 Trees: 32' unless protected by a barrier,
 Shrubs: 16' unless protected by a barrier,
 Groundcovers and vines: no minimum distance.
 Engineer has final authority over all clear zone related issues.
 - Roadway edges shown on the plans are to be considered the edge of travel lane unless labeled otherwise.
 - Locate and stake all underground conduits and utilities associated with but not limited to: CIMS, CIMS power supply, lighting, signal wires and detectors, gas, electric, telephone, fiber optics, etc.
 - Repair and/or replace any damaged underground conduits and utilities at contractor's expense.
 - Locate and stake existing ground boxes, inlets, culverts, manholes, etc. within the project area with a 4' wooden stake painted orange. Maintain the stakes in place for duration of the contract. Remove stakes when directed by engineer.
 - Repair and/or replace any damaged structures, pavement, riprap, equipment, materials, slopes, vegetation, and surfaces at contractor's expense.
- PALM TREATMENTS, APPLICATIONS, AND SPECIALIST NOTES:**
- Treatments to plant material to ensure health and quality of plant from disease, stress, insects, or other detrimental impacts are incidental.
 - Applications of fertilizers, vitamins and hormones are incidental.
 - Multiple treatments and applications are incidental.
 - Required soil tests are incidental.
 - Palm specialists are incidental. Submit qualifications of palm specialist at preconstruction meeting for approval by engineer.

REQUIREMENTS PRIOR TO PLANTING:

- Test pH of soil after bed preparation work is completed. Collect soil sample 18" below final surface. Provide results to landscape architect and palm specialist. Provide comments and recommendations from palm specialist to landscape architect. Desired soil pH is between 6.5 and 6.8. When soil pH is high, incorporate an approved aluminum sulphate into soil as recommended by manufacturer and pH test. Additional applications and pH testing may be required to adjust pH before and after planting.
- Provide documentation from palm specialist verifying palm species, condition and health of all palm materials to engineer.
- Spray foliage with an approved anti-desiccant.
- Maintain rootball, trunk, and frond moisture conditions during transportation and storage activities.
- Apply an approved soil fungicide to entire rootball.
- For further information on identifying insects, diseases, and nutritional problems, the palm specialist will be contacted.

REQUIREMENTS AT TIME OF PLANTING:

- Apply an approved aluminum based foliar fungicide to tops and bottoms of fronds and bud.
- After fungicide has dried, apply an approved insecticide to the fronds and trunk.
- After insecticide has dried, apply an approved anti-desiccant to the fronds and trunk.
- Test soil for pH level and treat as specified in previous notes on this sheet.
- Incorporate "Palm Saver" or an approved equal palm fertilizer into the backfill around the rootball.
- When backfilling around rootball, work backfill equally around rootball in 6" lifts to eliminate air pockets.
- Soak each lift up to finish grade using an approved liquid form of vitamins and hormones specifically for palms diluted with water at a ratio recommended by manufacturer. Use a liquid which contains but is not limited to Mg and Mn.
- Use backfill consisting of the following: 70% existing soil removed from the plant pit and 15% Erosion Control Compost as described in Item 161.2.2 Compost and 15% rock limited to 1 inch to 1-1/2 inch. Work backfill equally around the rootball as described in previous notes on this sheet. Rock and compost are incidental.
- Use Erosion Control Compost for surface application for palm planting as described in Item 161.2.2 Compost. Compost for surface application for palm planting is incidental.
- Maintain soil moisture conditions as specified in watering schedule on this sheet.

REQUIREMENTS AFTER PLANTING:

- Every 4 months, test soil for pH level and treat as specified in previous notes on this sheet. Provide the pH soil test report shall be provided to Landscape Architect and Palm Specialist in order to determine type and amount of fertilizer.
- Fertilize palms every 4 months with a combination of "Palm Saver", K and Mg in liquid form with granular form of K and Mg sulfates.
- Apply all granular palm fertilizers by drilling 10" into soil around rootball.
- Application of fertilizers and micronutrients may be adjusted according to soil and palm conditions.
- Maintain watering and soil moisture conditions as specified on this sheet.
- For further recommendations for treatment of insects, diseases, and nutritional problems, contact palm specialist.
- At anytime remove any/all dead fronds as directed.

*Complete this work in the presence of the engineer.

Texas Department of Transportation
 HOUSTON DISTRICT

PLANTING AND ESTABLISHMENT

SHEET 2 of 8

Details not to scale PALM TREE

FILE:	650	STATE	PROJECT NUMBER			SHEET
	6	TEXAS				
REVISIONS:	DIST	COUNTY	CONTROL	SECT	JOB	HIGHWAY
FEB 2015 for 2014 specs	12					