

Subject: Irrigation Valve Repair

Approved:

PROCEDURE:

Irrigation Valve Repair

INTENDED AUDIENCE:

LNR personnel assigned to the irrigation team.

PURPOSE:

To ensure timely irrigation valve repair to maintain proper coverage of the plant material by the irrigation system at University of Central Florida.

- I. Knowledge** – Employee should be trained in proper valve repairs for the irrigation system campus.
- II. Safety** –It is the employee’s responsibility to determine if added Personal Protective Equipment (PPE) is needed and to consult with their Supervisor prior to starting the task.
PPE includes:
 - a. Safety Glasses
 - b. Work Boots
- III. Prior to Irrigation inspection**
 - a. Pick up any irrigation parts needed for truck stock from the Irrigation Store Room or Central Stores before leaving the LNR compound.
 - b. Make sure to have flags on your truck to mark any repairs needed while doing the valve repair.
 - c. Turn water off before making the valve repair.
- IV. Preparation for the Irrigation Valve Repair**
 - a. Remove all the dirt from around the irrigation valve, making sure enough pipe is exposed to make a proper repair.
 - b. Cut the broken valve out of the existing piping.
 - c. Disconnect the wires to from the valve solenoid and the field wires.
 - d. Secure wires away from the repair to keep them from accidentally getting cut.
 - e. Determine the parts that are necessary for the repair (Teflon tape, valve, gate valve, fittings, Schedule 80 pipe and nipples, wire nuts,

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valve box, solvent and primer) and retrieve them from the irrigation truck.

- f. Clean the existing pipe with a rag and make sure there is no dirt on the surface of the pipe where the repair will be made.

V. Irrigation Valve Repair

- a. Layout the required valve and fittings needed for the repair in the direction it will be installed.
- b. Measure and mark the new pipes to the correct length of the repair needed.
- c. Using the pipe cutters cut the new pipe to the correct length.
Note: Make sure to cut the pipe straight on the outside diameter.
- d. Apply primer to the new fitting and new pipe and then reapply primer to the new fitting again.
- e. Apply solvent to the new pipe and new fitting and then reapply solvent to the new pipe.
- f. Insert the new fitting to the new pipe and twist a quarter turn and hold new fitting in the new pipe for at least 15 seconds to make sure the pipe does not back out of the fitting.
- g. Repeat steps **Vc** through **Ve** for each new fitting needed for the irrigation valve repair.

Note: A gate valve should be installed before the irrigation valve to prevent an entire mainline shut down in the event the irrigation valve should need future repairs.

- h. Apply Teflon tape to the threaded end of the schedule 80 nipples that are screwed into each end of the irrigation valve and the end of the gate valve.

Note: Be sure to install the solenoid side of the valve on the lateral line side of the pipe so the valve can operate properly

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- i. Connect the new solenoid wires to the Field wires with DBY-R connectors. This will protect the connection.
- j. Install valve box around the irrigation valve.

CAUTION: Valve box must be installed to grade before being backfilled to prevent a tripping hazard.

- k. Using previously removed soil, backfill the hole surrounding the valve box. Compact the soil as you fill and add additional soil until the area is back to proper grade.

Note: The repaired valve and pipe will need to sit at least 24 hours before the water can be turned back on.

- l. Once the repair has set up for 24 hours, test the valve to ensure it is operating properly.

VI. Site Clean up

- a. Ensure all soil and mulch is in intended area and not on turf or hardscape features (i.e. sidewalks, curbing, roads); rake or blow as needed.
- b. Collect all broken pipe, old fittings, and any other debris and dispose of properly.
- c. Collect all hand tools and return to irrigation trucks.