

Fiddlers Creek Irrigation Overview

The Fiddler's Creek irrigation system comprises four distinct features: (1) water supply and pump stations; (2) piping; (3) electrical wiring; and (4) timer controller. A basic description and review of the current status of the components of the Fiddler's Creek irrigation system is provided below.

Water Supply and Pump Stations

The irrigation system water at Fiddler's Creek is provided by a series of pumps that draw water from the CDD lake systems. There are a total of twenty (20) - 75hp pumps located within four (4) pump stations throughout the community with a combined total capacity of +/- 15,000 gallons per minute (GPM). The pumps operate on pressure switches and are designed to maintain pressure at 85psi. When the irrigation system demands water, the pumps will increase the supply accordingly. A summary of the current status of each of the four (4) pumps is as follows:

1. Station #1 (Creative Lane - Lake 88)

Six (6) 75hp Pumps --- Max Rough Capacity / 4500gpm

- Operational
- Older in Need of Replacement (Replacement schedule - late 2025 or 2026)
- Due to its age and condition this station is set to perform as a supporting / Assistant role to Station #2
- Unreliable when asked to run 100% capacity (Shuts down for multiple reasons)

2. Station #2 (Creative Lane - Lake 88)

Six (6) 75hp Pumps --- Max Rough Capacity / 4500gpm

- Operational
- New (Replaced in late 2023)
- Serves as primary dominant station for entire property
- Steel discharge is leaking inside pump house wall
- Has no isolation valve outside > Steel dogleg repair will warrant all FCP, Championship, & Marsh Drive and all associated HOAs to be de-pressurized during repair due to no isolation valve

3. Station #3 (Aviamar Cir – Lake 85D)

- Non-Operational – Offline since 2/24/2025
- 4 / 75hp Pumps ---- Max Rough Capacity / 3000gpm
- Needs PLC Computer

4. Station #4 (Aviamar Cir – Lake 85D)

- Operational
- 4 / 75hp Pumps ---- Max Rough Capacity / 3000gpm
- Serves as only supply for the Sandpiper side of property (Demand supported by #1 & 2)

- Needs new PLC Computer

Pump Stations Nos. 1 & 2 are situated in separate buildings but are side-by-side to each other and are essentially twin stations. The same is true for Pump Stations Nos 3 & 4 which are in located in the same building together.

As Pump Stations Nos. 1 & 2 have 50% more capacity than Pump Stations Nos. 3 & 4, Stations 1&2 provide the majority of water during the nightly irrigation watering cycles. By natural operation Pump Station No. 2 operates as the dominant pump and the first to come on and last to shut off. Therefore, it is necessary to manipulate Pump Stations Nos. 1 & 2 so the operational load is shared between them and Pump Station No. 1 has to be forced to be the dominant station. The same holds true for Pump Station Nos. 3 & 4. Pump Station No. 3 naturally operates as the dominant station, so similar steps are taken on these two stations to balance the operational load.

When any one of the four stations is down its twin station is required to take on the operational load of both. This not only brings on undue wear & tear to the station, but it also hinders the chlorine injection system from having an opportunity run and kill the aquatic organisms as the chlorine systems don't work when the pumps are running.

Repairs to the pump stations should avoid being scheduled in the dry season when at all possible. The preferred time to perform repairs each year would be during the wet season when pump demand is considerably less. Preemptively preparing the pump stations for the dry season (February – June) when the pumps are being pushed to their limits and full watering capacity is mandatory should be considered. A proactive approach to these needed repairs would greatly reduce breakdowns necessitating emergency repairs.

Piping/Hydraulics

The water supply from the pumps is directed and delivered to the irrigation system via a series of pressurized underground CDD mainline pipes (or trunk lines) located throughout Fiddlers Creek. The water in these large trunk pipes can be isolated via a network of manual gate valves (isolation valves) which can be closed to stop the flow of water if needed for repairs.

At the village level there is also a network of HOA (non-CDD) pressurized secondary branch piping that delivers the water to the electric zone valves for each area.

The water from the supply pumps remains under constant pressure throughout all of these piping systems up to the electrically controlled zone valves. At this point the pressurized water is held at bay until the zone controller tells the valve to open. When the timer controller/satellite turns on (opens) the electric zone valve, the pressurized water is then released to the *zone pipes* that deliver the water to the spray heads that launch/disperse the water to the plant material and/or turf.

Electrical Control Wiring

The electric zone valves are opened and closed via electrical circuits that originate at the timer controller/satellite. All the Fiddlers Creek satellites have conventional wiring, meaning that each electric valve has its own individual power wire (one for each zone valve) as well as one common/neutral wire that is common to all the zone valves associated with that timer controller.

A modern digital option to control electric zone valves is called Two Wire System. Gulf Bay is employing this method of wiring and a Base-Line cloud based operating systems in its new development areas in Oyster Harbor and Dorado.

Timer Control/Satellites

There are approximately 90 timer controllers/satellites in Fiddlers Creek at present. The timer controllers are LTC Pro Satellites and are manufactured by Toro. They have a capacity of controlling 64 stations or zones and can run up to 6 zones simultaneously. They are designed to be operated via a central computer but can also be set in a stand-alone or manual mode if necessary.

Of the 90 satellites currently on property 65 are being controlled via the LYNX Central computer and 25 are in manual or local mode. These builder satellites are primarily contained within the Oyster Harbor, Marsh Cove, and Amaranda HOAs and are not in the Central computer network. Additionally, these satellites are not currently equipped with the components necessary to make them compatible with our LYNX Central Control Computer. Additionally, there are 130 +/- single family residential controllers in 3 of our HOA's that are also not in the Central computer network.

The LYNX Central computer operating system (or any central operating system) reduces pump operational wear and power usage and increases watering time efficiency as well as many other benefits. The LYNX Central computer communicates with the satellites via analog radio signals. Analog radio communications can be susceptible to interference from any manner of sources and is antiquated. Even though the Central computer system was upgraded a few years ago it still operates with analog satellites and CB radios in the field. As analog equipment increasingly becomes unavailable these issues will eventually need to be updated.

New controller replacement components are becoming unavailable for use and rebuilt “used” components are often having to be installed for repairs. According to the manufacturers reps this trend will continue as well as delays in receiving replacement parts. The conventional wiring installed through most of the community has an expected life span of approximately 25 years. There are several Village HOA’s that are experiencing wire degradation and are having to take costly and short-term steps to keep their zones running. Inherently this wiring issue will impact everyone’s system and is a primary reason system wide upgrade is required.