



## **Dunes CDD Water Supply and Treatment Primer (Things You Should Know About Your Drinking Water)**

### **THE WATER TREATMENT PLANT**

The Dunes Community Development District (DCDD) owns and operates a 1.44 million gallon per day (MGD) water treatment plant. This water treatment plant is designed to provide a safe, reliable, and sustainable supply of drinking water for the community well into the future.

### **INDEPENDENT THIRD-PARTY TESTING**

Many of our customers have indicated they regularly see fliers from companies offering to test their water for purposes of marketing the sale of water softeners or additional filtration systems. The Dunes CDD has no affiliation with any of these Companies and as stated below, does not recommend the installation of Water Softeners and finds additional filtration systems are typically unnecessary. Please feel free to complete any independent testing of our water that enhances your comfort level with our water.

### **WATER SOFTENERS NOT RECOMMENDED**

Some of our customers have installed water softeners. The Dunes CDD water is still considered “soft” even after post treatment processes which includes mineral addition. The Dunes CDD drinking water has an approximate total hardness of 45 parts per million (ppm) or 2.6 grains per gallon and a calcium hardness of 35 ppm or 2.0 grains per gallon. Water softeners are unnecessary and are likely to remove many of the minerals added in the post treatment process, producing extremely soft water that can be aggressive to home plumbing systems.

### **A WORD ABOUT HOT WATER HEATERS**

Please consult your water heater manufacturer’s instructions for maintenance activities. Most hot water heaters are protected from corrosion with the installation of anodic protection. The anode rod is the sacrificial anode used to protect the hot water heater from corrosion. The anode rod in the tank of the hot water heater should be replaced as part of routine maintenance if it has deteriorated. Other routine maintenance activities include draining the tank to remove any sediment that may have deposited over time. The pressure relief valve should be tested to make sure it is working properly. This routine maintenance can extend the life of a hot water heater.

### **ELECTRICAL GROUNDING**

Stray current corrosion can occur if the homes electrical system is grounded to the metallic pipes in the home plumbing system. Often the ground is made at the hot water heater inlet pipe if it is a metallic pipe. Customers with their electrical system grounded

to metallic pipes are advised to explore other approved grounding options with a licensed electrical contractor and follow all local building codes and the National Electric Code when making any changes to the grounding of their electrical system.

### THE SUPPLY

The Dunes CDD's water supply comes from a groundwater source known as the Floridan Aquifer. The Floridan Aquifer is one of the major groundwater sources in the country and underlies all of Florida, southern Georgia, and parts of Alabama and South Carolina. This underground reservoir consists primarily of sand and limestone layers. The Floridan Aquifer in this part of the state adjacent to the Atlantic coast is a highly mineralized, brackish water supply containing significant quantities of salt, hence the term brackish. The water supply contains other minerals such as calcium and to a lesser extent magnesium and iron. The water also contains the dissolved gases carbon dioxide and hydrogen sulfide.

### THE TREATMENT PROCESS

The water supply is groundwater withdrawn from three Floridan Aquifer wells approximately 300 ft deep and is treated by a Reverse Osmosis (RO) membrane process. The RO treatment process removes salts, minerals and other contaminants from the groundwater source. After RO treatment, the water is aerated to remove the naturally occurring dissolved gases carbon dioxide and hydrogen sulfide remaining in the water after the RO process. Chlorine in the form of sodium hypochlorite (commonly known as bleach) is used for disinfection purposes and to maintain a chlorine residual in the water distribution system.

### POST TREATMENT PROCESS

RO water may be found to be aggressive to plumbing systems if some form of post RO treatment is not included in the process. However, the Dunes CDD RO water plant adds an orthophosphate corrosion inhibitor after membrane treatment to protect pipes and fittings in the distribution system as well as household plumbing. The pH of the water is adjusted using sodium hydroxide. Minerals, in the form of calcium chloride, and alkalinity, in the form of bicarbonate, are added to produce a stabilized finished water. The primary purpose of these post treatment measures is to reduce the potential for corrosion of distribution piping and household plumbing.

### TESTING

Various tests are performed on the treated water daily, weekly, monthly and annually to ensure our water is completely safe to drink and meets all state and federal drinking water standards. An Annual Water Quality Report is prepared yearly, as required by our regulatory agency, and is provided to all our customers as an insert with our June billing statements. Additionally, the Dunes tests the water for lead and copper every three years and the water is in compliance with all regulatory requirements.

If you have questions about this information, please call the Utility Office at 386-445-9045.