



Orange  
County  
Answers

# FACT Sheet

Provided as a Community Service of Orange County Public Works Department • 4200 S. John Young Parkway • Orlando, Florida 32839

## Drainage Control: Pump Stations and Drainwells

Orange County Public Works maintains 17 pump stations, 56 drainage control structures and over 68 drainwells which control flooding and keep water flowing and draining properly under normal weather circumstances. While adverse weather conditions can place a burden on these drainage control systems, they each serve a special function in Orange County's efforts to avoid flooding of roads and neighborhoods.

A **pump station** is an artificial mechanical system which discharges floodwater against gravity. Pump stations are designed to reduce flooding stages in low lying areas, minimizing flood water from occurring and encroaching upon surrounding structures. Pump stations are either equipped with above or below ground pumps, powered by either an electrical or diesel motors. These pumps are activated manually; or automatically by a float or metric tape system. The pumps are activated when the water level exceeds the control elevations.

Pump stations are maintained once every two weeks to ensure that they are fully operational. Maintenance activities includes: cleaning debris from the intake screens, removing sediment built up in the intake area, repairing security fencing, embankment depression and erosion failures; oilers are filled, motors and back-up generators are run and inspected, outlet pipes, the building and access areas are maintained.

A **control structure** is either a dam, weir or gate valve used to regulate the water elevations on lakes, canal systems, or rivers, thereby reducing the flooding impacts to downstream residential areas. These structures are regularly maintained every two weeks to ensure proper operation and functionality. Maintenance operation consists of mowing around the structure, debris and sediment removal, embankment and slope repairs and general structure inspection.

A **drainwell** is a vertical pipe that drains surface water by gravity to the aquifer. The most common use of these wells is to supplement surface drainage in urban areas where positive outfall does not exist. They also act as storage recovery control facilities for retention ponds and runoff from roadside surfaces. Drainwells are maintained on a two-week cycle and are inspected daily during heavy rain fall periods. Maintenance involves mowing access area to the wells and removing debris from inlet pipes. Drainwells have a high tendency to clog because of leaves, grass clippings, litter and sedimentation associated with rainfall runoff. Citizens can help to improve the drainage system by not sweeping lawn clippings and dirt into street inlets and drains, and directly into retention ponds.

During emergency periods of adverse rainfall, the operation and maintenance procedures for drainwells, pump stations and control structures are expanded. Weir boards are removed and valve gates opened to lower water levels in the primary system water bodies. Receiving detention basins having pump stations are lowered to minimize street and residential area flooding. Portable pumps are strategically placed and manned to alleviate flooding. Manual pumping is performed only when residential property living areas are being flooded and labor, equipment, and materials are available and only after proper agencies have been notified and permits obtained.

Drainwells that receive street runoff and are subject to large amounts of debris and sedimentation are checked daily. Drainwells which control lake and pond levels adjacent to residential areas are considered critical and are inspected daily during emergency situations. If you have questions regarding pump stations, drainage control devices or drainwell structures, please contact Orange County Public Works Roads & Drainage Division at 407-836-7877. 🐾

