Using Remote Sensors in the Collection System to Prevent Interference

Paul Bixel
Environmental Compliance Manager

Heather Phillips P.E., BCEE
Wastewater Treatment Operations Manager
Olathe, Kansas
“Setting the Standard for Excellence in Public Service”

Population ~ 136,000

428 Miles of Sanitary Sewer

23 Lift Stations

2 Wastewater Treatment Facilities

400 Commercial / Industrial Users

Some parts of City served by Johnson County Wastewater
Wastewater Service Areas
Cedar Creek WWTF BNR Basin
Cedar Creek WWTF BNR Basin
Harold Street WWTF
Mill Creek Streamway Park

20 miles of pedestrian, bicycle and equestrian trails

517 acres of green space

350,000 visits per year
Screenshot
GIS - Lift Stations Map
Screenshot
GIS - Line Cleaning Map
pH sensor (SCADA) at Cedar Lake Lift Station
pH Data Logger
pH Data Logger
Screenshot
GIS - Line Cleaning Map with Industry Layer
Screenshot- GIS - Line Cleaning Map with Industry Layer
Screenshot-GIS - Line Cleaning Map with Industry Layer
Screenshot - Industry identified as potential source of illicit discharges
Screenshot - Industry identified as potential source of illicit discharges
Screenshot - Industry identified as potential source of illicit discharges
Questions?

Data from logger downstream of industry
Data from 2nd logger downstream of industry
Screenshot - Cedar Lake Lift Station with selected manholes to determine direction of illicit discharges
Screenshot - Cedar Lake Lift Station wet well after an illicit discharge
Screenshot – Cedar Lake Lift Station with selected manholes to determine direction of illicit discharges
Screenshot –
Second pH logger location to determine source of illicit discharges
Evidence of an prohibited discharge.
pH sensor after one week
Moisture inside case
Acknowledgements

Joe Foster, WWTF Staff especially Tony Kurkowski, Floyd Koder and his staff, Matt Steging, Tonya Roberts, Ira Speer and the Utilities Field Ops Staff, DeWayne McAllister, Steve Caspers-KDHE, Mike Carter-JCW
Questions?

Paul D Bixel
pdbixel@olatheks.org
Influent pH spike to 10.6 with correlating drop in ammonium