



John A. Carey
Inspector General

OFFICE OF INSPECTOR GENERAL
PALM BEACH COUNTY



Inspector General
Accredited

“Enhancing Public Trust in Government”

Audit Report
2019-A-0006
Village of Golf
Water Utility
Cross-Connection Program
June 26, 2019

Insight – Oversight – Foresight



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AUDIT REPORT 2019-A-0006

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VILLAGE OF GOLF – WATER UTILITY CROSS-CONNECTION PROGRAM

SUMMARY

WHAT WE DID

We conducted an audit of the Village of Golf (Village) Water Utility Cross-Connection Control Program (Program). This audit was performed as part of the Office of Inspector General, Palm Beach County (OIG) 2019 Annual Audit Plan. This was a compliance/performance audit, which was completed to verify the existence of a Program and to review agreements and documentation relating to the implementation of the Program. We did not collect water samples or test water quality.¹

We selected the Village because it had not been previously audited by the OIG, and we deemed the Village as high risk based upon its responses to our initial inquiries regarding its Program.

Additionally, inadequate cross-connection controls and lack of proper testing of devices may increase the risk and impact on water quality.

Our audit focused on the Program requirements and controls. The scope included a review of the Village's management of its Program from October 1, 2016 to September 30, 2018.

WHAT WE FOUND

We found that overall internal controls for the Program are inadequate and do not provide reasonable assurance for compliance with applicable laws, rules, and regulations.

We found the Village's controls are not adequate for ensuring backflow prevention devices were inspected annually, maintaining an up-to-date and accurate master device listing for all commercial and residential devices, following up on failed devices, and verifying compliance with Program requirements.

Additionally, we found that there were instances of non-compliance with the Program requirements and a lack of proper supporting documentation.

Inadequate Monitoring of the Program

The following instances of non-compliance and a lack of proper documentation were noted:

- The Village did not inspect the commercial (non-residential) backflow devices, as required by

¹ This audit report will be referred to the Florida Department of Environmental Protection and Florida Department of Health for review and consideration.

Village Resolution 02-01 (Resolution).²

- The Village did not obtain or maintain a copy of inspection reports and reports of repairs made to the backflow prevention devices for commercial (non-residential) users, as required by Resolution.
- The Village did not obtain or maintain a copy of the inspection reports and tests performed for residential backflow prevention devices during FY 2018, as required by the Resolution.
- The Village did not maintain its own master inventory device listing, but instead relied on the Quail Ridge Homeowner's Association (Homeowner's Association) to maintain the master device listing of residential backflow prevention devices, as required by Rule 62-555.360, Florida Administrative Code.
- The Village did not maintain a current master inventory list for commercial (non-residential) backflow prevention devices, as required by Rule 62-555.360, FAC.
- We reviewed 35 inspection reports. We found that eight (8) of the 35 sampled inspection reports (23%) were not updated in the master listing.
- The Homeowner's Association did not use the inspection forms the Village provided, as required by the Resolution.
- The copy of the Resolution provided to the OIG did not include Exhibit C (Backflow Prevention

Device Test and Maintenance Report Forms) with the required inspection form.

- The Village did not maintain a master inventory list of air-gaps and did not visually inspect the air-gaps, as required by the Resolution.

Failed Devices

We reviewed 100% of the backflow prevention devices inspection reports that failed the annual inspection in Fiscal Year (FY) 2017. The Village did not provide documentation to our office to show that the 21 failed backflow prevention devices were re-inspected, as required by the Resolution.

The lack of monitoring increases the risk that backflow prevention devices are not functioning properly, which could result in contamination of the Village's public water distribution lines.

WHAT WE RECOMMEND

Our report contains two (2) findings and provides seven (7) recommendations. Implementation of the recommendations will 1) assist the Village in strengthening internal controls and 2) help ensure compliance with regulatory requirements.

The Village is taking corrective actions to implement the recommendations.

We have included the Village's management response as Attachment 1.

² The Village approved Resolution 02-01 adopting the Cross-Connection Control Policy. The Cross-Connection Control Policy was also approved by the South Florida Water Management District and the Florida Department of Environmental Protection (FDEP) because the Village provided users with reused water for irrigation.

BACKGROUND



The Village was incorporated in 1957 and operates under a Commission-Manager form of government. The Village Council is comprised of five members who are elected by the electors of the Village. All Village Council seats are at large and serve a four-year term. The Mayor and the Vice-Mayor are appointed by the Village Council members. The Village Council has all the legislative powers of the Village. The Village Council has the power and authority to employ or appoint the Village Manager and to prescribe the powers and duties of the Village Manager. The Village Manager is the administration head of the municipal government but is subject to the direction and supervision of the Council.

The Village is roughly 542 acres and includes residential, agricultural, and commercial properties. There are two parcels of land with the agricultural designation; one is located within the residential area and consists of approximately 20 acres, and the other is located along Golf Road and is approximately 78 acres. The commercial property is located at the intersection of Military Trail and Woolbright Road, commonly known as Village Square Shopping Center. The Village's estimated population in FY 2017 was 258.

The OIG 2019 Annual Audit Plan included multiple entities selected for cross-connection³ control program audits. The cross-connection audits were included based on concerns regarding the existence of adequate controls that could impact the quality of drinking water. We selected the Village based on lack of prior OIG coverage, and we deemed the Village as high risk based upon its responses to our initial inquiries regarding its Program.

Safe Drinking Water Act

Congress enacted 42 U.S.C §300f, et. seq., the Safe Drinking Water Act of 1974 (Act) and amended and reauthorized it in 1986 and 1996. Under the provisions of the Act, the federal government authorized the United States Environmental Protection Agency (US EPA) to establish national primary drinking water regulations to protect against health effects from exposure to naturally-occurring and man-made contaminants. The national

³ US Environmental Protection Agency (EPA) Cross-Connection Control Manual states that cross-connections are the links through which it is possible for contaminating materials to enter a potable water supply. The contaminant enters the potable water system when the pressure of the polluted source exceeds the pressure of the potable source. The action may be called backsiphonage or backflow. Many states and local jurisdictions require cross-connection control and backflow prevention programs, and the program requirements vary widely between jurisdictions. Community water systems in Florida must establish and implement a cross-connection control program utilizing backflow protection at or for service connections in order to protect the system from contamination caused by cross-connections on customers' premises.

In Rule 62-550.200(27), Florida Administrative Code, the Florida Department of Environmental Protection defines "cross-connection" to mean "any physical arrangement whereby a public water supply is connected, directly or indirectly, with any other water supply system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, sewage or other waste, or liquid of unknown or unsafe quality, which may be capable of imparting contamination to the public water supply as the result of backflow. By-pass arrangements, jumper connections, removable sections, swivel or changeable devices, and other temporary or permanent devices through which or because of which backflow could occur are considered to be cross-connections."

primary drinking water regulations apply to every public water system⁴ in the United States, except where specifically exempted by law.

The Act gives primary responsibility to the states to implement a public water system program. In virtually all states, including Florida, the US EPA has given up enforcement of the Act and now serves only in a supervisory role for the state programs approved to take its place.

The Florida legislature enacted the “Florida Safe Drinking Water Act,” sections 403.850-403.864, Florida Statutes. This Florida Safe Drinking Water Act and Chapters 62-550, 62-555, and 62-560, Florida Administrative Code were promulgated to implement the requirements of the Florida Safe Drinking Water Act and to maintain primacy for Florida under the Safe Drinking Water Act of 1974. Florida adopted the national drinking water standards of the federal government and created additional rules to fulfill state and federal requirements. Florida must adopt all new and revised national regulations in order to continue to retain primary enforcement powers.

The Florida Department of Environmental Protection (FDEP) has the primary role of regulating public water systems in Florida. FDEP has delegated the Drinking Water Program to county health departments in eight Florida counties. In Palm Beach County, the authority for the regulation of public water supply systems has been delegated to the Florida Department of Health in Palm Beach County.

The Village’s Water System

The Village operates a community public water system;⁵ therefore, the Village is held responsible for compliance with the provisions of the Act and applicable state and federal safe drinking water laws and regulations. This includes a warranty that water quality provided by the Village’s operation is in conformance with US EPA standards at the source and is delivered to the customer without the quality being compromised as a result of its delivery through its distribution system.

Rule 62-555.360(2), Florida Administrative Code provides that community water systems in Florida must establish and implement a cross-connection control program utilizing backflow protection at or for service connections in order to protect the system from contamination caused by cross-connections on customers’ premises. The US EPA describes cross-connections as “the links through which it is possible for contaminating materials to enter a potable water supply. The contaminants enter the potable water system when the pressure of the polluted source exceeds the pressure of the potable source. The action may be called backsiphonage or backflow.”⁶

⁴ “Public water system” means a system for the provision to the public of water for human consumption through pipes or other constructed conveyances if such system has at least 15 service connections or regularly serves at least 25 people for at least 60 days a year. The standards do not apply to private wells.

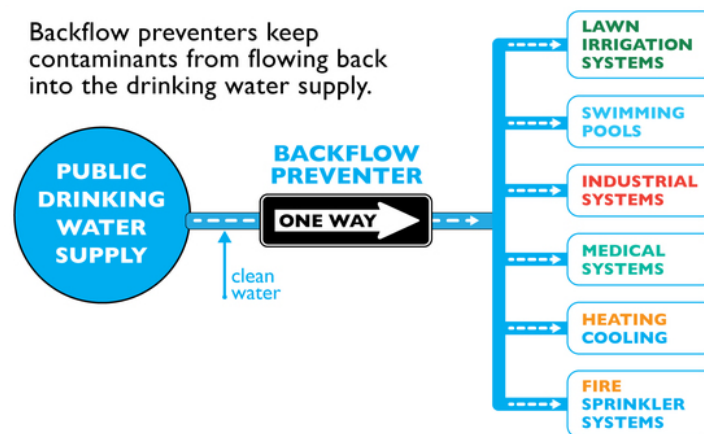
⁵ A community water system is a public water system that supplies water to the same population year-round.

⁶ US EPA Cross-Connection Control Manual

Water suppliers may not have the authority or capability to repeatedly inspect every consumer's premises for cross-connections and backflow protection. Each water supplier should ensure that a proper backflow preventer is installed and maintained at the water service connection to each system or premises that poses a significant hazard to the public water system. This includes the water service connection to each dedicated fire protection system; to each in-ground irrigation piping system; water service connections to premises with an auxiliary or reclaimed water system service; and commercial, industrial and institutional facilities that may pose a health threat to the public water supply system.

Cross-connection control programs in Florida must include a written plan that is developed using recommended practices of the American Water Works Association set forth in "Recommended Practice for Backflow Prevention and Cross-Connection Control," AWWA Manual M14, 3d Edition, 2004, as clarified and modified by Florida Administrative Code.

On January 30, 2002, the Village approved the Resolution, adopting a Cross-Connection Control Policy. Since the Village has water users with reused water for irrigation, the Village's Policy was required to obtain Florida Department of Environmental Protection approval which occurred prior to the adoption of the Resolution. The Cross-Connection Control Policy's purpose was the protection of the health, safety, welfare and well-being of the general public through the elimination of cross-connections, actual or potential, that could degrade the quality of the water within the distribution system.



OBJECTIVES, SCOPE, AND METHODOLOGY

The objectives of the audit were to determine whether:

- Internal controls were adequate related to the Program; and
- The Program was monitored appropriately and in compliance with requirements.

The scope of the audit included activities relating to the Program from October 1, 2016 to September 30, 2018.

The audit methodology included, but was not limited to:

- Performance of data reliability and integrity assessment of related computer systems;
- Review of internal controls related to the Program;
- Review of the Program policies, procedures, and compliance requirements;
- Interviews with appropriate personnel;
- Review of reports, contracts, and agreements; and
- Performance of detailed analysis of selected transactions and invoices.

As part of the audit, we completed a data reliability and integrity assessment review for the computer systems used to manage the Program. We determined that no information related to the Program is processed through a computer system; therefore, a data reliability and integrity assessment was not necessary.

We conducted this audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

FINDINGS AND RECOMMENDATIONS**Finding (1): The Village did not comply with Program requirements.**

The Village adopted the Resolution for the protection of the health, safety, welfare and well-being of the general public through the elimination of cross-connections, actual or potential, that could degrade the quality of the water within the distribution system. We audited the Village's management of the Program and noted several instances of noncompliance with the Resolution.

A. Non-Residential Backflow Prevention Device Inspection Reports

The Resolution states,

EXISTING FACILITIES

All non-residential users shall be inspected by the Village of Golf Utilities staff and the owner, verbally and in writing, advised of any corrective measures that need to be taken.

The Resolution stated,

CUSTOMER'S RESPONSIBILITY

The customer shall maintain accurate records of tests and repairs made to the backflow prevention device and provide the utility department with copies of such records.

Rule 62-550.360(3), FAC (Table 1 Component V.B.) states,

The CWS⁷ shall maintain records of the installation, inspection/testing, and repair of backflow protection being required at or for service connections from the CWS.

No Inspection Reports for Commercial Backflow Prevention Devices

- The Village did not inspect the commercial (non-residential) backflow devices, as required by the Resolution.
- The Village did not obtain or maintain a copy of the inspection reports and repairs made to the backflow prevention devices for commercial (non-residential) users, as required by the FAC.

⁷ Community Water System per Rule 62-550.360(2), Florida Administrative Code

B. Residential Backflow Prevention Device Inspection Reports

The Resolution states,

INSPECTIONS AND TESTING

Backflow prevention devices shall be inspected and tested a minimum of once per year. The Village of Golf Utility will notify the customer prior to the due date and the customer will then have thirty (30) days to return test results. Any defects or needed repairs must be completed and the device retested within the same thirty (30) day period.

...

All certified tests and maintenance reports shall be on Village of Golf Utility provided forms(s) and forwarded to [the Village of Golf Utilities]...within seven (7) calendar days of the test or repair...

No Inspection Reports for Residential Backflow Prevention Devices

The Village did not obtain or maintain a copy of the inspection reports and tests performed for residential backflow prevention devices during FY 2018, as required by Resolution.

C. Master Inventory Listing

Rule 62-550.360(3), FAC (Table 1 Component V.A.) states,

The CWS shall maintain a current inventory of backflow protection being required at or for service connections from the CWS.

No Current Master Inventory Listing for Residential or Non-Residential Backflow Prevention Devices

- The Village relied on the Homeowner's Association to maintain the master device listing of residential backflow prevention devices and did not maintain its own master device listing, as required by the FAC.
- Neither the Village nor the Homeowner's Association had a master inventory listing for commercial (non-residential) backflow prevention devices, as required by the FAC.
- We found that information from eight (8) of the 35 sampled inspection reports (23%) was not updated in the master inventory device listing:⁸
 - One (1) inspection report noted that the device did not exist.
 - One (1) inspection report had a different address than the master device listing.
 - Two (2) inspection reports were missing the inspection date.

⁸ The master device listing was provided on January 17, 2019, and the inspection reports were from November 2017 for inspections performed during FY 2017. The master device listing was not updated for the handwritten inspection report information; therefore, the master listing information was inaccurate and did not match the corrected inspection reports for approximately 1.5 years after the updates should have occurred.

- Four (4) inspection reports included handwritten updates for device serial numbers that were not updated on the master device listing.

D. Inspection/Survey Form

The Resolution states,

INSPECTIONS AND TESTING

...

All certified tests and maintenance reports shall be on Village of Golf Utility provided forms(s) and forwarded to [[the Village of Golf Utilities]...within seven (7) calendar days of the test or repair...

Inspection Forms

The inspection forms used by the Homeowner's Association were not the Village's provided forms, as required by Resolution. Additionally, the copy of the Resolution provided to our office did not contain Exhibit C with the required inspection form.

E. Air Gap Inspections

The Resolution states,

INSTALLATION

...

* Air-gaps will be visually inspected by Village of Golf Utility personnel.

Air-gaps were not visually inspected

The Village did not maintain a master listing of air-gaps and did not visually inspect the air-gaps, as required by Resolution.

The Village relied on the Homeowner's Association for the inspection and testing of the residential backflow devices and building owners for the inspection and testing of their commercial (non-residential) backflow devices. The Village did not properly monitor the performance of the inspections and tests by the Homeowner's Association and building owners to ensure compliance with the Program requirements.

Overall, the monitoring of the Program by the Village staff was not adequate to ensure that the Village's Program was effective and that the required documentation was received and/or maintained.

The lack of monitoring increases the risk that backflow prevention devices are not functioning properly or are nonexistent which could result in contamination of the Village's public water distribution lines.

Recommendations:

- (1) The Village ensure all residential and commercial backflow prevention devices have been inspected and require inspection reports, as needed.
- (2) The Village obtain and maintain copies of all inspection reports and repairs made to backflow prevention devices.
- (3) The Village create and maintain a current master inventory device listing of all residential and commercial (non-residential) backflow prevention devices.
- (4) The Village require the Homeowner's Association and the building owners to use the Village inspection forms and submit them to the Village within seven (7) days of completion.
- (5) The Village maintain a current master listing of all air-gaps and inspect the air-gaps.

Management Response Summary:

The Village accepts this finding and these recommendations and will immediately implement a process to comply with the recommendations.

Finding (2): The Village did not adequately monitor completion of re-inspections for backflow prevention devices that failed the annual inspection.

The Resolution states,

INSPECTIONS AND TESTING

Backflow prevention devices shall be inspected and tested a minimum of once per year. The Village of Golf Utility will notify the customer prior to the due date and the customer will then have thirty (30) days to return test results. Any defects or needed repairs must be completed and the device retested within the same thirty (30) day period.

...

All certified tests and maintenance reports shall be on Village of Golf Utility provided forms(s) and forwarded...within seven (7) calendar days of the test or repair...

We reviewed 100% of the backflow prevention devices inspection reports that failed the FY 2017 inspection performed during FY 2017.⁹ The Village did not provide documentation to our office to show that the 21 failed backflow prevention devices were re-inspected, as required by the Resolution.

⁹ FY 2017 was tested because no documentation was provided for FY 2018 backflow prevention device inspections.

The Village staff did not adequately monitor completion of re-inspections to ensure that all backflow prevention devices that failed inspection were repaired and retested within 30 days.

The lack of monitoring increases the risk that backflow prevention devices are not functioning properly, which could result in contamination of the Village's public water distribution lines.

Recommendations:

- (6) The Village ensure all backflow prevention devices that fail the annual inspection be repaired and re-tested.**

- (7) The Village implement a monitoring program to ensure backflow prevention devices that fail the annual inspection are repaired and retested within 30 days.**

Management Response Summary:

The Village accepts this finding and these recommendations and will implement a process to ensure all failed backflow prevention devices are repaired and re-inspected within 30 days.

ATTACHMENT

Attachment 1 – Village of Golf's Management Response, page 13-14

ACKNOWLEDGEMENT

The Inspector General's audit staff would like to extend our appreciation to the Village of Golf's staff for their assistance and support in the completion of this audit.

This report is available on the OIG website at: <http://www.pbcgov.com/OIG>. Please address inquiries regarding this report to Director of Audit, by email at inspector@pbcgov.org or by telephone at (561) 233-2350.

ATTACHMENT 1 – VILLAGE OF GOLF'S MANAGEMENT RESPONSE



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June 25, 2019

Megan Gaillard
Director of Audit
Palm Beach County Office of Inspector General
PO Box 16568
West Palm Beach, FL 33416

RE: Village of Golf Draft Audit Report – Audit of Water Utility Cross-Connection Program

Dear Ms. Gaillard,

On behalf of the Village of Golf and the Village of Golf Water Utility Department, please accept this response to the above referenced Draft Audit Report. The following letter responds to the two findings and subsequent recommendations contained in the report and outline the Village's proposed corrective action.

As to the finding that the Village did not comply with Program Requirements as identified in our Resolution on the Cross Connection Program and the following recommendations:

- The Village ensure all residential and commercial backflow prevention devices have been inspected and require inspection reports, as needed.
- The Village obtain and maintain copies of all inspection reports and repairs made to backflow prevention devices.
- The Village create and maintain a current master inventory device listing of all residential and commercial (non-residential) backflow prevention devices
- The Village require the Homeowner's Association and the building owners to use the Village inspection forms and submit them to the Village within seven (7) days of completion.
- The Village maintain a current master listing of all air-gaps and inspect the air-gaps.

The Village accepts this finding and these recommendations and will immediate implement a process to comply with the recommendations.

As to the finding the Village did not adequately monitor completion of re-inspections and backflow prevention devices that failed the annual inspection and the following recommendations:

- The Village ensure all backflow prevention devices that fail the annual inspection be repaired and re-inspected.

- The Village implement a monitoring program to ensure backflow prevention devices that fail the annual inspection are repaired and re-inspected within 30 days.

The Village accepts this finding and these recommendations and will implement a process to ensure all failed backflow prevention devices are repaired and re-inspected within 30 days.

All the Best,



Christine M. Thrower, M.B.A
Village Manager
Village of Golf