



## **A History of the UF TREEO Center Backflow Prevention Program**

The 1974 Florida Legislature passed "An act ... to establish a center for continuing education for training, research and education in environmental occupations with special emphasis upon training of operational personnel for water and wastewater utilities...." "The State of Florida and the United States Environmental Protection Agency provided the construction funds. Four universities were interested in obtaining the new center. After reviewing the strengths of each institution, the State located the Center at the University of Florida, but with a cooperative, statewide mission.

The governing boards of the Florida Water and Pollution Control Operators Association (FW&PCOA), Florida Section/American Water Works Association (FS/AWWA), and the Florida Pollution Control Association (FPCA) provided strong support for the need of the center and its location in Gainesville. A particularly strong advocate was Richard P. Vogh, P.E., who at that time was the superintendent of water and wastewater plants in Gainesville. The University of Florida had such a strong appeal because of its long involvement with operator training, beginning with Dr. A.P. Black. The City of Gainesville furnished the land at no cost to the State University System. On March 20, 1977, the ground breaking ceremony for the University of Florida's Center for Training, Research and Education for Environmental Occupations (UF TREEO) took place in Gainesville.

Before the construction was completed, the UF TREEO Center staff began offering classes. Dr. Richard Palmer was the program coordinator. The earliest documented class involving cross-connection topics was "Water Distribution Systems", offered October 11-12, 1977. The cross-connection speakers were David Weldon, Orlando Utilities Commission; Clifford Schulman, Dade County; and Richard Hargraves, Tennessee American Water Company. After listening to these presentations on cross-connections and backflow prevention, Dr. Palmer recognized the importance of the topic and began organizing the certification program for backflow assembly technicians.

UF TREEO was dedicated on March 18, 1979 with Dr. Edward Singley, Professor of Environmental Engineering at the University of Florida, serving as the director. The first Backflow Prevention Assembly Tester Training and Certification Course was held in August, 1979. Dr. Richard Palmer taught the first class for the original UF TREEO Backflow Advisory Committee. These individuals were:

- Bobby Jolley, Pinellas County Utilities
- Sheldon Brook, P.E., Gainesville Regional Utilities
- Fred Drury, City of St. Petersburg
- James Padgett, Gainesville Regional Utilities
- Glenn Ralston, City of Jacksonville
- Ken Richards, City of Tallahassee
- Charles Shelton, Florida Public Utilities, Inc.
- Joseph Ryan, City of Hollywood
- Peter Padowitz, City of Miami
- Dr. Richard Palmer, University of Florida, TREEO Center

This committee was established to provide guidance for the developing program. The current UF/TREEO Backflow Advisory Committee members are listed on page 3. The committee consists of cross-connection control supervisors and liaison members of organizations and associations interested in backflow prevention and cross-connection control.

Two more training and certification classes were held in 1979 by Dr. Palmer and Sheldon Brook, P.E., the water section chief for Gainesville Regional Utility's (GRU) Water Engineering Department. As the content and duration expanded, the title changed from tester to technician. Table 1 summarizes the number of classes and students receiving backflow prevention technician training at UF/TREEO since 1979.

After Dr. Palmer retired in 1982, Dr. Barbara Mitchell assumed the responsibilities of coordinator of the water quality programs. Dr. Mitchell asked Les O'Brien to take over the training and certification of backflow technicians. Mr. O'Brien was the Cross-Connection Control Supervisor for Gainesville Regional Utilities. It was decided that one instructor for twenty-four students was not a good ratio. To improve the student/teacher ratio, Gainesville Regional Utility employees Ron Herget, P.E., Director of Water and Wastewater Engineering; Rick Harris, Backflow Technician Supervisor; and Bobby Dyal, Backflow Technician, offered to assist with the backflow training.

In 1984, the annual number of backflow prevention technician training classes offered at UF TREEO expanded from four to six. Also, in 1984, the first instructor other than the original GRU instructors, was trained. This instructor was Norman Stephenson, P.E. and graduate of the Massachusetts Institute of Technology. Mr. Stephenson was the instructor at the UF TREEO Center's first satellite training facility in West Palm Beach. Since that time, over 139 backflow prevention instructors have received training through the UF TREEO Center. These instructors are located throughout the United States and Australia. Many UF TREEO Center trained instructors teach backflow technician courses for other training organizations.

In January 1985, the UF TREEO Center sent Les O'Brien and Ron Herget to the forty-hour short course on Backflow Prevention Tester Training held at the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. The purpose of this trip was to compare the original backflow training course in California with the course that GRU had developed for the UF TREEO Center. Mr. O'Brien and Mr. Herget brought back information about the California/Nevada Section of AWWA's backflow technician certification process. In California and Nevada, individual training centers conduct the training, and the CA/NV Section of the AWWA controls the certification. This information was presented to Dr. Mitchell. Drs. Singley and Mitchell worked with the Florida Section of AWWA to establish a similar program in Florida.

Dr. J.O. Bryant Jr., P.E., became the director of the UF/TREEO Center in January, 1986. One of his responsibilities was to expand the course offerings and sphere of UF TREEO's influence. The center reorganized around the subject areas of water quality, hazardous materials, and asbestos abatement. Dr. Barbara Mitchell was the manager of water quality programs and grants.

June, 1986 marked the formation of the FS/AWWA Cross-Connection Control Certification Committee. Ron Ferland, P.E., from GRU, was appointed chairman. Mr. Ferland and Dr. Mitchell wrote bylaws for the committee, which consisted of three members from the UF/TREEO Center and four from FS/AWWA. The committee carefully examined the existing written exam and made a few changes to ensure that the exam tested the key issues of the training objectives for the Backflow Technician Course. This committee also produced a booklet titled "Cross-Connection Program and Ordinance Information Guide." The guide assisted cities and utility companies in getting their cross-connection programs started. This document is now in its fourth edition. The original FS/AWWA Cross-Connection Control Certification Committee members were,

- Ron Ferland, P.E., Committee Chairman, Gainesville Regional Utilities
- Ron Herget, P.E., Gainesville Regional Utilities
- Phillip Campbell, Tampa Water Department
- Clay Sutton, Ft. Pierce Utilities; representing the UF/TREEO Center
- Dr. James Bryant, Jr., P.E., Director
- Kenneth Drury, All-State Environmental Services, Inc.
- Les O'Brien, Gainesville Regional Utilities

Ms. Robin Ritland was hired in March 1988 as a training specialist in the Water Quality Section. Up to that point, the training materials used in the backflow/cross-connection control courses were collections of publications that provided little continuity and were difficult to reference. Dr. Mitchell assigned Ms. Ritland the task of developing a single text that could be used in all of the courses offered. The result of this work is "Backflow Prevention: Theory and Practice" (Kendall/Hunt Publishing Company, Dubuque, Iowa, 1990, 2004). To accompany the text, an instructor's manual was prepared to ensure consistent training at all satellite training locations.

Today, there are 14 satellite training locations in Florida. Some locations serve specific groups, while others have open enrollment. Table 2 lists the current site locations and dates of their first class. The UF TREEO Center receives many inquiries about training and program development from other states. Locations that have previously provided UF TREEO backflow training are the Arkansas Environmental Academy, Mississippi Gulf Coast Community College, and Orlando Plumbers and Pipefitters.

In February 1990, Dr. Mitchell left the UF TREEO Center to be the training manager for FW&PCOA. Les O'Brien retired from GRU and was employed by the University of Florida as a senior training specialist in June 1990. His efforts are concentrated in backflow prevention and cross-connection control training. Mr. O'Brien is a past president of the American Backflow Prevention Association. He is also a National Environmental Training Association (NETA) Certified Environmental Trainer (CET) and an active member of AWWA and ABPA. Mr. O'Brien presently works with committees of professional organizations involved with backflow issues, such as, AWWA, ABPA, ASSE, and ABC.

The UF TREEO Center and its satellites have certified over 10,000 backflow assembly technicians and conducted over 800 technician training courses since 1979. The UF TREEO Center also offers the following cross-connection control courses:

- Introduction to Backflow Prevention (8 hours)
- Survey & Inspection (16 hours)
- Ordinance & Organization (16 hours)\*  
 \*Completion of these three courses entitles the student to receive a Program Manager certificate.
- Backflow Prevention Repair and Maintenance (24 hours)
- Advanced Backflow Assembly Tester (16 hours)
- Advanced Backflow Certificate Program

<b>TABLE 1: Annual Numbers of Students and Classes</b>		
<b>YEAR</b>	<b>STUDENTS CERTIFIED</b>	<b>NUMBER OF CLASSES</b>
1979	49	3
1980	46	3
1981	66	4
1982	55	4
1983	64	3
1984	110	6
1985	120	5
1986	144	7
1987	144	8
1988	200	14
1989	340	27
1990	327	28
1991	374	37
1992	233	26
1993	246	22
1994	267	26
1995	291	25
1996	306	24
1997	288	23
1998	268	25
1999	251	20
2000	231	19
2001	255	19
2002	221	17

2003	208	16
2004	264	19
2005	318	23
2006	366	30
2007	504	39
2008	404	39
2009	404	44
2010	316	45
2011	394	59
2012	328	36
2013	298	39
2014	315	35

TABLE 2: UF/TREEO Affiliated Training Locations	
SATELLITE TRAINING SITE	DATE OF FIRST CLASS
<b>FLORIDA</b>	
Altamonte Springs (Open Enrollment)	11/88
Bradenton (Open - Recertification only)	7/89
Destin (Open)	5/89
Gainesville (Open)	08/79
Jacksonville (Open)	2/96
Key West (Open - Recertification only)	7/93
Kennedy Space center (Space Center personnel only)	9/89
Miami Lakes (Open)	7/89
Lake Buena Vista (Open)	5/97
Venice	5/05
Tallahassee (Open - Recertification only)	11/95
West Palm Beach	3/92
Tampa	1/12
<b>OUT-OF-STATE</b>	
Charleston CPW, Charleston, SC (Open - Recertification exam only)	11/95
Charlotte-Mecklenberg, Matthews, NC (Open)	12/08

Table 3 summarizes the courses offered, first class dates, and number of students passed.

Each year the UF TREEO Backflow Advisory Committee and program supervisors meet to discuss the training program and general industry concerns. In 1990 this meeting expanded to provide topics of interest for all concerned with backflow prevention and cross-connection control. Now, UF TREEO sponsors an annual Cross-Connection Control Conference.

The UF TREEO Center Cross-Connection Control and Backflow Prevention Training Program is recognized throughout the United States for excellence because of the efforts of numerous individuals and backflow industry support. This history has attempted to provide recognition to some of the major contributors. UF TREEO is very proud of its backflow prevention program and the contribution it has made to ensure a safe water supply.

TABLE 3: Summary of Backflow Prevention/ Cross-Connection Control courses		
Course Title	1st Class	# of Students*
Backflow Prevention Tester	Aug 1979	9911
CCC: Ordinance & Organization	Sep 1988	567
CCC: Survey and Inspection	Aug 1989	950
CCC: Program Manager	Aug 1989	532
Backflow Prevention Repair and Maintenance	Oct 1990	1387

\* As of Dec. 2012

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REFERENCES:

Brook, Sheldon. **TREEO Center Certifies 15 As Backflow Prevention Device Testers.** *The Overflow.* March-April 1980.

**TREEO Center Dedicated: In-Depth Training and Study Now Possible.** *The Overflow.* May-June 1979.

Weldon, David S., Superintendent of Standards & Specifications, Orlando Utilities Commission. Copies of personal communications and class brochures for the period August 1977 to August 1979.