

# 2011 Transforming Local Government/FCCMA Conference Case Study Application

**Case Study Title:** **Open Sesame!**  
*An Innovative Approach to Opening Young Minds to Careers in Utilities*

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## **SYNOPSIS**

It is a well known fact throughout the water utilities industry that there is an aging workforce that will soon retire - taking with it many years of experience and priceless knowledge specific to the municipal water/wastewater systems which these professionals have worked so hard to maintain and improve over the years. In response to this national trend and the increased water demand that is expected in the state of Florida over the next decade, the City of Palm Bay (Florida) and Brevard (County) Public Schools initiated an innovative partnership to prepare local students to become future leaders in the utilities industry.

By the year 2020, Florida's population is expected to climb to 23.4 million, making it the nation's third most populous state. The challenges anticipated by this population growth and increased demand for water will affect water resources for domestic, industrial and environmental stakeholders. The need for effective water resource management will only continue to increase; therefore, equipping future leaders by opening doors and opportunities to learn skills and knowledge about water and wastewater treatment is critical. Proactive planning and visioning is necessary to balance these demands and promote public health, environmental stewardship and sustained growth of the Florida economy. Realizing the daunting task associated with such a challenge, it became apparent to the city of Palm Bay that all stakeholders must become involved to address this issue head-on.

In 2010, the Brevard (County) Public Schools launched the **Environmental Studies – Water Resources Technology (ESWRT) Program** at Heritage High School to encourage young minds to consider a career in utilities and provide them with access to job opportunities within the industry. This collaborative effort engaged partners from the city of Palm Bay Utilities and Human Resources Departments; Lake City Community College, Florida; and the Florida Department of Environmental Protection (FDEP). Local education and utility industry experts, along with professionals from regulatory agencies, developed a unique program of study to provide these students a path to obtain a Level C industry credentialed water and/or wastewater license. To date, there are no secondary educational programs in the United States offering high school students the benefits and opportunities inherent in this program of study. The ESWRT Program is a unique three-to-four year program focusing on water technologies, water resources, storm water, water treatment and conservation.

It is anticipated that this initiative will help produce the next generation of high-quality, trained, and environmentally-focused employees who are working to improve the environment, conserve natural resources, preserve our drinking water, and mitigate the challenges of wastewater treatment. Graduates of this program will be prepared and positioned to make informed decisions and choices concerning a wide range of environmental career fields. Graduates will enter the workforce with the knowledge and skills to solve broad-based environmental challenges to sustain the nation's natural resources and quality of life within their local communities.

### **Opening the Door**

Palm Bay's Heritage High School opened its doors in August 2009, enrolling 929 students in ninth and tenth grades. One year later, the school has added an eleventh grade level bringing its total enrollment to 1,340. Once at full capacity, the school's enrollment will be 2,384. This academic year (2010-2011) marks the inaugural year for the **Environmental Studies – Water Resources Technology (ESWRT) Program**, and currently there are 60 students enrolled in the program.

This three-to-four year, progressive program of study will produce graduates who are knowledgeable, skilled, and proficient in skills such as potable water treatment and distribution, and wastewater collection and treatment. Students will be required to master rigorous, relevant performance standards, experience multiple hands-on field experiences, conduct real-time research, complete internships, and participate in a mentor/mentee experience. The program emphasizes public service in environmental water/wastewater careers, and the ultimate goal of the program is to produce students who have a solid foundation and awareness of water resource technologies and a strong bent towards environmental stewardship.

### **Providing Opportunities and Access**

Palm Bay Utilities Department is providing real-world experience and access to water/wastewater treatment experts as part of the ESWRT Program. The city is committed to partnering with Heritage High School in support of this program by providing assistance and training opportunities for students which include:

- Supporting operator licensing (hands-on real world application of classroom learning, test diagnostics and operator experiences/training hours required for licensing)
- Hosting student field trips
- Providing technical speakers in a classroom setting
- Mentoring students in a variety of water treatment and environmental occupations
- Accommodating career shadowing experiences and participation in professional roles
- Providing student volunteer and/or intern experiences for application of classroom learning in a variety of environmental career fields
- Facilitating field experiments, research projects, and science project experiences

In addition to the opportunities available through the Utilities Department, students in the ESWRT program can take advantages of other environmentally-focused job opportunities offered in other municipal departments. The city of Palm Bay has also embraced a spirit of volunteerism, and through its recently established Volunteer Service Corps it is actively providing citizens with opportunities to 'give back' to the community. The city's volunteer program is administered by the Human Resources Department which provides valuable on-the-job training opportunities for all citizens including students. The ESWRT curriculum provides students with a much broader focus than simply water treatment plant operators. These students will also have an interest in biology, chemistry, lab work, stormwater management, engineering, water distribution, wastewater collection, etc.

Volunteer students may earn community service points for graduation and accumulate hours needed for licensing. Numerous volunteer positions have been identified throughout city departments besides the Utilities Department to support the ESWRT Program. These additional positions will provide excellent learning experiences in other water-related environmental career fields.

Although city staff time for coordination and planning has been extensive for the ESWRT Program, direct expenditures from the city of Palm Bay have not been required. Brevard Schools have identified the designated instructor's salary as their primary direct expense. In addition, \$95,000 has been identified as necessary to support teacher professional development and training; student internships and field experience; summer field experience camps, distance learning student tuition, travel, and supplies.

### **Developing Future Industry Leaders**

The goal of the ESWRT Program is that by June 2014, 35 graduates will complete FDEP OCP Level C Examination preparatory coursework and pass the licensure examination. The collaborative partners of this initiative are excited about the potential of the program; the Environmental Studies Program envisions expansion to two additional complementary components in the future (Land and Air Resources Technology). These additional, future components of the Environmental Studies Program will require a collaborative effort, again supported by the city of Palm Bay and other stakeholders with the same, if not greater, enthusiasm and commitment.

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## Presentation Components

**Innovation/Creativity:** This creative initiative involves several firsts as addressed specifically in the synopsis. For the city of Palm Bay, the infusion of volunteer hours from motivated, energetic high school students will be leveraged for maximum benefit to the community's tax payers and utility-rate payers. Volunteers are being used now by the City of Palm Bay, but the ESWRT Program focuses on the future, as well as, the present environmental, professional workforce needs. It is also a benefit that the Program offers creative partnering and innovative collaboration between educators, regulators, and public service providers. This partnering is necessary to have a synergistic vision and effort for meeting the environmental and workforce needs of the future.

**Outcomes Achieved:** The workforce needs of the future were identified, and this Program has put in place the mechanism to satisfy the need for environmental stewards to replace an aging utilities' workforce. The initiative improves public awareness of the skilled employees needed to provide public services and opens doors for access to employment for younger employees. It also services a very important need of the education system: to produce skilled, employable students who are directly out of high school. The community will improve by providing a better career focus and additional opportunities for its young people. Targeting the underserved and underrepresented student population will provide opportunities and help reduce the unemployment of this group upon graduation.

**Applicable Results and Real World Practicality:** The real world practicality is evident in several ways: (1) Water professionals are needed now and will be needed in the future; (2) The need for water professionals will spike in the near future because of an aging workforce; (3) The new water professional will need the discipline that a classroom and laboratory experience brings; (4) Unemployment in the local community will be attacked in a coordinated effort, and the at-risk in the community will be targeted for not only educational but also training opportunities; and 5. Young people, in general, will have more focus and options in their career choices. These generic nation-wide practical needs of the community are being met by the ESWRT Program. The program has the potential to be replicated across the state and the nation.

Performance measures will include the following: anticipated student enrollment through school year 2013-2014 – teacher participation through school year 2013-2014; advisory committee members/partners through school year 2013-2014; Mentor Relationships each school year through 2013-2014; school demographics each school year through 2013-2014; and students passing the FDEP OCP, Level C license test beginning with the graduating class of 2014.

### **Case Study Presentation:**

- **PowerPoint, Video**
- **Handout Material**
- **In-Person Impressions of First Year Students**