



## WE CAN HELP TMDLS STAKEHOLDERS BY ...

- Verifying FDEP calculations of impairment, Total Maximum Daily Loads (TMDLs), and load reduction goals
- Developing Basin Management Action Plans (BMAPs)
- Calculating allowable pollutant loads
- Implementing a comprehensive field monitoring program
- Predicting through advanced hydrodynamic and water quality modeling including HSPF, SWMM, EFDC, HEC-HMS, Basins, and ICPR
- Designing and building stormwater BMPs including porous pavement, bioretention systems, green roofs, swales, treatment wetlands, naturalized areas/buffers, extended detention basins, and infiltration basins
- Synthesizing all existing information and modeling outputs to recommend a BMP implementation strategy to reduce pollutant loading to approved levels



Incorporated in the State of Florida in 1988, HSW Engineering is an integrated earth science and engineering firm providing proactive, innovative, and cost-effective solutions for Environmental, Water Resources and Civil / Land Development projects. HSW has distinguished itself as a leader in the environmental industry by adhering to its philosophy of strategic long-range management of environmental concerns. This successful philosophy revolves around a project organizational structure that always includes one of the firm's principals to maintain strict quality assurance, effective communication and senior leadership. HSW has successfully applied innovative strategies to technical and regulatory issues nationwide, resulting in substantial cost and time savings. This approach assures our clients of the best possible service and value and is a key reason that over 90% of our work comes from previous customers.

## LOCATIONS

### Main Office: Tampa

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### Orlando

605 East Robinson St., Suite 308  
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(941) 378-3074

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Engineering & Scientific solutions  
within your reach...



## TMDLS

TOTAL MAXIMUM DAILY LOADS

# SOLUTIONS

HSW has extensive experience in the planning, management, and development of water supply needs / sources; water treatment and water conservation programs.

Safe aquifer yield determination, establishment of minimum flows and levels (MFLs), water distribution system design and optimization, watershed modeling and flood area delineation, stormwater conveyance, environmental remediation evaluation, design and optimization, environmental forensics, nutrient and sediment transport, and estuarine systems...

## OUR TEAM



**Dr. Ken Watson, C.P.H.** is President/Principal Hydrologist and has over 25 years of stormwater modeling, watershed and hydraulic modeling, water resource evaluation and protection, and project management experience. He is also a qualified expert in groundwater modeling and applied mathematics.

**Dr. Donald Carpenter** is a Senior Technical Consultant with HSW and a professor of civil engineering at Lawrence Technological University where he is Director of the Hydraulics and Hydrology Laboratory. He teaches numerous water resources courses covering a wide range of topics related to TMDLs including low impact development (LID), design of stormwater treatment facilities, stormwater best management practices (BMPs), hydrologic and stormwater modeling, and field data collection. In addition, Dr. Carpenter conducts research on innovative stormwater BMPs with current projects including bioretention performance and design, green roof performance, and structural stormwater chamber performance and compliance.

**Dr. Scott Emery** is a Senior Technical Consultant. His water resources experience spans 29 years of professional experience in both the public and private sectors. His primary areas of technical expertise are in

minimizing impacts from water resource development projects; assessing impacts from water withdrawal on lakes/streams/wetlands (including the development of methods for determining MFLs); resource management and policy development for local and regional governments; water supply development, treatment, and testing; and applied ecology and ecological risk assessments. He has won awards for his professional facilitation services, undertaken for a variety of water resource and habitat issues.

**Mr. Dean Mades, P.E.** is a Senior Technical Consultant with over 30 years of experience managing and performing water resource assessments, permitting, and environmental restoration including 9 years as hydrologist with the U.S. Geological Survey and 21 years in the private sector as an engineer and environmental consultant. His experience includes calculating chemical loads using methods ranging from simple, spreadsheet and ArcGIS-based approaches to more complex distributed parameter watershed models; establishing and maintaining networks of automated rainfall, runoff, and chemical monitoring equipment; and working with state regulatory agencies to establish alternative best management practices in lieu of current presumptive design criteria.



## KEY PROJECTS

### Basin Management Action Plan Support

Tampa Bay Estuary Program, Hillsborough County, FL

### Stream and Wetland Restoration

CF Industries, Hillsborough County, Florida

### Drainage Model

Tampa Electric Co. (TECO), Tampa, FL

### Statewide Airport Stormwater Study Implementation Phase

Florida Department of Transportation

### Best Management Practice (BMP) Effectiveness Status Report

South Florida Water Management District, FL

### Myakka River Basin Water Quality Assessment

Sarasota County, FL

### Assessment of Loadings from Septic Tanks

Florida Dept of Health and Rehabilitative Services

### Water-Quality Based Effluent Limitation Study

Plant City, FL

### Performance Monitoring of an Extensive Greenroof

Lawrence Technological University, Southfield, MI

### Evan's Drain Stormwater Treatment Wetland

Southfield MI

### KSI Structural Stormwater Treatment Unit Performance Evaluation

Prescott, MI

### Bioretention, Education, and Demonstration Project

Detroit, MI