



Devin R. Lemke

Staff Hydrologist



Areas of Expertise

Hydrology • Water Use Permitting • Groundwater Flow Modeling • Well Construction-related Oversight • Aquifer and Well Testing • Geophysical Borehole Logging Well Testing • Wetland Delineation

Education

B.S., Geologist, University of South Florida, 2016

Project Experience

OVERVIEW – Ms. Devin Lemke holds a Bachelor of Science in Geology from the University of South Florida and has both academic and practical experience in geology, hydrogeology, hydrology and ecohydrology. Her experience and technical skills include an advanced knowledge of ArcGIS, geologic mapping and map interpretation, collection of data in both lab and field settings, organization and processing of large scientific data sets, groundwater modeling, and technical report writing.

Ms. Lemke's field experience includes aquifer performance testing, water quality sampling, wellfield mapping and creation of associated inventories, groundwater modeling, well construction-related oversight, geophysical borehole logging, and wetland delineation. During her academic training, she also completed several intensive field studies through the University of South Florida involving Florida hydrogeology as well as geologic mapping of complex structural environments in both Idaho and Southern California.

Water Use and Consumptive Use Permitting - Ms. Lemke has undertaken Water Use Permit efforts to renew and modify Agricultural, Commercial/Residential, Development, and Mining Permits across Florida. These efforts have included development and submittal of regulatory application forms and creation of supporting technical documentation in order to maintain permitted quantities in technically and regulatorily challenging areas of Water Management Districts across Florida. Ms. Lemke has experience creating detailed groundwater modeling scenarios and associated hydrologic impact analyses and net benefit scenarios using capabilities of Groundwater Vistas 7 (GWV7) in order to analyze potential impacts to surficial systems (i.e. wetlands and streams), Minimum

Flows and Levels, Water Use Caution Areas and existing legal users as a result of proposed water use.

Geographic Information System (ArcGIS) - Ms. Lemke was formally trained in Geographic Information Systems (ArcGIS) during her time at the University of South Florida and commonly utilizes ArcMap 10.5 for numerous tasks regarding Permitting, Commercial/Residential Development, and Hydrologic Impact Analyses. Ms. Lemke is capable of producing professional-quality site maps for Agricultural Operations, Commercial/Residential Development, Mining, etc. and has experience with both X-Tools Pro and Spatial Analyst and their various applications used in queries and analysis of metadata. Ms. Lemke has completed detailed hydrologic impact/interference analyses regarding proposed water use by combining capabilities of both GWV7 and ArcGIS, as well as the utilization of the various Water Management Districts' hydrologic datasets. In doing so, Ms. Lemke is able to determine and map possible impacts to surficial systems (i.e. wetlands and streams), Minimum Flows and Levels, Water Use Caution Areas, and existing legal users. Additionally, Ms. Lemke is able to carefully analyze site topography (i.e. LiDAR), surficial soil conditions, hydrologic gradients, historic aerial imagery, etc. using the capabilities of ArcGIS.

City of Venice, Florida – Technical Support Services for Potable Water Well Evaluation

Progressive Water Resources (PWR) has served as a sub-consultant for the City of Venice's specific well evaluation and testing. PWR was tasked with coordinating and overseeing the activities of the Client's Water Well Contractor and Geophysical Logging Contractor. Ms. Lemke assisted with overseeing well investigation activities in the field. Her duties included, but were not limited to,

recording and documenting contractor activities, reviewing and evaluating geophysical and video logs, and documenting the evaluations of each production well based on the results of the logs, visual site inspection, the pump's electrical system and pump. Ms. Lemke was also engaged in development of the Technical Memorandum which included a recommended course of action for each well, possible rehabilitation and/or pump and well repair if necessary.

Recovery Well Testing – Polk County, Florida

Ms. Lemke helped conduct a detailed hydrogeologic interpretation for an important project in Polk County, Florida. Activities included oversight of construction activities for two large-diameter Upper Floridan recovery wells, post-construction well performance testing and detailed geophysical borehole logging. As part of the project deliverables she also created detailed vertical profiles of hydrogeologic data for presentation to the Client.

Cutrale Farms, Inc. – Rosana Grove, Highlands County, Florida

Ms. Lemke assisted and provided oversight to one of the largest agricultural well drilling projects in the state of Florida for a proposed citrus grove with a total of forty-two (42) new Floridan Aquifer wells drilled to an average depth of 1,300 feet below surface. She provided oversight for the client on well drilling, construction, water quality, and pumping tests to determine if the wells met specifications necessary for both irrigation and crop protection. Ms. Lemke also assisted with technical report documents and supporting maps using ArcGIS to create structural contour, water quality and well yield maps using data collected during the construction phase of the project.

Tarpon Blue – Babcock Ranch Preserve, Charlotte County, Florida

Ms. Lemke aided in the recent renewal of the Water Use Permit for Babcock Ranch Preserve. Her efforts included creating a detailed inventory of all withdrawal locations and irrigated areas for the entire Babcock Ranch Preserve, ArcGIS mapping of several years of historic agricultural operation fields, LiDAR imagery analysis, delineation of soil types within the project limits, and the creation and submittal of a Water Use Permit application.