

Robert E. Phillips III, EI

Civil & Environmental Engineering

614.563.3871

rphilli5@rockets.utoledo.edu

My areas of interest include sustainability; water and energy infrastructure; solid waste management and solutions; environmental monitoring and compliance programs; life cycle assessment analyses; renewable and alternative energy sources and storage; and research and development projects.

PROFESSIONAL PREPARATION

Master of Science (2016, expected): Civil Engineering, University of Toledo

Bachelor of Science (fall 2013): Civil Engineering, University of Toledo, *cum Laude*

AustraLearn (spring 2011): Study Abroad Program, Civil Engineering, University of Newcastle, New South Wales, Australia

Select Coursework:

- Sustainability Engineering
- Hydrology and Water Resources
- Water and Wastewater Treatment
- Landfill Design
- Bridge Design
- Reinforced Concrete Design
- Life Cycle Engineering
- Thermodynamics
- Transportation Engineering
- Principles of Physical Energy Sources
- Air Pollution Control
- Steel Design

PROFESSIONAL APPOINTMENTS

Civil Engineer I (December 2013 – Present): Hull & Associates, Inc.

Graduate Research Assistant (December 2013 – Present): Civil Engineering Sustainability Research Lab, University of Toledo

Graduate Teaching Assistant (January 2014 – May 2014): Fluid Mechanics for Civil Engineers, University of Toledo

Civil Engineering Intern/Co-op (January 2011 – December 2013): Hull & Associates, Inc.

Undergraduate Research Assistant (February 2012 – December 2013): Civil Engineering Sustainability Research Lab, University of Toledo:

Undergraduate Lab Assistant (February 2013 – November 2013): Earth and Environmental Sciences Dept., University of Toledo:

PUBLICATIONS

University of Toledo Climate Action and Cost Reduction Plan, 2014

- **Phillips, R.**, Jabbo, R., Foresthofel, E., Hershberger, R., Apul, D., Mason, B., Johnson, D., Williams, S. (2014), "UT Climate Action and Cost Reduction Plan" (**non-peer reviewed**).

Journal of Environmental Management, 2013

- Devkota, J., Apul, D., Schlachter, H., Anand, C. **Phillips, R.** (2013) Development and Application of EEAST: A Life Cycle Based Model for Use of Harvested Rainwater and Composting Toilets in Buildings (**peer reviewed**).

United States Green Building Council Summer Newsletter, 2012

- **Phillips, R.**, Apul, D., University of Toledo Competes in Phase II of USGBC's Research to Practice Program Using the EEAST Model article (**non-peer reviewed**).

PUBLICATIONS (cont'd)

United States Green Building Council Research to Practice Phase II Report, 2012

- **Phillips, R.**, Apul, D., Devkota, J., Anand, C., Rodriguez, T. Development of Tools for Evaluation of Rainwater Harvesting Systems (**non-peer reviewed**).

TECHNICAL PRESENTATIONS

University of Toledo Climate Action and Cost Reduction Plan, 2014

- **Phillips, R.**, Jabbo, R., Foresthofel, E., Hershberger, R., Apul, D., Mason, B., Johnson, D., Williams, S. (2014), "UT Climate Action and Cost Reduction Plan"

Borchardt Conference, University of Michigan, 2014

- "Development of a Stormwater Impact index for Life-Cycle Assessments" poster

Civil Engineering Senior Design Presentation, University of Toledo, 2013

- **Phillips, R.**, Wilkinson, R., Lucas, K., Motsinger, J., Buchman D. (2013), "Green Stormwater Improvements"

Sustainable U Conference, University of Toledo, 2013

- "Economic and Environmental Evaluation of Reducing Potable Water Use by Rainwater Harvesting" poster

Posters at the Capitol , Columbus Ohio, 2013

- "Economic and Environmental Evaluation of Reducing Potable Water Use by Rainwater Harvesting" poster

Undergraduate Research Symposium, University of Toledo, 2012

- "Sustainability Analysis of Alternative Water Management Systems In Buildings" poster

American Water Works Association Ohio Section, Young Professionals Chapter, 2012

- "Economic and Environmental Evaluation of Reducing Potable Water Use by Rainwater Harvesting" poster

HONORS and AWARDS

- University of Toledo Institutional Honors; cum laude, December 2013
- The Ohio Section of the American Water Works Association Student Paper Competition Poster Presentation Award, 74th Annual Conference, 2012
- Research Stipend: Undergraduate Summer Research Creative Activity Program Funding, 2012
- University of Toledo Rocket Scholarship: reoccurring based on merit (2010-2013)
- Civil Engineering Dean's List: Fall 2011, spring 2012, summer 2013, fall 2013
- Civil Engineering President's List: Fall 2012, spring 2013
- Masonry Institute of Michigan Scholarship, Engineering General Fund (Selected by Dean)

PROFESSIONAL REGISTRATIONS and AFFILIATIONS

- Engineer Intern: The State Board of Registration for Professional Engineers and Surveyors of the State of Ohio
- American Water Works Association (AWWA) Young Professionals Committee
- National Society of Collegiate Scholars (NSCS)
- United States Green Building Council, Northwest Ohio Chapter (NWOC of USGBC)
- Toledo-Lucas County Sustainability Commission (TLCSC)
- American Society of Civil Engineers, University of Toledo Student Chapter (ASCE)

CERTIFICATIONS and TRAINING

- OSHA 40-Hour HAZWOPER Training: Certificate Number 2012-85, May 2012
- OSHA 8-Hour Annual Refresher
- American Red Cross Certification: First Aid, Adult CPR, AED-Adult, renewed annually
- Workplace Training; *Welcoming Diversity and Preventing Harassment*, January 2014
- Responsible Conduct of Research for Engineers: Collaborative Institutional Training Initiative, May 2014
- Smith Safe Driver Training, 2014
- College of Business and Innovation Advanced Leadership Academy Scholarship (Selected by Dean), 2014

PROFESSIONAL EXPERIENCE

Solid Waste Management and Solutions

- Supported management and solutions initiatives with private and public sector clients.
- Supported waste characterization and profiles to evaluate best material management alternatives including beneficial use and waste to energy projects.

Environmental Regulations

- Active in commenting on structure, applicability, and appropriateness of existing and proposed state regulations relating to waste management, specifically evolving beneficial use regulations and shale oil and gas waste and material management in Ohio.

Research and Development

- Completed projects to evaluate and advance the development of new technologies related to the water/energy nexus with a focus on rainwater harvesting.
- Research sustainability metrics of raw material extraction for proposed Earth Abundant Thin-Film Solar Cells as a Sustainable Energy Pathway, with a focus on land use impacts and carbon footprinting.

Environmental Monitoring

- Variety of field tests including lower explosive limit monitoring of methane, groundwater elevations and dye testing.
- Completed desktop evaluation of stray gas sources and areas of concern through data mapping and concentration contouring.

Risk Assessment

- Assisted team with obtaining and evaluating information required to complete analysis of risk to human health and the environment. Risk assessments included identification of source, pathways, and receptors.
- Due diligence procedures through FOIA requests and regulatory file reviews.

Geotechnical/Geoenvironmental

- Performed geotechnical testing in AASHTO certified lab.
- Supported design of Bioberm/Phytoremediation on brownfield site.
- Supported integrity evaluations of municipal solid waste landfill caps and liners (geomembranes, compacted clay systems, vegetative covers, etc.).
- Evaluate cation exchange capacity of soils and relative leachate exposure capacity.

Hydrogeology

- Support development of geological cross-section.
- Potentiometric surface map of groundwater flow to assess landfill integrity and other groundwater systems.

Project Management

- Supported project managers in cost build ups, scopes of work, task orders, master service agreements, technical report writing, and various proposals and statement of qualifications.

TEACHING EXPERIENCE

Fluid Mechanics for Civil Engineers Classroom Support, 2014

- Support development of in-class exercises and experiments.
- Grade assignments and exams.
- Respond to student inquiries and distribute class updates.
- Guest lecture on technical classroom material.
- Proctor exams.
- Held office hours and student appointments.

Professional Development for Civil Engineers Classroom Support, 2012

- Guest lecture on undergraduate research opportunities.

COMPUTER SKILLS

Data Modeling: Supported the development and coding of an original life-cycle assessment model (EEAST).

WebEx: Coordinated Webinar Series for multitude of private and public clients and stakeholders.

Microsoft Office: Extensive experience in Word, PowerPoint, Excel, Outlook, and Publisher.

Webpage Design: Supported the development and modifications of multiple wikispace webpages including research homepages, personal webpages, and software pages.

Academic Experience:

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|----------------|-----------------------|
| • MathCAD 15.0 | • GeoSlope |
| • GaBi | • SAP |
| • ProEngineer | • Bloomberg Financial |
| • EPA Net | • HEC-RAS |

PHILANTHROPY

Clean Your Streams (2012-2014): Participated as a site captain for cleanup of waterways in the Maumee River Watershed.

Migrant Teacher Training (2014): Supported training of migrant teachers on water infrastructure and sustainability initiatives.

UT SEED Recycling (2014): Supported recycling initiatives for large events.

Clean Your Streets (2013): Participated in cleanup of major transportation arteries in the Toledo area.