

Robert E. Phillips III, EI

Civil Engineering

614-563-3871

rphilli5@rockets.utoledo.edu

My areas of interest include sustainability; 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.

EDUCATION

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

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

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

ADDITIONAL COURSEWORK (outside civil engineering curriculum/requirements)

- Biology
- Chemistry (multiple courses)
- Macro Economics
- English Composition II
- Principles of Physical Energy
- Machinist Workshop
- Fundamentals of Business
- Principles of Physics and Astronomy

PROFESSIONAL WORK HISTORY

Civil Engineer I: Hull & Associates, Inc.: December 2013 - Present

Graduate Research Assistant, Civil Engineering Sustainability Research Lab, University of Toledo: December 2013 - Present

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

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

Undergraduate Summer Research and Creative Activity Program (USRCAP): Summer 2012

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

HONORS and AWARDS

- University of Toledo Institutional Honors; cum laude
- The Ohio Section of the American Water Works Association Student Paper Competition Poster Presentation Award, 74th Annual Conference
- Research Stipend: Undergraduate Summer Research Creative Activity Program Funding
- University of Toledo Rocket Scholarship: reoccurring based on merit
- Civil Engineering Dean's List: Fall 2011, spring 2012, summer 2013, fall 2013
- Civil Engineering President's List: Fall 2012, spring 2013
- Guest Lecturer: Civil Engineering Freshman Experience Orientation (Invited)
- Masonry Institute of Michigan Scholarship, Engineering General Fund (Selected by Dean)
- College of Business and Innovation Advanced Leadership Academy Scholarship (Selected by Dean)
- Graduate Assistant Stipend

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PROFESSIONAL REGISTRATIONS / 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)
- OSHA 40-Hour HAZWOPER Training: Certificate Number 2012-85
- OSHA 8-Hour Refresher
- American Red Cross Certification: First Aid, Adult CPR, AED-Adult
- United States Green Building Council, Northwest Ohio Chapter (NWOC of USGBC)
- Toledo-Lucas County Sustainability Commission (TLCSC)
- Workplace Training; *Welcoming Diversity and Preventing Harrassment*
- American Society of Civil Engineers, University of Toledo Student Chapter (ASCE)

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 – Supporter by NSF.

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 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.

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PROFESSIONAL EXPERIENCE (cont'd)

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.

PRESENTATIONS and PUBLICATIONS

2014 Borchardt Conference, University of Michigan

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

Journal of Environmental Management

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

Civil Engineering Senior Design Presentation, University of Toledo

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

Ohio Shale Production: *What You Need to Know* (Hull & Associates, Inc. and Vorys, Sate, Seymour and Pease LLP conference)

- Supported development of, "Waste and Debris Management" and "Auditing Disposal and Transport Facilities" presentations (**Hull & Associates, Inc.**)

Undergraduate Research Symposium, University of Toledo

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

American Water Works Association Ohio Section, Young Professionals Chapter

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

Sustainable U Conference, University of Toledo

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

United States Green Building Council 2012 Summer Newsletter (non-peer reviewed)

- "University of Toledo Competes in Phase II of USGBC's Research to Practice Program Using the EEAST Model" article

American Association of Petroleum Geologists, 41st Annual, 2012 Eastern Section

- Support development of, "Oil Field Waste Management and Beneficial Use Alternative for the Oil and Gas Industry" poster (**Hull & Associates, Inc.**)

Webinar Series

- Support development of, "Oil and Gas Industry in Ohio – Managing Waste and Residuals". (**Hull & Associates, Inc.**)

Posters at the Capitol 2013, Columbus Ohio

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

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TECHNOLOGY and SOFTWARE

Data Modeling

- Supported the development and coding of an original life-cycle assessment model.

WebEx

- Coordinate Webinar Series for multitude of private and public clients and stakeholders.

Microsoft Office

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

Academic Experience:

- MathCAD 15.0
- GaBi
- ProEngineer
- GeoSlope
- SAP
- Bloomberg Financial

PHILANTHROPY

Clean Your Streams

- Participated as a site captain for cleanup of waterways in the Maumee River Watershed.

Clean Your Streets

- Participated in cleanup of major transportation arteries in the Toledo area.

Migrant Teacher Training

- Supported training of migrant teachers on water infrastructure and sustainability initiatives.