



### EXPERIENCE SUMMARY

Siggi is a water resources engineer with a broad interdisciplinary perspective on water policy and management. He has more than 3 years experience in consulting engineering, analyzing and designing water supply distribution systems and storm and wastewater sewer systems. Areas of specialized expertise include stormwater management, hydrologic and hydraulic analyses, water supply and water resources planning and management. Siggi has also acquired experience on various research projects including green roof modeling and monitoring and a watershed management study.

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### EXPERTISE

Water Resources Engineering and Management

Stormwater Management Analysis & Design

Watershed Planning

Floodplains

Erosion and Restoration

Green Roofs

Low Impact Design

### EDUCATION

MS – Civil & Environm. Engineering, 2006

MS – Water Resources Management, 2006

University of Wisconsin-Madison

Madison, WI

BS – Civil & Environmental Engineering, 2002

University of Iceland

Reykjavik, Iceland

### PROFESSIONAL HISTORY

Montgomery Associates: Resource Solutions, LLC

Water Resources Engineer, 2007-present

Engineering Research Institute, University of Iceland

Research Associate, 2004

Linuhonnun Ltd, Consulting Engineers

Municipal and Environmental Engineer, 2001-2003

### SELECTED PROJECT EXPERIENCE

#### **Lewiston Ditch Drainage Impact Analysis, Columbia County, WI. (Staff Engineer)**

- Developed a drainage impact analysis approach using NRCS agricultural engineering subsurface drainage equations for agricultural fields impacted by higher water surface elevations due to a downstream wetland restoration project.

#### **RECARGA Model Development, Los Angeles, CA. (Staff Engineer)**

- Modified the RECARGA recharge best management practices model MATLAB code so that the model could be applied to specific regional conditions in Los Angeles County, California.
- Performed MATLAB coding and technical review for the RECARGA modifications.

#### **Oak Ridge Substation Flooding Study, City of Fitchburg, Dane County, WI. (Staff Engineer)**

- Analyzed closed depression flooding scenarios for a potential substation location to determine an appropriate substation pad elevation that is safe from downstream flooding.
- Analyzed land use characteristics in ArcGIS and performed a XP-SWMM hydrologic and hydraulic analysis for extreme flooding conditions.

#### **Groundwater Protection Plans, Village of Marathon City, Marathon County and City of Platteville, Grant County, WI. (Staff Engineer)**

- Assisted with the development of groundwater protection plans for new well sitings in urban areas. Created maps using AutoCAD and

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developed well protection zones based on distances to potential contaminated areas, groundwater flow paths and DNR regulations.

### **Cherokee Park Inc. Stormwater Management Plan, Madison, WI, (Staff Engineer)**

- Performed hydraulic and hydrologic analysis for an urban residential development using XP-SWMM and TR-55. Running event based and continuous models to determine compliance with peak county runoff and recharge goals.
- Performed a water quality analysis for stormwater runoff in the development using municipalities using P8 to comply with reduction of total suspended solids based on Wisconsin's NR 151 administrative code

### **Stormwater Management Plan (MS4 Phase II Permit), Rock County Towns Consortium, (Staff Engineer)**

- Water Quality Analysis. Conducted a water quality analysis for stormwater runoff in the municipalities using ArcGIS and SLAMM to comply with reduction of total suspended solids based on Wisconsin's NR 151 administrative code
- Field Reconnaissance. Performed Illicit Discharge Detection Reconnaissance Survey of the study area and inspected the condition of the municipal stormwater sewer system and entered survey results into GIS

### **Menominee River Floodplain Analysis, Marinette County, WI, (Staff Engineer).**

- Participated in the hydraulic analysis of existing conditions to determine 100 year flood level on the Menominee River using HEC-RAS

### **Floodplain Analysis and Culvert Design, Cambrian Development, Wisconsin Dells, WI, (Staff Engineer).**

- Participated in the floodplain analysis on the Wisconsin River for a development in the Wisconsin Dells using HEC-RAS
- Performed hydraulic and hydrologic analysis to design a culvert on a tributary to the Wisconsin River using XP-SWMM and HEC-RAS

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### **Floodplain Delineation, Stuart Lake Dam Breach Analysis, Mt. Horeb, WI (Staff Engineer).**

- Delineated floodplain for multiple dam breach scenarios using ArcGIS

### **Sugar River – Badger Mill Creek Watershed Study, City of Verona, WI, (Staff Engineer).**

- Conducted field monitoring of stream flow and water quality in the study area and performed the associated data analysis
- Development of Management Recommendation (Assisted with the analysis of existing stream habitat conditions in the watershed and developing future stormwater performance standards)

### **Stormwater Management and Erosion Control Plan, Alliant Energy and ATC Substations, Multiple Locations, (Staff Engineer)**

- Prepared multiple Stormwater Management and Erosion Control Plans for projects throughout Wisconsin meeting both state and local criteria
- Performed hydrologic and hydraulic analyses using XP-SWMM
- Prepared preliminary site grading plans

### **Underground Construction Erosion Control Plans, Multiple Locations, Wisconsin, (Staff Engineer).**

- Analyzed site conditions and evaluated construction practices to come up with erosion control practices that meet local and state regulatory requirements
- Prepared report and Notice of Intent applications

### **Stormwater Management System Analysis for Rockcliffe Development, Ontario, Canada, (Staff Engineer).**

- Participated in the design of an alternative stormwater management system for a dense urban development in Ontario, Canada
- Used XP-SWMM and P-8 to determine the size and efficiency of BMP's that meet Ontario regulations

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#### **Water Supply Distribution System Analysis and Design, Kopavogur, Iceland (Project Engineer, Linuhonnun Ltd).**

- Analyzed a water distribution system in a municipality of 22,000 residents, using WaterCAD modeling software.
- Participate in a feasibility study and the design of an alternative groundwater supply for the Municipality

#### **Stormwater and Wastewater Sewer System Design, Reykjavik, Iceland (Staff Engineer, Linuhonnun Ltd).**

- Participated in several wastewater and stormwater system design projects in Reykjavik, Iceland
- Modeled stormwater and wastewater collection systems using MOUSE
- Designed sedimentation ponds for a sensitive urban river

#### **Green Roof Research, UW-Madison, WI (Graduate Student).**

- Conducted hydrologic and thermal properties of green roofs research on UW-Madison campus
- Designed, installed, monitored and modeled a green roof on top of a building on UW-Madison campus and comparing it to a non-green alternative
- Found a site specific advantage of green roofs depending on local conditions. Visibility of the green roof is a major factor but non-green alternatives could be equally appropriate in some instances