



TETRA TECH

August 27, 2018

Ms. Lisa Wallick, P.E.  
Detroit Water and Sewerage Department  
Stormwater Management Group  
6425 Huber Street  
Detroit, MI 48211

**Re: Dispute Review Panel  
Invitation for Participation**

Dear Ms. Wallick:

Thank you for the invitation to submit my qualifications for consideration to join the newly formed Dispute Review Panel (DRP). I understand that the DRP was created to review and respond to specific DWSD customer disputes concerning compliance with stormwater management requirements and drainage fee adjustments.

I am interested and willing to serve on the panel. To summarize my relevant experience, I am a licensed professional civil engineer in the State of Michigan with over 28 years of experience. My civil engineering specialty is in urban drainage systems including studies, design, construction, post-construction assessments, and permitting. I have authored several design manuals such as DWSD's Stormwater Management Design Manual and the Michigan Department of Transportation Drainage Manual. I have over 15 years of experience designing green stormwater infrastructure (GSI) including rain gardens, bioretention, infiltration, porous pavement, water conservation, and detention practices.

Attached is copy of my resume for review and consideration. I understand that DWSD will be reviewing and finalizing the list of candidates and I look forward to hearing from you.

Sincerely,

Daniel P. Christian, PE, D.WRE  
Senior Project Manager

Attachment: Resume



TETRA TECH

## EDUCATION

BS, Civil Engineering, Michigan State University, 1990

MS, Civil Engineering, Michigan State University, 1995

## REGISTRATIONS

Professional Engineer:  
Michigan, No. 6201040522  
Illinois, No. 062.061801,  
Kentucky No. 29189  
Minnesota, No. 53466  
Missouri, No. 2012032388  
Nebraska, No. E-13033  
New York, No. 096239-1  
Ohio, No. 74054, 2009  
Wisconsin, No. 34187-006

## YEARS AT TETRA TECH

28

28  
years of  
experience

TETRA TECH

# Dan Christian, PE, DWRE

Mr. Christian brings over 28 years of experience in a wide variety of integrated stormwater management and water resource projects. He has worked extensively in the areas of low impact development, green stormwater infrastructure and watershed resiliency since 2005. He has prepared numerous studies and designs for a wide variety of stormwater control measures such as rain gardens, bioretention, infiltration, porous pavement, water conservation, and others. His work often involves green infrastructure in parks, roadway corridors as well as site developments. Dan's clients include federal, state, county and local government entities as well as non-profit organizations located throughout the US.

## RELEVANT EXPERIENCE

**GSI Program CS-1522, DWSD, MI.** Senior Technical Lead. Activities under the contract include: program management and administration; planning, evaluation, and selection of projects; coordination with institutional partners and agencies for implementation of those projects; project design; public outreach and stakeholder coordination; and project implementation. Additional activities include code and ordinance development along with a stormwater management design manual to support the code. Overall program includes planning, evaluation, design, and implementation of green infrastructure projects in the Upper Rouge watershed and other locations within the City identified by DWSD. Involved in all of the technical stormwater management issues within the program including the planning, design, construction and design manual.

**Godfrey Avenue Watershed Alternative Stormwater Controls Study, City of Grand Rapids, MI.** Technical Lead. Led the development of the hydraulic and hydrologic modeling of the existing and proposed sewer system. H/H analysis included collection system capacity assessment, GSI alternatives, centralized large scale storage, interior drainage analysis behind a floodwall, and assessment of pump station options. Provided direction on a spatial analysis of environmental, social and economic benefits of GSI. Developed green streets and sewer separation alternatives including a life cycle cost analysis.

**USEPA Green Infrastructure Technical Assistance Program.** Project Manager/ Technical Lead. Series of technical assistance projects to municipalities on behalf of USEPA. Program focuses on advancing adoption of green infrastructure in communities while developing knowledge and tools for a national audience.

- ♦ With technical assistance, the City of Gary, IN sought to develop strategies to reduce stormwater to their overwhelmed combined sewer system through green infrastructure incorporated into streets and vacant parcels. Green infrastructure was designed along several streets and a set of outreach tools were developed.
- ♦ Worked with 3 Rivers Wet Weather to develop conceptual design plans for three areas. Conducted field assessments, priority ranking and selection of the sites, model analysis, conceptual design and a workshop.
- ♦ The City of La Crosse, WI was experiencing localized flooding because of increased frequency of short duration, high intensity rainfall events coupled with undersized storm sewer systems. Project developed a SWMM model and



## Christian (continued)

demonstrated how a green street BMPs can be used cost-effectively to achieve peak flow reductions and associated flood reduction.

- ♦ The West Side Flats Greenway project offers an opportunity for private property owners within the neighborhood to partner with the City of Saint Paul, MN on a shared green infrastructure concept. Multiple conceptual designs were developed to integrate green infrastructure into the proposed greenway.
- ♦ The Blake Transit Oriented Development in Denver CO is a blighted infill site of assembled parcels with zoning that will support up to 130 units of affordable redevelopment housing. The project provided technical and design guidance to identify and implement a suite of GSI practices.

### Green Infrastructure Opportunities at City Parks,

Grand Rapids MI Green infrastructure opportunities were assessed at the 74 city-owned park sites, encompassing just over 1,600 acres. Green infrastructure concepts were evaluated for the top ten priority parks. For each of the ten parks, green infrastructure practices were sized and sited to capture and detain runoff from the 2-year 24-hour channel protection storm event (2.56 inches). Evaluations considered surface (bioretention and porous pavement) and subsurface options, and the concept designs included a 50-year life cycle cost. Green infrastructure improvements at the 10 priority parks were estimated to reduce runoff by 29 million gallons per year.

CSO Separation Program, City of Lansing MI. Technical Lead. GSI design as a part of sewer separation program:

- ♦ Median Infiltration and Permeable Pavers Parking Lane, Barnes Avenue. Median infiltration system targeted the equivalent of 0.5-inches of runoff from the impervious surfaces. Permeable pavers designed to handle 153,000 gallons of storage, or 2.64-inches of runoff from the impervious surfaces.
- ♦ Bioretention Cells, Riley Street. System designed as a shallow depressed bioretention accepting runoff from the road through a series of curb cuts and provides 35,000 gallons of storage, or approximately 0.6-inches of runoff from the impervious surfaces.
- ♦ Cascading Bioretention Cells, Bank Street. Due to the steep longitudinal slope of Bank Street, bioretention system designed as a series of cascading bioretention cells separated by clay check dams. System designed to provide storage for 51,000 gallons, equivalent to 3.45 inches of runoff from impervious surfaces.

- ♦ Bioretention Curb Extensions, Ray Street. Bioretention located in the low point in the road, incorporated a sediment forebay, clay check dams and overflow is handled with a raised catch basin. System handles 800 gallons of storage, equivalent to 0.14-inches of runoff from the impervious surfaces.
- ♦ Bioretention Curb Extension, Barnes Avenue. Designed to handle a total of 1,000 gallons of storage, equivalent to 0.58 inches of runoff from impervious surfaces.
- ♦ Bioretention Swale on Linden Grove Avenue. Depressed median bioretention swale collects water from the public right-of-way and provides filtration and some retention of stormwater runoff. Swale is vegetated with turf grass and street trees to minimize maintenance.
- ♦ Streetscape Enhancement and Bioretention, Michigan Avenue. Design is primarily composed of a 5-foot-wide, concrete-lined bioretention trench in a central business district area. Project combined stormwater hydraulics/hydrology, water quality improvements, and LID to become a City show piece.

### Maywood Avenue CSO Volume Reduction with

Green Infrastructure, Toledo, OH The Maywood CSO Demonstration Project is a neighborhood scale project to determine the effectiveness of green infrastructure retrofit approaches to reduce stormwater runoff, improve water quality, and reduce CSOs. Maywood Avenue is a single, 1,300-foot-long street in a neighborhood located on the near north side of Toledo. Final design focused primarily on the use of bioswales, tree boxes, and pervious pavement for sidewalks and driveway approaches.

### Hensville Park Stormwater Management, Toledo OH

Outdoor urban space used for concerts, festivals, and family events. As part of the redevelopment efforts, a sustainable green infrastructure approach was taken to design and manage the stormwater drainage. Park centerpiece is a 0.25-acre event lawn designed with a subsurface stormwater distribution system to treat the water quality volume, promote infiltration and provide detention storage for the 25-year event.

### Stormwater Policies, Procedures, and Design

Manual, Lansing, MI Senior Water Resource Engineer. Stormwater manuals to support development of a stormwater ordinance. Stormwater Policies and Procedures Manual developed to document the City's approach to managing stormwater and a companion document to provide technical guidance for stormwater facilities design for new and redevelopment projects.