

March 31, 2023

raSmith

CREATIVITY BEYOND ENGINEERING

Engineering Consulting Services:

City of Mequon

Fiesta Lane Drainage Capital Improvement Stormwater Study

(262) 781-1000
rasmith.com

16745 West Bluemound Road
Brookfield, WI 53005-5938



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Cover Letter

March 31, 2023



CREATIVITY BEYOND ENGINEERING

16745 West Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000

Ms. Kristen Lundeen
Director of Public Works/City Engineer
City of Mequon – Engineering Division
11333 N. Cedarburg Road
Mequon, WI 53092

Re: Request for Proposals | Fiesta Lane Drainage Capital Improvement Stormwater Study

Dear Ms. Lundeen:

raSmith is pleased to be considered to provide a stormwater study for proposed capital improvements for drainage improvements to Fiesta Lane in the City of Mequon. Our project team has experience performing this type of drainage study and is very excited about the opportunity to provide exceptional service for this high priority. The following key strengths set us apart.

Extensive Experience

raSmith's municipal services division only serves local municipalities, so all staff are sensitive to the needs of communities. We are knowledgeable and trusted in the industry. Our municipal staff of engineers, technicians, and specialists allows us to provide the appropriate personnel with the applicable experience. We have extensive experience with drainage studies and have provided solutions to mitigate drainage problems throughout Wisconsin.

Project Approach

Our reputation as a trusted advisor to our clients revolves around our ability to solve even the most complex challenges in a common sense and cost-effective manner. While we certainly draw from our experience, we look at each project individually to identify and recommend the best solutions. raSmith understands the scope of services desired and has provided similar services for our community clients.

Staff Availability

Our team has the capacity to focus on the specific needs of your community immediately. We are prepared to meet the schedule provided in the RFP and will work closely with the City to allow for the implementation of the drainage improvements during the 2024 construction season. We have staff in multiple offices to allow flexibility to inspect the area at a moment's notice during wet and/or dry weather. I can be reached at brad.hartjes@rasmith.com or (920) 843-5737. raSmith has a reputation for delivering projects on time while maintaining the highest quality standards for our clients.

We look forward to providing a stormwater study for the City of Mequon and are prepared to exceed your expectations with an experienced and committed project team.

Sincerely,
raSmith

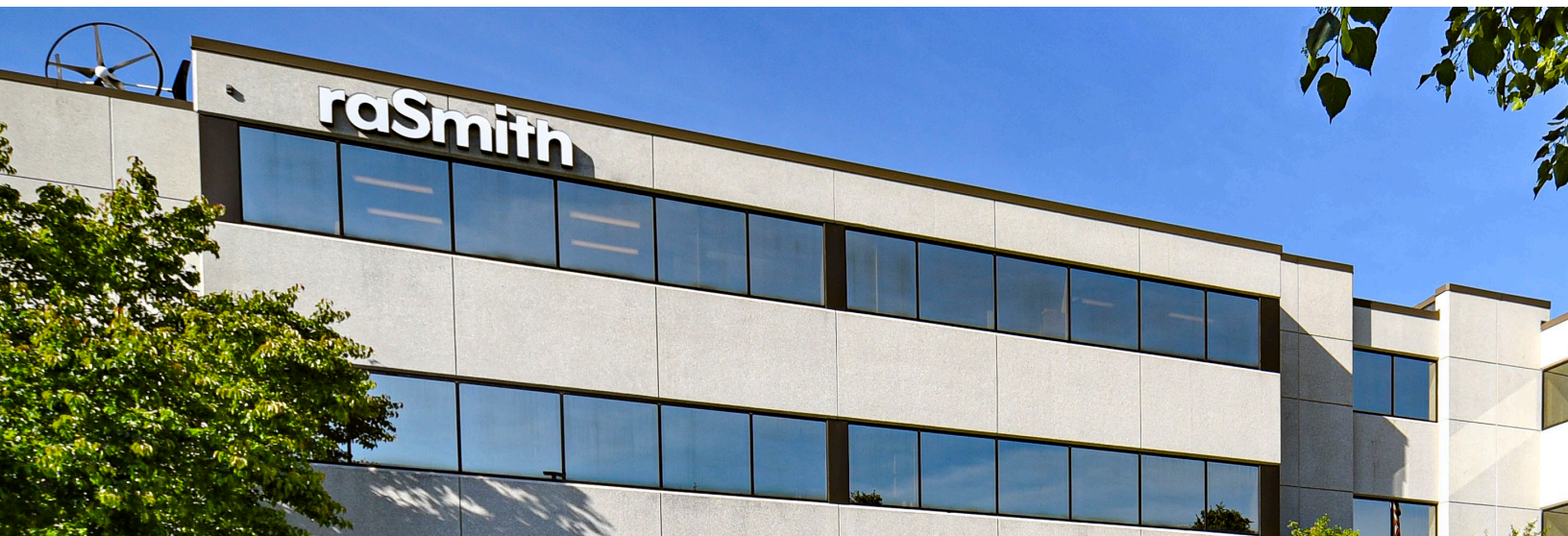
A handwritten signature in blue ink, appearing to read 'Brad Hartjes'.

Brad Hartjes, P.E.
Project Manager

Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

Firm Qualifications

raSmith is a multi-disciplinary consulting firm comprising civil engineers, structural engineers, traffic engineers, land surveyors, development managers, landscape architects, and ecologists. Our services are focused on our public and private sector clients' needs in design and construction including site design, structural engineering, municipal engineering, transportation and traffic, surveying, construction services, and geographic information systems (GIS). We work on projects nationwide from our seven locations. Richard A. Smith, M.S., P.E., F.ASCE, founded raSmith in 1978. Richard A. Smith Jr., P.E., (Ricky) leads the firm as president. The firm currently employs a staff of 220.



Our Services

[Cold-Formed Steel Engineering](#)

[Construction Inspection/Management](#)

[Development Management](#)

[Ecological](#)

[GIS \(Geographic Information Systems\)](#)

[Grant Writing](#)

[Hydrographic Surveying](#)

[Land Surveying](#)

[Landscape Architecture](#)

[LiDAR \(3D Laser Scanning\)](#)

[Municipal Engineering](#)

[Site Design](#)

[Structural Engineering](#)

[Traffic Engineering](#)

[Transportation Engineering](#)

[UAS \(Unmanned Aircraft Systems\)](#)

[Water Resources](#)

[Water/Wastewater Engineering](#)

Locations

Wisconsin:

Brookfield

Appleton

Cedarburg

Madison

Milwaukee

Illinois:

Naperville

California:

Irvine

Similar Projects



Bay Lane Drive Reconstruction Stormwater BMP

Muskego, WI

The Bay Lane Drive reconstruction project consisted of transforming an existing two-lane asphalt road with gravel shoulders and roadside ditches in a residential area to a hybrid rural and urban cross section with storm sewer. To achieve the water quantity and quality requirements, a highly effective best management practice (BMP) was needed as the best management practice could only treat a third of the project area due to drainage divides. Grass swales and sumped catch basins were used in areas not tributary to the BMP. raSmith provided roadway and grading design, utility design, erosion control design, wetland delineation, and an hydrologic analysis for the project.

raSmith began the design process with evaluation of alternatives that would help meet water quality and quantity standards, be applicable for MMSD Green Infrastructure funding, and fit on a recently acquired vacant lot. The final BMP design consisted of a green infrastructure swale detention system. The system consists of a 6-foot-wide meandering swale that conveys runoff from the project to a permanent pool. This detention area outlets using a 4-foot vertical riser structure with a 3-inch orifice. A 12-inch RCP exits the outlet structure and ties into an existing catch basin along Woods Road. Native landscaping was planted throughout the BMP area using a combination of a floodplain seed mix and short prairie grass seed mix.

The 2019 BMP construction cost of \$66,000 was funded by the MMSD Green Solutions program.

Client

City of Muskego

Project Team

Gary Raasch, P.E., CFM
Tim Barbeau, P.E., PLS
Riley Stone, P.E.

Contact

Dave Simpson, P.E.
Director of Public Works
(Formerly with City of
Muskego)
11100 Walnut Road
Wauwatosa, WI 53226
(414) 471-5422
dsimpson@wauwatosa.net

Similar Projects



Cherry Hill Drive Drainage Improvements

Mount Pleasant, WI

The Village of Mount Pleasant sought bids for a storm sewer/drainage improvement project to address poor and inadequate drainage within the southernmost 500+ feet of the Cherry Hill Drive right-of-way. The Village's original concept plan included nearly 1,300 feet of new 18- to 21-inch storm sewer that spanned across the rear yards of several residential parcels.

However, raSmith, through a hydrologic and hydraulic analyses and the alternative evaluation process, came up with an alternative route that significantly reduced the length of pipe needed and the number of properties that would be impacted by this project. After obtaining the proper project permissions, raSmith developed construction bidding documents for the installation of approximately 300 feet of new 21-inch equivalent diameter storm sewer pipe that will capture overland flow from the east and west ditch lines of Cherry Hill Drive and convey these flows to a discharge point located near the northwest corner of a parcel owned by the Wisconsin Department of Transportation (WisDOT). The biggest challenge was to design a new system that would minimize increases in peak flows so that the impacts downstream will be negligible.

Client

Village of Mount Pleasant

Project Team

Gary Raasch, P.E., CFM
Ryan Mann
Kyle Belott, GISP

Contact

Anthony Beyer, P.E.
Utility Manager
8811 Campus Drive
Mount Pleasant, WI 53406
(262) 664-7849
tbeyer@mtpleasantwi.gov

Similar Projects



Cotter Street Stormwater Study & Design

Appleton, WI

In the City of Appleton's Southwest Industrial Park, excess runoff accumulated at the intersection of Cotter Street and Haskel Street and overflowed from public right-of-way into private storm sewers located beneath a building. Additional development had recently occurred on this property and additional development is anticipated in the near future.

Alternatives to manage stormwater runoff within the right-of-way were identified. raSmith staff developed an XPStorm 2D model to evaluate and size alternatives including collection system improvements, underground detention, open dry detention, and open wet detention facilities. The alternatives also addressed potential for stormwater pollutant removal from public and private stormwater runoff, evaluated with WinSLAMM.

Stormwater collection system improvements and a wet detention basin, sized for 100-year runoff from ultimate development, were selected as the appropriate solution. raSmith designed these facilities, which were constructed in 2017.

Client

City of Appleton

Project Team

Gary Raasch, P.E., CFM

Contact

Sue Olson, P.E.
Project Engineer
City of Appleton
100 N. Appleton Street
Appleton, WI 54911
(920) 832-6473
sue.olson@appleton.org

Project Schedule

City of Mequon - Fiesta Lane Drainage Study		2023																							
		April				May				June				July				August				September			
WEEK	Task	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
	Contract awarded and begin work	★																							
	Drainage Analysis & Identification of Type of Solution	■																							
	RESEARCH AND OBSERVATION																								
	Review Historic Documentation from City Records and Residents			■	■																				
	Review SWMP for Adjacent Subdivisions			■	■																				
	Complete Assessment of Adjacent Subdivisions vs. Design Plans				■	■																			
	Complete Inspection of Drainage for Adjacent Subdivisions				■	■																			
	Analyze Adjacent Subdivisions for Conformance with Ordinance					■	■																		
	Analyze Need to Address Runoff from Adjacent Subdivisions					■	■																		
	Survey of Ditches and Culvers on Fiesta Lane			■	■																				
	Drainage Basin Observations			■	■	■	■	■	■																
	REVIEW THE 1999 SWMP					■	■																		
	PREPARE A DRAFT REPORT SUMMARIZING THE FOLLOWING:																								
	Conclusion of Analysis of Drainage in Adjacent Subdivisions					■	■	■	■																
	Assessment of the Adequacy of the Existing Drainage Facilities					■	■	■	■																
	Compare Survey Results to 1999 SWMP					■	■	■	■																
	Exhibit of Drainage Impediments					■	■	■	■																
	Document Damaged Conveyance Structures/Channels					■	■	■	■																
	Identify the Type of Drainage Solutions Required					■	■	■	■																
	Identify the Extent to Which the Drainage Solutions Will Help					■	■	■	■																
	Identify the Location of Drainage Solutions						■	■	■	■															
	Provide Drainage Report to City									■	■														
	Attend Public Works Committee Meeting									■	■														
	Presentation of Drainage Solution Options	■																							
	Provide at Least Three (3) Alternative Drainage Solutions										■	■	■	■	■	■									
	Provide Drainage Report to City Staff																					■	■		
	Attend Public Works Committee Meeting																						■	■	

Milestone Dates
April 11, 2023, Notice of Award of Contract
June 2, 2023, Drainage Report Due to City Staff
June 13, 2023, Attend the Public Works Committee Meeting
July 28, 2023, Drainage Solution Options Due to City Staff Resident Review
August 15, 2023, Attend the Public Works Committee Meeting

Project Fees

City of Mequon - Fiesta Lane Drainage Capital Improvement Stormwater Study

3/31/2023

raSmith No. 2235336	Senior Project Engineer	Project Engineer	Estimated Labor		Travel and Expenses		raSmith Expenses	Total Fee
	Assignee: HartjesB	Stone		Labor Fee	Mileage	Misc	Total	
A. Drainage Analysis and Identification of Type of Solution (Totals = 115 hrs, \$21527)								
RESEARCH AND OBSERVATION								
REVIEW HISTORIC DOCUMENTATION FROM CITY RECORDS AND RESIDENTS	1	4	5	\$ 783			\$ -	\$ 783
REVIEW SWMP FOR ADJACENT SUBDIVISIONS	2	6	8	\$ 1,260			\$ -	\$ 1,260
COMPLETE ASSESSMENT OF ADJACENT SUBDIVISIONS VS. DESIGN PLANS	1	4	5	\$ 783			\$ -	\$ 783
COMPLETE INSPECTION OF DRAINAGE FOR ADJACENT SUBDIVISIONS	-	2	2	\$ 306			\$ -	\$ 306
ANALYZE ADJACENT SUBDIVISIONS FOR CONFORMANCE WITH ORDINANCE	2	6	8	\$ 1,260			\$ -	\$ 1,260
ANALYZE NEED TO ADDRESS RUNOFF FROM ADJACENT SUBDIVISIONS	1	2	3	\$ 477			\$ -	\$ 477
SURVEY OF DITCHES AND CULVERTS ON FIESTA LANE	-	-	-	\$ 3,500			\$ -	\$ 3,500
DRAINAGE BASIN OBSERVATIONS	-	8	8	\$ 1,224			\$ -	\$ 1,224
REVIEW THE 1999 SWMP	4	12	16	\$ 2,520			\$ -	\$ 2,520
PREPARE A DRAFT REPORT SUMMARIZING THE FOLLOWING:								
CONCLUSION OF ANALYSIS OF DRAINAGE IN ADJACENT SUBDIVISIONS	2	4	6	\$ 954			\$ -	\$ 954
ASSESSMENT OF THE ADEQUACY OF THE EXISTING DRAINAGE FACILITIES	2	4	6	\$ 954			\$ -	\$ 954
COMPARE SURVEY RESULTS TO 1999 SWMP	6	12	18	\$ 2,862			\$ -	\$ 2,862
EXHIBIT OF DRAINAGE IMPEDIMENTS	-	6	6	\$ 918			\$ -	\$ 918
DOCUMENT DAMAGED CONVEYANCE STRUCTURES/CHANNELS	-	4	4	\$ 612			\$ -	\$ 612
IDENTIFY THE TYPE OF DRAINAGE SOLUTIONS REQUIRED	1	2	3	\$ 477			\$ -	\$ 477
IDENTITY THE EXTENT TO WHICH THE DRAINAGE SOLUTIONS WILL HELP	2	4	6	\$ 954			\$ -	\$ 954
IDENTITY THE LOCATION OF DRAINAGE SOLUTIONS	-	4	4	\$ 612			\$ -	\$ 612
PROVIDE DRAINAGE REPORT TO CITY	-	3	3	\$ 459			\$ -	\$ 459
ATTEND PUBLIC WORKS COMMITTEE MEETING	-	4	4	\$ 612			\$ -	\$ 612
B. Presentation of Drainage Solution Options (Totals = 49 hrs, \$7713)								
PROVIDE AT LEAST THREE (3) ALTERNATIVE DRAINAGE SOLUTIONS	12	32	44	\$ 6,948			\$ -	\$ 6,948
PROVIDE DRAINAGE REPORT TO CITY STAFF	-	1	1	\$ 153			\$ -	\$ 153
ATTEND PUBLIC WORKS COMMITTEE MEETING	-	4	4	\$ 612			\$ -	\$ 612
Total Hours:	36	128	164					
Labor Fee and Expenses:	\$ 6,156	\$ 19,584		\$ 29,240				\$ 29,240