



June 12, 2014

Ms. Missy Luick
Planning and Engineering Assistant
City of Traverse City
2nd Floor, Governmental Center
400 Boardman Avenue
Traverse City, MI 49684

Re: Request for Qualifications for Traverse City Public Pier Project

Dear Ms. Luick:

We are pleased to submit fifteen (15) hard copies and one (1) electronic copy of our Statement of Qualifications (SOQ). The SOQ is for professional services to the City of Traverse City for the proposed universally accessible public pier at the mouth of the Boardman River on East Grand Traverse Bay. Based on our understanding of your requirements we believe the URS team is uniquely qualified to meet your needs.

During the spring and summer of 2010, URS led the planning and preliminary engineering process that produced the Traverse City Bayfront 2010 Preliminary Engineering Plan. Through the provision of these services, local URS staff established relationships with key stakeholders as well as an intimate understanding of the community's concerns and expectations for the proposed universally accessible public pier. Following the completion of the Traverse City Bayfront 2010 Preliminary Engineering Plan, local URS staff has continued to support the plan implementation. Most recently, local URS staff provided engineering support to city staff and the grant writer who prepared the winning Great Lakes Fisheries Trust Fund grant application for this project.

Building from the foundation of project specific knowledge of our local staff, URS has assembled a complete team of specialized professionals required for this universally accessible public pier project. Management and site civil engineering of the project will be led locally by Project Manager and Senior Civil Engineer Chris DeGood. URS Traverse City office and other Michigan offices will provide professionals in project stakeholder facilitation, architecture, landscape architecture, water resource engineering and environmental permitting. Our Midwest regional offices will provide senior professionals with Great Lakes experience in marine engineering, geotechnical engineering, and structural engineering. We will also use URS national experts who will provide the highly specific services required for coastal studies, wave analysis, and revetment design. Our local partner, Gosling-Czubak, will provide bathymetric and costal survey as well as geotechnical drilling services.

Our SOQ highlights our understanding of the project, our intended approach, and the past projects of a similar nature that URS has completed. We look forward to the opportunity to continue to serve the City of Traverse City through this exciting project. If you have any questions please do not hesitate to contact me at (231) 922-4285 or at chris.degood@urs.com.

Sincerely,

URS Corporation Great Lakes

Christopher G. DeGood, PE
Project Manager

Laura Aylsworth-Bonzelet, PE
Vice President - Branch Manager

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

CONTACT PERSON

Chris DeGood, PE
10850 Traverse Highway, Suite 3365
Traverse City, MI 49684
231.922.4285
231.932.7594 Fax
chris.degood@urs.com

FIRM OVERVIEW

URS Corporation (URS) is one of the largest water resource, transportation, architectural, engineering, environmental, and program and construction management companies in the world. We have provided a broad range of professional services, including planning, architectural and engineering design for over a century. We have the resources, depth of experience, wide range of services, and established relationships necessary to serve as the City of Traverse City's consultant to provide Civic Engagement, Design, Preliminary Engineering, Studies, and Contract Construction Drawings for the Traverse City Pier Project.



URS Michigan

URS is best described as a local firm with global resources. **We are Locally Invested, Nationally Ranked.** URS has provided professional engineering and construction services in Michigan for **more than 100 years**. As a single source for nearly every professional design discipline, URS is committed and able to bring unmatched local expertise and innovation to every project. Our engineers, architects, planners, and technical specialists have served both large and small clients in public and private sector markets. Our ability to complement traditional engineering with specialized services on otherwise commodity-type municipal projects brings unmatched value to our clients.

URS' experience, knowledge and size allow us to respond to the diverse aspects of a coastal engineering project like the proposed universally accessible public pier. The engineers, architects, planners, and technical specialists on our Team have the water resources, geotechnical, structural, transportation, and design and construction management expertise needed for the Traverse City Pier Project.

Design for our clients...design for the future...design for life.

URS has established a tradition of innovation and dependability in our assignments by providing individualized services and responding to the special requirements of each client and project. With this philosophy, we have successfully solved challenges across the full range of planning, engineering, science and design projects. We operate out of four offices in Michigan with nearly 300 staff members and extensive environmental and water resource engineering experience. The project will be managed in URS' Traverse City office, **located 2 miles from the City's municipal offices**. In addition, the Traverse City office will draw upon support from qualified URS professionals from our state and national offices. Our Michigan office locations include:

Traverse City

10850 Traverse Hwy.
Traverse City, MI 49684
231.932.7592
231.932.7594 Fax

Grand Rapids

3950 Sparks Drive, SE
Grand Rapids, MI 49546
616.574.8500
616.574.8542 Fax

Southfield

27777 Franklin Rd., Ste. 2000
Southfield, MI 48034
248.204.5900
248.204.5901 Fax

Detroit

400 Monroe, Suite 270
Detroit, MI 48226
313.961.9797
313.961.3480 Fax

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

PROJECT TEAM

URS understands the need to provide high quality yet cost-effective services to the City of Traverse City to meet the project objectives. The URS team is a creative group with a passion for design. Our team brings extensive experience in planning, design, engineering, and implementation. In addition, the URS Team has experience providing leadership to municipal clients in managing public sector projects. We believe the technical and management background of the Project Team members closely match the required resources outlined in the RFQ. Several members of the Project Team have extensive experience in implementing similar project assignments and are intimately familiar with applicable regulatory agency guidelines and procedures. The Project Team will be available to complete the project work in a timely and cost-effective manner.

Gosling Czubak is a professional consulting firm providing engineering, surveying, environmental, geotechnical, and landscape architecture services to a large variety of clients. Located in Traverse City, the firm has served public and private clients throughout Michigan and the Midwest since 1957. Gosling Czubak will be supporting the URS project team with surveying services associated with bathymetrics, shoreline survey, and bottom lands transfer. Gosling-Czubak will also provide marine drilling services for the geotechnical investigation required for the pier design.

Key Staff

The project will be managed by Chris DeGood, P.E. He will be supported by a number of experienced team members with extensive experience in implementing similar project assignments. Presented below is table listing key personnel and their role on the project, followed by resumes and biographical sketches for each team member.

Project Team Member	Years of Experience	Project Management	Public & Stakeholder Engagement	Piers and Marine Structures	Marine Recreational Facilities	Civil Site Engineering	Sediment Transport Study	Wave Analysis	Environmental Permitting	Accessible Design	Bathymetric & Shoreline Survey	Marine Geotechnical
Chris DeGood, PE	17	■	■		■	■			■	■		
George Braam, PE	39	■		■	■	■	■	■	■			
Mark Wrona, ASLA, CLARB	39	■	■		■					■		
Paul Reinhold, ALSA	27		■		■				■	■		
Chris Reed, Ph.D.	25			■	■		■	■	■		■	
Christopher Levitz, PE, CFM	8			■	■		■	■	■		■	
Vic Gautum, PE	15	■		■	■	■			■		■	■
Gregory Thein, PE	25		■	■	■						■	■
Jason Bibby, AICP	14								■			
Gosling Czubak				■							■	■

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

Chris DeGood, PE – Project Manager

Mr. DeGood has 17 years of professional experience with the management and design of projects for broad range of clients including development, institutional, municipal, governmental, industrial, and non-profit. He has provided professional services for site selection, feasibility studies, land development plans, stormwater management plans, utility plans, construction documents, technical specifications, and permit applications. Mr. DeGood has also provided clients with project management and professional representation in all phases of the project process.

Relevant Experience

- **Bayfront Preliminary Engineering, Traverse City, MI** - Client Manager and Project Manager for a team of consultants that collaborated with citizens and project stakeholders to address critical issues crucial to achieving a preliminary engineering design responsive to the expectations of the Traverse City community. Project deliverables included a Bayfront Design Report that presented architectural renderings, preliminary design drawings, supporting documentation, a phasing plan, and an opinion of probable cost.
- **Suttons Bay Stormwater Improvements for Bacteria Reduction, Suttons Bay, Leelanau County, MI** - Senior Civil Engineer for comprehensive design and construction administration of a multi-stage stormwater treatment system in Suttons Bay Michigan. This project was facilitated through the Watershed Center Grand Traverse Bay by a Grant from the EPA. The project reduced human health risks by improving the quality of the water discharged to the Grand Traverse Bay during and after precipitation events from three stormwater outfalls. This was accomplished through a multi-stage treatment train which included rain gardens, stormwater interceptors, infiltrations trenches, and designed discharge to existing wetlands.
- **Suttons Bay Front Street Reconstruction Suttons Bay, Leelanau County, MI** - Senior Civil Engineer for streetscape renovation and construction of new sanitary sewer and 950 linear feet of new water main utility. Provided professional services including design, construction plan and specification preparation, permitting, construction oversight and project close-out. This project was completed in conjunction with an EPA funded stormwater management project also designed by URS.
- **Munson Hospital Cancer Center, Traverse City, MI** - Senior Civil engineer of a new free-standing cancer center that will provide services in one comprehensive setting and take advantage of beautiful views (healing environment/positive distraction) offered by an on-site creek (undergoing relocation and beautification). Specific components include radiation therapy, medical oncology, clinics, and physician offices. Significant site development elements include relocation of municipal utilities including sanitary sewer, water main and large diameter storm sewer. Stormwater management infrastructure implemented Low Impact Development practices including green roofs, rain gardens and underground detention and infiltration system.
- **Baraga County Memorial Hospital, L'Anse, Michigan** - Senior Civil design engineer for a replacement hospital in L'Anse, Michigan. Managed infrastructure design, preparation of construction plans, and preparation of technical specifications. Significant project elements included, 1.5 miles of utility extensions to bring sewer and water to the project site, critical site design adjacent to extensive regulated wetlands and shallow geological rock formation.
- **Watershed Center, Traverse City, MI** - Civil engineering stormwater services supporting the development of a functional framework for the implementation of Low Impact Design Stormwater Management Practices under the Grand Traverse County Soil Erosion, Sedimentation, and Stormwater Runoff Control Ordinance.

Years of Experience

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Education

- MS - Project Management, Northwestern University
- BS - Civil and Environmental Engineering, University of Michigan

Registration / Certification

- Registered Professional Engineer - MI

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

George Braam, PE – Senior Technical Advisor

Mr. Braam has 39 years of experience in civil engineering, environmental, and construction management. His civil engineering experience has included projects in harbors and ports, aviation, infrastructure improvements, transportation, parks and recreation, water resources/drainage, construction management and environmental. His progressive experience has included design, permitting, construction management and project management for projects ranging in size from several hundred thousand to tens of millions of dollars.

Relevant Experience

▪ Illinois International Port District (IIPD) - Port of Chicago, IL

Provided professional engineering services for twenty five years on all port related activities for 3,000 acres at the Port of Chicago. Activities included:

- Design and management of capital improvements and coordination of maintenance.
- Assist on site environmental remediation and hydrogeological evaluations
- Utility and infrastructure management.
- Dredging and navigation management.
- Dock wall geotechnical investigations, repairs and rehabilitation.
- Coordination of environmental remediation.
- Coordination and implementation of State and Federal grants.
- Coordination with tenants and lessees.
- Coordination with City, State and Federal Agencies.
- Attendance and participation at Staff and Board levels.

▪ Iroquois Landing Dockwall (IIPD)

Performed investigations to identify, document and assess deficiencies associated with 100 year old, 3,000 foot long bulkhead. This work included landside and waterside investigations, geotechnical studies, ground penetrating radar studies, and topographic and bathymetric surveys. Plans, specifications and permit applications were prepared for reconstruction of the wall. Assistance included preparation of State and Tiger grant documents to secure project funding.

▪ Indiana Marina Investigation - Northwest IN

Performed study that examined socio-economic, coastal and site characteristics for recreational marina sites in East Chicago, Hammond, Gary, Portage and Michigan City Indiana along the southern shoreline of Lake Michigan.

▪ Illinois Capital Development Board - North Point Marina, Winthrop Harbor, IL

Provided project management, design and construction of the 140 acre, \$36 million North Point Marina from conceptual design through start-up for the Illinois Department of Conservation. Work included:

- Landside features.
- Dredging and earthwork.
- Site utilities, roadways, lighting and parking lots.
- Access control and all site and landscaping features.
- Coordinated other disciplines in design and construction of breakwaters, marina and all site buildings.

Years of Experience

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Education

- MBA - Keller Graduate School of Management
- BS - Civil Engineering, University of Illinois

Registration / Certification

- Registered Professional Engineer - IL

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

Mark Wrona, ASLA, CLARB – Stakeholder Facilitation and Landscape Architect

With 39 years of experience, Mr. Wrona's professional expertise is well-founded in site planning and design, municipal master planning. His experience includes consultation with governmental jurisdictions, builders and developers and collaboration with architects, engineers and environmental scientists. His responsibilities include total project coordination, with close client involvement in all phases of project development, from initial programming and planning through design development, construction documents and construction administration.

Relevant Experience

- **City of Greenville Festival Marketplace, Greenville, MI** - Landscape Architect for a proposed festival marketplace. Assisted Greenville's Downtown Development Authority for multiple community vision work sessions to gain public input to determine program, site selection criteria, actual site selection, architectural expression and budget. URS provided a digital flyover and project walk through to garner community support and fundraising.
- **Crescent Park Revitalization, Grand Rapids, MI** - Project Manager for development of downtown city park in conjunction with the Van Andel Institute site development. Improvements include an overlook plaza, pedestrian lighting, seating, open areas, hillside retaining walls and extensive landscape plantings.
- **East Grand Rapids Streetscape Beautification, East Grand Rapids, MI** - Landscape Architect for streetscape and school site edge enhancements including pedestrian wayfinding, ramp and walk connections, ornamental iron gates, gateway signage and imagery.
- **Crescent Street Connectivity Study, Grand Rapids, MI** - 2010 Design Visioning Report and cost prospectus to identify potential pedestrian and green space connections along the Crescent Street corridor which are being proposed to link the "Hilltop" healthcare district into the CBD. This planning effort included multiple consensus meetings to build consensus between stakeholders. This study was commissioned by Grand Action, a non-profit organization composed of community leaders who bring a passion for downtown revitalization.
- **Uptown Rivers Edge Mixed-Use Development, Saginaw, MI** - Landscape Architect for the development of a comprehensive site master plan for a proposed 43-acre Saginaw river front mixed-use brownfield site located in downtown Bay City. The master plan envisions over 1.5 million sq. ft. of new building construction, including retail, residential, commercial and medical office space, waterfront dining, entertainment and hotels.
- **Honeywell Center Streetscape, Wabash, IN** - Site Designer for Urban Streetscape/Performing Arts addition and expansion project. The Honeywell Center, listed on the National Register of Historic Places, had its streetscape transformed with pedestrian amenities including performance stage, farmers' market, special paving, fountains, outdoor restaurant lighting and landscaping.
- **Johnson Park Revitalization Master Plan, Grandville, MI** - Upgraded existing 200-acre county park including new athletic fields, play-grounds, rest room building, storm sewer system, septic fields, and general site grading and reseeded.

Years of Experience

39

Education

- BA - Landscape Architecture, Michigan State University

Registration / Certification

- Registered Professional Landscape Architect, MI
- Council of Landscape Architectural Reg Boards Certified

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

Paul Reinhold, ALSA, LEED AP – Landscape Architect

Mr. Reinhold has over 27 years of professional experience. His diverse experience has allowed him to manage and be involved with many types of projects ranging in size and scope. His experience includes the planning, design and construction administration of streetscapes, athletic facilities, parks, and playgrounds, as well as waterfront access, state parks and campgrounds, and mixed-use trails. Mr. Reinhold will provide professional representation and communication through all phases of the project.

Relevant Experience

- **Grand River Greenway Non-Motorized Trail, Village of Spring Lake, MI -** Project landscape architect for development of Phase I of the Grand River Greenway Non-Motorized Trail. Complete a Design Study for the trail alignment for Phase II. Phase I construction includes over one-half mile of bituminous trail along the Grand River as well as an elevated universally accessible boardwalk through designated wetlands, overlook/fishing decks, a canoe/kayak launch and floating pier systems for transient boat moorings. The trail and all improvements meet all current non-motorized and accessible design standards.
- **Border to Border Trail, Dexter, MI -** Project landscape architect for a 1000 foot extension of the existing trail system through Warrior Park. Improvements include over 700 feet of pile-supported boardwalk with two overlook decks and a clear-span bridge over Mill Creek. The trail, boardwalk & bridge sections were designed to be universally accessible. The more challenging aspect of the project was to design a covered boardwalk section that passes under a historic railroad bridge over Mill Creek.
- **Crystal Lake Boating Access Site, Benzonia, MI -** Completed site design, cost estimates, construction documents and DEQ Permit Application for boating access site and parking area. The design includes a three-lane launch and parking for up to 100 car & trailers as well as an elevated boardwalk & stairs for site access.
- **Kollen Park Boulevard and Heinz Waterfront Walkway, Holland, MI -** Project landscape architect for \$3 million improvement project. Design includes universally accessible lakeshore boardwalk with fishing and overlook decks, lighting, boat launch and parking.
- **Ambrose Lake, Pickeral Lake, Tomahawk Creek East & West State Forest Campgrounds, MI -** Project landscape architect for master planning and construction documents for improvements to these state forest campgrounds. Improvements ranged from redesign of existing campsites, to conform to new state standards, design of new campsite loops, boating access sites and restroom facilities. DEQ Permit applications were completed for each of the sites with boating access improvements.
- **Crescent Park, Grand Rapids, MI -** Project landscape architect for development of downtown city park in conjunction with the Van Andel Institute site development. Improvements include an accessible overlook plaza, pedestrian lighting, seating, open areas, hillside retaining walls and extensive landscape plantings.
- **Marshall Riverwalk, Marshall, MI -** Landscape architect for multi-phase boardwalk and walking path along the Kalamazoo River in Marshall, Michigan. Enhancements included overlook and fishing decks, canoe launch, parking, pedestrian lighting and bridge crossings.
- **Rouge River Trail, Birmingham, MI -** Site design, evaluation and cost estimates for two-mile river walk connecting neighborhoods and downtown shopping district through a greenway corridor along the Rouge River.

Years of Experience

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Education

- BA - Landscape Architecture, Purdue University

Registration / Certification

- Registered Professional Landscape Architect, MI, OH
- LEED Accredited Professional

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

Chris Reed, Ph.D. – Marine Scientist

Dr. Reed has 25 years of experience in conducting hydrodynamic, wave, sediment transport and water quality studies, feasibility studies and design analysis. He focusing on 2D and 3D detailed modeling analysis and his experience includes analysis in for rivers, lakes, wetlands, bays, estuaries and coastal zones with a focus on coastal tidally and wind dominated environments. He has conducted studies in river and tidally and wind dominated coastal regions along the Great Lake coasts, Atlantic, Pacific and Gulf coasts as well as in South America, Europe, Australia and the Philippines.

Relevant Experience

- **USACE Ashtabula Breakwater Design, Ashtabula, OH** - URS conducted a coastal engineering analysis of existing breakwaters at the Ashtabula Harbor to determine remediation requirements. The existing breakwaters require improvement to reduce sediment erosion and overtopping and to protect constructed wetlands. The analysis consisted of calculating the design breakwater crest elevation and the armor rock size for proposed breakwaters. A CMS-Wave Model was used to transform the deep water wave conditions and lake levels to local conditions at each of the breakwater locations. The breakwater elevation required to reduced overtopping and the armor rock size required to remain stable under the design wave conditions at each location was calculated using the methods described in the USACE's Coastal Engineering Manual (CEM).
- **FEMA Great lakes Coastal Study** - FEMA is currently undertaking studies to update the flood maps along the Great Lakes. Dr. Reed is the Project manager for the Lake Erie and Lake Ontario studies Dr. Reed is responsible for liaisons with the USACE and for the technical aspects of the study, assuring that technically defensible approaches are developed and implemented for the study.
- **Ashland Wisconsin Lake Superior / NSP Lakefront Superfund Site** - Dr. Reed conducted a sediment stability analysis to determine the potential for re-exposure of buried contaminants in the Chequamegon Bay sediments. The contaminants consist of coal-tar compound derivatives (i.e. volatile and semi-volatile and polycyclic aromatic hydrocarbons). A detailed study plan was developed and approved by the EPA. The plan implemented consisted of conceptual model development, erosion testing, age dating and the development of high-resolution profiles of chemical tracers and contaminants.
- **USACE Packery Channel Sediment Transport Study, Corpus Christi, TX** - Sediment transport study to estimate the sediment transport adjacent to and into a proposed channel with jetties. The analysis included applications of the STWAVE model to determine local wave conditions and the GENESIS model to estimate sediment transport and beach evolution. Additional work was conducted to provide design wave conditions for jetty design. The results of the analysis were used to estimate sand bypassing requirements and design wave conditions.
- **Hampton Breach Breakwater Design Hampton, VA** - The City of Hampton, Virginia is currently pursuing a design plan and Joint Permit Application to restore the beach at Factory Point and to improve navigation channels in Back River. The project has a number of components, including the preparation of construction documents for the channel improvements, beach restoration and breakwater designs, design and permitting of the breakwaters themselves, and a Shoreline Management Plan. URS has conducted sediment transport modeling needed to support the design of breakwaters to protect the restored beach. A number of alternative breakwater designs were evaluated with the calibrated model and combined with construction and long-term maintenance costs to determine the optimum design.

Years of Experience

25

Education

- Post Doctorate Studies, Coastal Engineering Department / University of Florida
- PhD - Engineering Science and Mechanics, University of Florida
- MS - Engineering Science and Mechanics , University of Florida
- BS - Engineering Sciences , Georgia Institute of Technology

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

Christopher Levitz, PE, CFM – Coastal Engineer

Mr. Levitz has 8 years of experience working on coastal engineering projects, including work for USACE, FEMA, and the Texas General Land Office. He specializes in the design and implementation of coastal structures and systems relating to environmental restoration of critical coastal habitats. His design experience is focused on innovative approaches to solving multifaceted problems, frequently combining green infrastructure with traditional gray structures to create a resilient natural system. He has commonly performed design tasks as part of overall comprehensive projects beginning with conceptual design and permitting through to construction. Mr. Levitz has experience ranging from designs of coastal revetments, marsh restoration and breakwaters to public access enhancements for the coastline.

Relevant Experience

- **Ashtabula Harbor Section 204 Study, Ashtabula Harbor, OH** – Coastal Engineer for project to estimate the stone breakwater crest height necessary to protect proposed coastal habitat site(s) from severe wave action and provide recommendations that would reduce construction costs. The breakwater height and cross-section significantly impact construction costs. Responsibilities included utilizing wave data to develop overtopping rates, wave run-up values, and stone sizing for either existing breakwaters or proposed breakwaters at the harbor entrance and shoreline.
- **Lordship Point Restoration and Shoreline Protection, Stratford, CT**– Coastal Engineer for the Lordship Point project which includes developing plans for restoration of a spartina alterniflora tidal wetland to prevent further erosion along the shoreline of the former Remington Gun Club site in Stratford, CT. This includes coordination with the client and local environmental agencies to develop a conceptual design of a wave attenuation and sediment trapping system located in the low energy intertidal zone. The first phase of erosion control included a buried geotextile “sock” system to stabilize the shoreline bluff. Engineering support is being provided to review site conditions, develop preliminary wave attenuation criteria necessary for developing alternatives for sediment trapping and Spartina revegetation. Further shoreline stabilization has recently been constructed as a pilot test for a section of reef balls approximately 100 feet in length along the shoreline.
- **Sylvan Beach Shoreline Protection and Beach Nourishment, La Porte, TX** - Project Engineer. Sylvan Beach Park is a historic park site for the City of La Porte and Harris County. Over many years, the site had suffered erosion and had become a safety concern for public access at the shoreline. The shoreline was transformed from its previous dilapidated state to allow and promote public access. A shoreline system of pocket beaches enclosed by groins was paired with shoreline revetment, sidewalks, benches, lighting and a berm of vegetated articulated concrete mattresses. The estimated construction cost of this project was 3.6 million dollars and since completion of construction, park attendance has increased significantly to the point where additional parking had to be added along with two additional restroom and shower facilities.
- **Live Oak Peninsula Shoreline Enhancement Project, Aransas County, TX - Coastal Engineer,**
The Live Oak project site includes Broadway Street along Little Bay, South Fulton Beach Road and North Fulton Beach Road, a total of approximately 8,000 feet of shoreline within Aransas County. To prevent further erosion and shoreline loss along these sites, alternatives and a final design will be developed to enhance the area while protecting the existing shoreline. Responsibilities include assisting in the alternatives and engineering analysis that will be submitted to the project partners as well as assisting in the preparation of project designs, plans, specifications and bid packages. Final design includes nearshore breakwater systems and nearshore oyster reefs.

Years of Experience
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Education

- BS - Civil Engineering, University of Texas at Austin
- Coastal Engineering Certification, Old Dominion University

Registration / Certification

- Registered Professional Engineer - TX
- Certified Floodplain Manager, TX

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

Vik Gautam, PE – Geotechnical Engineer

Mr. Gautam is a Geotechnical/Civil Engineer specializing in the analysis and detailed design of geotechnical structures, with emphasis on geotechnical engineering for marine structures, industrial and power clients, heavy highway and other linear projects, and remediation projects. He is currently the Geotechnical Practice Leader in URS Corporations' Cleveland Office. He specializes in foundation and retaining wall design, and in advanced geotechnical modeling, including finite element analyses and slope stability analyses.

Relevant Experience

- **USCG Port Huron, MI - A/E** professional services for hydrographic survey of the boat basin and the design of a new sheet pile wall to replace approximately 75 linear feet of the south sheet pile bulkhead wall at the U.S. Coast Guard Station Port Huron located in Port Huron, Michigan. The sheet pile design included rigorous analysis for wave and ice loading. Mr. Gautam was responsible for overseeing the detailed design of the sheet pile wall as well as assistance to USCG during construction of the project.
- **Pier and Dock Improvements, USCG Station Manistee, MI - URS performed** engineering services and detailed structural design for reconstruction of docking facilities at the station, including a new wooden dock structure supported on driven piles. Mr. Gautam was responsible for providing geotechnical recommendations for pile design (including axial and lateral pile capacities, pile depth, and ice loading recommendations).
- **Design/Build for the New Station and Boathouse at USCG Station Fairport, Grand River, OH - URS** was selected by the United States Coast Guard (USCG) to provide architectural, engineering and planning services in support of the Design/Build RFP for the reconstruction of Fairport Harbor Station and Waterfront facilities, located on the Grand River in Grand River, Ohio. URS was responsible for providing a hazardous materials survey, geotechnical and soils investigation, bathymetric, topographical and utility surveys, and 35% concept designs to support design and construction for the project. Mr. Gautam was responsible for planning, coordination, and implementation of the geotechnical exploration for the project, and for providing geotechnical recommendations and specifications, as part of the D/B documents.
- **Project Geotechnical Engineer, USCG Housing Inspection and Evaluation, Port Clinton, OH-** Forensic engineering and evaluation services for a number of USCG housing structures that had experienced exterior façade and interior wall cracking and damage as a result of foundation settlement. URS performed a detailed structural and geotechnical evaluation of the structures, including establishing historical observations through interviews with residents, structural inspections of both the interior and exterior of the houses, and a forensic geotechnical exploration including a program of test borings, test pit excavations, and laboratory testing. Mr. Gautam served as the project geotechnical engineer, responsible for planning and organizing the subsurface exploration, performing visual observations of foundations, and establishing the conclusions of the evaluation.
- **Lead Geotechnical Designer, Former FMT Site, BASF Corporation, Riverview, MI -** Detailed engineering and design services for the closure of a former industrial landfill, including design of perimeter barrier walls and a groundwater collection and treatment system. Acted as lead design engineer of a proposed 1,700-ft sheet pile barrier wall to be installed along the Trenton Channel of the Detroit River. Performed geotechnical and structural analysis and design for the proposed wall, prepared detailed engineering plans and specifications, and was involved in the preparation of bid documents and implementation of bidding for the project. Construction was completed in 2009.

Years of Experience
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Education

- MS - Structural Engineering, Case Western Reserve University
- BS - Civil Engineering, Case Western Reserve University

Registration / Certification

- Registered Professional Engineer - AL, MI, OH

QUALIFICATIONS FOR TRAVERSE CITY PUBLIC PIER PROJECT

Gregory Thein, PE – Structural Engineer

Mr. Thein is experienced in all phases of structural design and project management for various facilities. His specific experience includes supervision of multidiscipline design/drafting staff, project coordination with clients, leading structural design of unique or challenging new or renovation projects; management of computer-aided design coordinated with BIM, and structural construction administration entailing both domestic and international projects.

Relevant Experience

- **Euclid Beach Fishing Pier Feasibility Study, Cleveland, OH** - Project manager and structural engineer for a multi-discipline study of programming, design, and permitting requirements for the reconstruction of a pier extending into Lake Erie at the site of the former Euclid Beach Park in Cleveland, OH. The project includes public meetings, research of code and permit requirements, the development of a schematic structural and architectural design, and an opinion of probable cost for further funding and development of the project.
- **Lakewood Park Waterfront Improvements, Lakewood, OH** - Lead engineer for the structural design of a new hillside ramp down to the waterfront on a hillside that had been a landfill decades earlier. Ramp was designed to accommodate ongoing settlement expected to occur in the future. The project also included preliminary design and coordination with a marine specialty engineer on the design of a future expansion of the lakefront promenade to the east as well as preliminary design development of a fishing pier with an access bridge connecting the promenade to the pier.
- **Nautica Boardwalk sheet pile wall repair and reconstruction, Cleveland, OH** - Structural engineer for evaluation of an existing boardwalk structure with old deteriorated wooden Wakefield sheet piling. The wooden piling had deteriorated over the years allowing undermining of the grade-supported boardwalk. Initial work involved visual inspections coupled with coordination of a diver inspection. Permanent repairs involved the design of a new tied-back steel sheet pile wall to support a new boardwalk. The sheet pile design used two different types of tie-back anchors to accommodate differing site conditions. The sheet pile and tieback design accommodated a century-old brick tunnel passing beneath the wall, the tieback anchors, and the adjacent river. The tunnel carried a riveted cast-iron primary water main serving downtown Cleveland which could not be damaged. The work included retaining and coordinating with a vibration consultant to develop baseline and construction monitoring of the tunnel to ensure that damage would not occur.
- **First Energy Sammis Power Plant Barge Unloading Dock** - Structural engineer for the design of 300 feet of sheet pile wall, tieback anchors, and mooring bollards in conjunction with geotechnical engineers. The dock was located adjacent to a lock along the Ohio River and was used to unload 72' diameter steel rings weighing 834,000 pounds from barges for transport to the Sammis Power Plant. Work involved project coordination with geotechnical engineers, with barge and equipment moving contractors who would be using the dock, and with the installation contractor.
- **US Coast Guard Analysis, Criteria, and Scope Development – Design-Build Proposal for New Jersey Stations Atlantic City and Manasquan** - URS prepared the Request for Proposal (RFP) documents to assist the USCG in obtaining competitive Design-Build (D/B) bids to re-build Hurricane Sandy damaged land and in-water facilities at Stations in Atlantic City and Manasquan Inlet, NJ. At USCG Station Manasquan Inlet (MI) the work consisted of the conceptual design and DB RFP Specifications for the new multi-mission building (MMB). Additional work items at MI included the demolition of Unaccompanied Personnel Housing (UPH) building, and renovation of structural waterfront assets.

Years of Experience

25

Education

- BS - Civil Engineering, The University of Detroit

Registration / Certification

- Registered Professional Engineer - OH, MS, CA

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Jason Bibby, AICP – Permit Specialist

Mr. Bibby has over 14 years combined experience with project environmental permitting in both the private and public sectors. He has extensive experience in land use planning from conceptual design through construction projects streamlined with permitting and agency approvals at federal, state, and local levels of government. He has also been responsible for GIS site selection, ecological inventory and analysis, transportation planning, and linear route feasibility studies.

Relevant Experience

- **Boardman River Dam Environmental Assessment, Traverse City, MI -** Provided project scoping for environmental assessment and analysis for socio-economics, transportation, land use, recreation, and aesthetics based on proposed alternatives and potential impacts. Utilized GIS for quantitative analysis and impacts.
- **Eastern U.P. Regional Planning and Development Commission Little Rapids Ecosystem Restoration Project, Chippewa County, MI -** Lead Environmental Planner for Joint Permit Application for floodplain and stream impacts associated with the proposed ecosystem restoration project involving modifications to the existing Sugar Island Causeway. The primary goal of the Little Rapids Habitat Ecosystem Restoration Project was to modify the Sugar Island Causeway by replacing 31,420 cubic yards of earthen fill with a 600 foot culvert system.
- **Mill Creek Non -Motorized Border to Border Trail Crossing Dexter, MI -** Deputy Project Manager in performing a feasibility study on a non-motorized transportation route selection involving the crossing of a railroad and creek in Dexter, Michigan. Involved GIS analysis, public stakeholder meetings, field reconnaissance, and land easement agreement support. Performed field investigation, MDEQ Joint Permit, SESC Permit, and Threatened and Endangered Species clearance.
- **Wayne County Ecorse Creek Environmental Impact Study, Wayne County, MI -** Project team member for Environmental Impact Study on Ecorse Creek for Wayne County. Provided GIS analysis and potential environmental impact to transportation, recreation, socio-economic, environmental justice, soils, infrastructure, and land use based on various alternatives.
- **USACE Clinton River Reconnaissance Study, Oakland County, MI -** Project team member on watershed planning initiative for USACE. Compiled and reviewed existing planning documentation for project study area and provided USACE with existing conditions, goals and objectives, and action plans in evaluating potential projects to move forward with feasibility study
- **Michigan Department of Transportation, Wetland Delineation and Threatened and Endangered Species Survey, Ann Arbor Airport runway extension, Washtenaw County, MI -** Performed a wetland delineation and threatened and endangered species survey of the proposed project area. Completed the ecological sections of the Environmental Assessment for NEPA compliance.
- **Windsor Essex Parkway, Windsor, Ontario, Canada -** Performed GIS mapping and analysis for candidate restoration sites considered by botanists for species at risk Dense Blazing Star and Willow Leaf Aster. Performed field work involving candidate restoration site selection, plant identification of associate species, seed collection, and species at risk identification and tagging.

Years of Experience

14

Education

- MUP - Urban Planning, Wayne State University
- BS – Geography, University of Waterloo
- Post Graduate Diploma - Geographic Information Systems (GIS) Specialist, Sir Sandford Fleming College

Registration / Certification

- American Institute of Certified Planners

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URS PRIOR PROJECT EXPERIENCE

The following project profiles demonstrate the capacity of URS to coordinate a broad range of multifaceted design professionals that have delivered projects with equivalent design complexity and/or specific elements that are relevant to the proposed public pier project.

Bayfront Preliminary Engineering, Traverse City, MI

URS Traverse City office led a team of consultants including URS Chicago, Johnson Hill Land Ethics Studio, Baird, and Glattig Jackson, that collaborated with project stakeholders to address critical issues crucial to achieving a



preliminary engineering design responsive to the expectations of the Traverse City community. Under the leadership of URS, the project team conducted a three day charrette that served to validate stakeholder sentiments regarding the previously developed Traverse City Waterfront Concept Plan. The project team also collected new input from citizens and stakeholders. The team then worked with Bayfront Steering Committee to distill and incorporate the previous work and new ideas into a refined preliminary engineering and design plan for the bayfront. The plan addresses access and improvements to public parkland recreational facilities for over two miles of shoreline in Traverse City.

Project deliverables included a Bayfront Design Report that presented architectural renderings, preliminary design drawings, supporting documentation, phasing plan, and a detailed opinion of probable cost. These documents provided the City of Traverse City with tools to generate public support for the budgetary decisions necessary to proceed with construction of the Bayfront improvements.

Reconstruction of USCG Base New Orleans, New Orleans, LA:

As a component of the post Katrina reconstruction of the New Orleans USCG Base, URS provided design services for the base pier. The pier is specifically designed for the 160' Pamlico (WLIC) buoy tender, which is the only home-ported vessel. The constant pier width is 85' to accommodate Pamlico mooring materials staging, with the overall pier length at 250'. In addition to the Pamlico, the pier was designed and outfitted to accommodate as many different types and lengths of vessels as possible for "docksideside" work. Finger piers are for small boats, along with a travel lift and layoff areas for staging of aids to navigation (ATON) materials.



Iroquois Landing Dockwall, Illinois International Port District, Calumet, IL

URS performed investigations to identify, document and assess deficiencies associated with the 100 year old, 3,000 foot long bulkhead. This work included landside and waterside investigations, geotechnical studies, ground penetrating radar studies, and topographic and bathymetric surveys. Repairs for sinkholes and bulkhead failures were designed. Plans, specifications and permit applications were prepared for reconstruction of the wall. Assistance included preparation of State and Tiger grant documents to secure project funding.

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Beach Renourishment and Recreational Revitalization Sylvan Beach , La Porte, TX



Sylvan Beach was a major tourist destination in the early 1920's, but the pre-existing beach began a steady decline as a direct result of the completion of the Houston Ship Channel in 1928. In 1961, Hurricane Carla completely devastated what beach was left at that point, making it a "beach" in name only. URS led a beach renourishment project that has brought the beach back transforming its previous dilapidated state to allow and promote public access. A shoreline system of pocket beaches enclosed by groins was paired with shoreline revetment, sidewalks, benches, lighting and a berm of vegetated articulated concrete

mattresses. Since the project was completed, everyday attendance at Sylvan Beach park has more than tripled, plus inquiries regarding new business opportunities in the area have increased. The Sylvan Beach project won a Natural Areas Award competition hosted by the Houston-Galveston Area Council which recognized the project as a model for planning and project implementation for parks.

USCG Maintenance and Logistics Command, Manistee, MI

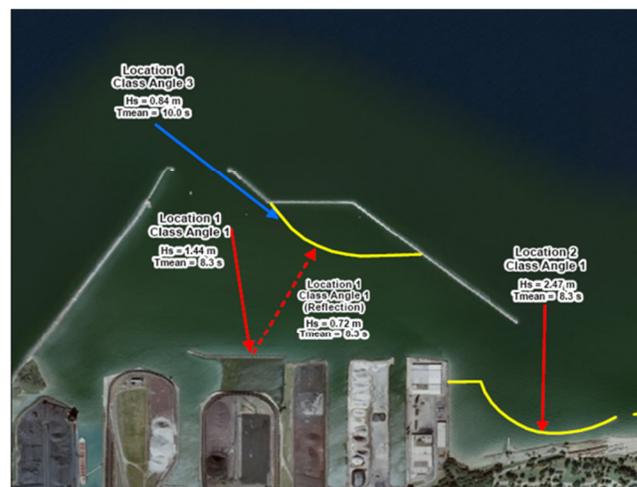
URS provided the structural analysis and design of the new Response Boat Small (RBS) Dock to replace the storm damaged floating dock at the same location. Responsibilities included on site structural investigation of existing conditions in conjunction with end user discussions to finalize project scope and project intent. Once site investigations and end user



discussions were completed, URS designed the pressure treated wood dock supported by concrete filled steel pipe piles. All required permits were prepared on behalf of the USCG, and full construction documents and specifications for bidding and permit were submitted in the final design package.

Ashtabula Breakwater Design, Ashtabula Harbor, OH

URS conducted a coastal engineering analysis of existing breakwaters at the Ashtabula Harbor on Lake Erie to determine remediation requirements. The existing breakwaters require improvement to reduce sediment erosion and overtopping and to protect constructed wetlands. The analysis consisted of calculating the design breakwater crest elevation and the armor rock size for proposed breakwaters. The wave conditions are based on a wave hindcast that was developed for 53 stations along the Lake Erie shore based upon thirty-two years of meteorological data. The wave conditions for the 2, 10 and 20 recurrence intervals we developed and the analysis considered wave conditions for three different approach angles, since the local bathymetric effects



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on the wave conditions will depend on the approach angle. The CMS-Wave Model was used to transform the deep water wave conditions and lake levels to local conditions at each of the breakwater locations. The breakwater elevation required to reduced overtopping and the armor rock size required to remain stable under the design wave conditions at each location was calculated using the methods described in the USACE's Coastal Engineering Manual (CEM).

Boardman River Dams Disposition Study, Traverse City, MI

Located in the northeast corner of Michigan's Lower Peninsula, the Boardman River is a valued community asset and nationally significant recreational resource noted for its "blue ribbon" trout fishing and "natural rivers" designation. Three dams currently impound water on the main stem of the Boardman River (i.e., Boardman Dam, Sabin Dam, and Union Street Dam). The first two of these dams have long been operated by Traverse City Light and Power (TCLP) and licensed by the Federal Energy Regulatory Commission (FERC) for hydropower generation. Several factors (e.g., FERC requirements, dam safety issues, economics of hydropower production) prompted TCLP to surrender their FERC license. Under a Settlement Agreement between multiple parties, a community-based dams disposition study, spearheaded by a Boardman River Dams Committee (BRDC) was initiated to provide advice to the dam owners (i.e., Traverse City, Grand Traverse County) on the fate of this four dam system. The results of this process lead the dam owners to begin removal of the dams.

The URS Team was recently awarded this project to provide comprehensive engineering and scientific expertise to this project, which is billed as the largest dam removal project in Michigan's history. URS is providing:

- Preliminary engineering analysis and engineering studies to provide the data required to complete designs for removal of the dams and restoration of the river's ecosystem. This will include wetland delineations, geotechnical investigations for dam breaching and design of the Cass Road Bridge, depth of refusal measurements for the impoundments, and geomorphic assessment of the river and watershed to aid in design.
- Hydrology and hydraulic analysis to support detailed design, permitting and development of the Environmental Assessment. A detailed HEC-RAS model was developed to aid in channel design, dam breach analysis and to assess potential depositional areas. In addition, a hydrologic analysis is being conducted to assess the flood retention of the existing dams.
- River restoration design, using natural design techniques, is being completed for the formerly impounded areas. The goal of the restoration design is to return the river to its pre-dam channel form and function.
- Dam breaching design will be developed from geotechnical and structural data related to the concrete and earthen components of the dams. Due to the configuration of Boardman Dam, this structure will be breached through its earthen embankment. A series of pumps and auxiliary channels will be used to provide for a controlled draw down. Sabin Dam will be breached through the existing auxiliary spillway. The concrete walls, foundation and energy dissipation material will be used to control flow during the breaching operation.
- A new Cass Road Bridge will be designed to span the relocated river. A 2 lane bridge with 8 foot shoulders will be designed to meet the transportation needs of this primary corridor through Grand Traverse County, Michigan.

Suttons Bay Storm Water Improvements for Bacteria Reduction, Suttons Bay, MI

The goal of the Suttons Bay, Michigan stormwater project is to reduce human health risks by improving the quality of the water discharged to the Grand Traverse Bay during and after precipitation events from three stormwater outfalls. This will reduce the quantity of bacteria, nutrients, sediments and other pollutants entering the bay and reduce the negative impacts of stormwater, such as, beach closings, macrophyte growth and algae growth. The URS team assessed the contributing drainage areas for optimal sites for green infrastructure (GI), low impact development (LID) and ultra-urban best management practices (BMPs). These techniques were used to provide an integrated combination of source control and end of pipe treatment that will meet project goals and achieve improved water quality within Suttons Bay. The design and construction phases moved the GI and LID concepts into construction drawings and specifications. The URS Team utilized the state-of-the science understanding to design practices that would maximize treatment while also considering the practical requirements of a small, tourist centric Village located in northern Michigan. This included: planning for snow removal/ plowing, street sweeping and winter sand/ salt

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impacts; seasonal changes to groundwater levels and discharge to an important coastal wetland. Construction activities were coordinated to avoid peak tourist season and limit impacts on the community.

Border to Border Trail – Hudson Mills Metropark, Dexter, MI

The Washtenaw County Parks and Recreation Commission (WCPARC) introduced a non-motorized trail project which was a collaborative effort involving the Washtenaw County Road Commission, the Huron-Clinton Metropolitan Authority (HCMA), and the Village of Dexter in building a non-motorized trail segment that would connect Hudson Mills Metropark to Warrior Park in the Village of Dexter. The project involved conducting a Geographic Information System (GIS) based feasibility study to determine the optimal location for the crossing of the railroad and creek including the option to construct a tunnel and bridge to connect Warrior Park with Hudson Mills Metropark. The project involved intensive stakeholder involvement and public workshops to derive the optimal route selection based on various alternatives.

Ecological Restoration for the Little Rapids Area, St. Marys River, Chippewa County, MI

URS has provided field investigation and design for the restoration of the Little Rapids which will involve reconnecting the upper and lower sections of the river between Island No. 1 and Sugar Island. The project would replace the existing culverts with a series of large box culverts, creating an opening approximately 600 feet wide that will improve water flow, increase velocities and ultimately create conditions that will benefit the aquatic community of the Great Lakes. URS developed a computer model of the system, an Environmental Assessment, and design plans. A key component of this process was the geotechnical evaluation of the subsurface conditions at the causeway. The Little Rapids area is underlain by several hundred feet of lacustrine clay that provides poor conditions for construction of causeway modifications. URS oversaw 6 borings and performed geotechnical analysis in order to design a culvert system that will remain stable while also opening up 600 feet of causeway to flow. The results provided for comparison of the alternative designs for river restoration. These data were combined with cost data to support a recommendation to the owners for final design selection.

USCE Factory Point Sediment Transport Analysis, Factory Point, VA

URS prepared plans for the reconstruction of the breached shoreline and the construction of detached breakwaters to protect the new shoreline in the vicinity of Factory Point, Virginia. To aid in the design of a system of breakwaters that will be constructed to protect the reconstructed shoreline URS conducted a sediment transport analysis. The USACE STWAVE model was also then used to evaluate wave impacts and optimize the break water designs. The results provided for comparison of the alternative designs to reduce shoreline erosion and provide for future beach nourishment. These data were combined with cost data to support a recommendation for final design selection.

Village of Spring Lake Non-Motorized Path, Spring Lake, MI

The Village of Spring Lake contracted with URS to design and prepare construction documents for Phase I of the Grand River Greenway Non-Motorized Trail and complete a Design Study for the trail alignment for Phase II. URS facilitated a series of public meetings that provided for public inclusion in the design process. Phase I construction includes over one-half mile of bituminous trail along the Grand River as well as an elevated boardwalk through designated wetlands, overlook decks, fishing decks, a canoe/kayak launch and floating pier systems for transient boat moorings. The trail and improvements meet current non-motorized and universally accessible design standards.

Bathymetric Surveys & Marine Geotechnical (Gosling Czubak), Grand Traverse Bays, MI

Gosling Czubak has provided a number of hydrographic and bathymetric surveys for the Village of Elk Rapids and its Harbor Commission and the Village of Suttons Bay Marina. This has included bathymetric surveys for harbor and dock improvements, as well as harbor maintenance dredging.

Gosling Czubak has also provided marine geotechnical services for a number of projects including the Boardman River Dams Disposition Study, Village of Elk Rapids Marina, Duncan Bay Marina, Mackinaw City Marina, Harbor West Marina, Elmwood Township Marina and the Windjammer Marina.

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WORK PLAN PROGRAMING

At the outset of a new project, URS works with our clients to develop a comprehensive Project Management Plan that will outline all project activities prior to the commencement of the work. The Project Management Plan will be reviewed and approved by the Study Group with all project team members providing “buy-in and sign-off”. The Project Management Plan will include the following:

- Scope of Services, including a project description, division of URS and sub-consultant services, work scopes, and all project deliverables
- Project Specifics, including Owner information such as project goals, the project program, as well as the URS Team’s project approach
- Project Team, including a contacts directory and description of the scope of services for each team member
- Project Budgets, including the Owner’s project budget, project hour’s budget for each discipline, and project accounting information
- Project Schedule, including the Owner’s key milestone dates and an overall professional services schedule
- Identification of key Project Stakeholders and the strategies for soliciting their participation
- Quality Assurance Plan, including overall procedures for document reviews, and departmental coordination, along with staff assignments
- Health and Safety Plan, including emergency procedure plans and contact information

URS has developed a reputation for its ability to successfully meet the most challenging owner scheduling requests. We do so, however, without sacrificing our overall focus – producing a quality product that meets or exceeds the expectations and objectives of the owner. Throughout the project process, URS will coordinate and facilitate regular project review meetings. URS will also review both the project schedule and budget at key milestone dates in all phases of the project. A preliminary project schedule is outlined below:

	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
1. Kick-Off Meeting and Work Plan	█									
a. Identification of Design Issues	█									
b. Bathymetric and Shoreline Survey	█									
4. Conceptual Design of Pier Layout Plan		█								
a. Stakeholder Meetings		█								
b. Initial Public Input		█								
c. Study Group Approval of Pier Layout		█								
6. Marine Geotechnical Investigation*			█							
7. Preliminary Design			█	█	█					
a. Wave and Sediment Transport Analysis			█	█	█					
b. Stakeholder Meetings and Public Input			█	█	█					
c. Preparation of Design and Analysis			█	█	█					
d. Study Group Approval			█	█	█					
8. Design Development						█	█	█		
a. Preparation of Design.						█	█	█		
b. Stakeholder Meetings						█	█	█		
c. Study Group Approval						█	█	█		
11. Construction Documents									█	█
a. Preparation of Plans and Specifications									█	█
b. Preparation of Permit Documents									█	█

**The marine geotechnical investigation is a critical path field work items that requires firm acceptance of a pier layout before proceeding. The Marine Geotechnical investigation will become increasingly difficult and costly as the risk of severe winter weather increases nearer the end of fall. Timely execution of the subsequent work tasks is reliant upon completion of the marine geotechnical fieldwork task in late summer.*

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REQUIRED INFORMATION RESPONSES

a. **Prior experience constructing a pier in a Great Lake-type environment is a prequalification requirement.**

Individually and collectively, members of our URS Team have completed similar projects involving piers and other marine structures on the Great Lakes. Specific team members and their relevant experience are summarized within this SOQ. This extensive experience will be brought to bear on the multiple dimensions and challenges of the Traverse City Public Pier project. For example, our team has provided engineering services for Illinois International Port District, Iroquois Landing Dock wall, Marshall Riverwalk, Kollen Park Boulevard and Heinz Waterfront Walkway, Ashtabula Breakwater, Hampton Beach Breakwater Design, Sylvan Beach Shoreline Protection and Beach Nourishment, Manistee Pier and Dock improvements, and the Euclid Beach Fishing Pier Study. Descriptions of these projects are provided in resumes of key staff and project profiles.

b. **Using effective strategies and methods to meaningfully engage the general public, including project stakeholders to obtain input in completing similar projects.**

The URS Team believes project success is rooted in gaining an understanding of area wide stakeholder culture, concerns, experiences and expectations. We have a long history of facilitating large complex projects in Michigan that include multiple stakeholders. Our public involvement portion of the fishing pier project will be led by Mark Wrona and supported by Chris DeGood. Mark has led many participatory design processes using precedent examination as a tool to gain a common understanding of the issues in stakeholder's minds. Visual precedent examples created and shared through a facilitated process derive a common basis of understanding. The broader opportunity offered in this stakeholder meeting process is that individual participants begin to understand the needs and concerns of other stakeholders which then helps to positively influence the reconciliation of conflicting expectations. URS looks forward to working with the Study Group to craft a specifically tailored process to engage stakeholders as well as the general public in the design of the proposed public fishing pier.

c. **Responding to questions, ideas and concerns expressed by the general public with regard to similar projects.**

Questions, ideas and concerns expressed by the general public are the URS Team's and Study Group's opportunity to engage the stakeholders and general public. The opportunity to respond thoughtfully to questions provides a platform where inquiry of stakeholders and public is greeted, respected, recorded. This exercise then generates more pertinent questions for which the cycle of response is repeated thus building mutual trust through the process. URS strives to encourage and respond to questions so the questioner remains engaged in the process.

d. **Identifying and using best practices to achieve successful outcomes with similar projects.**

In order to consistently implement industry standards on projects, URS has developed a multiple course structure for all project managers and a defined and mandated QA/QC process for all projects related to the following interdependent categories:

Quality Management defines the way we manage and organize our work teams and how we prepare to fulfill each assignment. Its premise is familiar: "An ounce of prevention is worth a pound of cure." Avoiding or preventing problems is far more cost effective than fixing them. To achieve this goal, in addition to the project manager training, URS empowers each member of the project team to contribute to the work plan. Each project team member has the authority and the responsibility to improve the work plan before it is adopted. The entire team also keeps the work plan flexible enough to adapt to changing project needs. This **Quality Management** approach generates a sense of project ownership for every member of the team by establishing the fact that each individual team member is responsible for the quality of the final product.

The second element of URS' QA/QC program is a formal **Quality Control** process consisting of a two stage review process at various milestones in the project. Project Manager level architects or engineers who are not assigned to the particular project conduct these reviews. The first stage is at the department level of each discipline, the second

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is a review across all disciplines. This detailed checking by professional staff brings fresh eyes and a new perspective to the project and often results in suggested improvements, error reduction and cost savings.

Quality Assurance is the third element of our QA/QC program. This formal documentation process is in effect throughout the course of the project. Within each project file is a folder for QA/QC forms documenting that all mandatory QA/QC steps have been properly followed. Internal audits of project QA/QC documents are conducted quarterly by administrative staff. Corporate QA/QC auditors review selected files annually. The URS QA/QC program combines the benefits of empowered teams and peer review with the security of a fully documented process that helps us deliver a quality product to each of our clients every time.

e. Identification of all applicable permits that will or may be required by this project and all studies and construction documents shall be developed to meet all such anticipated permit requirements.

Based upon our extensive experience with the Bayfront Preliminary Engineering process, we recognize that intergovernmental coordination at all levels (e.g., federal, state, local) is fundamental to the project’s success. The permit strategy for the Traverse City Public Pier project will begin with a meeting between the project team and permitting agencies to define a permittable project and the required information and details required for a complete permit application. The URS Team has applied for many complex permits over the years and this strategy has proven to be effective.

Our scope of work will include submittal of permit applications to local, state and federal agencies. State and federal permits will be applied for using the joint permit application developed by the State of Michigan and the USACE. The project meets the criteria for a joint permit application and there is not a need for a separate permit from the USACE. The Traverse City Public Pier project is likely to need the following permits:

Federal, State, and Local Permits and Approvals	
Agency	Permit/Approval
FEDERAL	
U.S. Army Corps of Engineers	Section 404 of the Clean Water Act (CWA) Permit, Section 10 – Rivers and Harbors Act
U.S. Fish and Wildlife Service	Section 7, Endangered Species Act, Migratory Bird Treaty Act, Bald & Golden Eagle Act
STATE	
Michigan Department of Environmental Quality (MDEQ)	Act 451, Part 301/303; Inland Lakes and Streams, Wetland Protection / Great Lakes Bottomlands / Coastal Zone Management Area
MDEQ	Act 451, Part 31 – Water Resources Protection; National Pollutant Discharge Elimination System (NPDES)
MDEQ	Act 451, Part 31 Water Resources Protection; Floodplains and Floodways
MDEQ	Act 451, Part 91 Soil Erosion and Sedimentation Control
State Historic Preservation Office	Section 106, National Historic Preservation Act
Michigan Department of Natural Resources	Act 451, Part 365; Endangered Species Review
LOCAL	
Grand Traverse County Soil Erosion – Sedimentation Control Department	Act 451, Part 91; Soil Erosion and Sedimentation Control (SESC)

f. Completing of coastal studies and assessments that will or may be required by this project, including those required by all permits and other approvals that the respondent believes will be required for this project.

The URS team includes Dr. Christopher Reed, a senior project scientist from the Tallahassee Florida office of URS with 25-years of experience in sediment transport modeling, wave analysis, dredge material management and

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coastal engineering. Dr. Reed's resume contains substantive experience on project throughout the Great Lakes as well as other riverine and coastal bodies of water throughout the world. He has broad project experience having worked both for local, state and federal regulatory agencies as well as for the entities that seek permits from these regulatory agencies. Additional information regarding Dr. Reed can be found in his resume and the project profiles contained in this SOQ.

g. Consideration of options in all elements of projects such as that to be addressed through this RFQ.

Consideration of design options and analysis of cost and benefits is a key project activity that occurs at several points during the design process that the URS team will implement. After the Conceptual, Schematic, and Design Development phases of the project the, the Study Group will receive a project deliverable. These documents will detail the progress of the project design and provide analysis of specific project elements that offer opportunities for the Study Group to a make a selection between alternatives with respect to aesthetic values preference, design challenges, or cost differentials. The decision points are programmed into the project management plan so as to provide opportunities for informed decisions to move the design process forward to conclusion

h. Applying principles of universal design to ensure universal access so that people of all ages, needs and abilities can access, use and enjoy to their fullest the end product of similar design projects.

The URS team embraces the vision of a unique universal design of the user experience for the proposed fishing pier. Application of universal design principals will provide for flexible and equitable use of the pier and its amenities by people of with a wide range of preferences and abilities. The team's lead landscape architect, Paul Reinhold, has prepared plans for a variety of recreational facilities with a an emphasis on universal design principles that resulted in physical environments that are welcoming, accessible, and usable by everyone. We are particularly proud of URS' work on the 2009 DeVos Children's Hospital Outdoor Therapy Area where patient and visitor tactile, sensory, temperature and accessibility needs were key factors in the design of an award winning accessible healing environment that celebrating natural elements such as water, land, sky and sun.

i. Assessing and ensuring that user safety is considered and addressed to reduce or eliminate risks and that facilities and facility users are readily accessible to first responders or other emergency personnel.

During the course of design cycles the URS team will analyze the project conditions and present multiple design solutions regarding issues such as access, pathway surfaces delineation and illumination, call boxes or other communications and sound alarms, personal flotation devices, and bathometric conditions among others. Project deliverables at each phase will help the Study Group to choose alternatives that best respond to program, budget and user safety. URS also has broad range of project design experience collaborating with first responders and other emergency personnel to address public safety and emergency accessibility concerns within the project design.

j. Considering and designing various forms of passive and active recreation to ensure that the design reflects a menu of realistic, safe and appropriate uses and appeals to a broad range of users.

This fishing Pier will become a unique feature in Grand Traverse Bay. Even during seasonal periods when fishing is slow, the pier will provide a magnet for casual strollers. URS will bring ideas based on prior project experience as well as leverage a practiced facilitated stakeholder and public input process to seek out the forms of passive and active recreation opportunities that are responsive to the desires of the local residents and the visitors who will enjoy the benefits and amenities provided by the proposed pier.

k. Using various forms of media and other resources to educate and inform users of similar facilities about: proper use and care of the facility; safety precautions and procedures; how to use the facility to maximize enjoyment; such as instructions/directions about how and when to fish for various species; how users can become good stewards of the facility, Grand Traverse Bay and Lake Michigan; natural resource information about the Bay, Great Lakes, etc. so that the facility is a hub of useful and interesting information.

An important component of the project design will be to orient the pier user/visitor to the recreational opportunities and enhance the experience through the presentation of information regarding the history of the Great Lakes fishery,

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fish species identification and creel limits, geography science, and climate of the Grand Traverse Bay Region. The URS Team’s architects and landscape architects have experience working preparing orientation and information plans for similar institutional and recreational projects which they will draw upon to create an appropriate orientation plan for the proposed public pier.

l. Developing and assessing design and construction options for facilities such as those included in this RFQ.

The URS Team’s experience with a programmed incremental process of project design development through the implementation of the comprehensive Project Management Plan allows for a progressive assessment of the design and construction options. Key waypoints following conceptual design, preliminary design and design development offer our clients the opportunity to review deliverables and assess the costs and benefits of project alternatives. This programed assessment allows the Study Group to compare and consider the design options and make informed decisions regarding the key features of the public pier.

m. Developing design specifications and construction drawings and details in a manner that ensures the success of this and similar projects.

The key to the URS Team’s development of design specifications and construction documents is our QA/QC process which is thoroughly detailed in our response to item d.

n. Meeting project deadlines for projects that have multiple phases and include significant opportunities for public participation.

Our primary means of ensuring fidelity to the time, budget, and technical goals of a project of this magnitude is a the project management plan which will provide a rigorous set of project controls and define opportunities for Study Group, stakeholder and public input to the design of the public pier.

o. Identifying all future asset management costs including anticipated operation and maintenance the City to incur should the pier be constructed.

The design life of of the main strucural component of this public pier facility is likley to be on the order 50 to 75-years. Structures of this nature typically do not require major maintenace over the course of a lifecycle. However, so that the city can ensure that the public fishing pier will continue to perform in accordance with expectations, URS will provide a schedule of lifecycle inspections as well as guidelines for inspection that should be conducted after severe weather or other unanticipated events. The human interface compenents such as benches, guard rails, lighting systems etc. will need maintenance in accordance with their manufacturers requirements. URS has broad experience helping clients to understand the life cycle costs associated with these amenities.

REFERENCES

<p>Project: Various Projects Under an Ongoing IDIQ Contract</p> <p>Client: United States Coast Guard</p> <p>Client Contact: James E. Dinda</p> <p>Telephone #: 231.902.6223</p> <p>Email: james.e.dinda@uscg.dhs.gov</p>	<p>Project: Village of Suttons Bay Stormwater Improvements</p> <p>Client: The Watershed Center Grand Traverse Bay</p> <p>Client Contact: Sarah U'ren</p> <p>Telephone #: 231.935.1514</p> <p>Email: suren@gtbay.org</p>
<p>Project: Boardman River Dam Removal</p> <p>Client: Grand Traverse County</p> <p>Client Contact: Dave Benda, County Administrator</p> <p>Telephone #: 231.922.4635</p> <p>Email: dbenda@grandtraverse.org</p>	<p>Project: Dexter Border to Border Trail</p> <p>Client: Washtenaw County Parks & Recreation Commission</p> <p>Client Contact: Coy P. Vaughn, AICP</p> <p>Telephone #: 734-971-6337 Ext. 326</p> <p>Email: cvaughn@ci.ann-arbor.mi.us</p>

9. Signature Page

TITLE: Traverse City Public Pier RFQ

DUE DATE: **June 12, 2014 at 4:00 p.m.**

Having carefully examined the attached RFQ and any other applicable information, the undersigned proposes to furnish all items necessary for and reasonably incidental to the proper completion of this RFQ.

The undersigned understands and agrees that they must be licensed to do business as Professionals in the State of Michigan.

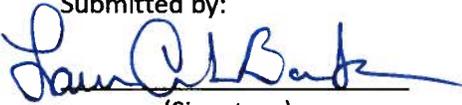
The undersigned submits this proposal and agrees to meet or exceed all requirements and specifications listed on the RFQ, unless otherwise indicated in writing and attached hereto, and acknowledges a thorough understanding of the City's Great Lakes Fisheries Trust grant agreement.

The undersigned certifies, as of the date of this RFQ, not to be in arrears to the City of Traverse City for debt or contract or is in any way a defaulter as provided for in Section 152, Chapter XVI of the Charter of the City of Traverse City.

The undersigned understands and agrees, if selected to be awarded this work, to enter into an agreement with the City to supply this work.

The undersigned understands that the City reserves the right to accept any or all proposals in whole or in part and to waive irregularities in any proposal in the interest of the City. The RFQ will be evaluated and awarded on the basis of qualifications and best value to the City. The decision criteria to be used, but will not be limited to, is qualifications, technical expertise and experience, key staff, past similar work, firm's understanding of the project scope, quality of the firm's project approach and overall capability to meet the needs of the City.

The undersigned agrees that the RFQ may not be withdrawn for a period of 60 days from the actual date of the opening of proposals.

Submitted by:  _____ (Signature)	Laura Aylsworth-Bonzelet, PE Vice President - Branch Manager _____ (Name & Title - print)	(231) 932-7592 _____ (Telephone Number)
URS Corporation Great Lakes _____ (Company Name)	10850 Traverse Highway, Suite 3365, Traverse City, MI 49684 _____ (Company Address, City, State, Zip Code)	