

TABLE OF CONTENTS

SECTION I

Professional Qualifications

- Beckett & Raeder, Inc. Firm Profile
- Baird Firm Profile

Page 1

SECTION II

Professional Team

- Organization Chart
- Resumes
- Skills Matrix

Page 2

SECTION III

Demonstration of Qualifications

Page 8

SECTION IV

Project Experience

- Beckett & Raeder, Inc.
- Baird

Page 13

SECTION V

References

Page 20

**Traverse City Public Pier**

**Request for Qualifications**

City of Traverse City  
Traverse City Public Pier  
Study Group  
Traverse City, Michigan

Contact:

Christy D. Summers, PLA  
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734.239.6608

June 12, 2014

*Landscape Architecture  
Planning, Engineering &  
Environmental Services*

**Ms. Missy Luick, Planning and Engineering Assistant**  
City of Traverse City  
Second Floor, Governmental Center  
400 Boardman Ave.  
Traverse City, MI 49684

**Regarding: Request for Qualifications | Traverse City Public Pier**

Dear Ms. Luick:

We are pleased to present for your review and consideration our qualifications submittal for the Traverse City Public Pier. With offices in both Petoskey and Traverse City, in addition to our home office in Ann Arbor, we are confident that we will be able to provide the project with the skill, expertise and local attention to create a very dynamic and engaging new public pier for the community.

We have comprised a team of highly skilled and uniquely qualified professionals who will partner with you and your stakeholders on this project. Our team includes the planning, landscape architecture and engineering expertise of Beckett & Raeder for on-shore improvements, universal design and overall project management, the exclusive coastal design and engineering expertise of Baird for off-shore improvements, the Great Lakes fisheries and ecosystem knowledge of Dr. Mark Luttenton and the citizen engagement and information dissemination skill of Scott TenBrink of the University of Michigan.

This project represents the continuation of a number of studies and implementation projects along the magnificent Traverse City Bayfront, arguably the community's most prized natural resource and a definite destination of the area's visitors. Further, it will provide highly desired public and universal access to the waterfront for fishing and viewing, as identified in the Your Bay, Your Say study of 2007 and the Traverse City Bayfront 2010 study, among others. We applaud the community's efforts in prioritizing a project that will serve Traverse City's residents and recreational tourists while both preserving and educating the public on the unique Great Lakes ecosystem and fishing habitat.

We are pleased to have this opportunity to submit our qualifications and we look forward to your favorable consideration.

Respectfully submitted,



Christy D. Summers, PLA, ASLA, LEED AP  
Principal

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## Profile

W.F. Baird & Associates Ltd. has provided specialized professional services for the design and construction of marine terminals, ports, piers, breakwaters, shore protection and other coastal engineering projects for over 30 years. In that time, Baird has established an international reputation for creative planning, effective design, and engineering excellence.

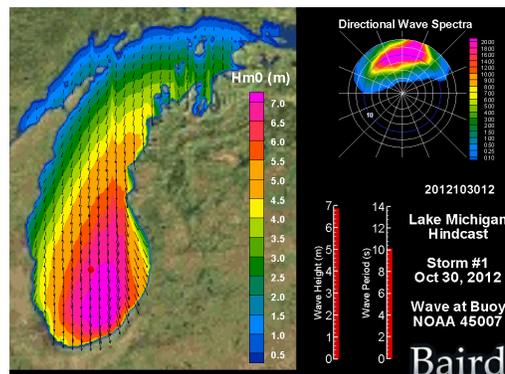
A key element of Baird's approach is the incorporation of leading-edge marine science and engineering technologies into the design process in order to provide a detailed description of the marine environment. With this understanding, we are able to develop effective designs that meet our client's objectives while minimizing cost and risk.

The company consists of engineers, planners, scientists, and geomorphologists who are further supported through alliances with related consulting, academic, and scientific communities. Our senior staff are internationally recognized for the successful completion of innovative and practical projects throughout North and South America, Africa, Australia, the Caribbean, Middle East, and Southeast Asia.

While technical excellence is the foundation of our success, we recognize that local client relationships and effective management make successful projects. As such, we strive to provide excellent service to our clients in every project we undertake.

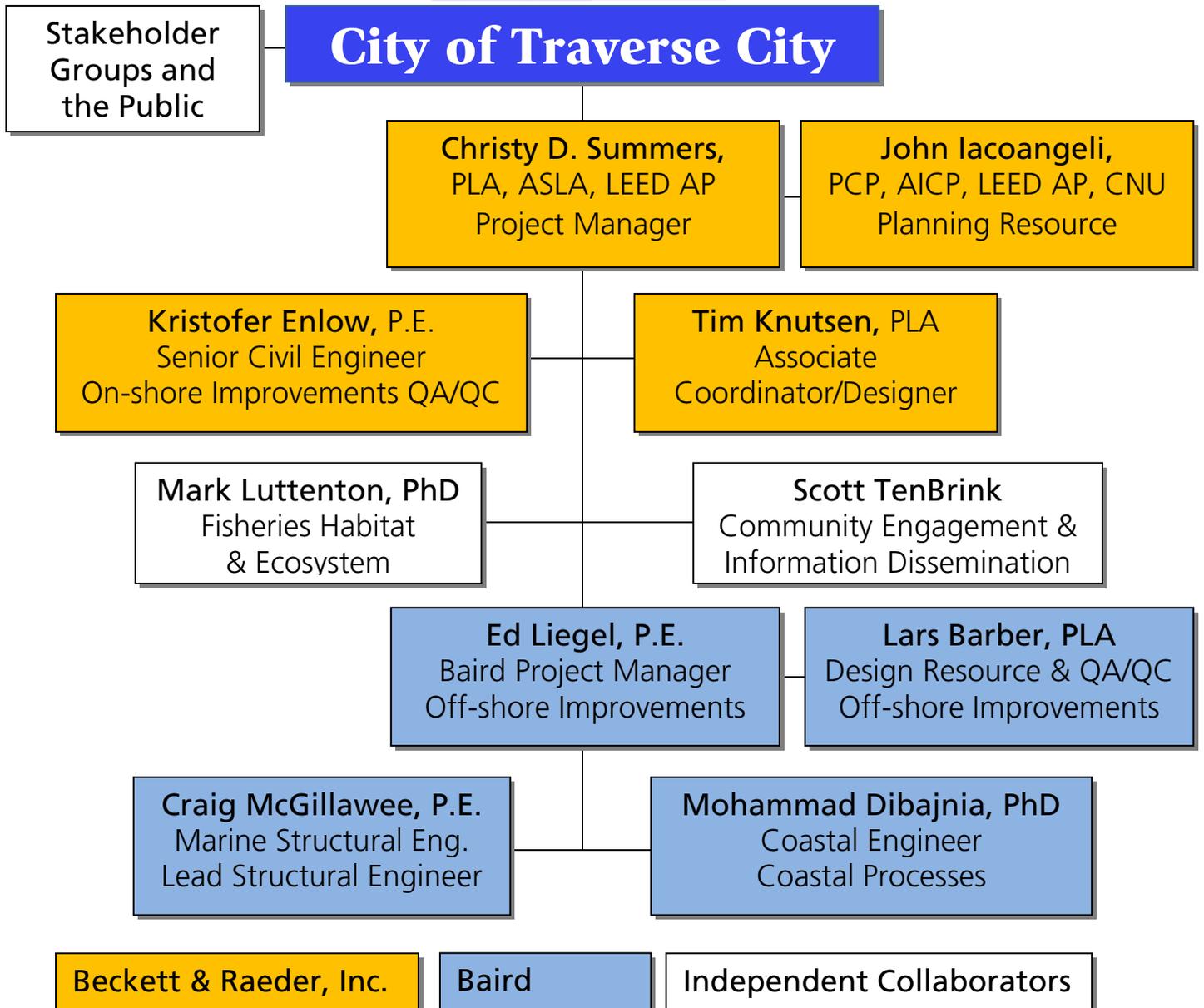
The Baird team offers a full complement of marine engineering services including:

- Site screening and feasibility studies
- Development of Metocean design criteria
- Preliminary engineering, scheduling, costing
- Inspection and condition surveys
- Regulatory coordination
- FEED development (marine components)
- Detailed design for marine elements
- Construction observation and management
- Post-construction monitoring



# Organization Chart

Traverse City Public Pier  
 Traverse City, Michigan



**Professional Team - *Beckett & Raeder, Inc.***



***John Iacoangeli, AICP, PCP, LEED AP, CNU-A, FBCI - Planning Resource  
 Ann Arbor, Traverse City and Petoskey Offices***

John joined Beckett & Raeder, Inc. as a Principal in 1991 and has over thirty-five years experience working with public and private sector clients on a variety of community and economic development based projects. He has been involved in the preparation of zoning amendments and ordinances, master plans, urban and rural growth strategies, downtown revitalization, historic preservation, sustainable community planning, and public-sector economic development. John also has helped establish two of Michigan's six joint planning commissions through his work with the Village of Bellevue (Bellevue Township) and the Village of Onekama (Onekama Township). An award winning Planner, John spends much of his time serving northern Michigan clients. He is an instructor and conference presenter for the Michigan Association of Planning and has been a contributor to the Michigan Municipal League magazine on community planning and economic development issues.



***Christy D. Summers, PLA, ASLA, LEED AP, Principal - Project Manager  
 Ann Arbor, Traverse City and Petoskey Offices***

Christy is a professional landscape architect with over 20 years of experience focused in site design and project implementation experience. Christy has been involved in a variety of project types including waterfront, urban and downtown design, corridor study and design, passive and active recreation design, historic site planning, access to recreation and ADA design, trails and greenways, and campus and corporate projects. As a Principal with the firm, her responsibilities include project management, design, construction document preparation, construction administration, and construction observation for both large and small projects. Christy recently served as President of the Michigan Chapter of the American Society of Landscape Architects, and serves on the Advisory Board of the University of Arkansas College of Architecture. She was a featured speaker on the WJR (760 AM) radio show "The Prosperity Agenda" discussing placemaking strategies.



***Timothy Knutsen, PLA, ASLA, Associate - Coordinator/Designer  
 Petoskey Office***

Tim holds a BS in Landscape Architecture and has over 17 years of experience in site design and development. He also heads up our Petoskey, Michigan office working with Northwest Michigan clients on public and private projects. Tim's project experience varies from residential and commercial projects to large campus developments for schools and colleges. Tim is currently working on recreation, public infrastructure, and landscape enhancement projects in northwest Michigan.



***Kristofer Enlow, P.E., Senior Civil Engineer, On-shore Improvements***

Mr. Enlow has over 11 years of experience in public and private site development, contract documents and construction administration. His work experience includes water, sanitary sewer, storm sewer, roadway design, as well as open space, sidewalk and trails projects.

**Professional Team - *Independent Collaborators***



***Mark Luttenton, PhD - Fisheries Habitat & Ecosystem***

Dr. Luttenton has worked in the Great Lakes region for over 20 years. During that time, he conducted research on fish, benthic invertebrates, unionids, zooplankton, phytoplankton, and benthic algae. His research has included examining the impacts of invasive species (e.g. zebra mussels), community metabolism, and food web dynamics in Lake Michigan and its tributaries. He also collaborated on research related to the population genetics of salmonids in the region. His ongoing grant funded research includes evaluating impacts of impoundment driven temperature on the survival of juvenile steelhead in the Muskegon River. Currently working as a professor at GVSU, he is leading a large scale study of brown trout movement in the Au Sable River using radio telemetry that includes coordination of four partner groups and over 20 volunteers. Most recently, he has begun work to evaluate the ecology of the Boardman River.



***Scott TenBrink - Community Engagement & Information Dissemination***

Mr. TenBrink holds a Masters in Urban Planning from the University of Michigan. He brings experience with engagement from a civic and advocate perspective to offer innovative tools to reach a broad audience and connect deeply with stakeholders. Scott worked in partnership with Beckett & Raeder to develop new public participation methods for the Community Master Plan in Jackson, Michigan.

**Professional Team - *Baird***



***Lars T. Barber, PLA - Landscape Architecture***

Mr. Barber is the Principal-in-Charge of the Madison office for day-to-day operations and directs all business development activities. He has worked on a variety of projects over the past 34 years involving numerous aspects of waterfront planning and design. His key skills include site analysis, master planning, and feasibility studies. Mr. Barber has participated in and directed public participation workshops dedicated to waterfront planning and design and has extensive experience in working with agencies to obtain regulatory approval.



***Mohammad Dibajnia, PhD., P. Eng, M.Sc. B. Sc. Coastal Engineering***

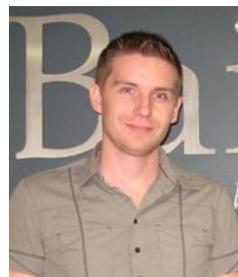
Dr. Dibajnia is an internationally recognized expert in coastal processes and has developed state-of-the-art models for sediment transport and morphology analysis. He has 28 years of experience as a coastal engineer with strong academic background allowing him to solve challenging problems through an understanding of the underlying processes. After completing his Ph.D, Dr. Dibajnia worked for the Design and Engineering Dept., Penta-Ocean Construction Co. Ltd., Tokyo from 1991 to 1993. During this period he worked on problems of harbor shoaling, design of harbor layout and structures, conducting field measurements and numerical modeling. He was invited to join the Department of Civil Engineering, University of Tokyo in 1993 as an Associate Professor of Coastal Engineering Laboratory, and moved to the Department of Civil Engineering, Nagoya Institute of Technology, in 1998. During this period, Dr. Dibajnia taught a variety of Hydraulic, Hydrodynamic and Coastal Engineering courses and developed research programs, while continuing to be an advisor to Japanese organizations and consultant companies. Dr. Dibajnia focused his research activities on the solution of real engineering problems.

Since joining Baird in 2001, Dr. Dibajnia has managed several projects encompassing harbor sedimentation, field investigations of nearshore hydrodynamics and sediment transport, numerical modeling of coastal processes, erosion control and beach protection design, beach nourishment, coastal zone management and environmental assessment. Dr. Dibajnia is a Registered Professional Engineer in the Province of Ontario Canada and he has two post-graduate degrees in Coastal Engineering and Processes.



***Ed Liegel, P.E., B.Sc. Civil Engineering, Emphasis-Structural Engineering***

As an engineer with Baird & Associates, Mr. Liegel has been involved in a variety of multi-disciplinary projects in the Great Lakes, Caribbean, Australia, and Africa. The majority of his work involves studies related to the design and operation of marine ports, terminals and navigation structures. Related to these studies he is skilled in the design of marine structures, geotechnical analysis, preliminary and final cost estimating, contract document preparation and project delivery planning. He has also spent considerable time abroad as an onsite project representative on various projects.



***Craig McGillawee, P.E. P.Eng. B.Sc, Civil Eng., Structural Engineering***

Mr. McGillawee has extensive marine structural engineering experience obtained through projects worldwide in such locations as the Great Lakes, Caribbean, Africa, and Australia. He has led the structural design for numerous projects including ports, harbors, mega-yacht marinas, dry-stack facilities, and cruise ship destinations. In addition, he is proficient in construction administration and is knowledgeable of marine construction methods and materials.

# Skills Matrix

Traverse City Public Pier  
Traverse City, Michigan



Scope of Work	Beckett & Raeder, Inc.				Baird					
	John Iacoangeli	Christy Summers	Kristofer Enlow	Tim Knutsen	Mark Luttenton	Scott TenBrink	Lars Barber	Mohammad Dibajnia	Craig McGillawee	Ed Liegel
Universally Accessible Fishing Pier - Design through construction documents		X	X	X					X	X
Fishing & Education Related Amenities				X	X		X			
On-Shore Improvements such as Lighting, Parking, Restrooms, Fish Cleaning, Etc.		X	X	X			X			
Habitat Improvements				X	X				X	X
Maintenance and Safety		X	X	X			X	X	X	X
Accessibility		X	X	X			X			
Prior Experience with Great Lakes Environment		X	X	X	X		X	X	X	X
Effective Strategies to Engage Stakeholders and the Public	X	X				X	X			X
Communicating Ideas and Responses to the Public	X	X				X	X			X
Coastal Studies and Assessments							X	X	X	X
Proposing Options with Explanation for Informed Decision Making	X	X	X	X					X	X
Universal Design		X	X	X			X	X	X	X
User Safety Considerations		X	X	X			X	X	X	
Passive and Active Recreational Possibilities for a Broad Range of Users		X	X	X						
Multi-Media Tools to Educate and Inform Users					X	X				
Design and Construction Options		X	X	X					X	X
Construction Documents		X	X	X					X	X
Meeting Project Deadlines	X	X	X	X	X	X	X	X	X	X
Identifying Future Asset Management Costs		X	X						X	X

## DEMONSTRATION OF QUALIFICATIONS

### Traverse City Public Pier

#### *Traverse City, Michigan*



#### PROJECT UNDERSTANDING

The City of Traverse is currently seeking qualifications information from professional services firms for civic engagement, design, preliminary engineering, coastal and geomorphologic studies, all culminating in construction documents, for a universally-designed and fully accessible public pier at the mouth of the Boardman River on the picturesque Grand Traverse Bay. The 550 foot pier is intended to provide unique access for people of all ages, needs and abilities to fish for migratory and local species, learn about the Great Lakes and the importance of stewardship, and demonstrate the value, challenges and opportunities involving the fishery and ecosystem.

The pier has been part of community discussion and comprehensive planning studies dating back at least to 2007 in the “Your Bay, Your Say” Waterfront Plan and then reinforced in the Traverse City Bayfront 2010 study. Support of the public and fishing community has been and will continue to be paramount to the successful implementation of this project. With this ongoing support, the pier became even better positioned for reality when it was the recipient of a Great Lakes Fishery Trust Grant, executed just this year.

#### PAST INVOLVEMENT IN THE PROJECT AND ITS CONTEXT

The pier will not only be transformational to this portion of the Bayfront, but also beyond. With proper planning and community input, the pier has the potential to set the tone for future recreational and ecological improvements along the downtown stretch of the Boardman River. Beckett & Raeder, Inc., has recently been involved in regional planning of the Boardman River Watershed, as a result of our involvement in the Boardman River Watershed Prosperity Plan. During this project, we helped establish goals and objectives for Traverse City and other watershed municipalities to better capitalize on the environmental, economic and recreational assets of the river. Additionally, to assist in the City’s efforts to strengthen the relationship of the river with the downtown district, we have worked with the City and Downtown Development Authority in studying the possibility of a contiguous downtown riverwalk, and its relationship with existing and proposed development. We believe our involvement in these projects presents a level of synergy that would be advantageous to the community and an asset in comprehensively planning the public pier improvements.

#### PROJECT-SPECIFIC QUALIFICATIONS

##### **a. Great Lakes Environment Experience**

The BRI Team has been involved with the planning and design of harbors, jetties, and pier structures for more than 30 years. With the inclusion of Baird, which focuses exclusively on water related infrastructure, we present a team that is not only capable, but routinely engages in, this type of project. Our team understands the critical issues of wave forces, wave overtopping, water quality, sedimentation, ice movement and forces, littoral drift, environmental concerns, maintenance, design, and marine construction. We have provided successful solutions addressing all of these issues for pier specific projects. Further, our team has also completed numerous quay walls for the accommodation of large vessels, the permitting and engineering aspects of which are generally similar to pier structures.

The BRI Team has also completed universally accessible fishing pier projects for the Michigan Department of Natural Resources, including a project partially funded through an Access to Recreation Grant, in which the stated goal of the project was going “above and beyond” the ADA. By working with advocacy groups for people with disabilities, as well as the Kellogg Foundation consultant for universal design, we became well versed in the design solutions related to access, railing height and materials, seating, etc. that make a fishing pier more usable for people of all ages, needs and ability types.

**b. and c. Meaningful Engagement of the General Public and Responses**

With a belief that the successful outcome of any public project relies on the active participation of the community, the BRI Team has extensive experience with public engagement for its planning and design efforts. Fortunately, the community has already laid a solid foundation of such engagement for this project that must continue through the design development phase and implementation. The BRI Team includes D. Scott TenBrink, a Community Project Manager with the University of Michigan and an educator in the UM School of Information. Our Team’s approach will begin with a recognition of the strong engagement previously demonstrated in the Traverse City community through a consistent effort to communicate the origin, scope, and impact of the pier, as well as inviting, and responding to community questions and concerns. Given the unique combination of potential stakeholders and user groups, engagement activities will aim for deep participation, such as feedback on physical interaction with design components, and simple, on-site input activities to reach current users. Additionally, online, asynchronous opportunities for public participation will accommodate those unable to attend events. Responses to questions, ideas and concerns expressed by the public will occur at the events and also in follow-up, with input from City staff, through such means as a project website, e-mail correspondence, or press interactions.

**d. Identifying and Using Best Practices for Successful Outcomes**

The BRI Team has extensive project implementation experience affording us the knowledge of best practices that results from understanding a project’s myriad parts that create a whole. Best practices extend not only to ecologically sustainable design techniques and materials, but also to construction methods that will result in the long-term success of a project. These practices are often considered and discussed throughout design with the Owner, throughout permitting with the permitting agencies, and throughout construction with the construction contractor. The BRI Team’s long-term success with several clients, most relevantly with the City of Petoskey on its Bayfront improvements, has resulted in the continued building of knowledge of the maintenance and operations of its projects in order to take lessons learned and carry them forward into subsequent projects, thereby continuing to improve its craft.

Best practices in the marine environment tend to be less defined than those on land due to a lack of universally recognized designed codes and the interaction of various agencies having authority. However, the BRI Team is familiar with the myriad of available domestic and international marine design references

**e. Identification of Applicable Permits**

With extensive projects in the critical dune, inland lakes and Great Lakes environment, the BRI Team is knowledgeable of the permitting requirements that a pier project of this nature will generate. Extending any type of pier structure into the Grand Traverse Bay of Lake Michigan will require a joint permit with the Michigan Department of Environmental Quality and US Army Corps of Engineers. Added riparian complication will result from working at the mouth of the Boardman River. The BRI Team has the capability to prepare all studies and permit applications necessary for this project, having done so many times prior to implementation of improvements.

**f. Coastal Studies and Assessments**

The permitting and public approvals process on the Great Lakes generally requires that numerical studies be conducted to understand the coastal processes that exist at the site prior to construction. These processes include the wind, wave, current, littoral drift, and river sedimentation regimes. A second numerical assessment is usually conducted which compares pre-project and post-project conditions in an attempt to define consequences of

structure demolition or installation. This is usually required as the demolition of existing structures and installation of new structures may alter littoral drift patterns, river sedimentation patterns, water quality, or the preferred current patterns of certain fish or aquatic plant species.

The coastal processes that the BRI Team would normally investigate include data gathering related to water levels, bathymetry, geotechnical, and benthic and aquatic species; deepwater wave climate; wave transformation to site; nearshore hydrodynamics; and sediment transport and morphologic change. In addition to use in the permitting and public approvals process, these investigations will also provide critical data for structure design. For instance, extreme wave, waver level, and current conditions will be utilized to set the deck elevation of the pier, establish foundation loading parameters, and size necessary shore protection associated with the boardwalk.

These investigations will also be used to develop consensus between the owner, engineer, and public as to the risk tolerance for structure damage. This is important as it is generally impractical from a cost perspective to design the structure to completely withstand storms or ice loads with excessively large return periods. As a leader on the Great Lakes and internationally in the field of coastal processes assessments, BRI Team member Baird has completed hundreds of projects throughout the world with its primary service being the definition of coastal processes. In addition, Baird has been called upon by the US Army Corps of Engineers to complete regional sand management studies on the Great Lakes and to develop tools to evaluate flooding and erosion.

#### **g. Consideration of Options**

In general, marine piers have historically taken one of the following forms:

- *Open piled piers:* Spaced concrete or steel pile bents driven or socketed into the lakebed supporting a concrete or steel deck.
- *Parallel sheet pile piers:* Two rows of parallel sheet pile walls driven into the lakebed, which are tied together, contain crushed stone fill material, and are capped with concrete.
- *Cellular sheet pile piers:* Cellular sheet pile structures, which are driven into the lakebed, filled with crushed stone, and capped with concrete. The cells can form an interconnected continuous pier or they can be used as spaced foundations, which are spanned by bridge elements.
- *Prefabricated concrete piers (caissons):* Large prefabricated concrete elements that are floated out and ballasted down onto a prepared seabed. These elements can be made continuous or can be used as spaced foundations, which are spanned by bridge elements.
- *Rubblemound piers:* Piers constructed of piled stone rubble with side slopes that extend away from the crest a considerable distance to the lakebed. These structures are capped with concrete for public access.
- *Floating piers:* Floating elements constructed of steel, foam filled polyurethane, or tensioned concrete that are anchored to the seabed.
- *Combinations:* It is possible to combine a number of the elements listed above to construct a pier. However, multiple construction methods tend to come at a cost premium.

The BRI Team has considerable experience conceptually designing each of the alternatives listed above and has completed detailed designs, specifications, and contract documents for nearly every possibility. As such, the BRI Team can quickly develop a list of advantages, disadvantages, and relative costs for the City so that an assessment can be made and undesirable alternatives can be eliminated at an early stage.

#### **h. Universal Design**

The BRI Team has also completed universally accessible fishing pier projects for the Michigan Department of Natural Resources, including a project partially funded through an Access to Recreation Grant from the Kellogg Foundation, in which the stated goal of the project was going “above and beyond” the ADA. By working with advocacy groups for people with disabilities, as well as the Kellogg Foundation consultant for universal design, we became well versed

in the design solutions related to access, railing height and materials, seating, etc. that make a fishing pier more usable for people of all ages, needs and ability types.

### **i. User Safety**

The BRI Team is aware of inherent user risk involved in any recreational project, and perhaps more acutely with those related to the dynamic environment of the Great Lakes. The BRI Team will collaborate with the City of Traverse City to manage and mitigate that risk to the extent possible and feasible in the context of balancing access and to this dynamic environment for the public and environmental good with user safety to a feature that could be classified as an “attractive nuisance.” These risks can be mitigated, at minimum, through the application of design codes and standards related to railing design, lighting levels, the presence of health-safety appurtenances, access routes for emergency responders, etc. Beyond that, the BRI Team will discuss and collaborate with the City and its risk management professionals additional features that may be considered.

### **j. Passive and Active Recreation**

The BRI Team has been involved with the planning and design of on-shore recreational and access projects for nearly fifty years. We have planned, designed and implemented both passive and active recreational amenities along inland lakes and rivers, as well as the Great Lakes. These amenities have run the spectrum between rural and undeveloped areas of townships and counties to small and large community parks to small and large urban parks and promenades to State Parks and State Recreation areas. Each park type has unique considerations as it relates to program elements, universal design, stewardship of natural resources, public access, and on-going maintenance and operations issues. The BRI Team is well versed in those aspects of park planning and design, as evidenced by our extensive list of successfully implemented projects. Further, the BRI Team is also well qualified in the development of the on-shore improvements specifically noted for this project including lighting, parking, restrooms, and a fish cleaning station.

### **k. Multi-media to Educate and Inform**

From required safety information to educational materials on Great Lakes stewardship and activities, information is a critical component of this project. The BRI Team can recommend and/or design an education / information component that will be integrated by creating a fluid transition between onsite, distributed, and online resources. Educational media may also be integrated into the physical structure in order to support experiential, interactive learning. The BRI Team, specifically with the input of Scott TenBrink, has experience scoping and developing integrated information packages and systems, which may include:

- Interactive elements (water table, scale, etc.)
- Touch plates & educational signs
- Sculpture & artwork
- Architectural components
- Online resources & mobile applications

The fisheries and Great Lakes ecosystem is an important part of this educational component, the BRI Team includes Dr. Mark Luttenton who has worked in the Great Lakes region for over 20 years, researching fish and their ecosystem. His broad experience also includes a significant amount of work surveying coastal Lake Michigan rivers during the fall and spring salmonid spawning migrations. This experience provides our Team with a strong sense of stream channel use by migrating salmonids which will not only help to inform the design team how various designs may enhance or detract from fish habitat, but as an avid fisherman himself, he also will provide a thorough understanding of the mechanics and social aspects of pier fishing. Last, his experience with Great Lakes fish and as an educator make him well suited to assist the team during the development of the education aspect of the project. He has previously developed educational materials related to stream ecology for a hiking trail along Sand Creek (Kent Co.) and appreciates the process of producing materials for a broad audience.

### **l. Design and Construction Options**

In addition to structural design capacity, the BRI Team also has a thorough understanding of marine equipment, marine construction methods, and the general capabilities of the Great Lakes marine contractor base. This is a significant item as marine construction is subject to a high degree of risk due to the complexities associated with the marine environment (wind, waves, cold, etc.) and the high cost of specialized equipment generally required to work efficiently over the water. The BRI Team’s practical knowledge in this area has the following advantages:

- The cost and schedule associated with marine projects are highly dependent upon the construction methodology chosen by the Contractor. As such, it is important that the consultant considers various construction methodologies when preparing engineering estimates and schedules.
- Knowing the capabilities of the marine contractor base reduces the propensity to produce overly simplistic designs due to fear that the base does not have the requisite experience, and also the propensity to produce extremely novel designs that may limit competition for the work.
- It allows for efficient prequalification of Contractors and the ability to spot significant risks associated with a contractor’s bid.
- It reduces the occurrence of difficult design details that substantially slow contractor progress.

### **m. Construction Documents**

The BRI Team has a proven track record of preparing construction documents, including plans and specifications, that result in favorable bids and successful construction. We have worked in multiple delivery methods including design-bid-build, design-build, and construction management, each having unique pros and cons, some more favorable in a complex marine construction environment than others. The BRI Team will embark on a process that allows City review at 50% and 90% completion, to ensure that the input received during design development from the City staff, stakeholders and public have been incorporated into the project.

### **n. Meeting Deadlines**

This project is operating under an extremely tight schedule, with construction documents scheduled for completion by June 1, 2015. The BRI Team has operated under similarly aggressive schedules in the past and recognizes that managing both the consultant team and providing the client review time with reasonable and established response times is critical. Given that this project requires multiple design phases including data collection, marine study preparation, community and stakeholder engagement, design development, and construction documentation, establishment of a critical path schedule at the beginning of the project and then maintaining that schedule will be crucial to meeting the overall deadline, and something that the BRI Team has performed countless times by properly staffing the project and establishing a timeline for next steps at each project juncture.

### **o. Operations and Maintenance**

The BRI Team can assist the City in identifying future asset management costs of the pier, including operation and maintenance costs, in order to allow proper budgeting not only for the initial installation but for long-term operation of this new infrastructure. This will be an on-going part of the design process as we consider different materials and their potential life cycle costs. A balance will be sought between upfront costs and long-term costs in order to consider both the initial installation and the future maintenance and operational budget. The BRI Team has assisted several of its community clients with maintenance contracts on a number of public improvements projects, especially when the community did not employ internal staff to maintain those projects. Whether the City of Traverse City chooses to perform maintenance and operations services with in-house staff, an itemization of the annual maintenance operations, inspections and expected replacement frequency of project elements will be a useful tool.

## Petoskey Municipal Marina and Pier Development

*Petoskey, Michigan*

BRI has been the design and engineering consultant to the City of Petoskey on development of the municipal marina since 1987. Where required, BRI has applied for and obtained the necessary permits from the Michigan Department of Natural resources and the U.S. Army Corps of Engineers. A brief description of the various projects is as follows:

### **Diversions Pier Construction**

An approximately 380 foot long by 16 foot wide pier was added to the marina basin to divert the discharge from the Bear River away from the docking area to control the deposit of sediments and reduce the need for annual maintenance dredgings. The pier consists of a "sandwich" of steel pile with earth fill. Amenities include a concrete walkway, benches, pipe railing, grass and tree plantings, and a cantilevered boardwalk. Finger piers were added as part of a subsequent project.

### **City Pier Renovation**

This project included replacement of the concrete cap on the historic main pier and the addition of utilities, decorative lighting and pedestrian amenities to serve the existing fixed piers and new adjustable finger piers.

### **Marina Dredging**

This project was accomplished in two phases and included dredging approximately 30,000 cubic yards of sediments from the marina basin. Phase One involved hydraulic dredging and pumping to an inland disposal area. Phase Two involved mechanical dredging due to the presence of boulders and fractional limestone.

### **Finger Piers**

Approximately fourteen adjustable finger piers were added to the diversion pier and main pier. Each pier is a 32' long prefabricated steel and wood structure supported on 12" diameter pipe piles.

### **New Main Pier Construction**

This 2010 project consisted of a new ADA accessible main pier providing 44 new slips, 30/50 amp electrical service, sanitary pump out system, expansion of the marina services building, and boater amenities including benches and picnic tables.



## Petoskey Bayfront Park

*Petoskey, Michigan*

Bayfront Park is the primary feature and activity center of the Petoskey waterfront. The major goal of the park development is to provide increased public access to Little Traverse Bay and linkage between the waterfront and the downtown. A pedestrian tunnel was built under US31 to link Downtown to the waterfront promenade. Services provided by our firm included design, engineering and construction administration for all park facilities, roads, utilities, shoreline stabilization, and the pedestrian tunnel linking downtown to the waterfront park under the highway.



## Observation and Fishing Pier

*Mackinaw City, Michigan*



This project involved reconstruction of a concrete and steel dock built by the State of Michigan in the early 1900's for loading car ferries providing service between Michigan's lower and upper peninsulas. The Lake Huron dock was abandoned and allowed to deteriorate on the surface following construction of the Mackinaw Bridge in 1957. Beckett & Raeder, Inc. provided design, engineering and construction administration services for converting the dock to a public observation and fishing pier, including such programmed landside improvements as a playground, picnic area, interpretive graphics, and a new pedestrian and service vehicle bridge to the dock structure. Improvements to the dock structure included safety railings, benches, lighting, overlook projections and a series of pipe and canvas sun structures. This facility provides Mackinaw City with a major regional attraction for sportsmen and tourists and is an important addition to a broad array of resources that make the community the gateway to Mackinaw Island and the Upper Peninsula.

## Marquette Waterfront

*Marquette, Michigan*



One of the visionary projects to be recommended in the 1996 Community Master Plan was the redevelopment of industrial lakeshore properties along Lake Superior. In 2002 this vision came to fruition as ownership of the lakeshore railroad properties transferred to the City. Shortly thereafter the Lower Harbor Redevelopment Plan was commissioned.

In 2004 the 1996 Community Master Plan was updated and the updated plan included a specific chapter on waterfront development and opportunities to expand the waterfront program into the downtown and adjacent residential neighborhoods. Since 2004, a variety of public and private projects have taken place based on the groundwork formulated in the 1996 and 2004 master plans, and the 2002 Lower Harbor Plan. Today, the Marquette waterfront is an exciting urban mixed-use waterfront on Lake Superior with commercial, residential, entertainment, and recreation venues.

## Escanaba Northshore Plan

Escanaba, Michigan



Escanaba’s City leaders commissioned Beckett & Raeder to produce a Northshore Master Plan that envisions the future of Escanaba’s Northshore. One result of the plan’s public involvement process was the understanding that the Northshore’s maritime and industrial heritage remains an integral part of Escanaba’s identity. It is also a key component of destination tourism along with sport fishing, hunting, hiking, skiing, snowmobiling, and other outdoor activities. The project team developed a Northshore Master Plan that identified opportunities for multi-use development infill of former industrial properties, better integration of the waterfront with adjacent neighborhoods and downtown, and public space viewing and interpretation of Escanaba’s maritime industries, past and present. Specifically, the plan proposed short and long term goals such as expansion of successful existing maritime industries, neighborhood housing infill, neighborhood commercial centers and public greens, waterfront civic center and outdoor amphitheater, downtown streetscape improvements leading to the waterfront, downtown shopper’s docks, and non-motorized greenways linking the waterfront, downtown, and adjacent neighborhoods.

## Acme Township Placemaking

Traverse City, Michigan



Acme Township brought together a broad range of stakeholders from within the township and across the region to create a common vision for how the full range of land uses in the Shoreline District can be designed or redesigned. The goal was to create a place that attracts people while protecting the environment, understanding that maintaining excellent water quality is central to the enjoyment of the shoreline. The conceptual plans represent a long-term vision for how the business districts along the US-31 and M-72 corridors can look and function. They present a conceptual mix of land uses and public improvements aimed at creating an identifiable image and viable economic center for the Township. Primary placemaking components of the plans include a significant emphasis on walkability, multimodal accessibility, and connectivity among the business districts, waterfront, and existing regional facilities.

**Project Descriptions**

**Front End Engineering Design Study  
Sugar Point Cruise Ship Facility, Barbados**

Barbados Port Inc. (BPI)

*The SMI Infrastructure Solutions Inc. / Royal Caribbean Cruise Lines team was selected by Barbados Port Inc. to undertake a comprehensive feasibility and preliminary design study for a new cruise ship terminal proposed in Bridgetown, Barbados. The new facility will relocate cruise operations from the existing commercial port to a dedicated cruise facility adjacent to the port, and will be designed to accommodate the largest cruise ships in the world.*



**Services Provided**

The marine works for the proposed project include three pile-supported finger piers to accommodate six large cruise ships (up to the Oasis class), dredging, land reclamation, shore protection and extensions to existing sewer and storm water outfalls. Baird undertook all Front End Engineering and Design (FEED) for the marine elements of the project. The project is currently in the contract negotiation stage.

**Oshawa Port Consolidation Plan  
Oshawa, Ontario**

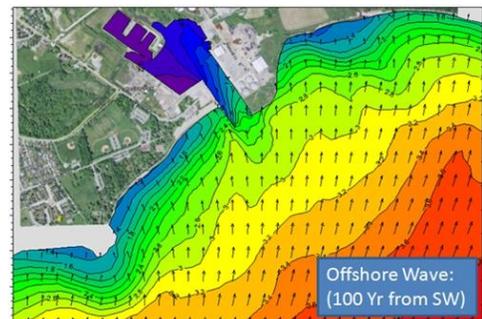
Oshawa Port Authority

*The Oshawa Port Authority wishes to ease congestion and consolidate future activities on their eastern wharf. In support of this, Baird & Associates is currently under contract for design development and construction administration supporting the development of a new berth at the Port of Oshawa.*



The new berth includes the following elements:

- Demolition and removal of existing sheet pile wall, rubblemound breakwater and confined disposal facility bund.
- Installation of 230 m of new steel pipe-sheet combiwall, socketed and anchored into bedrock.
- Dredging to accommodate Seawaymax vessels.
- Provision for future heavy lift platform and railway spur.



**Services Provided**

Baird's scope of work includes a coastal conditions study, conceptual, preliminary, detailed and final design. Construction began in May 2014 with anticipated completion in January 2015.

**Buffington Harbor Improvements  
Lake County, Indiana**

Lehigh Portland Cement Company

*This \$12-million project involved upgrading an existing commercial harbor to provide an increased level of protection required by a gaming ship operation. The project involved: rubblemound breakwaters and revetments comprising 150,000 tons of stone; bulkheads comprising 160,000 square feet of steel sheet piling, using both hot and cold rolled sections; two five-point mooring systems and mooring facilities for a loading pier were designed to accommodate two vessels in excess of 300 feet; and construction during adverse weather conditions on a fast track schedule through the winter, adapting design to materials availability both for armor stone and steel sheet pile sections.*



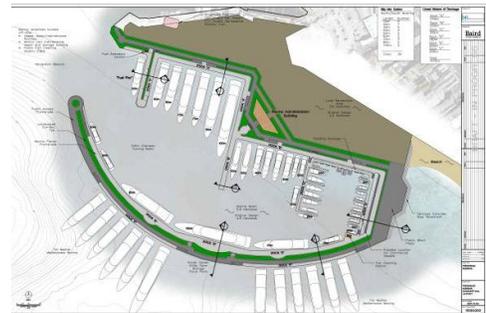
**Services Provided**

Baird & Associates was responsible for planning and analysis for construction of major improvements to Buffington Harbor. Project was completed on a fast track schedule with planning, design, and construction of the coastal structures completed on budget in a 12-month period.

**Pierhead Marina  
Barbados, West Indies**

Confidential Client

*Our client plans to construct a megayacht harbor at the mouth of the Careenage in Bridgetown, Barbados. This world-class development is an exciting and high-profile project for the island nation of Barbados. Once realized, the Pierhead Marina will provide much needed services for the local and transient yachting community, stimulate the local economy, and lead the revitalization of Bridgetown and the surrounding areas.*



**Services Provided**

Baird is responsible for all of the marine components of the design, including but not limited to: physical modeling; conceptual design, including marina layout; regulatory support, including Environmental Impact Assessment; and design development (technical drawings and specifications). Baird will also provide ongoing services during the contractor negotiation phase, as well as full construction observation services.

## Harriet Island Floating Promenade Saint Paul, Minnesota

City of Saint Paul, Division of Parks

*The City of Saint Paul envisioned a project to create access to the Mississippi Riverfront in downtown Saint Paul. Their vision included a large floating promenade that would provide year-round pedestrian access, as well as creating docking facilities for transient craft and specialty display vessels.*



### Services Provided

Baird played an integral role in the project from the conceptual design phase through implementation. Highly specialized engineering services were required to address the uniqueness of the proposed structure and its relationship to aggressive physical conditions inherent on the Mississippi River (high velocity currents, extreme water level fluctuation, ice and debris conditions and poor soils). Baird's contributions included:



- *Planning, design and permitting;*
- *Preliminary analysis and engineering;*
- *Construction cost estimating;*
- *Final design;*
- *Preparation of bid documents; and*
- *Contract administration and construction observation.*

## Tourism & Fishing Jetties

### St. Lucia, West Indies

Government of St. Lucia, Ministry of Agriculture, Forestry, Fisheries and Environment

*Baird provided planning and design services to the Government of St. Lucia for pile-supported jetties in the small communities of Laborie, Canaries and Anse La Raye. The jetties were designed to serve fishermen and the Island's water taxi system, a primary means of transportation. Over time, the existing jetties in each of the three communities had been destroyed by age, wave action and hurricanes, depriving them of a major means of bringing tourists to their area of the Island. The government of St. Lucia, in an effort to restore tourism in each locale, funded design and construction of two jetties. Construction of the third jetty is awaiting funding.*



### Services Provided

- *Project management;*
- *Performance of hydrographic and topographic surveys;*
- *Performance of dive surveys;*
- *Coastal and environmental impact analyses;*
- *Conducted stakeholder and community meetings;*
- *Planning and design; and*
- *Preparation of plans and specifications.*



## Rockley to Coconut Court Waterfront Improvements, Barbados

Coastal Zone Management Unit  
Government of Barbados

*Baird & Associates was retained by the Barbados Coastal Zone Management Unit (CZMU) as part of the Coastal Infrastructure Programme. This particular project involved a 1.6 km long boardwalk and beach expansion from Rockley to Coconut Court. Baird was responsible for the conceptual through final design, including physical modeling, coastal analyses, and construction review services.*

*The boardwalk was completed in early 2009 and has been a great success. It is enjoyed by local residents, businesses, and tourists alike.*



## Boardman River Dam Removal Traverse City, Michigan

U.S. Army Corps of Engineers - Detroit District

*The Boardman River is a high-quality trout stream that discharges into West Grand Traverse Bay of Lake Michigan. This coldwater habitat has been degraded through its lower reaches as a result of the construction of dams that formerly produced hydropower. The Army Corps of Engineers, Detroit District undertook a study to examine the feasibility of restoring the coldwater habitat of the Boardman River through modification or removal of the existing dams as part of the Great Lakes Fishery & Ecosystem Restoration Program.*



### Services Provided

Baird worked with the USACE to examine the existing conditions and proposed alternatives in the study area. A significant amount of sediment had built up behind the dams over time requiring a volume analysis, review of contaminant levels and MDEQ permitting requirements, and development of potential disposal options. A hydraulic model of the system was developed to help determine habitat suitability under the proposed alternatives and estimate change in flooding extents within the project area.

## Project References

### Beckett & Raeder, Inc.

Mr. Alan Hansen, Parks & Recreation Director  
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*Parks & Recreation Department*  
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Mr. Jay Zollinger, Supervisor  
*Acme Township*  
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Jan Miller, Project Director  
*Michigan Department of Technology, Management and Budget*  
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Lansing, MI 48909  
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millerj1@michigan.gov

### Baird

Sugar Point Cruise Terminal and Pierhead Marina  
Glyne Bannister  
SMI Infrastructure Solutions Inc.  
1-246-230-3099 (cell)  
strategies@caribsurf.com

### **Oshawa Consolidation Project**

Donna Taylor  
Oshawa Port Authority / Administration portuaire d'Oshawa  
P: 905-576-0400  
F: 905-576-5701  
info@portofoshawa.ca

### **Racine Harbor**

Nathan Plunkett  
Racine County Department of Public Works  
1-262-866-8442  
nathan.plunkett@goracine.org

**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.

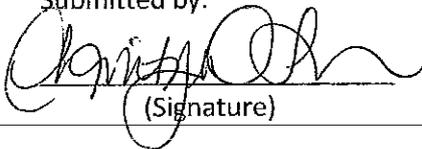
The undersigned certifies, as of the date of this RFQ, not to be in arrears to the City of Traverse City for debt or contract or is in any way a defaulter as provided for in Section 152, Chapter XVI of the Charter of the City of Traverse City.

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)

Christy D. Summers, Principal

(Name & Title - print)

734-663-2622

(Telephone Number)

Beckett & Raeder, Inc.

(Company Name)

535 W William St. STE 101, Ann Arbor, MI 48103

(Company Address, City, State, Zip Code)