



PROPOSAL FOR ENGINEERING DESIGN SERVICES

# JEFFERSON PARISH SUPPLEMENTAL COASTAL ENGINEERING AND CONSULTING SERVICES

Jefferson Parish, Louisiana | August 12, 2022

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This information has been tailored to your specific project based on our understanding of your needs. Its aim is to demonstrate our ideas and approach to your project compared to our competition. We respectfully request that distribution be limited to individuals involved in your selection process.

August 12, 2022

Donna Evans  
Jefferson Parish Purchasing Department  
200 Derbingy Street  
General Government Building, Suite 4400  
Gretna, LA 70053

**Re: Supplemental Coastal Engineering and Consulting Services - Jefferson Parish**

Members of the Selection Committee:

AMI Consulting Engineers, PA (AMI) is pleased to submit the attached proposal package for coastal engineering services.

We understand the goal of soliciting qualifications is to assist on an as-needed basis for select projects throughout Jefferson Parish for the Department of Coastal Management. The engineer shall supply technical resources and recommendations that will be incorporated into the coastal planning, permitting, designing, bidding and construction administration including civil engineering, hydraulic, hydrologic, environmental, mapping and CAD support as-needed.

AMI's coastal engineering team is a leading expert on coastal infrastructure for many public commercial, industrial, federal, residential, and tribal clients. We use the latest software coupled with deep-rooted technical research to provide innovative and cost-effective solutions which satisfy the most stringent project demands. All data and environmental considerations are evaluated, including but not limited to climate change, current water level trends, and natural shoreline evolution. Our methods repeatedly provide designs that are proven practical, aesthetically pleasing, long-lasting, wildlife friendly, and client focused.

If you have any questions please do not hesitate to contact me directly.

Respectfully Submitted,



Chad W. Scott, PE  
Principal  
850.261.7116  
chad.scott@amiengineers.com



Consulting Engineers P.A.

## WHO WE ARE

At AMI we pride ourselves on delivering successful projects through strong communication and client-centered engineering services. Through continual development and training, we are cultivating exceptional team members that provide exceptional service without compromise.

We specialize in the design and development of ports and harbors, waterfronts and marinas, coastal and riverine projects, building and structures, dams and levees, and industrial structures. Additional disciplines include environmental, mechanical, structural, and civil engineering services. AMI is a small business firm with large business capabilities. We believe it is our excellent client service and our unique combination of experience, knowledge, trusted partners, and resources differentiate us from the competition.

## WHAT WE DO



### Ports & Harbors

Docks, seawalls, terminals



### Buildings

Commercial, industrial, hospitality



### Waterfronts & Marinas

Piers, boardwalks, trails



### Dams & Levees

Rehabilitation, replacement, removal



### Coastal & Riverine

Shorelines, riverfronts, estuaries



### Industrial Structures

Conveyors, hoppers, load-out facilities

## THE AMI DIFFERENCE



SPECIALIZED UNDERWATER  
INSPECTION & CONSTRUCTION



COMBINING PROVEN  
PRACTICES WITH  
NEW TECHNOLOGY



AN EVER EVOLVING  
LESSON-LEARNED CULTURE



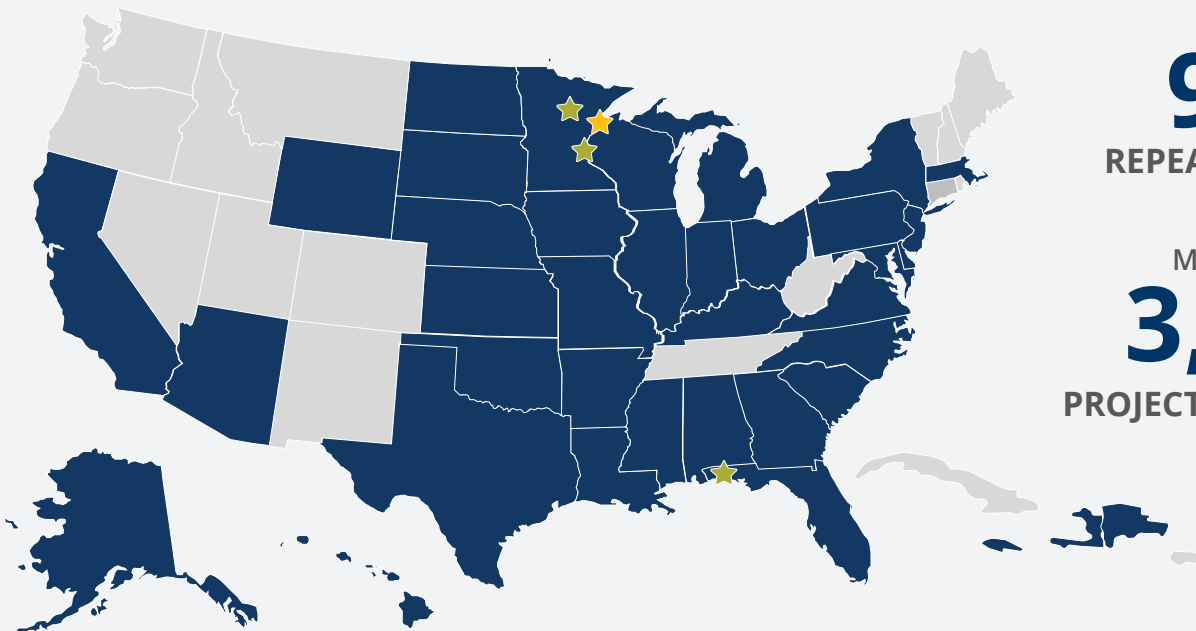
PRINCIPAL-LEVEL PROJECT  
INVOLVEMENT AT EVERY STAGE



CROSS-TRAINED IN MULTIPLE  
TRADES = EXTREME EFFICIENCY



EXCELLENT  
JOB SAFETY RECORD



# 98%

REPEAT CUSTOMERS

MORE THAN

# 3,600

PROJECTS NATIONWIDE





## TECHNICAL EXPERTISE AND QUALIFICATIONS

### COASTAL & RIVERINE

Coastal and riverine projects are essential to recreational activities and habitat connectivity. The high utilization of these shorelines requires resilient designs. All plausible environmental factors and scenarios must be considered, and compatibility found between human use, the natural elements and the changing climate.

AMI uses state-of-the-art software coupled with an experienced professional engineering staff to develop solutions tailored for each client's need. AMI specializes in all aspects of coastal engineering and serves the private, commercial, tribal, municipal and government sectors. From AMI's experience, coastal solutions pose unique challenges. The designs typically need to be attractive, functional, constructible, cost-effective, resilient and environmentally sustainable. The design must take into account coastal processes, including the effects of frequent severe storms, varying water levels, winds, tides, seiche, currents and climate change scenarios.

#### SHORELINE STABILIZATION/ REHABILITATION

Natural causes such as flooding, wave action from powerful storms, sea level changes, hurricanes and tropical storms, rising water levels, and changes in precipitation can all affect shorelines and contribute to erosion. Structural and green features reduce coastal risks by protecting shorelines from these natural causes and improve resiliency.

AMI understands the importance of shoreline stabilization and the protection that it provides to the structures in the surrounding area. Our team works with clients to develop solutions to alleviate or prevent any further shoreline damage, ensuring shoreline stabilization and resilience for the future.

To determine the most appropriate shoreline protection and rehabilitation techniques, AMI performs site-specific assessments. As part of the process, AMI factors in the shoreline's reach, river currents, flooding events, sea level rise, climate change, sediment transport, land subsidence, resilience, fetch, exposure, and physical features. The type of risk reduction measures taken by our clients depends upon the geophysical setting, the desired level of risk reduction, materials needed, cost, and resiliency of design.

#### ENGINEERING WITH NATURE

AMI strives to utilize the USACE's Engineering With Nature Initiative (EWN). Intentionally aligning natural and engineering processes is paramount in everything that we do. AMI works on a wide array of coastal engineering projects. We integrate social, environmental, economics, climate change, and resiliency into our designs. The utilization of science and engineering to produce operational efficiencies and sustainability in design as well as the use of natural processes to maximum benefit and minimize environmental footprint is core to engineering with nature. The engagement of the public and stakeholders is a common requirement when working on coastal projects, and utilizing the EWN process, coupled with highly skilled staff, greatly improves the outcomes of this effort.

Some of the projects/areas where we utilize the EWN initiative include dredging, marsh creation, ridge restoration, coastal storm surge protection, and sea level rise.





## SHORELINE & COASTAL WAVE PROCESS MODELING

AMI provides a wide array of coastal engineering and scientific services from initial field investigations and data gathering, shoreline and coastal wave process modeling, to final design drawings. This work is accomplished with the use of state-of-the-art software, scientific tools and experienced staff that understands coastal challenges and the natural environments in which structures are built.

AMI provides cost effective solutions to mitigate the effects on new and existing structures. Our proven track record with complex projects in the cold regions of the Great Lakes, U.S. River Systems, Coastal and Caribbean markets is a testament to our overall capabilities in completing difficult and unique projects.

## RIVERINE PROCESS MODELING

AMI has a qualified team of engineers and technicians who are experienced in collecting field data and utilizing it for the modeling and analysis of riverine processes. Our staff of geologists, scientists, and engineers can manage the environmental and water resources aspects of your project. Some of our unique expertise includes river scour analysis, Hydrology & Hydraulics (H&H) modeling, sediment transport analysis, and geomorphology.

## WATERFRONT PERMITTING SERVICES

AMI understands environmental regulations and how they affect each phase of your project. We know that securing a permit that is tailored to your project is essential to maintain your operating schedule and maximize profit. We have experience monitoring in-field conditions and proactively working ahead to prevent costly delays. We have been there before and can help you navigate through the regulatory requirements and mitigate your project risks. AMI offers complete permitting services for all aspects of the marine and environmental industry. Our knowledge of the permitting systems include the DNR, EPA, USACE, Fish and Wildlife, SHPO, submerged land leases and open water mitigation.

# COASTAL SERVICES & EXPERTISE

## PROFESSIONAL SERVICES

- Civil Engineering
- Hydraulic and Hydrologic Assessment
- Environmental Assessment
- Mapping
- CAD
- Coastal Planning
- Coastal Permitting
- Coastal Design
- Bidding
- Construction Administration
- Surveying
- Bathymetry
- Onshore/Nearshore Geotechnical Analysis

## PROFESSIONAL TRAINING AND EXPERIENCE

- Coastal Planning
- Coastal Permitting
- Coastal Design
- Marsh and Ridge Restoration
- Shoreline Stabilization and Protection
- Beneficial Use of Dredge Material
- Living Shoreline Design
- Hydrologic and Hydraulic Modeling
- Biological and Environmental Assessment of Wetlands
- Design Analysis and Reports
- Technical Evaluations
- Cost Estimates
- Field Investigations
- Coastal Grant Writing
- Outreach and Educational Support



## SPECIALIZED SERVICES

# UNDERWATER & TOPSIDE IMAGING



### REMOTELY OPERATED VEHICLE (ROV)

A remotely operated vehicle (ROV) is a tethered underwater mobile device. The movements and actions of this robotic submarine are controlled by a pilot. ROVs come in many different packages that can be used in a dry, semi-dry or fully submerged environment. ROVs can be outfitted with sampling tools and other sonar instrumentation that assist engineers in making careful and thorough assessments of existing conditions, thus improving the final engineering to correct deficiencies in critical systems.

The AMI team has many years of specialty experience in difficult environments and can prepare an ROV package that is right for each project.

### DRONE & UNMANNED AERIAL VEHICLE (UAV) SURVEY

The use of drones for aerial imaging and photogrammetry has become an industry standard. The speed and quality of images/videos has made it a great asset in the engineering market. Our drones are operated by FAA Certified Drone Pilots out of our Superior and Twin Cities offices. Our services include inspections and monitoring of shorelines, general infrastructure, roadways, bridges, power lines, pipelines, silos, and railroads.

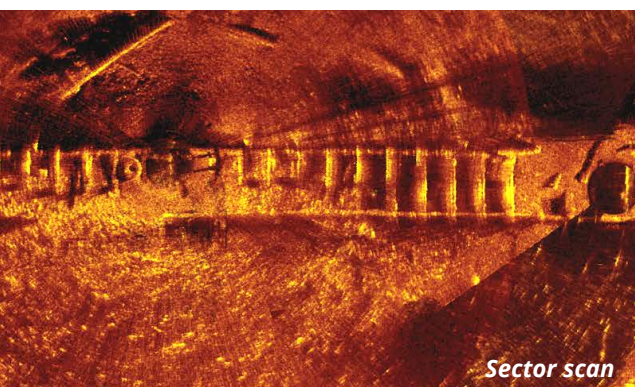
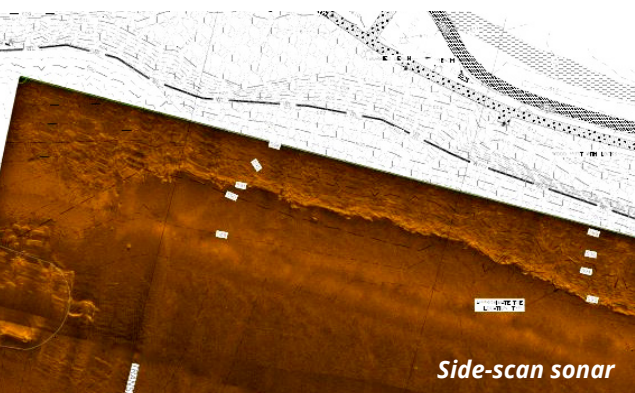
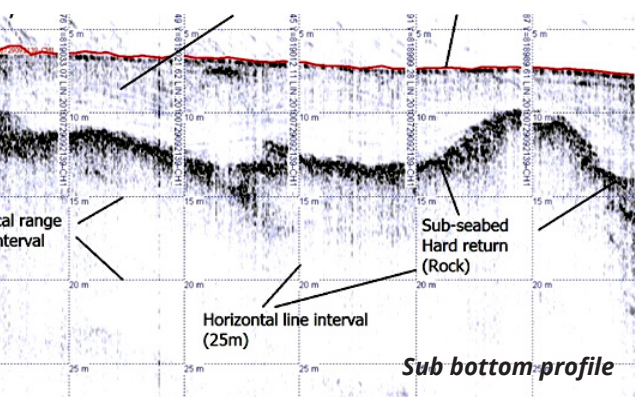
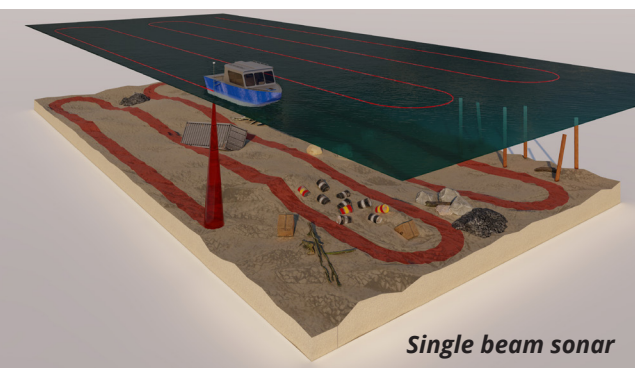
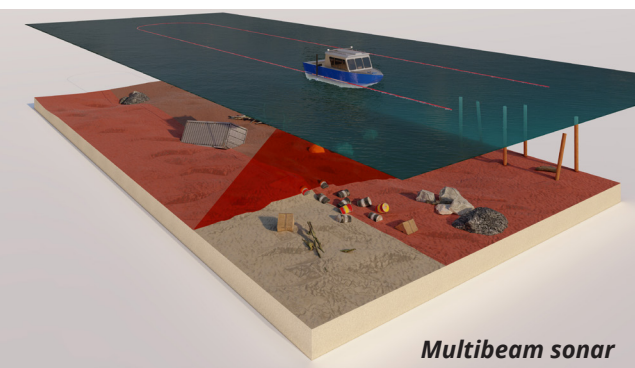
Drones can provide rapid data collection from aerial assessments of project sites. Our team can collect, analyze and distribute aerial data quickly and more cost effectively than ever before. Our drones are routinely deployed during the preconstruction phase, construction monitoring, and final inspection and can be rapidly deployed for any emergency assessment.



### SUB-BOTTOM PROFILING

This subsea system uses sound pulses to characterize layers of sediment or rock beneath the seafloor. The sound pulses penetrate the seafloor and are reflected to a receiver when they encounter boundaries between deeper sediment layers having different acoustic impedance. The energy from the reflection is used by the system and surveyor to create profiles of differentiating marine sediments. This is also proving to be a great tool for locating and determining the depth of cover of buried objects such as pipeline and cable.





## BATHYMETRIC SURVEYS

Underwater single and multibeam surveys are used to measure water depths and map underwater features. These surveys alert us of potential and ongoing beach erosion, sea-level deposition and ship or river scour. Also known as hydrographic surveys, bathymetric surveys are essential at the project's inception to aid in appropriate decision making with design and project planning. AMI has a keen focus on providing port and harbor, pre/post dredge, bridge, scour, and dam surveys as well as seabed sediment classification.

## MAGNETOMETER SURVEY

This is a great tool for locating sunken ships, lost anchors, buried pipelines, and other underwater objects containing ferrous metal that disrupt the Earth's magnetic field. The magnetometer sensor is towed behind a vessel to prevent the data from being influenced by ferrous metal aboard the boat. Large, small, or deeply buried metal objects are detected by surveying along closely spaced lines and keeping the towed sensor as close to the seafloor as possible.

## SIDE SCAN SONAR IMAGING

Side-scan sonar is used to conduct surveys for marine investigations. In conjunction with seafloor samples, it also provides an understanding of the material and texture of the seabed. This imagery is commonly used to detect debris and other obstructions on the seafloor that may be hazardous to shipping or seafloor structure installations. In addition, the status of pipelines and cables on the seafloor can be investigated using side-scan sonar. Side-scan data is frequently acquired simultaneously with bathymetric soundings data, providing a glimpse of the structure of the seabed..

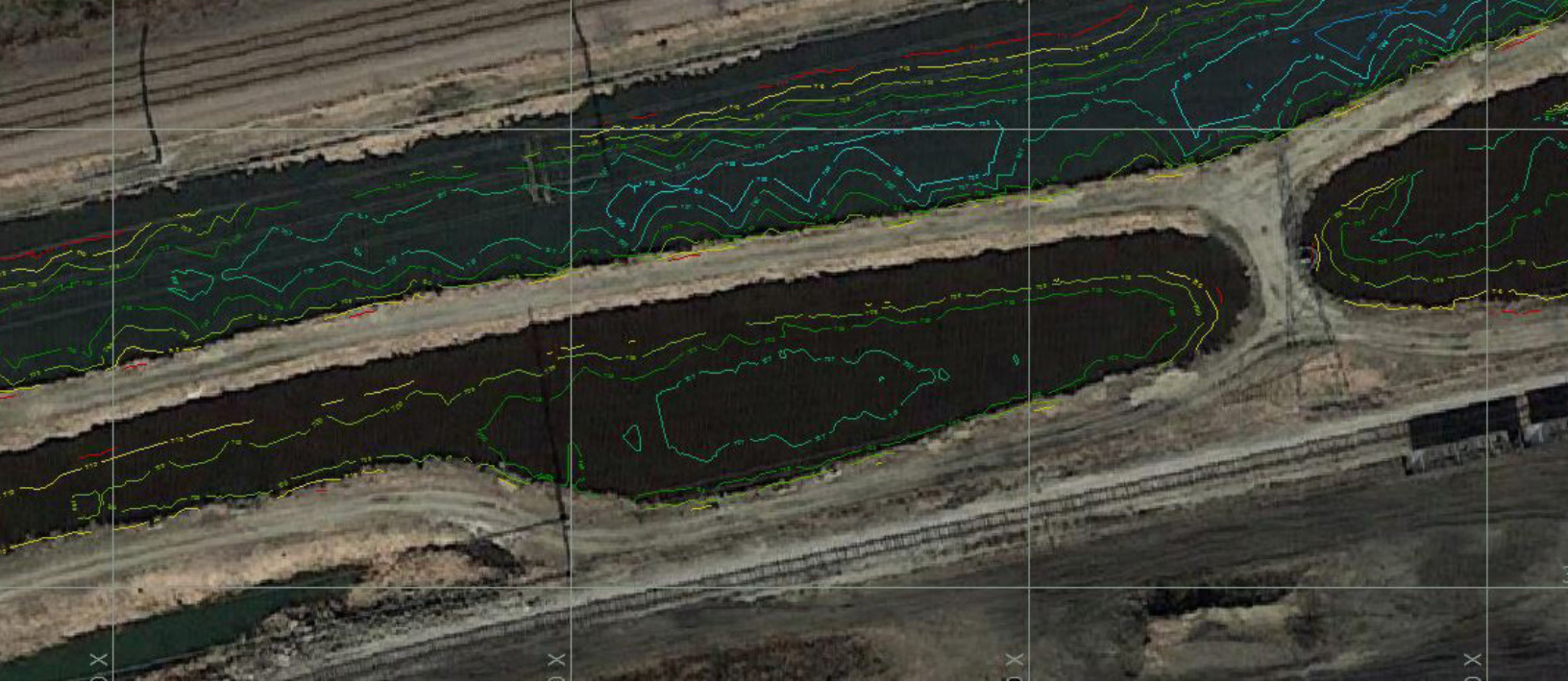
## 3D LASER SCANNING

This is a non-contact, non-destructive technology that digitally captures the shape and location of topside physical objects using a line laser light. 3D laser scanners measure and create information quickly and generate highly accurate point clouds. It is ideally suited to collect measurement of areas which require massive amounts of data for accurate location of critical infrastructure where it is impractical with traditional measurement methods.

## SECTOR SCAN SURVEYS

The sector scan sonar is dropped into position over a fixed location, and gathers data between 0° and 360° swaths, working effectively in all water conditions with accuracies to +/- 2 inches. AMI has used this system to survey dock walls, bridge abutments, dams, dam aprons, scour holes, dump sites, mine pits and archaeology sites. The sector-scan sonar is a cost-effective method for delivering underwater imaging and survey data, without the use of divers.





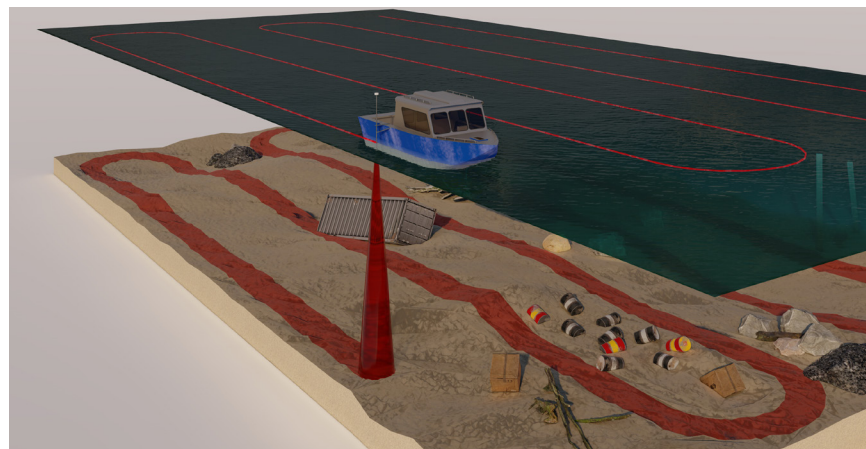
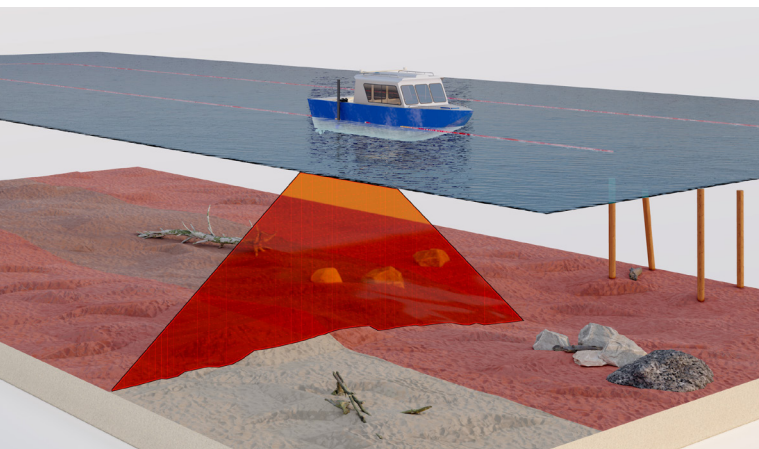
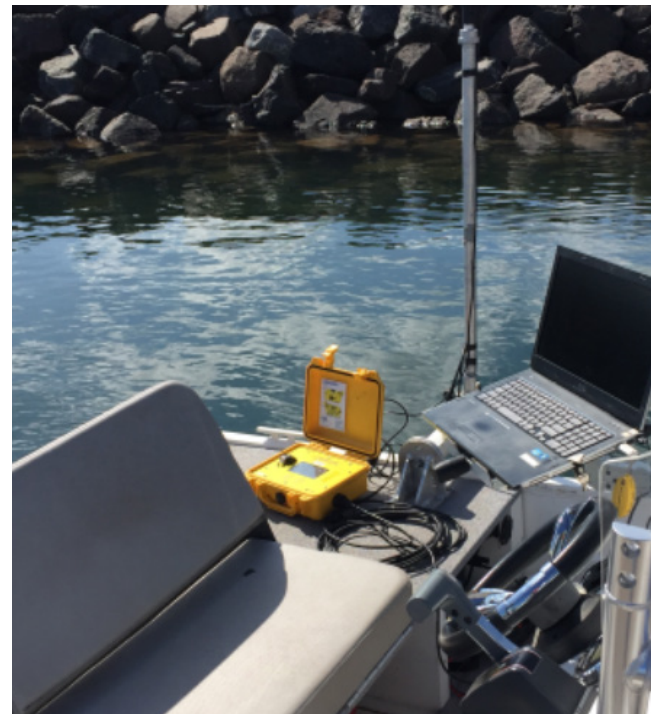
## SPECIALIZED SERVICES

# HYDROGRAPHIC SURVEYS

AMI Consulting Engineers (AMI) has the unique tools and capabilities to use collected data to provide coastal and riverine engineering and analysis.

We are a full-service hydrographic surveying firm with more than 20 years of experience in high-quality hydrographic surveys. AMI's client list includes government and private agencies, federal, state, and local governments. We have completed projects for the Army Corps of Engineers, National Park Service, U.S. Coast Guard, and various state DOTs, EPAs, and DNRs.

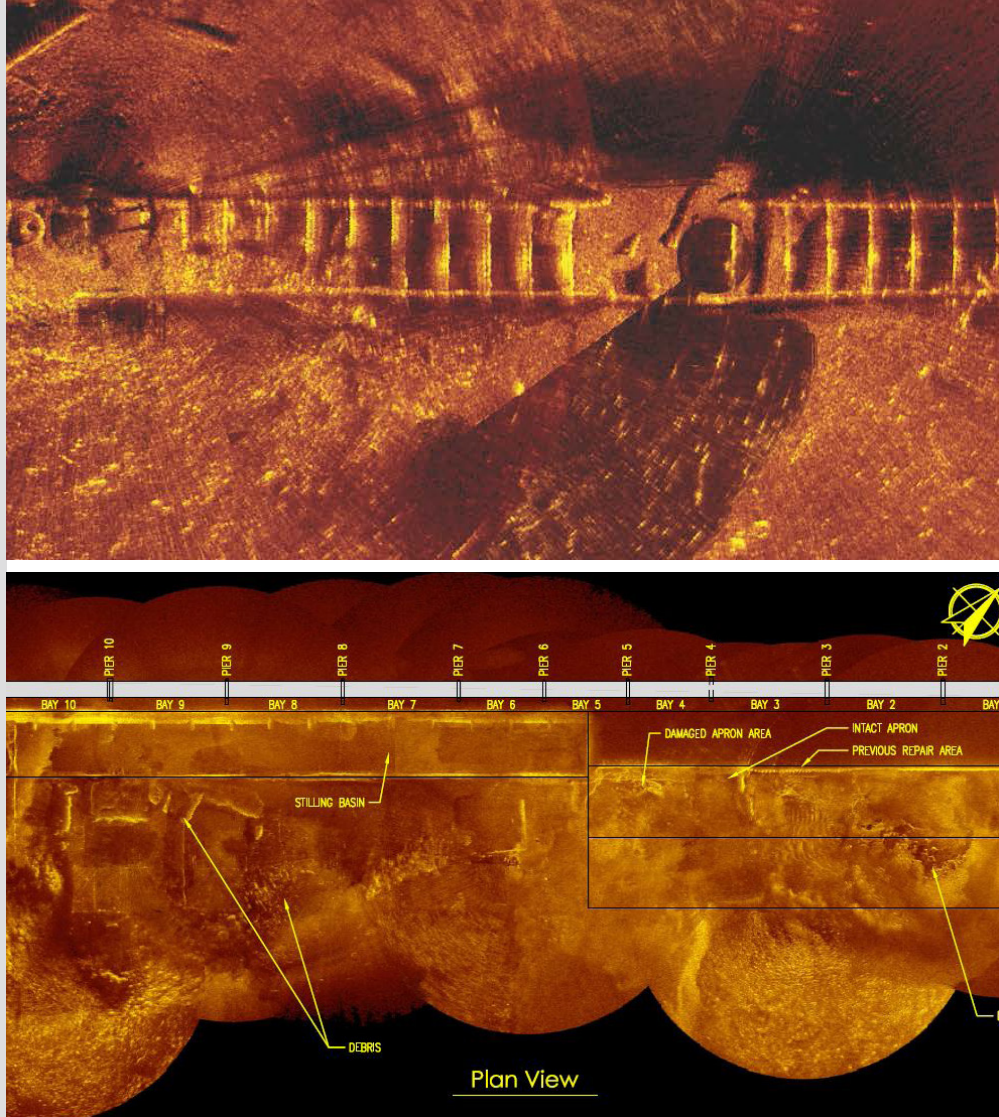
AMI provides the highest quality data collection that includes integration between hydrographic and topographic data. We have tools to incorporate high-definition side scan, sector scanning and other specialty imaging services of shoreline that can be overlaid onto the hydrographic data for a complete picture of the project's environment.





## SERVICE CAPABILITIES

- Ash and settling ponds
- River and ship channel surveys
- Emergency and disaster surveys
- Marinas and harbors
- Environmental surveys
- Condition, pre-dredge, and post-dredge surveys
- Lake, dam and reservoir surveys
- Volume calculations
- Sedimentation assessments
- Erosion assessments
- Material transport assessments
- Drone survey of shorelines



## ACCURATE RELIABLE RESULTS

Our surveys meet the standards of care established by the Army Corps of Engineers. We maintain the highest accuracy and regularly conduct quality assurance checks and tests, giving our clients accurate, reliable results. After the field data is collected, our internal staff post processes the data and prepares a deliverable for the client. Deliverables can be provided in hardcopy or in a variety of GIS or CAD formats.

### HYDROGRAPHIC SURVEY EQUIPMENT

- CEE HydroSystems CEESCOPE hydrographic survey system
- Tritech Starfish side scan sonar
- Kongsberg Mesotech sector scan equipment
- Trimble R8/R10 RTK GNSS, Base and Rover
- R2 Sonic 2020 multibeam echosounder
- Applanix POS MV Surfmaster positioning unit
- AML Oceanographic AML-3 sound velocity profiler and AML-1RT sound velocity sensor
- JW Fisher Proton 4 Magnetometer
- Hypack Max/Hysweep Software
- 22-foot Hewes Craft – Pilot House
- 18-foot aluminum catamaran survey boat
- 20-foot aluminum flat bottom survey boat
- 12-foot duck boat for shallow water and enviro-surveys
- 30-foot motorized deck barge





## BARATARIA PRESERVE CANAL BACKFILLING

### JEAN LAFITTE NATIONAL HISTORIC PARK & PRESERVE, LOUISIANA

AMI provided coastal and civil engineering services as the engineer of record to restore 12.76 miles of canals in the Barataria Preserve unit of the Jean Lafitte National Historical Park and Preserve.

Canals were originally constructed to support oil exploration and extraction but are no longer used for such purpose. AMI evaluated 16.5 miles of canals within the preserve and through value engineering, selected 12.76 miles for degradation. The project aims to restore hydrologic connectivity that the canal spoilbanks are inhibiting. Connectivity will be restored through full and partial degradation of the existing spoilbanks as part of large-scale wetland and coastline restoration efforts in the state of Louisiana.

Wildlife conservation and protection was a paramount issue considered during design. Protected and endangered species were identified as well as other wildlife that inhabit the preserve around the project. Design elements and construction restrictions were evaluated and implemented to address wildlife protection.

In consideration of potential impacts to navigation and recreation, check meanders will be installed at select canal intersections to prevent drifting of degraded material, including soil and trees, while still allowing for water exchange and aquatic life passage. Improved hydrologic connectivity will support the natural functions, biological resources, and critical habitats that depend on the complex hydrology systems in the park, including the wetlands, which are among the most biologically productive ecosystems in North America.

#### PROJECT TIMELINE



2021 – Engineering  
2022 – Construction

#### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Michael Ostendorf, PE – Project Manager
- Noah Tapper, EIT – Civil
- Zac Morris, PE – Coastal
- Scott Weyandt – Permitting and Review

#### SERVICES



- Coastal
- Civil
- Hydraulic & hydrologic
- Environmental
- Mapping
- Permitting
- Marsh & ridge restoration
- Survey
- Dredging

#### CLIENT REFERENCE



National Park Service  
Quinn Evans





## ECHO RIVER SPRINGS BANK STABILIZATION

### MAMMOTH CAVE NATIONAL PARK, KENTUCKY

The Echo River Springs connects the Mammoth Cave in Kentucky to the Green River. The riverbank underneath the pedestrian bridge has failed and is actively sloughing into the river bottom. The National Park Service (NPS) selected AMI's project team to perform emergency stabilization design services as well as permanent stabilization design services.

AMI walked the site with the NPS and documented the slope failures. AMI performed forensic engineering to evaluate the root causes for the slope failures as well as discuss access and constructability issues with staff on site.

AMI worked closely with the NPS to develop efficient and low cost emergency repairs to restore stability to the slopes and the pedestrian bridge above it. AMI developed several concept repairs and selected the most efficient repair through discussions with the NPS.

Upon completion of the emergency design, AMI continued to work with the NPS and developed two long-term design options. AMI led the stakeholder meeting and assisted the NPS in selecting the preferred alternative.

#### PROJECT TIMELINE



2022

#### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Zac Morris, PE - Project Manager
- Michael Ostendorf, PE - Civil
- Brendon Gearhart, EIT - Riverine

#### SERVICES



- Riverine
- Civil
- Environmental
- Planning
- Permitting
- Survey
- Bathymetric
- Living shorelines

#### CLIENT REFERENCE



National Park Service (NPS)  
VHB





## SOUTH MANITOU ISLAND SHORE STABILIZATION

SOUTH MANITOU ISLAND, MICHIGAN

AMI provided topographic, bathymetric, side scan sonar, cost estimation, and wave modeling services for the emergency shoreline stabilization project at South Manitou Island's Lighthouse Complex in Lake Michigan.

A detailed topographic survey of the project site was conducted focusing on the shoreline structures, lighthouse complex, and future trail additions. The bathymetric survey conducted focused on the nearshore zone to capture the variation in the seafloor depths. In addition, side scan sonar was conducted to differentiate between the various seafloor materials in the shoreline's vicinity.

A comprehensive wave analysis and report was completed. The wave analysis conducted included analyzing varying lake water levels (in particular, recent high-water levels), storm surge effects, and varying wave conditions with respect to storm event return periods. An unstructured mesh was developed for the wave modeling and statistical analyses were carried out to correlate varying lake water levels with storm surge effects, and several storm event return periods. AMI provided the clients with significant wave heights, peak wave periods, and mean wave directions that the proposed shoreline protection structures would be exposed to. AMI also determined if the proposed shoreline protection design would survive the storm events and high-water levels that created the need for this emergency shoreline stabilization project.

### PROJECT TIMELINE



2017 - 2018

### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Chase Dewhirst, PE – Marine Civil
- Zac Morris, PE – Coastal
- Mat Burich, EIT - Marine

### SERVICES



- Coastal
- Civil
- Wave modeling
- Design
- Survey
- Onshore/nearshore geotechnical service

### CLIENT REFERENCE



National Parks Service, Quinn Evans Architects & VHB, Inc.





## MINT SPRING BAYOU SLOPE STABILIZATION

### VICKSBURG NATIONAL MILITARY PARK – VICKSBURG, MISSISSIPPI

Project for the National Park Service located at the Vicksburg National Military Park, Vicksburg, Mississippi. The purpose of the project is to stabilize the Mint Spring stream bank and adjacent 150 feet vertical slope which borders the southern edge of the National Cemetery. Complex changing environmental conditions have caused unstable soil conditions at the base of two existing soil nail walls built in 2011. Watershed flooding and Mississippi River/Yazoo Diversion Canal backwaters have a great influence on the mint spring valley altering the natural hydrologic and hydraulic processes of the stream, due to the proximity of the stream to the bluff and existing retaining walls, a large area of the National Military Cemetery has been compromised causing serious geotechnical stability issues including multiple landslides that have impacted unique natural, cultural, historical, and archeological resources.

AMI is part of a national design team, currently providing environmental services including NPS internal regulatory compliance, environmental impact analysis, Federal and State external regulatory permitting, wetland delineation, U.S. Army Corps of Engineers jurisdictional determination process, coordination, and management of regulatory permitting processes. AMI is responsible for the management of multiple stakeholders and works as a liaison between engineering teams and regulatory agencies to ensure the site-specific design provides sustainable and resilient engineered solutions in compliance with current national environmental protection regulations.

#### PROJECT TIMELINE



2021 - Current

#### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Zac Morris, PE – Coastal
- Angly Ulschmid, PE – Wetland Delineation, Permitting, Regulatory Compliance

#### SERVICES



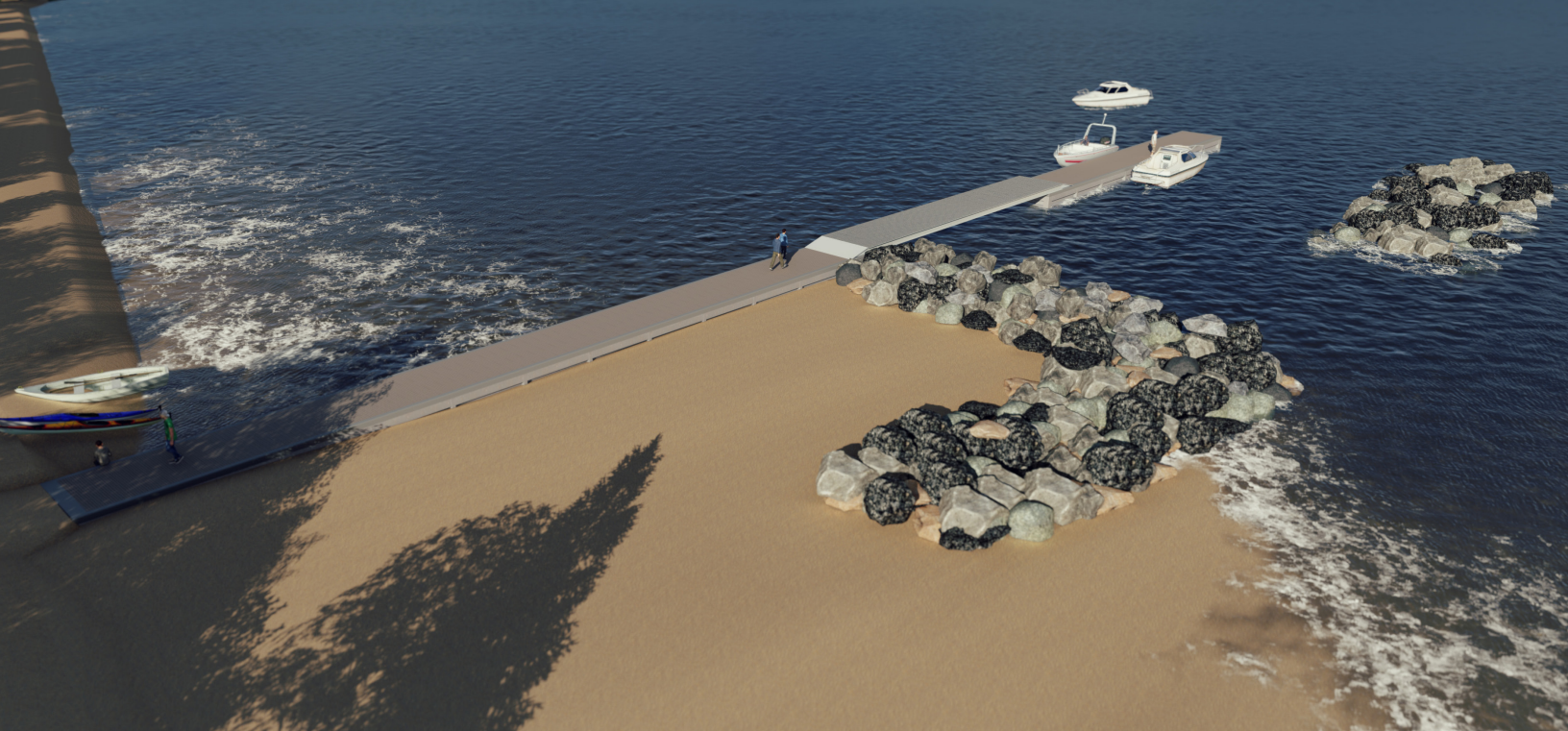
- Hydraulic & hydrologic
- Environmental
- Mapping
- Planning
- Permitting & regulatory compliance
- Wetland delineation

#### CLIENT REFERENCE



National Park Service (NPS)  
VHB





## SISKIWIT BAY DOCK AND GROIN

ISLE ROYALE, MICHIGAN

AMI provided topographic, bathymetric, geotechnical exploration, conceptual design, cost estimating, final design, and hydrodynamic modeling services for the Siskiwit Bay Dock and Groin project at Siskiwit Bay in Isle Royale, Michigan.

Topographic, bathymetric, and geotechnical exploration surveys were conducted focusing on the existing shoreline and dock and groin structures. Geotechnical exploration operations were conducted to characterize the seafloor materials and bedrock profile.

A comprehensive design report was developed, and several conceptual design options and cost estimates were developed with the feasibility of each option addressed and presented to the owner. The hydrodynamic modeling involved analyzing varying lake water levels (in particular, recent high-water levels), storm surge effects, and varying wave conditions with respect to storm event return periods and the effects of storms on material transport and plugging of the proposed opening between the dock and shoreline. AMI provided the client with significant wave heights, peak wave periods, mean wave directions, and material transport rates that the proposed dock and groin structures would be exposed to. AMI also supplied the client with a recommended maintenance dredging budget.

### PROJECT TIMELINE



2017 - 2018

### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Chase Dewhirst, PE – Marine
- Zac Morris, PE – Coastal

### SERVICES



- Coastal
- Hydraulic & hydrologic
- Environmental
- Wave & sediment transport modeling
- Planning
- Survey
- Bathymetric
- Onshore/nearshore geotechnical service
- Dredging
- Structural

### CLIENT REFERENCE



Grand Portage Tribe





## CAPE LOOKOUT PIER & FERRY TERMINAL

### CAPE LOOKOUT NATIONAL SEASHORE, NORTH CAROLINA

AMI partnered with the National Park Service (NPS) to develop a plan for a ferry terminal that connects thousands of visitors to the Cape Lookout National Seashore. The team utilized a series of field trips and stakeholder meetings to develop the initial design concepts that met all project program and sustainability requirements, and also kept this project in budget.

Design of the dock provides safe accessibility while ensuring full ADA compliance by incorporating a self-leveling floating platform and ramp tied back to a secondary fixed platform. Services included design and calculations; technical specifications for materials and components including timber piles and steel piles; wood framing performance specs for manufactured items including floating dock and aluminum ramp; overall design optimization to meet local park service needs as well as project requirements of ADA access.



#### PROJECT TIMELINE



2018 - 2020

#### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Chase Dewhirst, PE – Marine
- Zac Morris, PE – Coastal
- Mat Burich, EIT – Marine
- Seth Johnson – Lead Technician

#### SERVICES



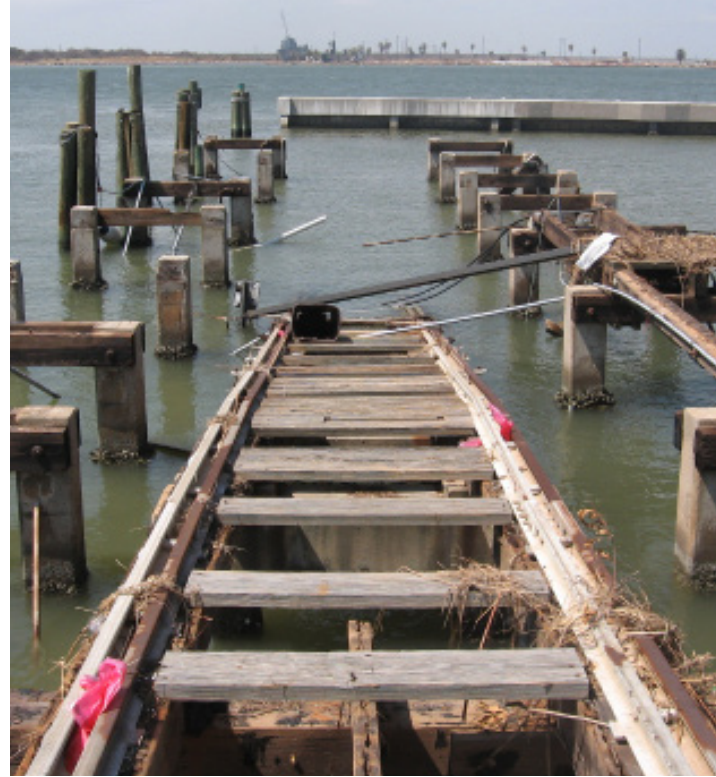
- Coastal
- Hydraulic & hydrologic
- Wave modeling
- Planning
- Structural

#### CLIENT REFERENCE



National Park Service (NPS)  
VHB





## U.S. COAST GUARD SECTOR GALVESTON EMERGENCY RESPONSE

### GALVESTON, TEXAS

In 2008, AMI provided immediate response in the assistance with Hurricane Ike. Upon notification of the requirement for underwater evaluations of structures (piers, bulkheads, and docks) AMI began mobilization and was onsite preparing to dive in less than 36 hours.

Upon arrival at Coast Guard Sector Galveston, divers were allowed immediate access to the site due in large part to the office staff providing Inland and the US Coast Guard with divers' qualifications/certifications, dive plan, dive physicals and list of diving equipment. As a requirement, the AMI dive team had to perform its operations in accordance with Underwater Investigation's: Standard Practice Manual (ASCE Manuals & Reports on Engineering) and the Federal Highway Administration Report No. FHWA-DP-80-1, Underwater Inspection of Bridges. All diving operations were conducted in conformance with 29 CFR 1910 Subpart T (OSHA Commercial Diving Regulations) and 46 CFR 197 Subpart B (Coast Guard Commercial Diving Regulations). Upon completion of the underwater evaluations AMI was able to provide speedy engineering and survey reports that allowed Coast Guard vessels (210 Class) to moor to the piers & docks in an effort to re-establish the navigation channels and reopen to shipping traffic.

#### PROJECT TIMELINE

 2008

#### KEY TEAM MEMBERS

 • Chad W. Scott, PE – Principal

#### SERVICES

-  • Diving
- Planning
- Design
- Structural

#### CLIENT REFERENCE

 USCG Civil Engineering – Miami Sector Galveston, Texas





## SHORELINE ASSESSMENT

### OGDEN DUNES, INDIANA

AMI provided engineering and technical field services for the shoreline and land areas along Ogden Dunes located in Indiana. Field work, document reviews, engineering assessments, schematic and design development were the primary objectives.

Initially, AMI completed field work including topside inspection of existing sheet pile wall, components and anchor system and vertical alignments on sheet pile walls at 100 foot intervals.

Following field work, AMI performed design evaluation including site plans and sections showing existing conditions of structures inspected in the field. A structural assessment was completed for existing sheet pile walls and anchor systems to determine existing strength and reuse potential. AMI reviewed the prime consultant's coastal assessments and revetment options.

Design development included preliminary schematic level drawing options and cost estimates.

#### PROJECT TIMELINE



2020

#### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Craig Jouppi, PE, SE – Principal
- Chase Dewhirst, PE – Marine Structural
- Zac Morris, PE – Marine Coastal
- Ryan Dagger, PE – Marine Coastal
- Seth Johnson – Senior Technician

#### SERVICES



- Coastal
- Hydraulic & hydrologic
- Planning
- Design

#### CLIENT REFERENCE



TRC Companies





## PENSACOLA BARGE TERMINAL INSPECTIONS

PENSACOLA, FLORIDA

AMI performed a bathymetric survey at the wharf, water intake, and spillway structure at the Ascend Performance Materials plant on the Escambia River in Cantonment, Florida.


Onsite field work included bathymetric surveys for mapping underwater features and a topographic survey of structural features. Field data was then processed and submitted for use in design for mitigating problems on site caused by hurricane events and continued use of the wharf. Hydraulic and hydrologic assessments were used to determine impacts of natural rainfall and stream flow for providing accurate depth analysis.

The plant remained active during the data collection, with AMI staff safely and responsibly navigating the terminal during the inspection.


### PROJECT TIMELINE

 2020

### KEY TEAM MEMBERS

-  • Chad W. Scott, PE – Principal
- Chase Dewhirst, PE – Project Manager
- Zac Morris, PE – Marine Coastal
- Jared Munch, EIT – Marine Coastal

### SERVICES

-  • Mapping
- Surveying
- Bathymetric

### CLIENT REFERENCE

 Moffat & Nichol





## SLEEPING BEAR DUNES NATIONAL SEASHORE

NORTH AND SOUTH MANITOU ISLAND, MICHIGAN

AMI is providing bathymetric survey, geotechnical exploration, littoral drift analysis, wave runup analysis, water-level vulnerability analysis, ferry terminal design, and utility system improvement design for the Sleeping Bear Dunes National Lakeshore Coastal and Island Facilities Rehabilitation project at Sleeping Bear Dunes National Lakeshore in North and South Manitou Islands, MI.

Bathymetric and geotechnical exploration surveys will be conducted focusing near the existing shoreline. At will vibracore samplings and test bores will be used to characterize the local lake bottom materials experiencing littoral drift. Excessive littoral drift causes visitors difficulties in safely loading and unloading from the ferry. Ferry and boat movements near shore have also caused non-natural drift in need of restoration. Approximate bore depths are 40ft for classifying soils and particle size distribution. These findings will be used in the littoral drift analysis and furthermore in the design of boat docks and improvements to the existing on-site utilities for relocation and/or repair.

AMI will design the ferry terminal and improved utility systems using the collected data. These designs will address and assess the littoral drift, wave runup, along with historical and projected water level vulnerability for better operation on the islands for visitors to enjoy the park.

### PROJECT TIMELINE



2021 - Current

### KEY TEAM MEMBERS



- Chad W. Scott, PE – Principal
- Michael Ostendorf, PE - Project Manager
- Chase Dewhirst, PE – Marine Structural
- Zac Morris, PE – Marine Coastal
- Kristi Mehrman, PE – Marine Structural
- Noah Tapper, EIT – Civil
- Weesie Jeffords, EIT – Marine Civil
- Angly Ulschmid, PE – Permitting

### SERVICES



- Coastal
- Civil
- Wave & sediment transport analyses
- Environmental
- Mapping
- Planning
- Permitting
- Design
- Survey
- Bathymetric
- Onshore/nearshore geotechnical service
- Wetland delineation

### CLIENT REFERENCE




National Park Service (NPS)  
VHB



# PROJECT TEAM

We have assembled a customized team of area experts in the disciplines relevant to this proposal.

This chart depicts the main roles each member is responsible for at AMI. It does not depict all roles and skills within the organization, but is designed to depict the required services and skills pertinent to the RFQ.

 Core team, resume included

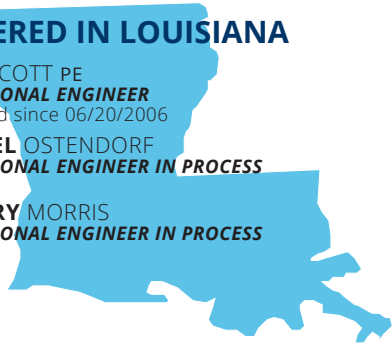


## REGISTERED IN LOUISIANA


**CHAD SCOTT PE**  
**PROFESSIONAL ENGINEER**  
Registered since 06/20/2006

**MICHAEL OSTENDORF**  
**PROFESSIONAL ENGINEER IN PROCESS**

**ZACHARY MORRIS**  
**PROFESSIONAL ENGINEER IN PROCESS**




### DEPARTMENT MANAGEMENT



**ZACHARY MORRIS PE**  
COASTAL DEPARTMENT MANAGER

- Coastal and Geotechnical Modeling & Designs
- Topographic & Bathymetric Surveying
- Construction Administration
- Project Management
- Technical Reports & Marketing
- Group Leadership





**MICHAEL OSTENDORF PE**  
CIVIL DEPARTMENT MANAGER

- Project Management
- Construction Administration
- Group Leadership
- Quality Assurance/Quality Control
- Technical Reports & Marketing





**CHASE DEWHIRST PE**  
MARINE DEPARTMENT MANAGER

- Project Management
- Construction Administration
- Diver
- Group Leadership
- Quality Assurance/Quality Control
- Technical Reports & Marketing

### PRINCIPAL



**CHAD W. SCOTT PE**  
PRINCIPAL, COASTAL ENGINEER

- Quality Assurance/Quality Control
- Fiduciary Oversight
- Resource Management
- Engineer Diver





**RYAN DAGGER PE**  
ASST. COASTAL MANAGER

- Costal Designs & Drafting
- Topographic Surveying & Drone Pilot
- Permitting
- Construction Administration
- Project Management





**NOAH TAPPER EIT**  
ASST. CIVIL MANAGER

- Project Management
- Quality Assurance/Quality Control
- Assist with Productions of Plans & Specifications Using AutoCAD/Civil 3D and Microsoft



**KRISTI MEHRMAN PE**  
ASST. MARINE MANAGER

- Project Management
- Quality Assurance/Quality Control
- Assist with Productions of Plans & Specifications
- Structural Analysis

### COASTAL TEAM



**JARED MUNCH EIT**  
COASTAL ENGINEER

- Coastal and Geotech Modeling & Designs
- Topographic & Bathymetric Surveying
- Drone Pilot
- GIS



**JOSH FRIEND EIT**  
COASTAL ENGINEER

- Coastal Modeling, Coastal Designs
- Bathymetric Surveying
- Construction Administration
- Project Management
- Diver



**WEESIE JEFFORDS EIT**  
MARINE CIVIL ENGINEER

- Coastal Designs & Drafting
- Regulatory Compliance & Permitting
- GIS





**ERVIN KRAFT EIT**  
WATER RESOURCES ENGINEER


- Coastal Designs & Drafting
- Riverine
- Topographic Surveying
- Permitting
- HEC-RAS, HEC-HMS



**ANGLY ULSCHMID PE**  
WATER RESOURCES ENGINEER

- Ecological Designs
- Regulatory Compliance & Permitting
- Phase I & II
- Soil & Water Quality
- Wetland delineation






**JORDAN VARGAS PG**  
GEOLOGIST

- Soil and Rock Sampling/Testing
- Permitting
- Wetland Delineations
- Phase I & II
- Topographic Surveying
- Geomorphology

### CIVIL TEAM




**BEN HARKER**  
CIVIL AND COASTAL TECH

- Surveying
- Drone Operation
- Wetland Delineation
- Drafting with AutoCAD/Civil 3D
- Construction Administration



**BRENDON GEARHART EIT**  
CIVIL ENGINEER


- Surveying
- Creates Utility, Grading, Drainage Plans and Details using AutoCAD/Civil 3D
- Inspects projects to provide Erosion and Stormwater Management



**SCOTT WEYANDT PE**  
CIVIL ENGINEER

- Stormwater Design using HydroCAD, WinSLAMM and AutoCAD/Civil 3D
- HEC-RAS, HEC-HMS

### MARINE TEAM




**MAT BURICH EIT**  
STRUCTURAL ANALYSIS

- Coastal Designs & Drafting
- Riverine
- Topographic Surveying
- Permitting



**SETH JOHNSON**  
SR. MARINE TECHNICIAN

- Drone Operation
- Topographic & Bathymetric Surveying
- Diver



**DAN SUNDQUIST EIT**  
MARINE CIVIL ENGINEER

- Modeling & Designs
- Bathymetric Surveying
- Construction Administration
- Diver





## CHAD SCOTT PE

### PRINCIPAL & QA/QC

Chad's specialty and knowledge is focused on marine civil engineering, which encompasses the planning, design, and construction of fixed and stationary moored floating structures along the coastlines, Great Lakes, and Inland River Systems. By leveraging his diversity of experience and his passion for marine engineering, Chad has helped shape AMI into one of the leading maritime engineering firms in the region. Chad is an experienced hydrographer, completing bathymetric surveys for owners and engineers alike to gather critical data to model and analyze conditions around bridge structures and seawalls.

*Registered Professional Engineer (PE) – Minnesota, Wisconsin, Michigan, Louisiana, Ohio, Indiana,*

#### RECENT RELEVANT EXPERIENCE

- Barataria Preserve Canal Backfilling – Jean Lafitte National Historic Park & Preserve, Louisiana
- Echo River Springs Bank Stabilization – Mammoth Cave National Park, Kentucky
- South Manitou Island Shore Stabilization – South Manitou Island, Michigan
- Sleeping Bear Dunes National Seashore – North and South Manitou Island, Michigan
- Mint Spring Bayou Slope Stabilization – Vicksburg National Military Park – Vicksburg, Mississippi
- Siskiwit Bay dock and Groin – Isle Royale, Michigan
- Cape Lookout Pier & Ferry Terminal – Cape Lookout National Seashore, North Carolina
- Shoreline Assessment – Ogden Dunes, Indiana
- Pensacola Barge Terminal Inspections – Pensacola, Florida
- U.S. Coast Guard Sector Galveston Emergency Response – Galveston, Texas
- Encampment Forest Association Shoreline Rehabilitation – Two Harbors, Minnesota
- Duluth Shoreline Rehabilitation, Canal Park – Duluth, Minnesota
- DECC Seawall Design – Duluth, Minnesota
- Rainy Lake Medical Center River Bank Stabilization – International Falls, Minnesota



## ZACHARY MORRIS PE

### PROJECT MANAGER & COASTAL ENGINEER

Zac has extensive experience designing waterfront structures and stabilizing shorelines. He has a deep understanding of coastal designs given his hands-on construction experience and design expertise. He frequently performs and oversees scientific studies such as wave and sediment transportation analyses, seafloor mapping, and underwater inspections. Zac has designed coastal structures around the Great Lakes region and throughout the Caribbean. Zac has a knack for applying theoretical concepts and models while keeping the practical application and constructability in mind. He enjoys challenging projects.

*Registered Professional Engineer (PE) – Minnesota, Wisconsin, and Michigan.*

#### RECENT RELEVANT EXPERIENCE

- Barataria Preserve Canal Backfilling – Jean Lafitte National Historic Park & Preserve, Louisiana
- Echo River Springs Bank Stabilization – Mammoth Cave National Park, Kentucky
- South Manitou Island Shore Stabilization – South Manitou Island, Michigan
- Sleeping Bear Dunes National Seashore – North and South Manitou Island, Michigan
- Shoreline Assessment – Ogden Dunes, Indiana
- Mint Spring Bayou Slope Stabilization – Vicksburg National Military Park – Vicksburg, Mississippi
- Siskiwit Bay dock and Groin – Isle Royale, Michigan
- Cape Lookout Pier & Ferry Terminal – Cape Lookout National Seashore, North Carolina
- U.S. Coast Guard Sector Galveston Emergency Response – Galveston, Texas
- Encampment Forest Association Shoreline Rehabilitation – Two Harbors, Minnesota
- Duluth Shoreline Rehabilitation, Canal Park – Duluth, Minnesota
- Rainy Lake Medical Center River Bank Stabilization – International Falls, Minnesota
- City of Stillwater Riverbank, Native Shoreline Vegetation – Stillwater, Minnesota
- Woodstock and Pokegama Bay, Native Prairie & Shoreline Vegetation – Superior, Wisconsin





## **ALFREDA (WEESIE) JEFFORDS**

### **MARINE CIVIL ENGINEER**

Weesie is a civil engineer with more than 3 years of industry experience in data collection, plan review, permitting and design. She has worked with local to federal agencies from small coastal municipalities on the Gulf Coast in Alabama and Florida to the Federal Highway Administration and the United States Army Corps of Engineers. For data collecting, she utilizes a streamlined logical approach gathering useful data for designing solutions. As a first responder for Tropical and Hurricane storms, she values resilient designs that keep the communities safe and provide long lasting value to the area for generations. She is passionate about her home on the Gulf Coast, and has deep family roots in Alabama, Mississippi and Louisiana.

*Professional engineer in Training (EIT).*

#### **RECENT RELEVANT EXPERIENCE**

- St. Croix National Scenic Riverway Shoreline Stabilization – Stillwater, Minnesota
- Baldwin County Local Road Safety Plan (Ongoing)\*
- Baldwin County Resurfacing FY2020\*
- Baldwin County Drainage Infrastructure Asset Management (Ongoing)\*
- Baldwin County Roadway Infrastructure Status (Ongoing)\*
- Hurricane Sally EOC transportation and logistics representative - Baldwin County (Robertsdale), AL \*
- Hurricane Zeta EOC transportation and logistics representative - Baldwin County (Robertsdale), AL \*
- Hurricane Michael Electrical Network Mapping Data Collection - Bay County (Panama City), FL \*

\*Project completed with another firm.



## **ANGLY ULSCHMID PE**

### **ENVIRONMENTAL PERMITTING**

Angly is a civil engineer with over ten years of engineering experience and a strong working knowledge of principles, methods and techniques utilized in the design, planning, management and execution of multifaceted state and federal civil works, water resources and environmental projects. She has extensive experience working with federal agencies such as the USACE, USEPA, FEMA, FERC, USDA, and a great number of state and local regulatory and permitting agencies. Angly was involved in the Environmental Restoration and Remediation Program in Louisiana & Texas. She is well versed in the National Environmental Policy Act review process and highly skilled at managing and documenting permitting processes including quality control, timelines, and schedule.

*Registered Professional Engineer (PE) – Minnesota.*

#### **RECENT RELEVANT EXPERIENCE**

- Mint Spring Bayou Slope Stabilization – Vicksburg National Military Park – Vicksburg, Mississippi
- St. Croix National Scenic Riverway Shoreline Stabilization – Stillwater, Minnesota
- Shell Rock River Watershed District – Albert Lea, Minnesota
- A-Mill Hydroelectric Project – Minneapolis, Minnesota
- Duluth Shoreline Rehabilitation Canal Park – Duluth, Minnesota
- Environmental Restoration and Remediation Program; Louisiana & Texas\*
- Dallas Floodway Extension (Dallas, Texas)\*

\*Project completed with another firm.





## **MICHAEL OSTENDORF PE**

### **CIVIL DEPARTMENT MANAGER**

Michael is a driven project manager and leader with eight years of project management experience and 14 years of engineering experience. He prides himself on excellent written and verbal communication as well as his ability to hold efficient and productive meetings to meet the needs for each project. Mr. Ostendorf enjoys managing complex projects that require critical thinking and problem solving to meet and exceed client expectations.

*Registered Professional Engineer (PE) – Minnesota, Louisiana in process.*

#### **RECENT RELEVANT EXPERIENCE**

- Sleeping Bear Dunes National Seashore – North and South Manitou Island, Michigan
- City of Stillwater Riverbank, Native Shoreline Vegetation – Stillwater, Minnesota
- Woodstock and Pokegama Bay, Native Prairie & Shoreline Vegetation – Superior, Wisconsin
- Taylor's Falls Boat Houses and Staircases – Final Design – National Park Service – Taylor's Falls, Minnesota



## **RYAN DAGGER PE**

### **COASTAL ENGINEER**

Ryan is a marine civil/coastal engineer with over five years of industry experience designing shoreline protection for residential and commercial applications. He has integrated permanent design solutions in a variety of shoreline environments, found along the North Shore, while preserving its natural and historic qualities through restoring critical native vegetation. He strives to create long lasting designs that not only protect but also enhance the overall aesthetics of the property. Whether the design requires hard armoring or a combination with native plantings to enhance the coastal infrastructure, he can provide a solution to fit any shoreline.

*Registered Professional Engineer (PE) – Minnesota.*

#### **RECENT RELEVANT EXPERIENCE**

- Encampment Forest Association Shoreline Rehabilitation – Two Harbors, Minnesota
- Riverview Drive, Residential Shoreline Stabilization – Superior, Wisconsin
- Shoreline Assessment – Ogden Dunes, Indiana
- Burlington Bay Properties, Adjacent Residential Shoreline Stabilizations – Two Harbors, Minnesota
- City of Stillwater Riverbank, Native Shoreline Vegetation – Stillwater, Minnesota
- Woodstock and Pokegama Bay, Native Prairie & Shoreline Vegetation – Superior, Wisconsin
- Emergency Lakewalk Shoreline Stabilization – Duluth, Minnesota
- Congdon Boulevard Bin Wall & Storm Wall – Duluth, Minnesota
- Rainy Lake Medical Center River Bank Stabilization – International Falls, Minnesota