STANDARD FORM (SF)

255

Architect-Engineer And Related Services Questionnaire for Specific Project

1. Project Name/Location for which Firm is Filing:

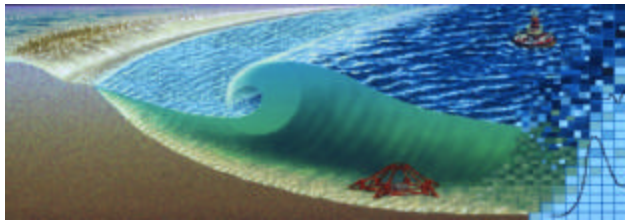
Professional Services As Governed by Florida Statute 287.055

2a. *Commerce Business Daily* Announcement Date, if any: NA

2b. Agency Identification Number, if any:

Specification PD 02-03.79

5. Firm (or Joint Venture) Name & Address:



Emerald Ocean Engineering
107 Ariola Dr.
Pensacola Beach, FL 32561-2101

3a. Name, Title & Telephone Number of Principal to Contact:
David D. McGehee, P.E., M.Oc.E.
Owner
(850) 932-9111 (office)
(850) 232-4111 (cell)

3b. Address of office to perform work, if different from Item 3:

4. Personnel by Discipline: (List each person only once, by primary function.) Enter proposed consultant personnel to be utilized on this project on line (A) and In-house personnel on line (B).

(A)_____ (B)_____ Administrative	(A)_____ (B)_____ Electrical Engineers	(A)_____ (B)_____ Oceanographers	(A)__1__ (B)__1__ Coastal Engineer
(A)_____ (B)_____ Architects	(A)_____ (B)_____ Estimators	(A)_____ (B)_____ Planners:	(A)_____ (B)_____ _____
(A)_____ (B)_____ Chemical Engineers	(A)_____ (B)_____ Geologists	Urban/Regional	(A)_____ (B)_____ _____
(A)_____ (B)_____ Civil Engineers	(A)_____ (B)_____ Hydrologists	(A)_____ (B)_____ Sanitary Engineers	(A)_____ (B)_____ _____
(A)_____ (B)_____ Construction Inspectors	(A)_____ (B)_____ Interior Designers	(A)_____ (B)_____ Soils Engineers	(A)_____ (B)_____ _____
(A)_____ (B)_____ Draftsmen	(A)_____ (B)_____ Landscape Architects	(A)_____ (B)_____ Specification Writers	(A)_____ (B)_____ _____
(A)__1__ (B)___ Ecologists	(A)_____ (B)_____ Mechanical Engineers	(A)_____ (B)_____ Structural Engineers	(A)_____ (B)_____ _____
(A)_____ (B)_____ Economists	(A)_____ (B)_____ Mining Engineers	(A)_____ (B)_____ Surveyors	(A)__2__ (B)__1__ Total Personnel
		(A)_____ (B)_____ Transportation Engineers	

5. If submittal is by JOINT-VENTURE list participating firms and outline specific areas of responsibility (including administrative, technical and financial) for each firm: (Attach SF 254 for each if not on file with Procuring Office.)

NA

5a. Has this Joint-Venture previously worked together? Yes No

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project:

a. Name & Title: **David D. McGehee, P.E., M.Oc.E.**

b. Project Assignment:: Project Manager/Principal Investigator

c. Name of Firm with which associated: *Emerald Ocean Engineering*

d. Years experience: With This Firm…..6 With Other Firms…..30

e. Education: Degree(s) / Year / Specialization/From
Masters of Ocean Engineering / 1996 / Research Program Management / Oregon State University
BS Engineering / 1973 / Ocean Engineering / Florida Atlantic University

f. Active Registration: Year First Registered / Discipline
Florida P.E. # 33185; 1984 / Civil Engineering

g. Other Experience and Qualifications relevant to the proposed project:

Government Mr. McGehee spent twelve years at the US Army Engineer Coastal and Hydraulics Laboratory (CHL), where he served as Principal Investigator for 15, and the principal field investigator for 10 other, coastal research studies - more than any other PI at CHL. Each required the design and implementation of a plan to observe, analyze, and deduce the governing processes controlling the nearshore environment and make recommendations for future actions. The projects included breakwaters, beach fills, harbors, and inlets. His expertise is evidenced by "Developing Monitoring Plans for Completed Coastal Projects," the CHL document providing guidance to other PI=s. He is widely respected throughout the wave community as the Program Manager of the Corps= Field Wave Gaging Program (FWGP), a global network of 70 real-time gages and associated wave research studies that is the largest, single research effort in the Corps= Coastal R&D Program. Six state-level observation programs have spun off from this national program. The Episodic Events work unit was tasked with obtaining extreme conditions data on both tropical and extra tropical storms. Recovery of typhoon data in Guam using an automated system of his own design, and measurement of waves on the Columbia River Bar in winter using a helicopter are among his Afirsts@ and illustrate the variety of techniques he has developed.

Academic While still a Federal employee, he spent a year on intergovernmental assignment to Oregon State University=s Wave Research Lab doing research on tsunami detection & warning methods. From 1980 - 1987 he worked at another premier coastal institution, the University of Florida=s Coastal and Oceanographic Engineering Lab, where he managed the Coastal Data Information Program. Operation of this state-wide network provided specific familiarity with the entire Florida coastline: its shorelines, inlets, wave climate, and the processes that dominate each region. The Storm Surge project provided the opportunity to observe and measure surge levels of every tropical storm to hit the Florida coast between 1980 and 1986. By placing gages in the path of - and occasionally in the eye of - landfalling hurricane, this program provided the only accurate measurements of surge levels on normally dry land, which were used to adjust typical post-storm water marks.

Commercial Six years in marine industry provided Mr. McGehee a more practical grounding than a career in research alone affords. He was the field engineer for Great Lakes Dredge and Dock Co. on one of the 1970's largest dredging projects: Jebal Ali Harbour on the Arabian Gulf. Responsibilities included all positioning and surveying, calculating the daily pay volumes for the A52" - the largest dipper-stick dredge in the world - from bathymetric surveys and supervision of the blasting progress. As a field engineer for Misener Marine, Inc., he directed the construction and assured plans compliance of submarine pipelines, an offshore platform, and a railroad bridge. A year in the Aoil patch@ with Martek, a diving service company, exposed him to that high-pace world where Aproduction@ is a way of life. More recent projects are described in sections 8 & 9, below.

Professional Associations – Am. Soc. of Civil Engineers; Assoc. of Coastal Engineers (charter); Marine Tech'y. Soc.; Am. Shore and Beach Pres'n. Assoc.; Surfrider Foundation

Licenses – Professional Engineer, FL**;** Motorboat Operator, US Coast Guard; Master SCUBA Diver, PADI; Diving Supervisor/Inspector, USACE

Publications - Over 70 papers, articles and reports; list - and some full papers - available at: http://www.emeraldoe.com/publist.htm

Awards

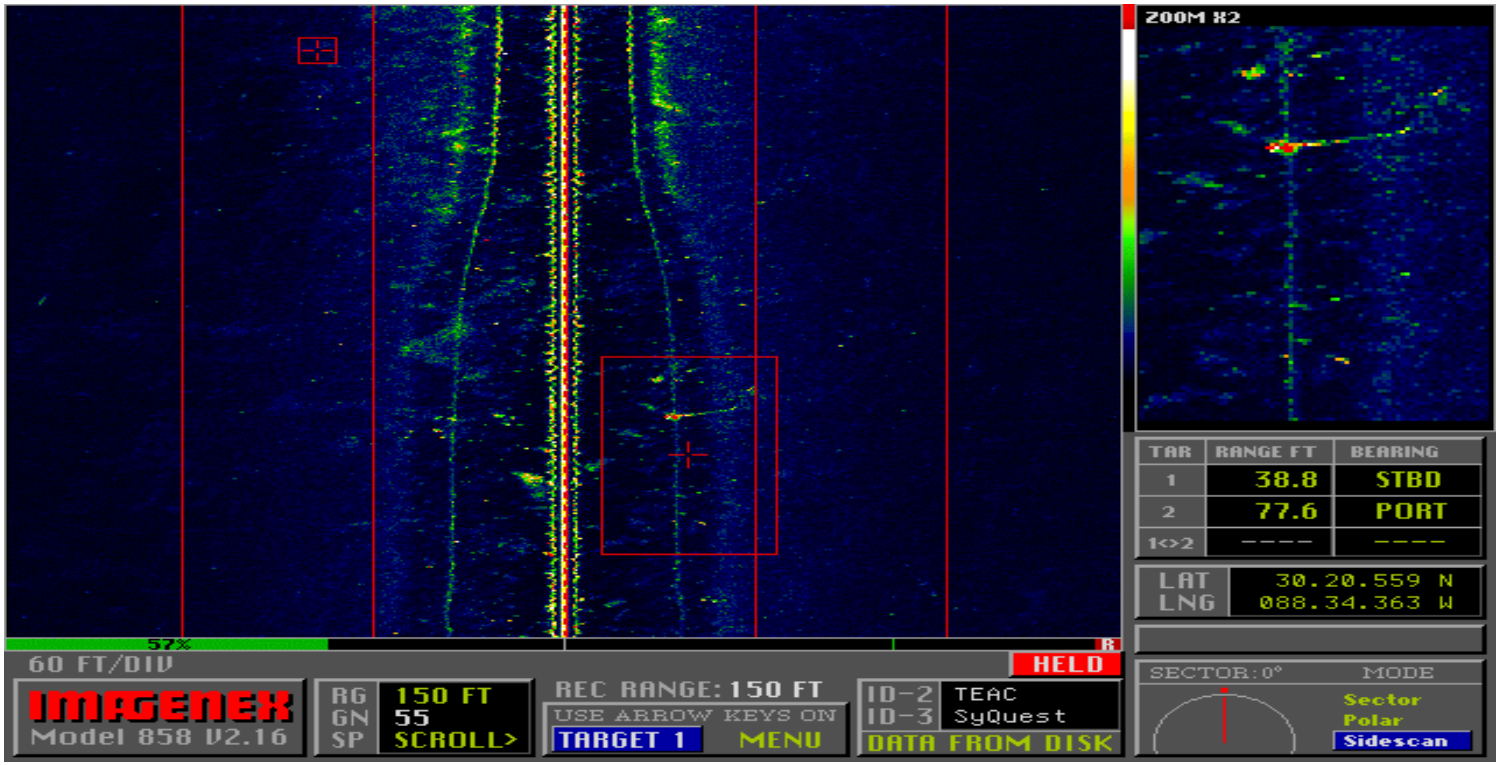
1986-98	15 performance awards	US Army
1986 98	5 special commendations	US Army
1994	ABest Run R & D Program@	US Army
1992	AInvention of the Year@	USAE WES
1993	2nd place, Int'l. Gustav Willems Award	PIANC
1969	National Merit Finalist	NMSA

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project:

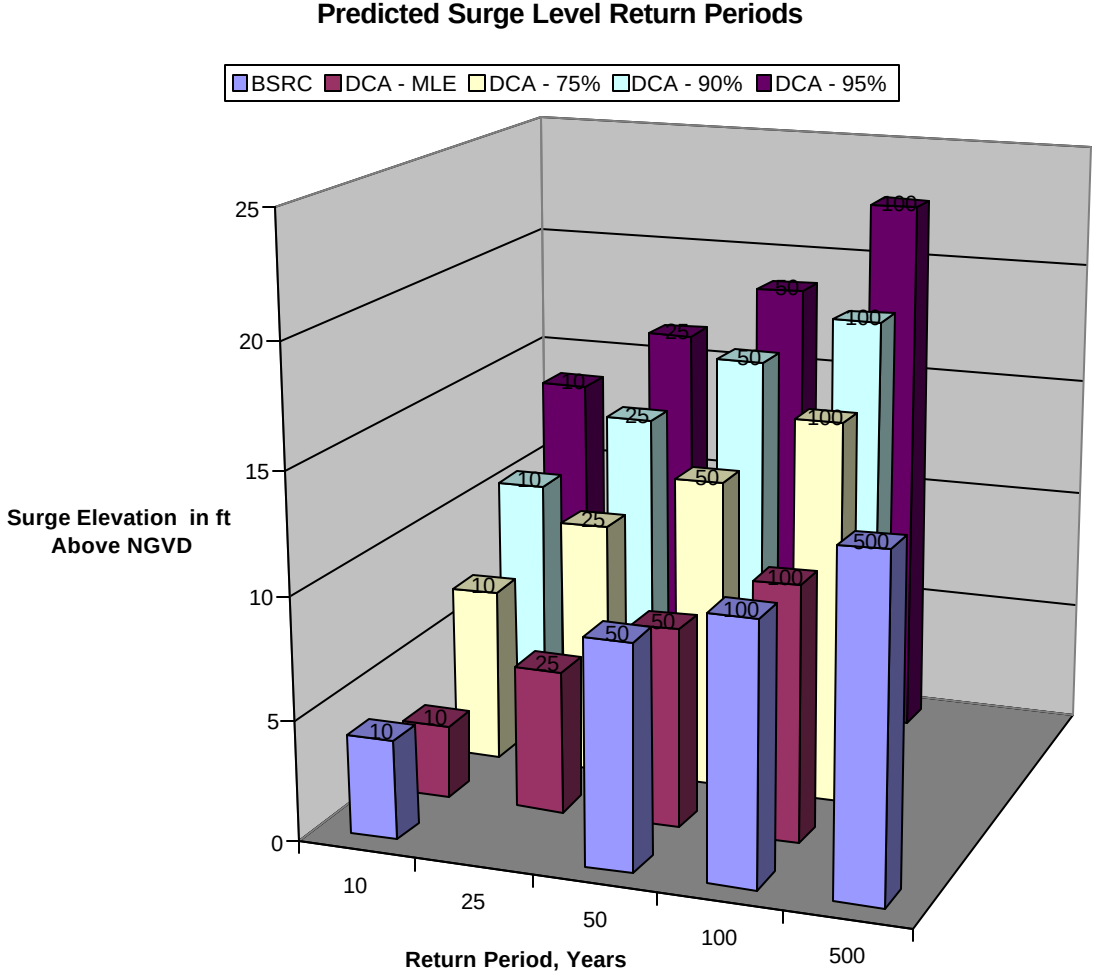
a. Name & Title: Mica S. Schneider	a. Name & Title: **Thomas E. White, Ph.D., P.E.**
b. Project Assignment: Ecologist/Asst. Project Manager	b. Project Assignment: Coastal Engineer/Beach Processes Specialist
c. Name of Firm with which associated: Individual Consultant	c. Name of Firm with which associated: Coastal Engineering, LLC
d. Years experience: With This Firm…<1 With Other Firms….. 7	d. Years experience: With This Firm….. 4 With Other Firms….. 17
e. Education: Degree(s) / Year / Specialization B.S., Forest and Natural Resource Conservation / 2002 / Wildlife Ecology	e. Education: Degree(s) / Year / Specialization Ph.D. / 1987 / Oceanography / University of California-Scripps M.S. / 1980 / Oceanography / University of California -Scripps BSCE / 1978 / Civil Engineering / University of Miami B.S. / 1978 / Physics & German / University of Miami
f. Active Registration: Year First Registered / Discipline	f. Active Registration: Year First Registered / Discipline 1994 / P.E. / Civil Engineering
g. Other Experience and Qualifications relevant to the proposed project: Ms. Schneider served for 2 ½ years with the Florida Department of Environmental Protection (FDEP) as an Environmental Specialist II, where she processed Wetland Resource Permit applications, performed site inspections for identification of jurisdictional wetlands, and prepared permits and sovereignty submerged lands documents for signature, including agenda items of the Board of Trustees. Her position required her to provide guidance to the general public and to maintain communication with local, state and federal agencies on a regular basis, including the US Army COE, FDEP Bureau of Beaches and Coastal, FL FWC, US FWS, and FDOT. From 1999 through 2002, she was a senior Lab Technician at the University of Florida (WFREC). Research experience focused on the landscape ecology of coastal dune systems in northwest Florida and landscape characterization of community types at Naval Live Oaks, Gulf Island National Seashore. Coastal dune research included: plant propagation, beach mouse trapping and habitat analysis, and installation of different type of sand collection fences for primary dune restoration. **Special Training & Qualifications** • Wetland Delineation Training, FDEP • Erosion and Sediment Control Training, FDEP • Basic Stormwater Training, FDEP • Introduction to Stream Restoration Using Natural Channel Design, Clemson U. • Beach Mouse Trapping Training, FWC • GPS Training, Mobile Instruments, Inc. • 500+ volunteer hours with Eglin AFB, FDEP, & FDEP Aquatic Preserves • Familiarity with Microsoft programs, ArcView GIS, and Oracle based programs • General knowledge and skills include: comprehension of Florida's diverse ecosystems, plant and soil identification, soil surveys, & aerial photography analysis.	g. Other Experience and Qualifications relevant to the proposed project: Dr. White is an internationally recognized coastal specialist with more than 20 years of experience in coastal processes. Areas of specialization include sediment transport, statistical methods for quantifying project behavior, and all types of instrumentation. Book chapters, proceedings, reports, and invited journal papers document technical expertise in these areas. Dr. White has been principal investigator in major field investigations on all continental U.S. coastlines. **Pioneering work includes:** Sand-tracer techniques for Sea Grant's Nearshore Sediment Transport Study Laboratory calibration methods, theoretical development, and field deployment of optical backscatter sensors and various acoustic sensors for sediment monitoring Electronic data acquisition systems and mechanical sensor deployment/retrieval systems for sensors in both low and high wave environments. Methods for translating optical and acoustical measurements into sediment concentrations and fluxes. Internationally acclaimed field test of all available methods for predicting sand transport onto the beach from the seabed. Development & testing of methods of predicting transport of finer suspended sediment Use of his sediment transport methods in the Corps' Coastal Engineering Manual Foundation analysis and design for a variety of structures and soil types. Beach nourishment design and construction. Analysis and design of groins, jetties, and breakwaters Project plans and specifications for several beach nourishment projects Analysis of hurricanes, storm waves, wind waves, and tides for replacement of bridges over the Cooper River (Charleston Harbor) and the Stono River (SC) **Teaching** Coastal Engineering Field Methods (COE graduate course at Duck, NC). Coastal Sediment Processes (COE/Texas A&M course at Vicksburg, MS). Soil mechanics and physics labs Thesis committee member and student advisor, Texas A&M

8. Work by firms or joint-venture members which best illustrates current qualifications relevant to this project (list not more than 10 projects).

a. Project Name & Location	b. Nature of Firm's Responsibility	c. Project Owner's Name, Address Project Manager's Name & Phone Number	d. Completion Date (actual or estimated)	e. Estimated Cost (In Thousands) Entire Project	 Work For Which Firm Was/Is Responsible
(1) **"Characterization of Coastal Erosion Management by the Gulf States"** ***To view this entire report, visit:*** http://www.emeraldoe.com/gulf_frm.htm	A report characterizing the manner in which each Gulf of Mexico state treats problems arising from coastal erosion and regulates methods to mitigate such problems, considering the integrated meaning of pertinent laws, regulations, and written policies together with the application of such to specific permitting decisions, lawsuits, or other visible actions.	US Gulf of Mexico Program POC: Tom Richardson, Chief Coastal and Hydraulics Lab. US Army Eng. Res. & Dev. Cntr. Vicksburg, MS 39180 (800) 522-6937, x – 2000	Feb, 1999	48	48
(2) **Underwater Remote Sensing Survey of Naval Station Pascagoula**	A review of the past cultural environment & an underwater remote sensing survey of the expansion at NSP, including a multi-beam bathymetric survey, a sidescan sonar survey, (below) and a magnetometer survey.	Ms. Dottie Gibbens US Army Engineer Dist., Mobile Post Office Box 2288 Mobile AL 36628-0001 (334) 690-2570	May, 2000	50	12



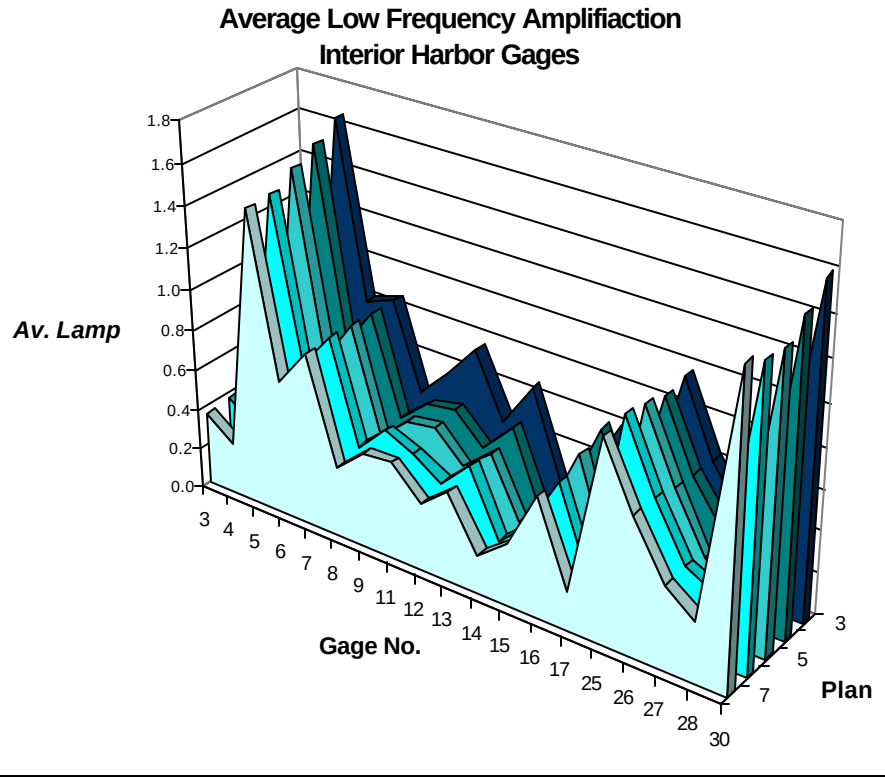
(3) **Hydrodynamic Climate and Extremal Analysis of Santa Rosa Island, FL**	Produce a hydrodynamic climate, with probabilities and return periods, for extremes of waves, current, and surge. Statistics will be used to select design conditions for a planned Underwater Marine Sanctuary as part of the Navarre Beach State Park.	Mark T. Llewellyn, P.E. , Senior VP Genesis Group 2507 Callaway Road, Suite 100 Tallahassee, Florida 32303 850 224 4400 x 111	June, 2001	2,000	6



(4)

3-Dimensional Hydraulic Physical Model Evaluation for the Los Angeles/Long Beach Harbor

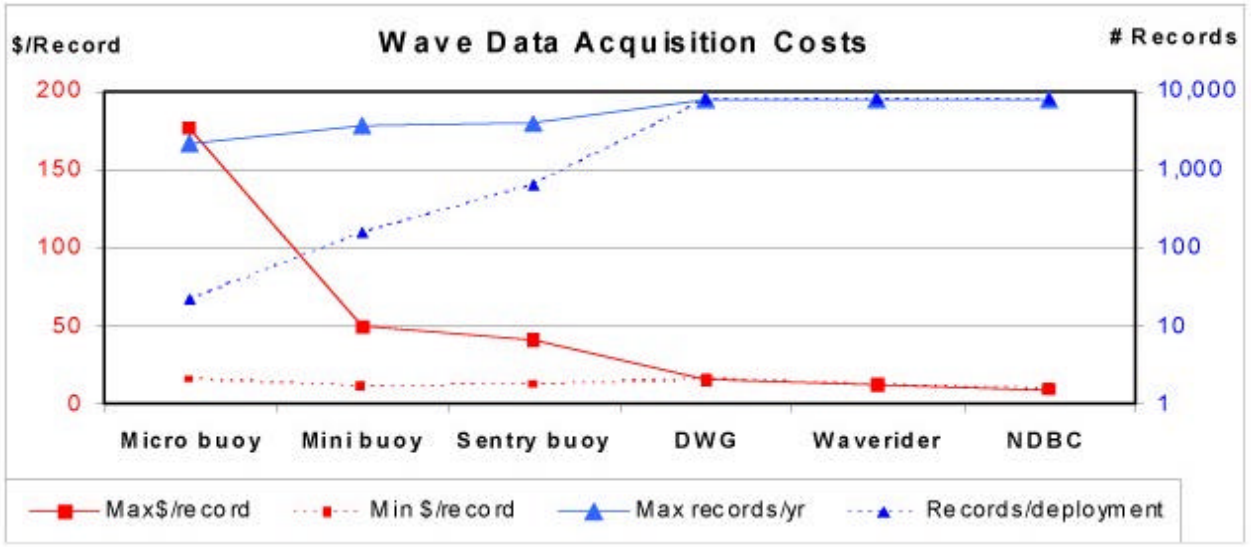
Recent topographic surveys of the breakwaters for Los Angeles/Long Beach Harbors revealed an average crest elevation of the San Pedro Breakwater of approximately 1.5 ft below the design crest of + 14 ft MLLW. A physical model study (above) was conducted to estimate future impacts on harbor operations if crest loss continues or if the crest is restored to the design elevation Constraints of the distorted scale model were overcome to generate incident overtopping waves that induced low frequency oscillations in the harbor (right).



Mr. Chuck Mesa
CESPL-ED-HC
US Army Engineer Dist., Los Angeles
911 Wilshire Blvd
Los Angeles, CA 90017-3401
(213) 452 3678

April, 2002 | 150 | 64

(5) **Episodic Storm Wave Measurement Program** ***To view the Oceans '02 Conference paper on this project, visit:*** http://www.emeraldoe.com/episodic_wave_data.htm	Develop and implement a system for obtaining epis odic wave measurements in the vicinity of Southern California, including a detailed planning phase report, provision of all instrumentation and hardware, training of key personnel in the deployment, operation, and maintenance of the gages, and an operation manual.	Mr. Chuck Mesa CESPL-ED-HC US Army Engineer Dist., Los Angeles 911 Wilshire Blvd Los Angeles, CA 90017-3401 (213) 452-3678	July, 2003	35	35



9. All work by firms or joint-venture members currently being performed directly for local, state, and federal agencies.

a. Project Name & Location	b. Nature of Firm's Responsibility	b. Agency (Responsible Office) Name and Address and Project Manager's Name & Phone Number	d. Percent Complete	e. Estimated Cost (In Thousands)	
				Entire Project	Work For Which Firm Was/Is Responsible
Coastal Engineering Services, Statewide Task Order Contractor	Provide Professional Coastal Eng. services as part of a statewide continuing services contract, for projects including beach erosion, control structures, marine structures, dune restoration, etc.	Florida Department of Env. Protection Div of Recreation & Parks Mike Renard, Contracting Officer (850) 488 5372	None active	NA	NA

A High-reliability System for Capturing Hurricane Wave Data on Lake Pontchartrain

To view the Coastal Disasters '02 Conference paper on this project, visit:

http://www.emeraldoe.com/capturing_hurricane_wave_data.htm

The Corps of Engineers requires measurements of extreme wave in Lake Pontchartrain to validate wave runup models. Wave runup is critical because it could overtop the lakefront hurricane protection structures, principally levees and floodwalls, which protect the city of New Orleans from inundation (see figure, left).

EOE is developing a cost-effective measurement system that maintains a constant state of readiness between hurricane strikes (perhaps decades), is operational within hours, and performs flawlessly under violent environmental conditions. One component is a low cost, miniature wave gage (right). EOE provides training and manuals.

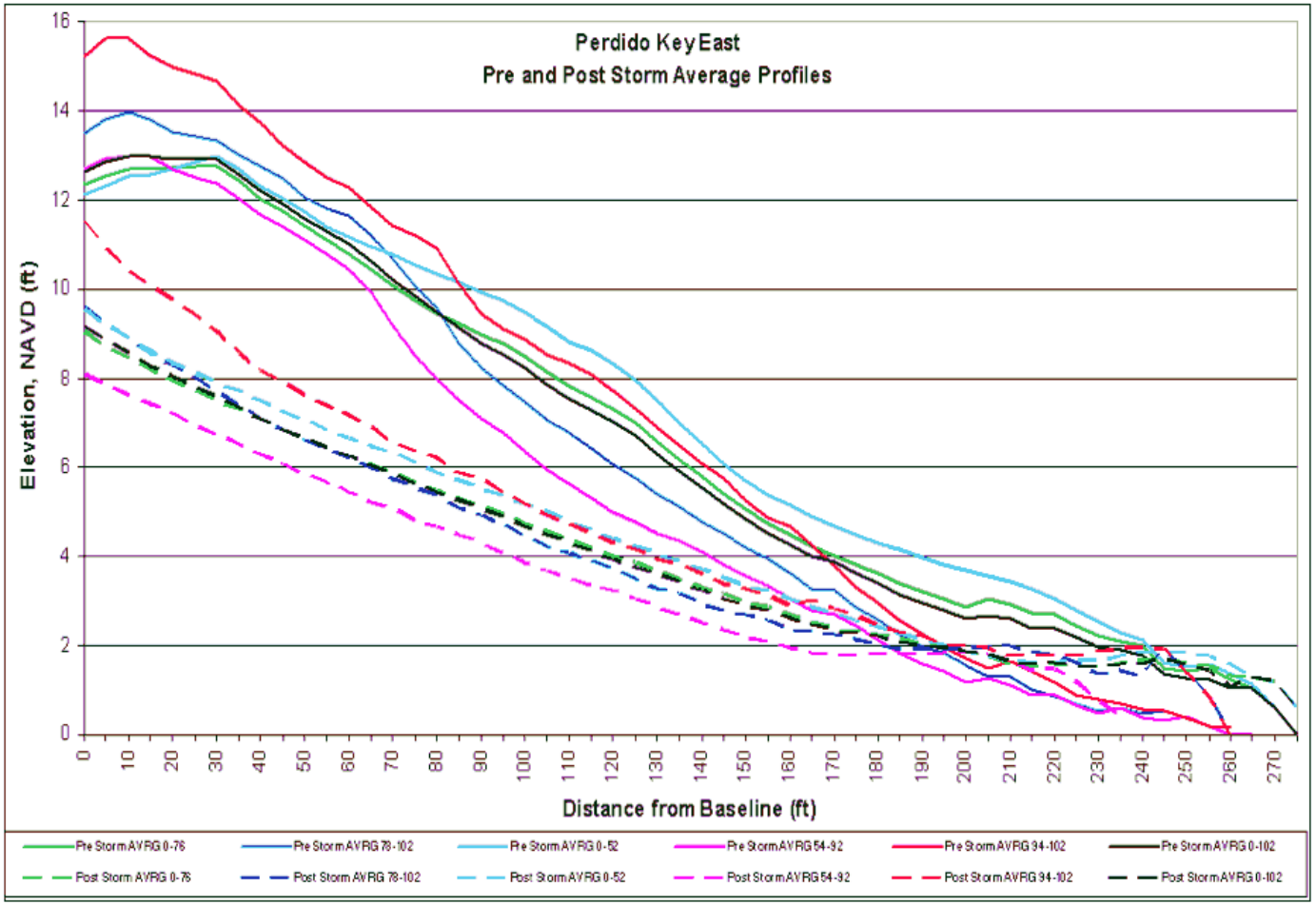
US Army Eng. Dist., New Orleans 50 95 25
P.O. Box 60267
New Orleans, LA 70160
Harley Winer, Ph.D.- 504.862.2454

Rapidly-deployed miniature wave gage with mooring

Engineering Services for Project Greenshores	Greenshores is a habitat restoration effort that will create emergent and submerged saltmarsh vegetation along ~ 1 mile of urban shoreline along the northwest shore of Pensacola Bay, FL. The primary objective is to build a highly visible, habitat-rich, educational shoreline restoration project that will serve as the "destination" for planned downtown redevelopment of the waterfront and a model for other disturbed areas of the Bay. EOE is providing design, permitting, construction management, and monitoring of this award winning, community-based project.	FL Dept. of Environmental Protection 160 Government Center Pensacola, FL 32502-5794 Eric Schneider Tel: 850 595 8300 x 1194	40	1,500	125 (in kind)

Project Greenshores, Phase II - Plan View

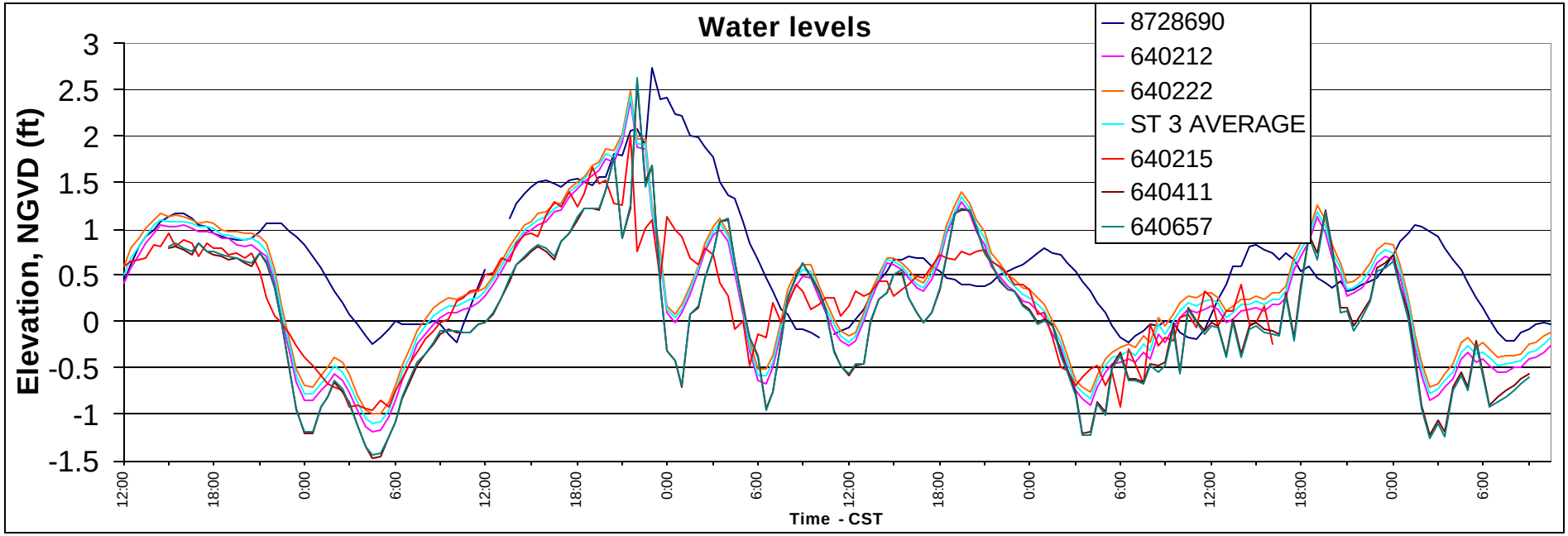
Emergency Coastal Engineering Services for Escambia County, FL



EOE provides planning, analysis, design, monitoring, and measurement of coastal processes, coastal structures, and coastal habitats, and consultation and advice as required on coastal engineering issues of concern. Following Hurricane Ivan, the first task was to design and submit permit applications for an *emergency protective berm* on Perdido Key. EOE developed a preliminary plan for rapid permitting, then refined the final design using pre and post storm LIDAR survey data (above) to maximize the effectiveness of the feature using available funds. Performance was predicted using updated, post-Ivan hurricane return period statistics.

NESD, Escambia County, FL 1190 West Leonard St. Suite 4, Room 205 Pensacola, FL 32501 Keith Wilkins, Director (850) 595-3495	100	1,900	49

Tidal Measurements Near Cape San Blas, FL	The Florida Department of Transportation is onducting a project Development and Environment (PD&E) Study of SR 30E, which runs along Cape San Blas, FL. A bridge is being considered to replace an eroded section of roadway. Water elevation time series at sites offshore of the proposed bridge and inside St. Joseph Bay are needed to calibrate and verify a numerical tidal circulation model. EOE is developing the deployment plan, collecting the data, and performing the reduction, analysis, and validation of the measurements (below).	Volkert & Associates, Inc. 3809 Moffett Road P.O. Box 7434 Mobile, Al 36670-0434 Linda L. Bookout, P.E. 251.342.1070 ext. 167	80	640	49



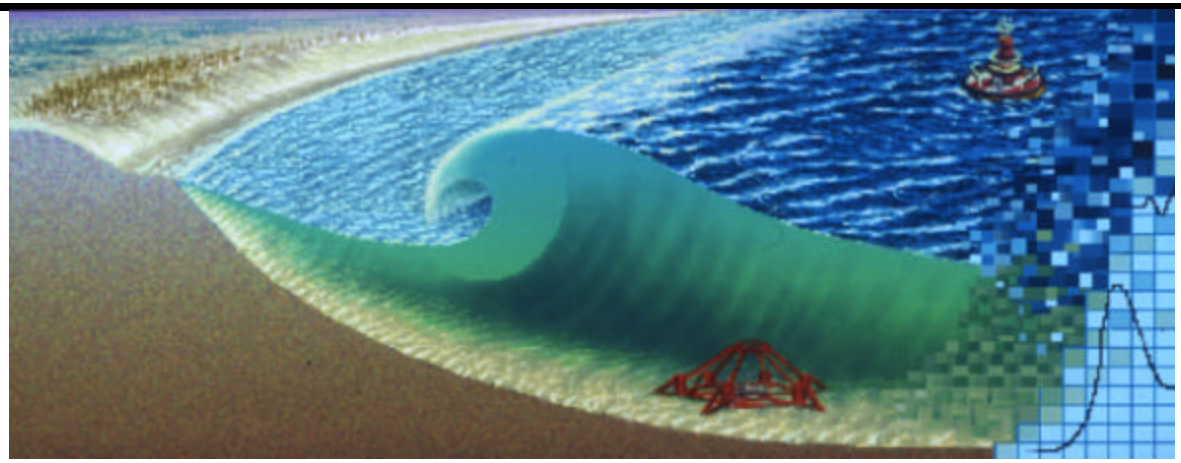
10. Use this space to provide any additional information or description of resources (including any computer design capabilities) supporting your firm's qualifications for the proposed project.

Emerald Ocean Engineering

COASTAL **STUDIES**

MARINE **DESIGNS**

SUBMARINE **OPERATIONS**



MISSION STATEMENT: Emerald Ocean Engineering will assure an efficient, on-time, environmentally sound project that represents the optimal solution for the client.

Experience: Extensive experience in each of the major tasks of the project - developing and implementing *monitoring* plans for *coastal projects*; facilitating *coordination and cooperation* between local, state, and federal interests; wave, current, water level, sediment, and geotechnical field data *collection, analysis, and presentation*; writing concise and practical *management plans* with accurate cost estimates; working cooperatively with permitting agencies; writing plans, *specifications,* and standards; oversight, inspection and quality control on major marine construction projects; and production of technical reports and presentations.

Performance: In over twenty years of coastal research, nearly every project assigned involved complex processes and required new measurement and analysis methods In that time, every project assigned succeeded in producing the data, performing the analysis, and determining the underlying physical process that controlled the phenomenon under investigation. These achievements were recognized in 20 performance awards and citations, including an Army commendation for initiating the first Federal/State Cooperative Agreements on Ocean Observations, 2nd place in the PIANC International Gustav Willems Award for technical papers and the Army's ABest Run R&D Program@ award, in recognition of the essential service provided to the engineering community by development of numerous, widely accepted standards for wave information.

Safety: David McGehee has been the planner and on-site supervisor of hundreds of marine field operations, many in high-risk environments: on the beach in the literal eye of hurricanes; decompression dives in zero-visibility, high velocity waters; deployment and recovery of multi-ton instrument packages on the Columbia River Bar- with a helicopter; underwater blasting operations that devoured 6 tons of dynamite a day for 6 months. In 26 years of operations management and supervision there has not been a single on-the job injury or safety incident. This is attributable to his training [annual CPR and First Aid classes, US Army Corps of Engineers Diving Safety Supervisor; US Coast Guard Licensed Boat Operator], meticulous planning, and a respect for all team members.

Leadership: There are many fine engineers that have as extensive credentials in one or another of the disciplines that are needed to make a project successful. But it is vital to have someone with a good grasp of all of them to integrate the overall effort. Much of Mr. McGehee=s experience involves management of complex efforts with multi-million dollar budgets that are characterized by a mix of field, laboratory, and fiscal resourcefulness. He has also assisted clients of more modest means with problems involving shore protection, marina design, maintenance dredging, etc., with the same commitment to excellence.

References: Dr. Robert Dean, Chairman, Coastal & Ocean Eng. Dept., Univ. of FL;
Dr. Richard Seymour, Chairman, Ocean Eng. Dept., Scripps Inst. of Ocean.
Dr. Robert Hudspeth, Chairman, Ocean Eng. Dept., Oregon St. Univ. ;
Mr. Tom Richardson, Chief, USAE Coastal & Hydraulics Laboratory

10. The foregoing is a statement of facts.

Date: April 10, 2005

Signature: _____ Typed Name and Title: David D. McGehee, P.E., M.Oc.E., Owner