

TECHNICAL SPECIALTIES

- Project Management
- Dredging and Disposal Operations Consultation
- Sediment Dewatering/Remediation Technologies
- Contract Administration & Management
- Regulatory and Environmental Requirements

EDUCATION

- B.S. Civil Engineering, University of Portland, Magna Cum Laude
- M.B.A. University of California, Irvine, with Honors

PROFESSIONAL REGISTRATION AND AFFILIATIONS

- Registered Professional Civil Engineer (Washington, California, Texas, Florida, Mississippi)
- National Board Member of Western Dredging Association
- Board Member of the Propeller Club of the United States, Port of Miami Chapter

PROFESSIONAL EXPERIENCE

In 1998, Ms. Case O'Bourke started Case Engineering, which incorporated as case O'Bourke Engineering, Inc. in 2000, to provide engineering consultant services to the private and public sectors. Her primary areas of expertise include dredging, navigation, and sediment management projects. Her almost 20 years-engineering experience includes 8 years of project and management responsibility with the US Army Corps of Engineers navigation program and 5 years as a principal of Hartman Consulting Corporation. In 1996, she received the Dredging Contractors of America's Outstanding Paper award for her paper, "Centrifuge Dewatering of Dredged Sediment, Two Pilot Projects," at the National Western Dredging Association Conference.

Ms. Case O'Bourke has worked extensively with both public and private clients managing engineering projects. Her projects have included: evaluating dredging requirements; developing disposal area selection criteria; coordinating regulatory requirements; project implementation; disposal site management for dredging projects using active dewatering techniques; negotiating project specific dredging operations, timing restrictions, and study requirements with resource agency personnel; evaluating dredging equipment capabilities; managing multi-disciplined teams for planning, design, and environmental studies; and managing multi-million dollar public infrastructure reimbursement program for special assessment districts.

Representative Waterway Engineering Project experience follows.

Port's Representative - Phase II Restart Dredging Project, Port of Miami, Florida

This very complicated dredging project was the continuation of the Phase II deepening dredging contract was interrupted when the dredging contractor went bankrupt and left the project unfinished. The dredging contractor's bonding agent contracted to complete the dredging project. The project was further complicated by notices of permit violation issued by the

regulatory agencies for alleged dredging outside of the permitted area prior to the Restart project. Ms. Case O'Bourke as the *Project Representative for the Port of Miami Phase II* dredging project provided daily construction contract administration services, assisting the Port in the daily administration of the dredging contract; coordinating with the Port's construction observation personnel; providing point of contact between the dredging contractor and the Port; monitoring construction progress; preparing regular status reports for the Port, the USACE and regulatory agencies; reviewing contractor payment requests and documentation, and recommending progress payment amounts; assisting the Port in the evaluation of contractor change order requests; and assisting the providing the Port response to the regulatory agencies' permit issues.



Dredge Antone at Port of Miami, FL

Miscellaneous Port Dredging Project Assistance, Port of Miami, Florida

Ms. Case O'Bourke is providing engineering consulting services to the Port of Miami on a number of dredging project issues including on-going Phase II dredging litigation against dredging contractor/surety who abandoned the project; coordinating completion of Phase II dredging project with the USACE; providing technical analysis to the USACE General Reevaluation and Review study evaluating federal project deepening at the Port of Miami; preparation of applications for renewal of existing federal, state, and local dredging permits; coordinating dredging activities or issues with agencies; providing technical analysis and coordinating settlement of permit notices of violation from the Phase II dredging project; preparation of FSTED grant application for future dredging project; and managing berth dredging projects.

Hudson Channel Maintenance Dredging, Pasco County, Florida



Aerial view of Hudson Channel

Ms. Case O'Bourke is the project manager and dredging technical lead for a multi-discipline team providing permitting and design services for maintenance dredging of the Hudson Channel. This project includes project survey; calculation of dredging quantities; preparation of federal and state permit applications, and agency coordination; conducting public information meetings; completing dredging project design, including evaluation of equipment capabilities,

evaluation of available disposal alternatives, analysis of potential environmental impacts, evaluation of channel marker deficiencies, and development of mitigation alternatives; and preparation of engineering design report, and plans and specifications.

Spring Garden Point Park Enhancement, Spring Garden Community Association, Miami, Florida

Ms. Case O'Bourke is providing engineering services to the Spring Garden Association and Miami-Dade County to obtain federal, state, and local permits and FIND grant application for park enhancement including shoreline protection, excavation for mangrove/marsh habitat creation, and dock replacement and construction. Case O'Bourke Engineering, Inc. reviewed permit text and prepared permit drawings for ERP application, prepared conceptual level estimates of construction costs, and calculated dredging, and upland cut and fill quantities.



Conceptual Park Plan for Spring Garden Park on Miami River

Miami River Maintenance Dredging, Miami River Commission, Miami, Florida

Ms. Case O'Bourke is providing dredging consulting services to the Miami River Commission to prepare informational mailings and notifications to Miami River property owners. Ms. Case O'Bourke developed dredging description/fact sheets for public distribution and notification letters for river front property owners; responds to questions from the public regarding potential impact of project to property/structures along the river; and provides technical assistance to the Miami River Commission and Miami-Dade County regarding dredging issues.

Cayman Islands Turbidity Analysis, CH2M Hill, Florida

Ms. Case O'Bourke completed technical literature review of state of art techniques and equipment for monitoring/measuring dredging and disposal turbidity; analyzed feasibility of implementing these applications on proposed project; and prepared technical report summarizing findings.



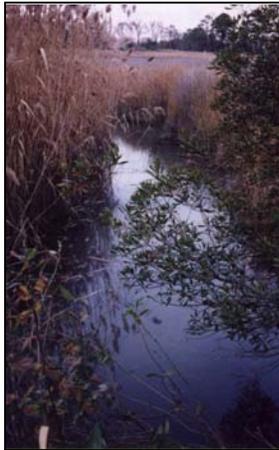
Biscayne Bay Channel

Miami-Dade County Park & Recreation Channel Dredging Feasibility Study, Miami, Florida

Ms. Case O'Bourke, as the technical lead for feasibility study for dredging marina entrance channel in Biscayne Bay, provided preliminary dredge volume calculations and environmental impact area calculations; analysis of historical survey data; developed survey scope for project; analyzed equipment capabilities for dredging project; and wrote technical sections of feasibility study.

SFWM District Pilot Dredging Project, South Florida Water Management District through EA Engineering, Science and Technology, Lake Okeechobee, Florida

Ms. Case O'Bourke is assisting EA to complete pilot dredging project on Lake Okeechobee including preparation of ERP application for state and federal permit; developing equipment specifications for dredging support; and managing survey and equipment contractor for project implementation.



Tabbs Creek Contaminated Sediment Cleanup, NASA, Virginia

Ms. Case O'Bourke as a *Project Engineer* to assist Foster Wheeler Environmental Corporation in the development of work plan, and plans and specifications for dredging and transport of contaminated sediment to treatment facilities. Tabbs Creek is a shallow meandering, tidally influenced stream through a marsh area, which presents a number of challenges to developing a dredging plan such as, access to the site is limited to transport of the equipment across the marsh with low-ground-pressure equipment, the water depth and channel widths limit the dredging equipment size, long pump distances are required to transport the dredged sediment from the dredging site to the treatment facility site, dredging quantities are small, and dredging tolerances are very tight.

View of Tabbs Creek

Innovative Dredging Technologies, USACE Waterways Experiment Station (through Hartman Consulting Corporation)

Ms. Case O'Bourke assisted in the research, prioritization, interviews and documentation of existing innovative dredging technologies that could be applied to USACE projects. Project evaluated equipment, techniques, and policies applicable to all aspects of dredging including processing, transporting, disposal, excavation, and beneficial uses of dredged material.

Feasibility Study to Reroute Bayou, Motiva Enterprises, LLC, Port Arthur, Texas



Potential route for Bayou.

As the *Project Manager* for this project, Ms. Case O'Bourke coordinated with technical staff in Texas, Georgia, New Jersey, and Tennessee, as well as providing dredging design and construction technical expertise. The feasibility study included hydraulic and hydrologic analysis of existing bayou flows and multiple new canal routes. Ms. Case O'Bourke reviewed preliminary hydraulic and hydrologic reports; and based upon the results of these reports, prepared conceptual design report and preliminary construction cost estimate to construct a diversion canal. The new canal routes crossed several existing petro-chemical pipelines, whose flow could not be interrupted. Therefore, a conceptual design to

carry the flows under these pipelines had to be developed. Environmental impacts and permit requirements are currently be evaluated for this project.

Ham Marine Greenwood Dredging Project, Port of Pascagoula, Pascagoula, Mississippi

As *Project Manager* for design, bid and award, and construction of dredging for Ham Marine facilities for the Port of Pascagoula, Ms. Case O'Bourke prepared plans and specifications, bid documents, dredging and dredged material placement cost estimate, and managed construction oversight. Construction phase services include review of daily dredging reports, review of

progress surveys, evaluation of contractor claims, preparation of change orders, as required, and recommendation for contractor payment.

Confined Placement Site No. 1 Design & Construction, Port Freeport, Freeport, Texas

Ms. Case O'Bourke was *Project Manager* for the design, award, and construction of levees for a 370-acre confined dredged material placement site and storm water drainage channel for adjacent property. Design phase responsibilities included evaluation of existing environmental permits and documentation; coordination of design with the US Army Corps of Engineers, Brazoria County, and the local Drainage District, and the design team; preparation of design report; preparation of bid documents; and evaluation of bids and recommendation for award. Construction phase responsibilities include construction contract administration, such as review of contractor invoices; evaluation of contract changes and preparation of change order recommendations; evaluation of proposed field changes, and management of construction observation services.



Dragline constructing levee at CPS1, Port Freeport, TX

Eagle Harbor Contaminated Sediment Remediation Project, Bainbridge Island, Washington

Ms. Case O'Bourke evaluated dredging, disposal, and in-place capping alternatives for contaminated sediment in Eagle Harbor; prepared preliminary and final dredge and disposal cost estimates; evaluated nearshore fill capacity and effluent quality; and evaluated equipment capabilities for areas with limited maneuvering room, their ability to remove impacted sediment from under pier areas, and place thin layer and thick layer capping over impacted sediment and dredging areas.



Capping dredging area at Eagle Harbor, WA.

Ketchikan Pulp Remediation, Ward Cove, Alaska

As *Project Engineer*, Ms. Case O'Bourke completed a preliminary remediation alternative review. The feasibility level evaluation was based upon existing bathymetric data, bottom profiling defining log distribution, and previous technical studies. She developed initial screening criteria based upon the physical characteristics of the site, accepted construction practices and methodologies, and remediation technology characteristics. Remediation alternatives included nearshore confined dredged material fills; confined aquatic placement sites, in-place capping (thick caps), enhanced recovery (thin caps), log removal, and dredging.



Dredge discharge into Seaway Placement Area, Port Freeport, TX.

Analysis included discussion of applicability of potential sites for alternatives based upon initial screening, construction methods, and conceptual level cost estimates.

Long Term Disposal Capacity Plan, Port Freeport, Freeport, Texas

As *Project Manager* for plan, Ms. Case O'Bourke evaluated potential upland placement sites, increasing the quantity of sediment placed in the off-shore dredged material placement site, beneficial use opportunities for dredged sediment, remaining capacity of existing upland placement sites, developed risk assessment procedures for sediment being placed in the upland placement sites, and developed individual Disposal Area Management Plans (DAMP) for existing disposal sites.

Piper Channel Phase I, Corpus Christi Bay, Texas

Ms. Case O'Bourke was *Project Manager* for preparation of conceptual design to reduce erosion at entrance of channel into Corpus Christi Bay, which included evaluating bathymetric survey, historical aerial photography, historical dredging records and coastal hydrodynamic and inlet processes theory. She prepared US Army Corps of Engineer's permit application and coordinated with resource agencies for installation of geotextile container jetty system.



Southwestern Geo-Container Jetty, Piper Channel, Corpus Christi Bay, TX

Piper Channel Phase II, Corpus Christi Bay, Texas

Ms. Case O'Bourke was *Project Manager* for preparation of plans and specifications, bidding documents, and construction oversight for installation of geotextile container jetty system at the mouth of Piper Channel into Corpus Christi Bay and coordination of aids to navigation requirements.

Deep Berthing Area Dredging Project, Port Freeport, Freeport, Texas



Pine Bluff Sand & Gravel's 24" pipeline dredge at Port Freeport, TX

Ms. Case O'Bourke was *Principal-in-Charge* for Port Freeport project to expand and deepen their deep berthing area. Project included preparation and coordination of US Army Corps of Engineers dredging and disposal permit and State of Texas water quality certification, subcontracting for sediment sampling and chemical analysis, project design, and construction observation. She prepared the dredging and disposal plans and specifications, and bid documents; and reviewed cost estimate.

PUBLICATIONS

- Case O'Bourke, Nancy; McLellan, T. Neil; Shepsis, Vladimir, *Piper Channel Geotube Jetty System, A Case History*, Proceedings Western Dredging Association Twentieth Technical Conference and Thirty-Second Annual Texas A&M Dredging Seminar, June 2000.
- Case, Nancy L., *Centrifuge Dewatering of Dredged Sediment, Two Pilot Projects*, Proceedings Western Dredging Association's Seventeenth Annual Meeting & Technical Conference, June 1996. Winner of Dredging Contractors of America's Outstanding Paper award.
- Shepsis, Dr. Vladimir; Case, Nancy L.; Hartman, Gregory L., *LADS System, Inc., Thermal Remediation Treatment for Contaminated Sediment*, Proceedings of the Second International Conference sponsored by Waterway Committee of the Waterway, Port, Coastal and Ocean Division/ASCE, November 1994.
- Shepsis, Dr. Vladimir; Case, Nancy L.; Hartman, Gregory L., *Silt Curtains Sediment Release Model for Clamshell Dredging*, Proceedings WEDA XV Technical Conference, May 1994.
- Case, Nancy L., *Recycling Contaminated Sediment into Lightweight Aggregate Construction Material*, Proceedings for National Association of Environmental Professional's 21st Annual Conference, 1996.
- Holland, Craig; Case, Nancy L., *Dredging Industry's Environmental Trends in South America*, Proceedings for National Association of Environmental Professional's 21st Annual Conference, 1996.
- Case, Nancy L.; Woolley, Cal; Perkins, Steve, *Draghead Designs vs Production (Dredge ESSAYONS Testing 1983-1984)*, Waterway, Port, Coastal, and Ocean Division of the ASCE, November 1984.