Great Lakes’ new 15,000 cubic yard ATB Hopper Dredge *Ellis Island*

DREDGING WORLDWIDE

GREAT LAKES DREDGE & DOCK COMPANY, LLC
INTRODUCTION

DREDGING WORLDWIDE

Great Lakes Dredge & Dock Company, LLC (GLDD), is the largest dredging contractor in the United States and a major international competitor. With its foremost commitment being to the safety of its workers, GLDD operates on every domestic coastline and in many foreign countries.

Bringing innovation and high-quality workmanship to its projects, and guarding its reputation for safety consciousness, GLDD serves its customers by studying and anticipating their needs and then responding with appropriate equipment and the finest, best-trained dredging talent in the business.

Dredging generally addresses the creation or restoration of navigable waterways, the construction of maritime infrastructure for international commerce, or the protection, restoration, or reclamation of shoreline land masses through the removal or placement of soil, sand, or rock. The U.S. dredging market generally consists of three types of work: capital projects, beach nourishment and restoration, and maintenance dredging. Since its founding in 1890, GLDD has been a leader and innovator in these markets, with many patents and new technologies to its credit. GLDD is the only U.S. dredging contractor with significant operations overseas.
COMPETITIVE STRENGTHS

INNOVATIVE IDEAS & THEIR EXECUTION

A number of competitive strengths have allowed GLDD to develop and maintain leadership of the industry.

HIGH-INTENSITY SAFETY PROGRAM
GLDD has adopted a high-intensity approach to safety which promotes and sustains a company-wide culture of Incident and Injury-Free (IIF) job safety performance. Our influence in this area has been felt throughout the industry.

QUALITY & EXPERIENCE
From our beginning in 1890, GLDD has built an outstanding reputation for high-quality project performance and client satisfaction, and we have never failed to complete a project.

UNSURPASSED DREDGING FLEET
Our fleet of over 200 vessels includes the largest hydraulic dredges in the United States. The size, versatility and technical capabilities of our fleet affords GLDD both the flexibility to select the most efficient equipment for a particular job, and the capacity to perform multiple projects simultaneously. To maintain the value and effectiveness of this fleet, GLDD emphasizes preventive maintenance which minimizes downtime, increases reliability and profitability, extends vessel life, and reduces replacement costs. The GLDD fleet is valued at more than $1 billion.

CUTTING EDGE TECHNOLOGY
GLDD has aggressively introduced new technologies to the dredging business, from bucket and cutter design to hydrographic survey and positioning technologies, and continues to do so.

SPECIALIZED CAPABILITY IN CAPITAL PROJECTS
GLDD is a leader in U.S. capital dredging, a focus that generally requires specialized expertise — unique combinations of equipment and experience — to execute and complete complex projects. GLDD’s extensive experience enhances its ability to win and complete these contracts profitably.

PROVEN, EXPERIENCED MANAGEMENT TEAM
Individuals who comprise GLDD’s management team have an average of thirty years of experience in the dredging industry. This deep knowledge base provides the company with a significant advantage over the competition.
In 2006, GLDD adopted the Incident- and Injury-Free (IIF) ethic and practice for all of its operations, on all its vessels, at all of its installations, and in all offices. We expect those who work at GLDD to govern their behavior first and foremost for safety. 

*Personal safety is always the first priority.*

In addition, GLDD takes every opportunity to advocate for safety in our relations with other organizations. We require our subcontractor and vendor personnel to participate in the spirit and specifics of IIF when engaged on projects with us. We are committed to spreading safety consciousness within our industry and throughout the maritime community, raising the spirit of IIF in meetings and making our safety materials freely available.

**GREAT LAKES DREDGE & DOCK COMPANY, LLC**

**SAFETY COMMITMENT STATEMENT**

All GLDD employees are committed to an Incident- and Injury-Free (IIF) work environment, in which we return safely to our families every day. In this work environment:

- We care for each other and treat each other with respect and dignity through open and honest communication.
- We work safely because we want to, rather than because we feel we have to.
- We always seek out a safe course in performing our daily operations.
- We take visible and proactive responsibility for our safety and our coworkers’ safety, and we will not accept unsafe actions from ourselves or others.
- We stop unsafe actions without fear of repercussion.
- We elevate safety issues that cannot be resolved on our own or with our immediate supervisor to a member of the Safety Leadership Team.
- We continuously develop, improve, and use tools and resources to keep ourselves and one another safe.
- We require all vendors and subcontractors to participate in GLDD’s IIF work environment.
- We raise safety awareness as a part of our everyday life at work and at home.
There are three primary types of dredging equipment in the GLDD fleet: cutter suction, trailing suction hopper, and mechanical dredges. These are supported by auxiliary vessels and equipment to prepare material for excavation, transport dredged material, and power the material through hydraulic pipelines.

**FLEET & EQUIPMENT**

- **CUTTER SUCTION DREDGE**
- **TRAILING SUCTION HOPPER DREDGE**
- **MECHANICAL DREDGE**
TRAILING SUCTION HOPPER DREDGES (6 TOTAL)
Typically self-propelled and having the general appearance of an ocean-going vessel, trailing suction hopper dredges move through the water trailing a long suction arm to the ocean floor. At the end of these arms are dragheads through which material is suctioned from the ocean floor to the vessel above.

CUTTER SUCTION DREDGES (18 TOTAL)
Cutter suction dredges remove material using a revolving cutterhead which gouges into and loosens material on the ocean floor. The loosened material is pumped by the dredge first to the surface, and then through a pipeline to a remote disposal location. These dredges are very powerful and excavate a broad range of materials up to, and including, certain types of rock.

CLAMSHELL (GRAB) DREDGES (4 TOTAL)
A clamshell dredge uses buckets to remove material from the ocean floor. The dredged material is placed by the bucket into material barges for transport to designated disposal areas. Mechanical dredges are capable of removing hard-packed sediments and debris and can work in tight areas, such as along docks or in terminals.

BACKHOE EXCAVATOR DREDGE (1 TOTAL)
Mechanical backhoe dredges are floating platforms that house a heavy duty cycle crane that uses a wire rope suspended bucket to excavate the sea bottom. The dredge locates itself in position during dredging operations by lowering retractable spud poles to the sea bottom. Excavated material is loaded into barges (scows) for transportation by tugs to a disposal area.

DRILLBOATS (2 TOTAL)
Drillboats fragment rock with explosives prior to removal by bucket or cutter suction dredge. GLDD has two state-of-the-art drillboats.

MATERIAL BARGES (19 TOTAL)
GLDD has the largest fleet of material barges in the industry which provides cost advantages when project specifications require disposal of dredged material far offshore, or when controlled disposal is needed.
FLEET USE

GLDD’s domestic dredging fleet is deployed continuously around the U.S. coastline and on inland rivers. The mobility of the fleet allows the company to respond to changes on demand. GLDD’s fleet also includes assets currently deployed elsewhere in the world. GLDD continually assesses the challenges and opportunities presented by its markets. We upgrade and expand our dredging fleet as markets dictate, and incorporate the latest and most innovative technologies. GLDD aggressively pursues a program of preventive maintenance, which is reflected in the long life of most of our equipment as well as the low level of unscheduled downtime. To the extent that market conditions warrant such expenditures, GLDD can prolong the useful life of its vessels virtually indefinitely.
CERTIFICATION OF EQUIPMENT

Certification of equipment by the U.S. Coast Guard (USCG) and establishment of the permissible loading capacity by the American Bureau of Shipping (ABS) are important factors in GLDD’s business. Projects such as beach nourishment, which uses sand from offshore sources, and dredging projects in exposed entrance channels or with offshore disposal areas, are federally regulated and must be performed by dredges or scows that have USCG certification and a loadline established by the ABS. These certifications assure that a dredge is structurally capable of operating in open waters. GLDD makes substantial investments to maintain these certifications.
GLDD maintains harbors and waterways by removing accumulated deposits of material. We restore eroded beaches and rehabilitate damaged wetlands and other aquatic habitats. We deepen existing harbors or build new ones, sometimes creating new land masses by removing soils from approved offshore borrow areas and placing them where they expand shorelines or create islands.

TYPES OF PROJECTS

GLDD maintains harbors and waterways by removing accumulated deposits of material. We restore eroded beaches and rehabilitate damaged wetlands and other aquatic habitats. We deepen existing harbors or build new ones, sometimes creating new land masses by removing soils from approved offshore borrow areas and placing them where they expand shorelines or create islands.
SHORE PROTECTION & BEACH NOURISHMENT
Beach projects generally involve moving sand from the ocean floor to shoreline locations where erosion may be compromising shoreline assets. Storm damage and shore erosion is a continuing problem, over which concern has intensified with the rise in coastal development, climate change, and increased storm activity. It has become an important issue for state and local governments concerned with protecting their coastlines as well as tourism and real estate.

FOREIGN CAPITAL PROJECTS
These types of projects typically relate to land reclamation, channel deepening, and port infrastructure development. GLDD targets international opportunities that are well suited to the company’s equipment and expertise. Maintaining a presence in foreign markets has enabled GLDD to diversify, particularly during periods of decreased domestic demand. Over the last ten years, the company has performed dredging works in Europe, the Middle East, Africa, India, Mexico, and South America. Most recently, the focus has been on opportunities in the Middle East, where the company has cultivated a niche market by developing close customer relationships with major developers.

DOMESTIC CAPITAL PROJECTS
These projects primarily involve port expansion and the deepening of channels to allow access by larger, deeper-draft ships; excavation of turning basins; or providing landfill for expansion of port facilities. Today, some U.S. ports are shallower than their counterparts abroad, creating a need for capital projects to deepen them in order to stay competitive. In addition to port work, capital projects can include land reclamation; trench excavation for pipelines, tunnels and cables; and dredging related to the construction of breakwaters, jetties, locks, canals, and other maritime structures. Additional opportunities exist in the emerging market for liquefied natural gas (LNG) terminals for the capital dredging sector, and significant capital dredging opportunities, related to protection and restoration of wetlands and coastal marshes particularly in the U.S. Gulf coast, are also anticipated in the near term.

MAINTENANCE DREDGING
Maintenance dredging consists of re-dredging previously deepened waterways and harbors to remove silt, sand, and other accumulated sediments. Due to natural sedimentation, active channels generally require maintenance dredging every one to three years, thus creating a recurring need of dredging work that is typically non-deferrable if optimal navigability is to be maintained.
This nourishment project involved placing approximately 4,600,000 cubic yards of sand on a 10-mile stretch of Nags Head beach on the Outer Banks of North Carolina. The Nags Head beachfront was widened by 50 feet to 150 feet with a berm elevation of +6 feet at peak height.

4.6 MILLION CY | TSHD CSD | North Carolina

This project entailed constructing a berm and dune to protect Atlantic City and Ventnor, New Jersey against storm damage. At project completion, the two beachfronts gained additional shore protection, easier beach access, and a restored recreational beach along the promenade revetment.

1.8 MILLION CY | CSD | New Jersey

For this project, 3,000,000 cubic yards of sand were placed along Garden City/Surfside, Myrtle Beach and North Myrtle Beach coastlines, covering over 25 miles. An additional option was awarded, calling for 300,000 cubic yards to be placed on the Arcadian Shores beachfront.

3 MILLION CY | TSHD | South Carolina

This nourishment project entailed protecting the Bay Joe Wise shoreline from coastal storms. At project completion, GLDD had increased the width of the barrier shoreline, built-up the back-barrier by about 220 acres, and created an emergent marsh suitable for tidal aquatic habitats.

PASS CHALAND, LA

This project entailed renourishment of a 200-ft-wide beach over an 8.3-mile stretch of shoreline in Ocean City, Maryland. Additional operations included construction of a hurricane protection bund complete with pedestrian crossovers and grass plantings to stabilize the dune system.

6 MILLION CY | CSD | Maryland

The GLDD project team dredged approximately 2,000,000 cubic yards of sand and placed the material at 12 discrete locations, nourishing about 40 miles of coastline in San Diego, California. Dredged material was excavated from six separate borrow areas.

2 MILLION CY | TSHD | California
Performed over two phases, this project involved the construction of Diyar al Muarraq, an island system located in the Kingdom of Bahrain. GLDD excavated and placed 80,000,000 cubic meters of material to build this island system, which included almost 3,000 acres of reclaimed land.

80 MILLION CY | TSHD CSD | BAHRAIN

This project entailed reclamation of over 6,000,000 square meters of land to build an island resort. With 13 islands, this resort boasts numerous luxury accommodations (villas, apartments, and hotels), restaurants, promenades, sports and shopping facilities, a marina, spas, and an 18-hole golf course.

33 MILLION CY | CSD | BAHRAIN

This two-phase land development project was located on the Southeast coast of Bahrain, immediately adjacent to the previously completed Durrat Al Bahrain project. The scope of work entailed dredging, reclamation, and construction for a multi-use land development program.

6.6 MILLION CM | CSD | BAHRAIN

GLDD performed dredging and construction works for the Government of Bahrain, expanding the Khalifa Bin Salman Port and Industrial Area in Hidd, Bahrain. Operations entailed dredging and transportation of 31,000,000 cubic meters of material, creating land to build the new port.

31 MILLION CY | TSHD CSD | BAHRAIN

Øresund Fixed Link is a road/railway between Copenhagen, Denmark and Malmö, Sweden. GLDD performed design, dredging, and construction works on the tunnel trench, work harbors, navigation and construction channels, compensation areas, and an artificial peninsula and island.

19.5 MILLION CM | DIPPER CLAMSHELL | DENMARK

This project was performed to protect and stabilize the shoreline from Keta to Hlorve in the Republic of Ghana, West Africa. Project operations involved creating a much-widened stretch of reclaimed land and construction of a protective revetment and groyne system.

15 MILLION CM | CSD | Republic of Ghana
PIER 400

The construction of Pier 400 in Los Angeles Harbor entailed the letting of two contracts and stretched over a period of five and a half years. In addition to the key factor of partnering, the success of the Pier 400 contract was made possible by the substantial investment made by GLDD in rebuilding the cutter suction dredge Florida before putting the dredge to work on the project.

52.5 MILLION CY | TSHD CSD Clamshell | LOS ANGELES

MIAMI HARBOR DEEPENING

Dredging efforts included deepening the west channel of JAXPORT’s Blount Island Marine Terminal from -30 feet to -38 feet. This was the third time in the decade that GLDD was awarded the contract for the dredging and expansion of Jacksonville Harbor.

1.1 MILLION CY | CSD | Florida

PORT OF OAKLAND, BERTHS 55 & 56

The Oakland project included the construction of a 2400-foot concrete container wharf at Berths 55 and 56 in the Oakland Inner Harbor Channel, construction of 12-acre container yard, installation of containment rock dike, demolition of existing Naval Wharf, and dredging and placement of 2.4 million cubic yards of material for use as land fill.

1.1 MILLION CY | CSD | Oakland

PORT OF WILMINGTON

GLDD was awarded the fourth of five contracts let for the Wilmington Harbor Deepening projects. The contract involved deepening and widening the channel in two reaches, the Passing Lane and the Anchorage Basin. This work was done by hopper dredge, clamshell dredge, and a cutter suction dredge loading scows.
The scope of this project called for dredging a four-mile stretch of the Kill Van Kull (KVK) Channel in New York Harbor. Located between Staten Island, New York, and Bayonne, New Jersey, the KVK Channel connects to Arthur Kill Channel, Newark Bay, and Upper New York Bay.

2.3 MILLION CY | Backhoe Clamshell CSD | New York

This project entailed maintenance dredging within the Craighill Angle and the Brewerton Channel Eastern Extension of the Chesapeake Bay. The dredged material was placed in the Sarbanes Ecosystem Restoration Project on Poplar Island in Talbot County, Maryland.

3 MILLION CY | Clamshell | Maryland

Maintenance dredging within the channels leading into the Port of New York/New Jersey was executed over eight contracts and multiple phases. Operations required deepening the channels from an original depth of 35 feet to 40 feet, then to 45 feet, and eventually to 50 feet.

This project entailed maintenance dredging and upland disposal of 3,300,000 cubic yards of shoaled material within the Chesapeake Bay and Baltimore Harbor. The clamshell dredges No. 54 and No. 55 were used to complete this project.

3.3 MILLION CY | Clamshell | Maryland
For over 125 years, Great Lakes Dredge & Dock Company’s (GLDD) operations have helped shape the living environment and transportation resources of communities across the world, including the largest cities and ports of the United States. GLDD has played a major role in creating shorelines and waterways through both its dredging and construction activities. Throughout its history, GLDD has grown to be the largest dredging contractor in the United States, and a major international competitor.

EARLY DAYS
Founded in 1890 as the partnership of William A. Lydon and Fred C. Drews, Lydon & Drews’ first project was construction of an off-shore tunnel to extend the water intake at Chicago Avenue to a new intake farther out in Lake Michigan. The company experienced tremendous expansion in the 1890s, growing in Chicago and opening satellite operations in virtually every major city on the Great Lakes. Projects at the time included the shoreline structures for Chicago’s Columbian Exposition in 1892, including the foundations for what later came to be known as Navy Pier.

In 1905, the company changed its name to Great Lakes Dredge & Dock Company. The company’s assets had expanded to include thirteen dredges and ten tugboats. Projects involving dredging, pile-driving, construction of foundations, bridges, breakwaters and lighthouses were completed in Chicago, as well as in such cities as Toledo, Indiana Harbor, and Waukegan, (Illinois). By 1920, Great Lakes was operating in Albany, New York City, Philadelphia, Boston, and other east coast locations. Accordingly, an Atlantic Division was established in the Whitehall Building in downtown Manhattan.

1900 – 1950
Between 1900 and 1950, the company completed a number of significant projects, including:

- A massive water intake tunnel for U.S. Steel’s then new Gary (Indiana) works.
- Straightening the South Branch of the Chicago River in sections of the city west of the Loop.
- Construction of the Outer Drive Bridge on Lake Shore Drive, the LaSalle Street tunnel, the lower level of Wacker Drive, and the foundations and approaches to the Michigan Avenue Bridge in Chicago.
- Landfill and reclamation in Chicago where the Adler Planetarium, Soldier’s Field, Meigs Field and the Field Museum of Natural History stand today, as well as landfill for Lincoln Park, Jackson Park and Chicago’s nine-mile shoreline.
- Harbor and breakwater work at Great Lakes Naval Training Station in Waukegan (Illinois).

During World War II, GLDD was awarded the coveted Naval E-Flag for its superior work in construction of the large MacArthur Lock, a facility still in use (and named by the Corps of Engineers as the most reliable lock on the Great Lakes). This vital project, needed to keep iron ore moving freely on the Great Lakes to steel mills for munitions manufacturing, was completed a full year ahead of schedule.

POST- WWII
After the war, GLDD participated in extensive oil-related dredging in the Gulf of Mexico, as well as numerous bridge and other marine construction projects across the country. In the 1970s, the dredging industry experienced a fundamental change, as the Corps’ fleet was reduced to a size and configuration considered necessary only for emergencies and national defense, and a robust private dredging sector took its place. GLDD’s president at the time, John A. Downs, was instrumental in promoting legislation which ultimately mandated the reduction of the Corps fleet. In 1976, the company began to build its hopper dredge fleet to replace the reduced capacity of the Corps of Engineers. The company expanded its operations into the Middle East, South America, and Africa, and added restoration of storm-eroded beaches to its project resume while continuing with traditional work. This work to protect coastal assets has become a major activity for GLDD.

The Water Resources Development Act of 1986 (the so-called “Deep Ports” legislation) authorized deepening projects in major U.S. ports. This increased activity required GLDD to focus on deploying its equipment in the U.S. market from 1986 to 1992.

INTERNATIONAL EXPANSION
By 1990, it was apparent that the newly authorized projects were not delivering the volume of work proposed, and that contracts would be spread over a longer period of time. This, coupled with a weakening dollar, prompted GLDD to launch a renewed international marketing effort. In 1993, this marketing effort resulted in the award of a $115-million project at Doha, Qatar, followed in succeeding years by other successful projects in the Middle East, Denmark, Spain, Ghana, Egypt, India, Canada, Mexico, Chile, Argentina, Brazil, and the Caribbean. Revenue from the company’s worldwide work has approximated twenty percent per annum since 1993.

The domestic market also produced major opportunities during this period, including major port expansions in Los Angeles/Long Beach Harbors and the Port of New York/New Jersey.
GLDD has been involved in a number of unique projects, not only in the United States, but also internationally. We have completed more than seven massive land reclamation projects in the country of Bahrain in the last decade alone, with other notable projects completed in Diyar Al Muharraq (80 million cubic meters), Durrat Al Bahrain (35 million cubic meters), and the construction of the Hidd Construction Terminal (25 million cubic meters).

CORPORATE OWNERSHIP HISTORY
In 1979, Great Lakes International, Inc. (GLI), was incorporated as a holding company for GLDD and other subsidiaries. In November 1985, Itel Corporation purchased GLI through a friendly stock tender offer. Previously, GLI had been traded on the New York Stock Exchange. In October 1991, the company was purchased by Blackstone Dredging Partners LP, an affiliate of Blackstone Capital Partners, and in 1998, Vectura Holding Company, LLC, an affiliate of Citicorp Venture Capital, purchased the company. In December of 2003, Citicorp sold the company to Madison-Dearborn Partners, a Chicago-based private equity firm. In December 2006, the company merged with a publicly traded subsidiary of Aldabra Acquisitions Corp., thus becoming a new holding company in the name of Great Lakes Dredge & Dock Corporation, traded on the NASDAQ Stock Exchange.
Great Lakes’ new 15,000 cubic yard ATB Hopper Dredge Ellis Island
Boston Harbor Maintenance Dredging Project
Dredges 54 & 55