



## NORFOLK DREDGING

C O M P A N Y

*Since 1899*

History: 1895 – Present

Page 1 of 8

Amidst the profusion of sounds that a seaport generates, there is a constant droning that accentuates the atmosphere. Extending out from the source of this ever-present rumble and hum are miles of rusted pipelines carrying layer upon layer of river bottom.

We have entered the world of dredging. It is a world unto itself as the dredge weaves back and forth throughout the river channel like a great vacuum cleaner, digging into the river bottom with a monstrous rotating cutter head. Everything in its path gets churned and chopped up and then sucked into the pipes.

River bottoms are also vast wastelands of discarded debris—old tires, tangles masses of rope and cable, sunken logs and lumber. Occasionally, the cutter head becomes ensnared in all this debris and the dredging operation comes to a grinding halt.

Looking like some creature from a science fiction movie, the cutter head surfaces. Acetylene torches pop into action as dredge crewmen burn through the layers of cable that have become hopelessly wrapped around the cutter head. This could take hours, and nothing more can happen until the cutter head is free and ready to dig back into the river bottom.

The depth of the river is critical, with enormous container ships now plying the waters; a matter of one or two feet in depth could mean whether a ship could call upon this port or not. In this case, the channel had to be deepened from thirty-eight feet to forty-two feet.

The dredging companies resemble a floating small town. Home ports for these wandering crews are places like Norfolk and New Orleans. But they are rarely there, for this type of work happens to be wherever a harbor is in need of being cleaned out, and there they go for months on end.

Along with these crews comes a sustaining tradition of work. One small coastal North Carolina town has supplied the work force for one dredging company since 1897. Coastal dialects cascade across the river as the dredge crewmen call out commands while they maneuver the miles of pipelines required to transport the material being sucked off the river bottom.

The crews live on board the dredge and work two different shifts around the clock. Small tugs and barges are in constant motion around the main vessel. Giant metal spikes called “spuds” are used to anchor the stern of the dredge as its bow makes sweeping motions across the river channel. The roar of debris going through the pipes is punctuated at intervals by a deafening clanging as something huge and metallic goes careening through the pipes.

Everyone looks up, wondering what it could have been. Miles away, as the debris is blown into sludge heaps on the barren islands across the river, a bit of history is revealed. That clanging sound had been the rattling of old cannon balls being dredged up from the remote past.



History: 1895 – Present  
Page 2 of 8

As America approached 1900, this new century would see the birth of the Industrial Revolution. New products would need to be shipped to ports around the world. Harbors would need to be deepened to accommodate larger draft vessels. Rivers, both great and small, would have to be cleared so ships could navigate their channels and bring their cargo to America's emerging, sophisticated cities. A triumphant U.S. Navy was looking to expand its bases along the east coast. This was to be America's century. And Norfolk Dredging Company was created to respond to those needs.

It was at an organizational meeting in Norfolk, Virginia on the evening of October 24, 1899 that the original stockholders, directors and officers gathered to form Norfolk Dredging Company. A curious collection of businesses, Norfolk Dredging History early records show there was a towing company, a dredging firm and even a grocery store. But it would be the dredging business that constituted the core company. Oscar F. Smith was elected both President and Director of the new company with James Caler, John Gibbs, William White and Merrill Caler as the other officers.

A charter from the Legislature of the State of Virginia was granted on October 26, 1899. After the first year of business, financial statements dated October 31, 1900 showed that the company assets consisted of one dredge, one tug and six scows. Work for the new company consisted of local dredging work in and immediately around Hampton Roads.

The original charter also allowed for work in North Carolina. The single dredge, James O'Leary, was soon joined by the Bishop, which would remain in service for fifty-seven years. In 1903, both the Reliance and the Columbia joined the fleet. The early boats were all clam-shell dredges. It was also during this period that Oscar F. Smith, Jr., came to work for Norfolk Dredging Company, as corporate records indicate he was elected Vice President on October 31, 1903.

The company prospered during the early part of the century and by 1924 company assets totaled \$172,533, of which \$130,369 was comprised of three dredges and related equipment. It was also the same year that the original President, Oscar F. Smith, died. His son was elected President shortly thereafter. While the task of dredging wouldn't change, new methods for doing that work did. The dynamics of the Industrial Revolution that necessitated deeper channels also wrought advancements in dredging technology and in 1928, Norfolk Dredging Company purchased its first steam-powered hydraulic dredge, Dixie.

The continuity of the company's management was also solidified when Oscar F. Smith, III was named second Vice President in 1931. Three generations had guided Norfolk Dredging Company for thirty-two years. The company survived the Depression era, but would not purchase a new dredge until 1936, when the Washington I joined the company fleet.

It was the rumbling clouds of World War II that would dramatically change Norfolk Dredging Company. Not only would the Navy and its need for improved marine facilities accelerate business, but the core



NORFOLK DREDGING  
C O M P A N Y  

---

Since 1899

History: 1895 – Present  
Page 3 of 8

customers were significantly altered as the company's largest client became the United States government. New dredges were added to the company's fleet, with the Savannah, Atlantic, and Washington II coming online in 1941 and the new Florida in 1943.

Work had always extended beyond the Hampton Roads area, and now encompassed the entire east coast. Sometimes the notoriety from out-of-town newspapers distinguished Norfolk Dredging Company. When the city of Charleston, South Carolina hired the company to dredge for a new bridge, between 3,000 and 4,000 fossilized shark's teeth turned up in the fill pumped into the approaches for the new bridge.

Reported The Charleston Evening Post, *"Capt. S.W. Simpson, superintendent of the bridge project for the Norfolk Dredging Company, has salvaged about six of the shark teeth and has been keeping them, along with a few petrified members of the clam family in a desk drawer of his office on Bailey Drive."* The director of The Charleston Museum, E. Milby Burton, estimated some of the teeth to be more than 100,000 years old.

But more significant events, particularly after World War II and the prosperity of the post-war economy that followed, found Norfolk Dredging Company a major success in the dredging industry. On April 22, 1950, Col. George T. Derby, a United States Army district engineer, announced the decision to award Norfolk Dredging their first "million-dollar job."

The widening and deepening of the Southern Branch of the Elizabeth River would open up the industrial area for the modern deep-draft vessels which could not use the existing channel. Local newspapers chronicled the event with photographs of Oscar F. Smith III, now President, signing the milestone contract. Norfolk Dredging had also played an important role later in the year when the USS Missouri, the Navy's only active-duty battleship, ran aground in shallow water off the Norfolk Naval Base. Using pipeline dredge, the project took weeks to dislodge the 45,000-ton warship.

It was reported in The Virginian-Pilot on January 23, 1951 that some Norfolk citizens had suggested to the Navy that the Missouri be left where she was-as a 'monument to the folly of trying to operate a Navy with one battleship."

Norfolk Dredging was on the other side of the coin soon after the Missouri incident when the company brought a damaged suit in U.S. District Court because a submarine set of chain of mishaps which cost the firm \$30,000. The complaint related that the submarine Medregal, approaching the company's dredging operations in the Cooper River in South Carolina, attempted to pass the dredge Pullen and collided with a cable leading from the discharge pipe to an anchor.

The cable parted and the discharge pipe and its pontoons began drifting down the river with the tide. The tug Baltimore and a derrick barge were dispatched to pick up the anchor, but during the operations, the Baltimore capsized and sank. The derrick barge turned over and floated down the river until it



NORFOLK DREDGING  
C O M P A N Y  

---

Since 1899

History: 1895 – Present  
Page 4 of 8

beached. Fortunately, no one was injured, and newspaper accounts at the time reported that the suit was dismissed.

High-profile dredging jobs were becoming commonplace for the company by the 1950s. Norfolk Dredging Company won the award for replenishing the Virginia Beach oceanfront sand in 1952. The first item of the bid was for filling the beach from Seventh Street to 22nd Street, requiring 400,000 cubic yards of sand. The second item was filling from 22nd Street to 49th Street, requiring 600,000 cubic yards of sand. The final item of the bid covered the filling of 100,000 cubic yards from Seventh Street to Rudee Inlet. Virginia Beach celebrated the achievement with an ad in The Virginian-Pilot on July 11th, 1953:

*“The very tired dredge named Washington dug and pumped sand all winter long to turn Virginia Beach’s dream of a magnificent wide new beach into a reality. After the finest engineers put their heads together, the Washington buffeted the ocean and dug its way into a sandy basin, then 17,000 feet of 16-inch steel pipe was laid to the Virginia Beach surf front.*

*As the Washington dug up the the fine white sand, by hydraulic pumping through these pipes, it poured out millions and millions of tons of sands, gradually building a smooth stretch of deep wide beach that looked as though it was pushing the Atlantic back. Farther and farther down the beachfront it went-it was a fascinating operation-it is a fabulous achievement, and thanks to the dredge Washington, now you can suntan, relax, romp, play and picnic on one of the Eastern Seaboard’s finest beaches at your favorite vacation spot, Virginia Beach.”*

While the Virginia Beach project was going full steam ahead, Norfolk Dredging Company’s Charleston was in Richmond busy at work removing 140,000 cubic yards of sand from their turning basin to restore its 25-foot depth. *“It took a bunch of us North Carolinians to come to Virginia’s state capital to dredge the river,”* a sun- and wind-burned youth at the wheel of the small tender boat remarked to The Richmond News Leader on Tuesday October 16, 1953.

The article chronicled life aboard the dredge interviewing both the leverman, B.W. Lawrence, who has been operating levers on dredges for some “10 or 11 years, I can’t remember exactly how long,” and the cook, W.H. Corey. “Been cooking for about 25 years here and about,” Corey said, flipping over a mess of pork chops on the old-fashioned wood stove. *“You see that table there,”* he pointed to a table in the dredge’s galley with seats for about 10. *“I feed the whole crew there in about 30 minutes. Soon as one gets up I slap a clean plate in his plate.”* Crewmembers got every third weekend off.

One of the biggest projects to come Norfolk Dredging’s way was during the 1950s was the Craney Island job. It was a projected \$8 million disposal area to serve as a repository for dredged materials from pier slips and harbor channels throughout Hampton Roads. Covering an area of 2,500 acres, it was designed to fill local needs for a period of 22 years but is still in use today through an excellent management program and new technologies. The first phase of the contract included the construction of about 30,000



NORFOLK DREDGING  
C O M P A N Y  

---

Since 1899

History: 1895 – Present  
Page 5 of 8

feet of levee, access roads, a road around the top of the levee, the placing of rip-rap rock around the levee and the construction of three sluiceways. Almost two years to the day the contract was awarded, a severe storm on April 11, 1956 damaged the entire project. Not only was the rip-rap eroded, but the levee embankment was also extensively damaged by being overtopped by the high tides. Norfolk Dredging Company faced damaged equipment as well.

As the Portsmouth-Star reported. *“Two tugs and one derrick barge were grounded and two cranes, one bulldozer and some smaller equipment working on the hydraulic fill were also damaged by being submerged. Dredge lines were broken up and washed aground and some pontoons supporting the dredging pipelines were damaged.”* As bad as it was, the company rebounded almost immediately and as the Norfolk Ledger-Dispatch reported a week later. *“The tugs and barge have been freed and practically all equipment is back in operation on the project.”*

While Norfolk Dredging was busy with the Craney Island project, the company also took two new challenges during the decade that would forever change the face of Hampton Roads-underwater tunnels linking the southside cities of Norfolk to Portsmouth and south Hampton Roads to the Peninsula. Norfolk Dredging Company won the dredging bids first for the Berkley tunnel in June of 1950 and the Hampton Roads Bridge-Tunnel in 1955. *“It’s significant that all barriers against free passage through the tunnel were removed today at the same time formal exercises took place to commemorate the 350th anniversary of the Jamestown settlement”*, W.R. Glidden of the Virginia Department of Highways told the Virginia-Pilot on April 2, 1957.

Mr. Glidden was ceremoniously removing the bulkhead on the Hampton Roads Bridge-Tunnel as the newspaper remarked, “It was an event of more than regional or even national significance, for the 7,500 foot tunnel section of the project is the longest of its type in the world. Certain other tunnels, notably the Mersey River tunnel in Liverpool, England are longer, but they were built by the ‘shield and drill’ method, rather than by the ‘trench and tunnel’ method employed for the Hampton Roads tunnel.” Little did Norfolk Dredging Company realize at the time that their expertise would involve them in yet a more significant tunnel project in the 1960’s.

As the 1950s came to an end, so did the life of Oscar F. Smith, Jr. His remarkable talents had forged a dynamic and modern company through two world wars and a depression. His son, Oscar F. Smith, III was elected President on February 5, 1958.

As could be expected, Norfolk Dredging Company continued to make headlines with innovations to the dredging industry. Called *“precedent breaking”* by the dredge workers union Local 25, Norfolk Dredging Company signed territory-wide agreements for the entire South Atlantic and Gulf area on January 7, 1961. The union was delighted because this represented the first contract in the history of the dredging industry which embraced the entire geographical area of the south from the Potomac River to



NORFOLK DREDGING  
C O M P A N Y  

---

Since 1899

History: 1895 – Present  
Page 6 of 8

Brownsville, Texas. It was lauded in the union magazine *The Dredgeman* as bringing “*industrial stability to this area’s dredging contractors.*”

With excellent relations between labor and management, Norfolk Dredging Company began to earnestly embark on several major projects that would shape the company’s future in the last half of the century. In 1961, construction began on the Chesapeake Bay Bridge-Tunnel. This 17.5-mile combination of two tunnels, manmade island and bridges would connect Virginia’s Eastern Shore with Virginia Beach, crossing the mouth of the Chesapeake Bay. Called one of “the seven engineering marvels of the world,” the project was complete in 1964.

Norfolk Dredging’s responsibility, among the several dredging firms participating, was to construct the two tunnel trenches between Cape Charles and Virginia and the causeways across Fisherman Island and the inlet bridge approaches. Equipment for the job consisted of the Virginian, two 1000 cubic yard dump scows, the 18” hydraulic dredge Talcott and a tug. Local media applauded the effort as much for the remarkable engineering. Instead of the usual three-hour journey by ferry boat, one could now motor the entire length by car in about 20 minutes.

Also during this time, the company began work on NASA facilities for manned flight at Cape Canaveral. It is interesting to note that even space flight was dependent on dredging technology. The Charleston and Pullen, along with six other dredges, pumped millions of cubic yards of sand to develop roads, pads, fill areas and canals.

In 1965, the company purchased its first portable hydraulic dredge, a new Ellicott 14” machine. Its first job was at Jekyll Island, Georgia. Later, the company purchased a 12” portable hydraulic dredge from the city of Hampton, Virginia – new equipment, and soon to follow, new technologies.

In the early 1960’s, Norfolk Dredging Company used a technique which was unique, if not the first in the country, whereby dredges would hydraulically load hopper scows with sand at a borrow pit location, tow the scows to another location (in this instance the Norfolk & Western coal piers-a distance of eight miles), where it was sucked out of the hopper by a barge-unloading dredge and then hydraulically pumped into a place to construct the “barney yard” for the new coal pier 6 under construction.

On July 31, 1970, Oscar F. Smith III retired, leaving the company in the hands of his son-in-law, Guilford D. Ware, who had represented Norfolk Dredging Company as independent counsel since the 1950s. Innovative and high-profile projects continued under the leadership of Mr. Ware and the management team he organized, consisting of Russell J. Thorne, Executive Vice President and Chief Engineer; Victor H. Bundy, Treasure; M.E. Kelly, Secretary; Oscar F. Smith IV, Personnel and Safety Manager; and Simon P. Perry, Vice President and general superintendent. Emphasis was placed on the renovation, improvement and acquisition of vessels and support equipment that incorporated the industry’s latest technology.



NORFOLK DREDGING  
C O M P A N Y  

---

*Since 1899*

History: 1895 – Present  
Page 7 of 8

At the same time, personnel received comprehensive training in the safe and efficient use of the equipment and improved procedures. The improvements were recognized on the complex projects undertaken, such as the construction of the Newport News Shipbuilding's New North Yard in 1973. Among other things, the project called for the excavation of heavy unsuitable material and pumping it in excess of 40,000 feet to Craney Island and placing large quantities of back fill material by loading it into hoppers, towing and pumping it on site.

A further example of some of the more notable undertakings was the enlarging, deepening and material provision for the improved port facilities at Cape Canaveral in 1978. In 1980, Lake Epcot was constructed at Disney World in Orlando, Florida with Norfolk Dredging Company providing new techniques and procedures that were compatible with the preservation and improvement of the environment. At the same time, the company was engaged in enlarging and improving its facilities and constructing new offices on the Albemarle & Chesapeake Canal (part of the Intercoastal Waterway) off of Centerville Turnpike in Chesapeake.

During the 1980-90s, Norfolk Dredging Company assisted in the revival of Norfolk's downtown waterfront. Most of the significant projects in this historic city's renovation were accomplished with the help of Norfolk Dredging, including Waterside/Town Point Park and Otter Berth, Nauticus, and the second downtown tunnel between Norfolk and Portsmouth. Pursuing modernization of equipment and facilities, Guilford Ware and the management team negotiated the purchase of the dredging division of a major eastern United States contractor.

That acquisition included the clamshell dredge No. 428, plus 2,000, 1,500, and 500 cubic yard scows, barges and substantial related equipment. These additions along with the newly constructed diesel electric clamshell dredge Virginian and two 4,000 cubic yard hydraulic dump scows, dramatically increased the capabilities of the company. The ability of the clamshell or bucket division was further improved by the more recent purchase of the dredge Super Scoop, renamed the Atlantic, plus a 5,000 and two 3,000 cubic yard hydraulic dump scows. These dredges and their support vessels and equipment have been engaged in major navigational projects throughout the eastern seaboard of the United States for Boston to Puerto Rico.

Significant improvements were also realized by the hydraulic cutter head division during this period with the extensive renovations to the dredge Pullen, and the design and construction of the dredge Essex. These dredges, along with the numerous boosters and auxiliary equipment have been utilized extensively in the deepening and enlarging of waterways and harbors throughout the northeast and southeast United States.

The projects on which they have been engaged have required improved electronics and increased capabilities such as deeper digging and pumping up to 65,000 feet in distance, as well as dredging lakes, ponds, canals and other environmental sensitive projects.





NORFOLK DREDGING  
C O M P A N Y

*Since 1899*

History: 1895 – Present

Page **8** of **8**

Continuing the tradition of a family-run business, G. Dudley Ware, Jr. was elected President of the company in February 1999.

While we at Norfolk Dredging Company are proud of our past achievements, and celebrate them now on this anniversary, our strength and our future remains bound to the expertise and dedication of each employee who has successfully sustained and promoted Norfolk Dredging Company for 100 years.