DREDGING
Neumann Contractors has over 50 years’ experience in contract dredging and dredge manufacture. Our first dredge was built in the late 1950’s for mineral sand recovery. Since then we have built many dredges, both for external sale and for our own contracting fleet.

These dredges are high technology cutting and recovery machines with a well-earned reputation for performance in port construction, channel maintenance, mining and land reclamation.

Neumann dredges are de-mountable and can be cost effectively transported to remote sites around the world. Dredges have been designed & manufactured for countries such as Russia, Canada, Saudi Arabia, China, Pakistan, India and Jordan. These dredges have been successfully used for the removal of sand, gravels, clays, coral, slimes, weathered rock and mine tailings.

Operational expertise built on contract dredging experience enables us to constantly improve our equipment. This culture of innovation gives us the edge as dredging contractors of choice.

CSD Nu Bounty undertaking 1,200,000m³ of channel maintenance and beach nourishment works for Gold Coast Northern Beach Protection Strategy project

**NEUMANN CAPACITY**

The table below is indicative of our weekly throughput rate in sand.

<table>
<thead>
<tr>
<th>Dredge</th>
<th>Production Rate m³ / Hour</th>
<th>Man Hours / Week</th>
<th>Availability</th>
<th>Actual Dredging Hours</th>
<th>Volume Dredged / Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nu Endeavour</td>
<td>650</td>
<td>168</td>
<td>65%</td>
<td>109</td>
<td>70,850m³</td>
</tr>
<tr>
<td>Nu Ultra</td>
<td>650</td>
<td>168</td>
<td>65%</td>
<td>109</td>
<td>70,850m³</td>
</tr>
<tr>
<td>Nu Bounty</td>
<td>650</td>
<td>168</td>
<td>65%</td>
<td>109</td>
<td>70,850m³</td>
</tr>
<tr>
<td>Nu Compact</td>
<td>250</td>
<td>168</td>
<td>65%</td>
<td>109</td>
<td>27,250m³</td>
</tr>
<tr>
<td>Nu Enterprise</td>
<td>125</td>
<td>168</td>
<td>65%</td>
<td>109</td>
<td>16,350m³</td>
</tr>
</tbody>
</table>
# THE DREDGING FLEET

## Nu Endeavour
- **Nominal Production Rate:** 650 m$^3$/hr
- **Total Horsepower:** 1,950 Hp
- **Horsepower on Pumps:** 1,400 Hp
- **Pipeline Diameter:** 450 mm
- **Maximum Digging Depth:** 15 metres

## Nu Bounty
- **Nominal Production Rate:** 650 m$^3$/hr
- **Total Horsepower:** 1,950 Hp
- **Horsepower on Pumps:** 1,400 Hp
- **Pipeline Diameter:** 450 mm
- **Maximum Digging Depth:** 22 metres
Nu Compact

Nominal Production Rate: 250 m³/hr
Total Horsepower: 850 Hp
Horsepower on Pumps: 500 Hp
Pipeline Diameter: 300 mm
Maximum Digging Depth: 8 metres

Nu Enterprise

Nominal Production Rate: 125 m³/hr
Total Horsepower: 290 Hp
Horsepower on Pumps: 230 Hp
Pipeline Diameter: 250 mm
Maximum Digging Depth: 7.5 metres

Nu Ultra

Nominal Production Rate: 650 m³/hr
Total Horsepower: 1,400 Hp
Horsepower on Pumps: 800 Hp
Pipeline Diameter: 450 mm
Maximum Digging Depth: 11 metres
SUPPORT EQUIPMENT

During the period in which Neumann Contractors has been developing and upgrading dredges it was recognised that the support equipment must also be capable of undertaking larger scale projects.

Booster Stations

Neumann Contractors currently has several booster stations capable of working with any of the dredges. These boosters range in size from 375 Hp to 2000 Hp.

All boosters have been sound conditioned to levels which comply with EPA noise level criteria.

Boosters can either be pontoon mounted or land based. Telemetry communications enable monitoring and control from the dredge operator’s console.

Pipe Handling Equipment

Neumann Contractors has a range of late model pipe handling equipment for pipe handling on shore. Other equipment such as dozers and excavators needed for bunding etc are sourced as required.

Workboats and Barges

Neumann Contractors has a range of support vessels and work boats in 2C, 2D and 2E Marine Survey. We also hire in work vessels as required. We also have various lifting and fuelling barges available to service project requirements.
Our 300mm CSD Nu Compact has been commissioned by Ernest Henry Mining to remine tailings from the Tailings Storage Facility to recover magnetite. Nu Compact pumps the reclaimed tailings via a 1000 metre long HDPE pipeline directly into a process circuit in which the magnetite is concentrated.

**Scope of Work**

Supply and operate dredging equipment on a 24/7 basis. Dredge and pump a consistent feed density to the processing plant.

**Innovations**

The dredge is fitted with an RTK navigation system to ensure the mining plan is followed accurately. In addition, flow and density meters are fitted to the slurry line to help ensure a steady tonnage is pumped into the magnetite circuit.
PROJECT EXPERIENCE – Townsville Marine Precinct Harbour Dredging

Principal: Port of Townsville Limited  
Principal Contractor: Townsville Marine Precinct Alliance (Port of Townsville and Laing O’Rourke)  
Location: Benwell Road, Townsville Qld  
Contract Value: $6,000,000  
Completion Date: April 2011

Stage 1 of the Townsville Marine Precinct was an $88 million dollar extension of the Port of Townsville, designed to establish a world class facility for marine related industries.

Scope
Our scope included dredging approx. 30,000m³ from the Ross River Channel to clear shoaling, as well as dredging 410,000 m³ of hard and very hard clays of up to 400 Kpa from a new marina basin. The dredged material was pumped up to 700m and used for land reclamation purposes. The operation was completed on a 24 hour, 6 day a week basis.

Innovations
Neumann Contractors has developed an Inline Lime Injection System (ILIS) to mix Agricultural Lime into the dredged material whilst still in the dredge slurry pipeline. The ILIS was set up on this project for injecting the lime at a predetermined rate which then mixed with the PASS materials being dredged.

After some initial trials, the ILIS proved to be successful in injecting the predetermined amount of lime at the required dosing rate to neutralise of PASS materials that were dredged from the Marina basin.

This innovation proved to be a cost-effective PASS treatment method for this project.

Challenges
- Dredging stiff, very stiff and hard clays
- Coordinating dredging activities with other contractors
- Working in partially open waters during most of the project
- Completing the dredging programme on time whilst removing the difficult materials
**PROJECT EXPERIENCE – Sydney Water Desalination Plant – Bay Crossing**

<table>
<thead>
<tr>
<th>Principal:</th>
<th>MCB Partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Kyeemagh, Sydney NSW</td>
</tr>
<tr>
<td>Contract Value:</td>
<td>$19,600,000</td>
</tr>
<tr>
<td>Completion Date:</td>
<td>February 2010</td>
</tr>
</tbody>
</table>

Nu Endeavour and Nu Bounty cutting pipe trench with Neumann built spreader barges backfilling trench.

*Dredging and backfill were concurrent with the pipe lay barge operations (centre of shot)*

Neumann Contractors was engaged to carry out dredging works for construction of the water delivery pipeline from the new desalination plant at Botany Bay, Sydney. The desalination plant will pipe water to the City Water Tunnel at Erskineville. This is part of the Potts Hill Water system, which services areas south of Sydney Harbour, to Bankstown in the west and Sutherland in the south.

**Scope of Work**

- Mobilisation of 2 x 18" dredges, booster station, 2 spreader barges, 3600m of 18" pipeline, support vessels.
- Dredging of berthing pocket & navigation channel for pipe lay barge ~ 70,000 m$^3$.
- Dredging of pipeline trench and backfill post pipe lay across Botany Bay to +/- 200mm vertical tolerance; trench length 6,968m from Kyeemagh to Kurnell ~ 710,000 m$^3$.
- Detailed dredging for removal of tunnel boring machines.
- Backfill and beach restoration at Kyeemagh beach ~ 70,000 m$^3$.

Works were successfully completed in December 2009 well within construction programme.

**Challenges**

- Strict environmental limitations on noise, turbidity, sedimentation and waste.
- Proximity to busy Sydney International Airport.
- High profile project within densely populated residential area.
- Strict and critical tolerances on completed works for pipe lay operations.
- Sudden and extreme changes in weather and water conditions.
- Strict program of works.
PROJECT EXPERIENCE – Port Botany Container Terminal Expansion

Principal: Sydney Port Corporation
Principal Contractor: Baulderstone/Jan De Nul JV
Location: Botany Bay, Sydney NSW
Contract Value: $9,500,000
Completion Date: September 2010

Port Botany Container Terminal Expansion was a major infrastructure project for the Sydney Port Corporation on the north eastern end of Botany Bay, NSW. The project was for the expansion of the existing container port and involved capital dredging and land reclamation. Neumann Contractors employed their 450mm dredge *Nu Bounty* and 250mm dredge *Nu Enterprise*.

**Scope of Work**

- Mobilise 1 x 450mm dredge, 1 x 250mm dredge, 1 x spreader barge, booster station, 800m of 450mm pipe, 450m of 250mm pipe and support vessels
- Dredging 2,100,000 cubic metres of sand to land based reclamation
- Dredging batters around the boundaries of the project
- 250mm dredge *Nu Enterprise* dredged the shallower areas within the Penrhyn Estuary

**Challenges**

- Critical dredging tolerances
- Tight project delivery timeframes
- Extreme and sudden changes in water and weather conditions
- Interfacing with other project construction activities
- Proximity of Sydney International Airport
The Penrith Lakes Scheme covers an area of just under 2,000 hectares, located in the Penrith Valley bounded by the Nepean River and the foothills of the Blue Mountains.

The project involved dredging of approximately 1,300,000m$^3$ of sand, silts and clays from a central tailings storage facility to a land reclamation site 4.4 km away. The materials are being placed in a manner which enabled the coarser fractions of the tailings to be separated from the silts and clays. This methodology allowed the coarser material to remain in the reclamation area where it was placed as a level one fill. The fine material was picked up with the tailwater from the reclamation site and pumped to a purpose built tailings facility adjacent to the reclamation.

A key objective of the project was the creation of enough volume in the central tailings storage facility to enable continued operation of the quarry processing plants. Also, the material dredged was used to increase the amount of land available at the Penrith Lakes site for future urban development as an end use for the site after completion of the quarry activities.

**Scope of Work**

- Establishing a pipeline from the central tailings storage facility to Farleys Bay, a distance of 4,400 metres.
- Set up and maintenance of a Tailwater system to pump the fine material from the reclamation site.
- Establishment of a 1500 metre return water system to maintain adequate water levels for the dredge working in the central tailings facility.
- Dredge 1,300,000m$^3$ of sand, silts and clays.
- Separation of tailings into two divided areas of Farleys Bay. The eastern storage area for the coarser materials and the western storage area for silts and clays.
- Compacting of coarser tailings for future urban development.

**Challenges**

- Ensuring that the project was carried out with minimal disruption to the effectiveness of existing earthworks being carried out at the site.
- Controlling the separation process of coarse and fine materials.
- Ensuring all work activities were undertaken in accordance with the mine sites OHS&E requirements.
PROJECT EXPERIENCE – Lake Illawarra

**Principal:** NSW Department of Commerce
**Location:** Lake Illawarra, Central Coast NSW
**Contract Value:** $1.8 million
**Completion Date:** October 2007

The Lake Illawarra project involved the dredging of the channel entrance to create a 1050m long x 100m wide channel. Sand dredged from the entrance was used for beach nourishment at the southern end of Warilla beach, approximately 1.5 kilometres away. Additionally, a sand island was to be created as a roosting area for local and migratory bird life.

The aim of the entrance expansion was to help address and resolve issues of poor water quality within the lake. The quality of water had diminished due to a combination of development, introduction of nutrients and the overall constrictive nature of the entrance channel. Creating a larger entrance, which could be maintained, would allow increased and more constant flushing of the lake.

**Scope of work**

- Dredging of a 1050m long by 100m wide channel.
- Formation of a sand island within the entrance providing a compensatory bird roosting habitat.
- Use of 200,000m$^3$ of dredged sand for Warilla Beach nourishment.
- Completion of all survey activities associated with the works including set out, calibration and compliance surveys.

**Challenges**

- Ensuring all works was carried out in an environmentally sensitive manner.
- Guaranteeing that the many flora and fauna in the lake Illawarra area were protected.
- Working in highly visible public areas and ensuring the community’s needs were met.
- Working in the high current area of the lakes entrance channel.
# PROJECT EXPERIENCE – Gold Coast Convention & Exhibition Centre

<table>
<thead>
<tr>
<th>Principal:</th>
<th>Multiplex Constructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant:</td>
<td>Weathered &amp; Howe</td>
</tr>
<tr>
<td>Location:</td>
<td>Broadbeach Qld</td>
</tr>
<tr>
<td>Contract Value:</td>
<td>$13,000,000</td>
</tr>
<tr>
<td>Completion Date:</td>
<td>February 2003</td>
</tr>
</tbody>
</table>

Dredging of new channel and land reclamation, Gold Coast Convention Centre (Nu Enterprise)

Neumann’s were awarded the civil works contract for the Gold Coast Convention and Exhibition Centre, where the relocation of the major waterway, essential services and environmental issues presented some demanding challenges.

This project brought its own unique complexities as it involved several different concurrent tasks including: significant road works on the Gold Coast Highway, the widening of the waterway in front of Jupiter’s Casino, the underpinning of foundations for the monorail, the construction of a new bridge carrying all essential services and the demolition of an old bridge.

A significant element of this work also involved the major realignment of an adjacent waterway. Little Tallebudgera Creek had to be moved several hundred metres west to make room for the main building pad and new bridge needed to accommodate the changed configuration.

In the earthmoving process Neumann’s environmental management team treated 40,000 tonnes of acid sulphate material which was removed from site and taken to an approved disposal facility.

Neumann Contractors supplied a level one service, testing and analysing materials to ensure they were within the acceptance criteria for water quality and other environmental issues including erosion and sediment control.

Neumann’s acknowledge the civil work challenges were managed successfully due to the team approach with builder Multiplex Constructions and consulting engineers Weathered & Howe.
Scope of Work

The scope of work included:

Dredging

- Relocating Little Tallebudgera Creek.
- 40,000 tonnes of acid sulphate material treated and removed from the site.

Major Earthworks

- Backfilling the original alignment of Little Tallebudgera Creek.
- Creation of the building pad for the convention centre construction.

Infrastructure Works

- New intersection and traffic lights for the convention centre entrance on the Gold Coast Highway.
- New entrance for Jupiters Casino from the Gold Coast Highway.
- New bridge over the realigned waterway.
- Deconstruction, and removal or recycling of existing bridge.
- Roadworks on the Gold Coast Highway.

Challenges

Some of the challenges faced on this project were:

- Moving an entire watercourse several metres to allow for the building pad without unduly interrupting boating or road traffic.
- Treating and removing the large amount of acid sulphate material taken from Little Tallebudgera Creek.
- Underpinning the existing Monorail lines from Broadbeach to Jupiters Casino.

Innovation

Recycling the old bridge meant dismantling it on site and ensuring that all materials were recycled on site or removed to a recycling centre for grading and reuse.

Outcome

The Gold Coast Convention and Exhibition Centre is a milestone project for the region, bringing facilities into line with Brisbane and making the Gold Coast an even more viable destination for business travellers. This multi-purpose centre - the biggest in any regional city in Australia - will host some of the best exhibitions, conferences and rock concerts for years to come.

Neumann Contractors construction of the foundation building pad for the centre, realignment of Little Tallebudgera Creek and back filling of the creeks former route have ensured the centre of its prominent positioning on the Gold Coast Highway.
Swan Bay is located within Lake Macquarie on the Central Coast of N.S.W. The project involved dredging of Swansea Channel in conjunction with the construction of the Groynes and Geotextile Containers has been designed to control the Tidal flows in the channel and to prevent erosion on Naru Point.

The project involves the dredging of 40,000m$^3$ of sand from the Swansea channel, the construction of 4 Groynes and the filling and placement of approximately 750 lineal metres of sand filled Geotextile containers, some up to 26m long.

The first activity was to dredge the material from the Swansea Channel and construct a temporary causeway to provide access to Spoil Island where approximately 70% of the works took place.

Once the causeway was completed, the construction of the southern rock groyne and placement of the sand filled Geotextile containers commenced. The first layer of Geotextile containers were placed underwater to form a stable platform for the top container which acts as a flow control device. Some of the sand material dredged to site was used to form a temporary platform around the area where the containers were placed, this allowed for placement in the design location without the effect of the strong tidal flows that occur in the Swansea Channel. Once placement was completed the temporary sand platform was removed and placed behind the structure to design levels.

After certification of the works on Spoil Island the temporary sand causeway was removed by Long Arm Excavator and this material placed behind the structure built off Naru Point.
Scope of work

- Dredging of approx. 40,000m$^3$ of sand from Swansea Channel and placement of this material behind the structures.
- Construction of a temporary causeway to Spoil Island.
- Importation of 2200 tonnes of armour rock and 2900 tonnes of core rock.
- Construction of the 4 rock cored groynes.
- Filling and placement of 750 lineal metres of Geotextile Containers.

Challenges

- Working in the strong currents of Swansea Channel.
- Underwater placement of the Rock Groynes and Geotextile containers.
- Working in an open Navigation Channel that has high levels of public boating use and ensuring public safety.
- Ensuring that environmental requirements were met, particularly in relation to ensuring that adjacent Seagrass meadows were not affected by the works.

Innovations

The temporary placement of the sand platforms, whilst the containers were placed underwater, isolated the work from the tidal flows in the Swansea Channel.

Savings were made by constructing some of the groynes with a Geotextile bag core rather than a rock core.
Neumann’s Dredge No. 6, a 350 series ladder pump – deck pump dredge, was chosen to reclaim coal tailings from the Moura 2C pit.

These tailings were processed to recover the fine coal lost in earlier operations and it was part of a program to empty the pit to enable ongoing mining underground from the pit floor.

The dredge was called upon to produce 450 tonnes per hour of coal tailings, which were pumped distances of up to 2.5km to the processing plant. As the pit was some 45m deep, the end of the job necessitated pumping a vertical cliff face of some 30m to the booster station located at the top of the cliff.

The operation was on a 24 hour, 7 day per week basis and the coal tailing in various places were interspersed with some “liquorice” (a very fine type of coal tailings which bind together like plasticine). On several occasions the dredge was also called upon to dredge through rocky clay shale which were embankments put across the pit during the filling process.

Outcome

The outcome for the dredging operation was positive for all Stakeholders. The successful completion of this project allowed the mine to continue its operation with renewed capacity in the tailings pit. The dredging was completed on time and within budget.
### PROJECT EXPERIENCE – Gold Coast Northern Beach Protection Strategy

<table>
<thead>
<tr>
<th>Principal:</th>
<th>Gold Coast City Council and the Queensland Department of Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Gold Coast Broadwater Qld</td>
</tr>
<tr>
<td>Contract Value:</td>
<td>$5,600,00</td>
</tr>
<tr>
<td>Completion Date:</td>
<td>1999</td>
</tr>
</tbody>
</table>

The Broadwater is part of the Nerang River system feeding into the Pacific Ocean on the Gold Coast. The project involved widening and maintenance of the main navigation channel with the dredged material being used for beach nourishment along the northern beaches of the Gold Coast.

The project involved dredging of 1,200,000 m³ of sand and pumping this material up to 6.5 km to form the design profile along the northern Gold Coast beaches. This required our Cutter Suction Dredge the *Nu Bounty*, 3 booster stations, 6.5 km of pipeline, associated workboats and pipe handling equipment.

The main navigation channel is approx. 2.5 km long and 100 metres wide and the beach nourishment zone was 3 km long and approximately 50 metres wide. The operation was undertaken on a 24 hour/day basis to meet the required project programme.

This coupled with the requirement for the pipeline to be located along the beach in front of some of the most exclusives areas of the Gold Coast required strict control over the dredging activities, particularly noise and lighting.

**Outcome**

The outcome for the dredging operation was positive for all Stakeholders. The successful completion of this project allowed the mine to continue its operation with renewed capacity in the tailings pit. The dredging was completed on time and within budget.

**Scope of work**

- Dredge 1,200,000 m³ of sand from the navigation channels and pump the material up to 6.5 km.
- Place material at design profile along the 3.0 km of beach nourishment zone.
- Ensure that the navigation channel was open to commercial and recreational boating traffic at all times.

**Challenges**

- Working in a main navigation channel which is 1 of the busiest in Australia.
- Pumping material onto beaches such as Main Beach and Surfers Paradise Beach whilst minimising the disturbance to the public.
- Working at night within only a few metres of noise sensitive areas.
- Ensuring that the integrity of a pipeline and dredging system that crossed parks, dunal systems and under roadways was not compromised.
## Past Dredging Project Experience

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Quantity</th>
<th>Project Dates</th>
<th>Scope of Works</th>
<th>Contract Amount</th>
<th>Client</th>
<th>Client Referees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various Channel Maintenance Projects</td>
<td>750,000m³</td>
<td>Various</td>
<td>Channel Maintenance</td>
<td>Various</td>
<td>Department of Transport</td>
<td>John Bendel (07) 5539 7380</td>
</tr>
<tr>
<td>Tallebudgera andCurrumbin Creeks</td>
<td>160,000m³</td>
<td>Jul 2010 – Apr 2012</td>
<td>Channel Maintenance and Beach Nourishment</td>
<td>$1.6m</td>
<td>Gold Coast City Council</td>
<td>Andy Maffey 0414 180 510</td>
</tr>
<tr>
<td>Cadia Gold Mine Dredging Orange, NSW</td>
<td>75,000m³</td>
<td>Sep 2011 – Nov 2011</td>
<td>Mine Tailings Dredging</td>
<td>$295,000</td>
<td>Newcrest Mining Limited</td>
<td>Peter Lord 0408 728 705</td>
</tr>
<tr>
<td>Townsville Marine Precinct</td>
<td>410,000m³</td>
<td>Nov 2010 – Apr 2011</td>
<td>Marina Development</td>
<td>$6m</td>
<td>Laing O’Rourke Townsville Marine Precinct Alliance</td>
<td>Andy Dunne 0457 099 791</td>
</tr>
<tr>
<td>Port Botany Expansion, NSW</td>
<td>2,100,000m³</td>
<td>Aug 2008 – Sep 2010</td>
<td>Capital Works</td>
<td>$9.5m</td>
<td>Sydney Port Corporation</td>
<td>David Debaere (Jan De Nul) 0400 194 204 David Packer (Baulderstone) 0418 281 532</td>
</tr>
<tr>
<td>Water Delivery Alliance</td>
<td>1,100,000m³</td>
<td>Oct 2008 – Feb 2010</td>
<td>Capital Works</td>
<td>$19.6m</td>
<td>Sydney Water</td>
<td>Adam Adamczewski (02) 8440 6332</td>
</tr>
<tr>
<td>Port of Airlie</td>
<td>210,000m³</td>
<td>Jun 2008 – Dec 2008</td>
<td>Channel &amp; Marina Development</td>
<td>$1.6m</td>
<td>Goldings Contractors Pty Ltd</td>
<td>Paul Spence 0438 165 893 (07) 4948 6900</td>
</tr>
<tr>
<td>Penrith Lakes</td>
<td>1,300,000m³</td>
<td>Aug 2007 – Aug 2008</td>
<td>Mine Tailings &amp; Reclamation</td>
<td>$7.85m</td>
<td>Penrith Lakes Development Corporation</td>
<td>Robert Golaszewski 0437 971 200</td>
</tr>
<tr>
<td>Lake Illawarra Authority</td>
<td>200,000m³</td>
<td>Nov 2006 – Oct 2007</td>
<td>Channel Creation and Beach Nourishment</td>
<td>$1.82m</td>
<td>Department of Commerce NSW</td>
<td>Tony McCabe (02) 4226 8500</td>
</tr>
</tbody>
</table>
### WATER PUMPS

<table>
<thead>
<tr>
<th>Pump</th>
<th>Installed Power Kw</th>
<th>Pump Size in mm</th>
<th>Head Capacity and Flowrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST010</td>
<td>1500</td>
<td>450</td>
<td>85 metres @ 550 L/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>75 metres @ 1000 L/sec</td>
</tr>
<tr>
<td>BST009</td>
<td>1000</td>
<td>450</td>
<td>85 metres @ 400 L/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>75 metres @ 800 L/sec</td>
</tr>
<tr>
<td>BST006</td>
<td>900</td>
<td>450</td>
<td>90 metres @ 400 L/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>75 metres @ 750 L/sec</td>
</tr>
<tr>
<td>BST005</td>
<td>450</td>
<td>450</td>
<td>35 metres @ 400 L/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30 metres @ 800 L/sec</td>
</tr>
<tr>
<td>Floating Water Pump</td>
<td>200</td>
<td>400</td>
<td>25 metres @ 350 L/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20 metres @ 500 L/sec</td>
</tr>
<tr>
<td>cBST002</td>
<td>450</td>
<td>300</td>
<td>90 metres @ 250 L/sec</td>
</tr>
<tr>
<td>This pump is currently in design phase</td>
<td></td>
<td></td>
<td>82 metres @ 350 L/sec</td>
</tr>
</tbody>
</table>

All Boosters can be land based or mounted on pontoons and floating. We have built these pumping units in our workshop in SE Queensland. We would also be able to build new purpose built land based or floating units.

**We have the following pipeline available**

- 1200 metres of 500mm flanged steel pipeline
- 2000 metres of 450mm steel pipeline
- 2000 metres of 450mm HPDE pipeline
- 1500 metres of 400mm flanged steel pipeline

We would require approximately three (3) weeks for mobilisation of Water Pumps and Pipeline.
Neumann Contractors are meeting the environmental challenges of the 21st century in a progressive manner and are proud of our ongoing commitment to ecologically sustainable development.

The company's environmental team includes environmental managers with significant experience in the dredging and construction industry.

Our strong working relationship with environmental authorities and leading environmental scientists has led to the development of important innovations, particularly in the management of acid sulphate soils.

Neumann’s believes that a pro-active approach, involving integration of environmental and operational management, is the cornerstone of successful environmentally sensitive projects and positive client outcomes. In recognition of our commitment to environmental best practice, Neumann Contractors have received both a National and State Case Earth Award for Environmental Excellence.

**Comprehensive Environmental Service**

Neumann Contractors environmental services range from dedicated environmental managers through to state-of-the art soil and water treatment equipment.

Our technical staff has all the skills and qualifications necessary to implement complex management plans backed by internal environmental auditing.

The company's inventory of test and measuring equipment means water quality, dust, noise and vibration monitoring can be provided in-house.

Our qualified trainers ensure that all levels of personnel receive on-going environmental training in best environmental practice and current legislation.

With over 50 years’ experience in dredging and extraction, Neumann has valuable knowledge of development and licence approval processes.

**Capability & Experience**

Neumann Contractors has a proven track record in environmentally sensitive dredging and construction projects.

Neumann’s success in this field has relied on our skill and expertise in:

- Management of environmental licences and compliance with strict statutory guidelines
- Implementation of complex environmental management strategies
- Large scale acid sulfate soils management including innovative hydro-sluicing and neutralisation treatment technology
- Dewatering in sensitive soil and water conditions
- Design and implementation of monitoring programs
- Interpretation of monitoring data and technical information
- Producing management plans and technical reports
- Internal and external environmental auditing
QUALITY MANAGEMENT SYSTEM

Neumann Contractors has a comprehensive Quality Management System in place. This system can be tailored to each individual project we undertake to ensure we deliver quality products and always meet our client’s standards and project specifications. This is achieved through our detailed planning, implementation, testing and review processes which enable our team to consistently demonstrate a high level of quality on all projects.

HEALTH AND SAFETY MANAGEMENT SYSTEM

Neumann Contractors is committed to maintain a safe and healthy working environment for all employees and stakeholders. This is accomplished through the continuous improvement of our comprehensive occupational health and safety management systems which are utilised in all areas of the company’s activities.

CONTACT DETAILS

Should you require further information please contact

General Manager
Mr Bill Neumann
Email: bill.neumann@neumann.com.au

Dredging Manager
Mr David Neumann
email: david.neumann@neumann.com.au

Office Location
Building 20
13 Nuban Street
Currumbin Qld 4223

Phone: 07 5589 2746
Fax: 07 5589 2775

email: neumann.contractors@neumann.com.au

Website: www.neumann.com.au