



DREDGING AND CLIMATE CHANGE ADAPTATION

YOUR PACIFIC ISLANDS SPECIALISTS



HALL PACIFIC IS A PRIVATELY OWNED AUSTRALIAN DREDGING, CIVIL AND MARINE CONSTRUCTION COMPANY WITH OFFICES IN THE PACIFIC ISLANDS, AUSTRALIA, SOUTH-EAST ASIA AND EUROPE.

With more than 75 years of experience and a knowledgeable senior management team leading the way, we have the systems and procedures in place to successfully carry out a diverse range of projects. We are driven by a commitment to provide every client with a first-rate experience and have a strong track record in achieving outstanding results and delivering complex projects in remote locations.



OUR EXPERTISE

Whether it's building a new seawall and conducting land reclamation and coastal protection works in remote areas such as Tuvalu, undertaking flood mitigation dredging on a Fijian river, or dredging hard clay for a new port facility in Papua New Guinea, Hall Pacific is experienced in delivering dredging and climate change adaptation solutions in the Pacific Islands. Our comprehensive understanding of dredging and marine civil works and our fleet of first-rate

equipment ensures we are well-equipped to perform in a variety of difficult environments.

At present, we have a range of dredges and ancillary equipment based in the Pacific Islands, including cutter suction dredges, work boats, a tug boat, accommodation barge and support equipment including excavators, dozers and trucks.

OUR CAPABILITIES

With global warming forecasted to significantly impact sea levels and the severity of storm systems, Pacific Island nations are facing the serious threat of coastal erosion, flooding and ecosystem imbalances. To mitigate the impact of climate change, Hall

Pacific is able to design and implement adaptation strategies that improve coastal resilience and reduce vulnerability amongst our Pacific Island neighbours.

Our capabilities include:

> COASTAL PROTECTION

We bolster coastal defences through beach replenishment and marine structures such as groynes, seawalls and breakwaters. Our team can create customised solutions for a wide variety of beach erosion issues.

> LAND RECLAMATION

Our team has a successful track record in creating useable land from sand dredged from lagoons and waterways. These works enable the expansion of key coastal land areas, and allow low-lying nations threatened by rising sea levels to increase the height of their land areas.

> INFRASTRUCTURE DELIVERY

Whether it's constructing a wharf or ramp, installing mooring dolphins to assist with mooring vessels, or repairing damaged roads and causeways, we possess the knowledge and capabilities to successfully deliver a broad range of civil and marine infrastructure.

> FLOOD MITIGATION DREDGING

Our team is experienced in undertaking flood mitigation dredging in rivers and waterways to lessen the impact of flooding in severe weather events. These works decrease the cost of damage to infrastructure and also minimise the threat of tropical waterborne diseases.


CASE STUDY: TUVALU

AS THE WORLD'S FOURTH-SMALLEST COUNTRY AND STANDING AT LESS THAN 4.5 METRES ABOVE SEA LEVEL, TUVALU IS ONE OF THE MANY PACIFIC ISLAND NATIONS BEING NEGATIVELY IMPACTED BY THE EFFECTS OF CLIMATE CHANGE.

Changes in tidal movements and weather conditions currently pose concerns regarding flooding and erosion, and rising sea levels threaten to engulf Tuvalu's islands and atolls in the future.

In past years, Tuvalu has also battled with sanitation and environmental issues caused by man-made trenches spread across the Funafuti atoll.


Hall Pacific was contracted by the Government of Tuvalu and the New Zealand Ministry of Foreign Affairs and Trade to address these concerns through the delivery of a range of land reclamation and coastal protection works.




EQUIPMENT
4,500HP CUTTER SUCTION
DREDGE

180-FT ACCOMMODATION

BARGE





SUPPORT EQUIPMENT
INCLUDING EXCAVATORS,
DOZERS AND TRUCKS

365,000m³
OF SAND **DREDGED**





FUNAFUTI BORROW PIT REMEDIATION WORKS

- > **THE CHALLENGE:**
During World War II, areas of the Funafuti atoll were dug up and used to build an airstrip. The resulting excavations – known as borrow pits – were uninhabitable, collecting rubbish as well as human and pig waste that seeped through the porous coral floor and into the surrounding lagoon. This was not only unsanitary, but also increased the amount of nutrients and heavy metals entering the lagoon, causing significant damage to coral communities and ecosystem function. The pits also reduced Tuvalu’s useable land space.
- > **THE SOLUTION:**
Our team dredged 350,000m³ of sand from the lagoon and used this to fill the borrow pits. In doing so, we increased the useable land space in the area by six per cent, creating more open space to be used by the community.
The works also minimised pollution and improved hygiene levels on the atoll.



FUNAFUTI COASTAL PROTECTION WORKS

- > **THE CHALLENGE:**
With the Funafuti atoll experiencing a breach and severe weather threatening to split the coral atoll in two, action needed to be taken to repair the damage.
- > **THE SOLUTION:**
Hall Pacific constructed a sandbag wall to protect against coastal erosion. This effectively repaired the coastal barrier stretching from the ocean to the lagoon and has removed the threat of the atoll splitting in two.

WORKFORCE

20 TUVALUANS
04 FIJIANS
06 AUSTRALIANS

6 MONTH PROJECT

\$7 MILLION CONTRACT

CASE STUDY: TUVALU

(CONTINUED)



WORKFORCE

20 TUVALUANS
02 FIJIANS
05 AUSTRALIANS



NUKUFETAU COASTAL PROTECTION WORKS

> THE CHALLENGE:

During 2015, Tropical Cyclone Pam battered a seawall off the Nukufetau atoll, causing concrete blocks to dislodge and damage property and infrastructure within the community settlement. The cyclone highlighted the inadequacy of the existing seawall and indicated a robust barrier was required to protect the stretch of coastline from large waves.

> THE SOLUTION:

Hall Pacific was engaged by the United Nations Development Program and the Government of Tuvalu to design and construct a 500-metre-long replacement geobag seawall on the north-western front as well as another two walls to the south-west and south-east totalling 950m in length. The three-metre-high structures included an additional seawall crest to improve resilience to overtopping, and will greatly reduce the impact of fierce wave action.



FUNAFUTI LAND RECLAMATION WORKS

> THE CHALLENGE:

A key area of foreshore on the Funafuti atoll was comprised of solidified calcium carbonate, which made the ground very firm and highly susceptible to erosion. This placed the foreshore area and community settlement at risk, particularly during severe weather events.

In addition, Funafuti's useable land space is limited, and with most foreshore areas quite rocky, the atoll offered very few open spaces where residents could participate in recreational activities.

> THE SOLUTION:

Hall Pacific dredged approximately 115,000m³ of sand from the nearby lagoon and used this to construct two groynes on the coastline. Beach nourishment works were also undertaken on a 55,000m² stretch of foreshore.

As part of the works, our team also created a 40,000m² waterfront recreation area — now called Queen Elizabeth II Park — which significantly increased Funafuti's useable land space and enables the atoll's 4,000-plus residents to enjoy a range of leisure activities and beach sports.

ENVIRONMENTAL CONSIDERATIONS

Hall Pacific is renowned for its environmentally conscious approach to projects, with our commitment to environmentally responsible contracting at the forefront of everything we do.

As part of the works carried out in Tuvalu, our team conducted environmental impact assessments to ensure any issues were managed effectively. A strong focus was placed on understanding the natural coastal process and working with the environment to develop sustainable and effective solutions.

We are proud to have contributed positively to the natural surroundings, with projects such as the Funafuti borrow pit remediation works having greatly reduced pollution in Tuvalu. These works have also assisted in combating excessive algal growth in the nearby lagoon, benefiting the local ecosystem.

SUPPORTING THE LOCAL COMMUNITY

As part of the Tuvalu works, we equipped a number of local residents with new skills and employed them as marine engineers, machine operators and divers.

Tuvaluan workers made up the majority of our workforce, with up to 20 locals employed at any given time.

We also taught these workers to maintain the condition of the marine infrastructure over the long term, ensuring its longevity.



WORKFORCE

15 TUVALUANS
2 FIJIANS
5 AUSTRALIANS

\$3 MILLION
CONTRACT

4 MONTH
PROJECT

PROJECT PORTFOLIO



TOKELAU MARINE CIVIL INFRASTRUCTURE

- > **LOCATION:**
Atafu, Nukunonu, Fakaofu Fale and Fakaofu Fenua Fala, Tokelau
- > **CLIENT:**
Government of Tokelau and New Zealand Ministry of Foreign Affairs and Trade
- > **CONTRACT VALUE:**
\$19 million (NZD)
- > **TIMING:**
July 2018-October 2019

With rising sea levels threatening Tokelauan shores and existing reef passages afforded little protection from rough seas, the Government of Tokelau contracted Hall Pacific to construct four wharf and ramp structures and widen and deepen the reef passages leading into Atafu, Nukunonu, Fakaofu Fale and Fakaofu Fenua Fala.

The works addressed some of the expected impacts of climate change in the area over the next 50 years and have ensured ship-to-shore vessels, fishing boats and inter-island vessels can navigate the area more easily and safely.

Hall Pacific engaged close to 30 Pacific Island workers to assist in delivering the project, and trained these team members in civil construction, batch plant operations, welding and operating power tools and machinery.



NADI RIVER FLOOD MITIGATION DREDGING

- > **LOCATION:**
Nadi, Fiji
- > **CLIENT:**
Fiji Government
- > **CONTRACT VALUE:**
\$8 million (FJD)
- > **TIMING:**
November 2007-December 2010

With many of Fiji's coastal rivers suffering from serious sediment build-up as a result of soil erosion in the upper catchments, and tropical rains and cyclones posing significant flood threats to towns and villages in coastal deltas, Hall Pacific was engaged to remove excess sediment from the Nadi River in 2008.

Following the successful completion of this contract, our team was awarded a further three contracts on site, dredging a total of 1.6 million m³ of sediment and significantly reducing the impacts of flooding in the area.

Local Fijian operators and crew formed an integral part of the project, with government surveyors also trained in hydrographic survey techniques.



BA RIVER FLOOD MITIGATION DREDGING

- > **LOCATION:**
Ba, Fiji
- > **CLIENT:**
Fiji Government
- > **CONTRACT VALUE:**
\$4 million (FJD)
- > **TIMING:**
May 2015-November 2015

A major river in Fiji, the Ba River flows through the town of Ba, a significant agricultural and industrial city on the island of Viti Levu.

During the wet season, severe flooding regularly causes damage to local infrastructure and the lives of people in the area.

Hall Pacific was engaged in 2015 to assist in managing this issue. Our team dredged 450,000m³ of sediment from the river to reduce the effects of flooding.



SOUTH PARAY CHANNEL DREDGING

- > **LOCATION:**
Port Vila, Vanuatu
- > **CLIENT:**
Government of Vanuatu
- > **CONTRACT VALUE:**
\$2 million (AUD)
- > **TIMING:**
November 2016-January 2017

To improve navigational accessibility from the South Paray Wharf to Iririki Island, Hall Pacific dredged a channel 50m wide, 200m long and 5.5m deep (approximately 46,000m³).

Coral limestone material was used to reclaim part of the port for container space. This allows 60-metre-long cargo ships to use the channel, cutting significant time off their voyage.



OUR TRACK RECORD

THROUGHOUT OUR 75-PLUS YEARS OF OPERATION, HALL PACIFIC HAS SUCCESSFULLY WORKED WITH A RANGE OF NATIONAL GOVERNMENTS, HIGH-PROFILE COMPANIES AND NOT-FOR-PROFIT ORGANISATIONS.

THESE ORGANISATIONS INCLUDE (BUT ARE NOT LIMITED TO):

- Fiji Government
- Government of Tuvalu
- Fiji Roads Authority
- PNG Ports Corporation Ltd
- New Zealand Ministry of Foreign Affairs and Trade
- United Nations Development Program
- Gazelle Restoration Authority
- The World Bank
- Government of Vanuatu
- Asian Development Bank
- Government of Tokelau



OUR MANAGEMENT SYSTEMS

At Hall Pacific, our comprehensive environmental, quality and safety frameworks are essential to our success and ensure every project we undertake is delivered to a high standard.

Our top priority is ensuring staff and community members return home safely and injury free, and our

safety management system (accredited to AS/NZS 4801 and ISO 45001 by Bureau Veritas) helps us to achieve our goal of zero harm.

We are also proud to operate an environmental management system accredited to ISO 14001, and a quality management system accredited to ISO 9001.

SUPPORTING PACIFIC ISLAND COMMUNITIES

At Hall Pacific, we recognise that self-sufficiency is important to Pacific Island communities. Our team members work hard to improve the quality of life of locals through climate change adaptation and employment opportunities, and are committed to caring for the environment. We are proud to:

- > **IMPROVE THE LIVING STANDARDS OF LOCAL COMMUNITIES**
Whether it's reducing flooding and pollution, creating more useable land space or constructing marine or land transport infrastructure, we contribute positively to the living conditions within Pacific Island communities, ultimately benefiting those that live and work in these areas.
- > **PROTECT PACIFIC ISLAND COMMUNITIES FROM CLIMATE CHANGE**
Our team successfully protects against severe weather events, designing and building seawalls that increase resistance against large waves and storm systems. Our land reclamation capabilities also enable us to safeguard Pacific Island communities against rising sea levels.

- > **SUPPORT LOCAL ECONOMIES**
In addition to the highly experienced team of Australian expatriates that deliver our projects in the Pacific Islands, we source a high percentage of workers locally. We pride ourselves on equipping local residents with new skills and creating employment opportunities.
- > **CARE FOR THE ENVIRONMENT**
With many Pacific Islanders relying on agricultural practices for their food supply and livelihood, we understand the importance of looking after the ecosystems we work in. Our team is experienced in carrying out environmental impact assessments, and our dredging and civil construction solutions always take into account the health and prosperity of the surrounding natural environment.



OUR BELIEF STATEMENT

We believe countries should have the ability to protect themselves from the impacts of climate change. This is critical to the global community as it ensures cultural values that have spanned centuries are passed down to future generations.

Hall Pacific continues to work with its Pacific Islander neighbours to deliver climate change adaptation solutions and build capacity within local communities.

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