

# COASTAL INFORMATION SHEET

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## The Gold Coast Seaway

### WHY.....

- The mouth of the Nerang River did not provide a safe access to the ocean.
- A treacherous ever-changing bar was a dangerous obstacle which caused numerous boating accidents, silting up the navigation channels and the river mouth was constantly moving northward at the rate of approximately 60 metres per year and eroding South Stradbroke Island.
- The bar entrance impeded the recreational and commercial potential of the Gold Coast area.

### WHEN.....

In 1976 Delft Hydraulics Laboratory from Holland was commissioned to investigate means of stabilising the river mouth and providing a suitable navigation channel. Their report established a number of parameters which were used in the final design of the scheme.

In 1983 construction commenced, it was completed in 1985 and officially opened by the Premier of Queensland in 1986.

### HOW.....

The training walls at the entrance were constructed south of the old bar and designed at 15 degrees northeast (to reduce ocean swells penetrating the entrance).

The length of the southern wall is 600 metres and the northern wall 400 metres

The entrance is approximately 200 metres wide

The centre of the training walls consist of core formed concrete cubes weighting 20 to 25 tonnes then protected by a million tonnes of rock pieces 2 to 15 tonnes.

Dredged sand from the new entrance was pumped to close the old bar entrance and was also used to form Wave Break Island located inside the Broadwater.

4.5 million cubic metres of sand were dredged providing a minimum depth of 4.6 metres at low tide.



Photo (EPA)

# The Sand Bypassing System

## **WHY.....**

To artificially bypass sand across the river mouth in perpetuity, supplying South Stradbroke Island.

## **WHO.....**

Queensland Government

## **LOCATION.....**

250 metres south of the southern training wall, at The Spit.

## **LENGTH.....**

500 metres

## **SYSTEM.....**

10 jet pumps, 30 metres apart, submerged 11 metres below mean sea level.

## **HOW.....**

Clear water is pumped from the Broadwater at low pressure then boosted at the system control building for activation of the jet pumps

## **OPERATION.....**

4 to 7 pumps can be operated allowing for maintenance needs or peak demand. The sand/water mix from the jet pumps is pumped to a hopper where access water is decanted back to the ocean. The concentrated sand slurry is then pumped through the pipeline under the seaway to the northern side of the seaway. 300 to 500 cubic metres per hour can be pumped through the pipeline by a controlled computer system.

## **BENEFITS.....**

A safe navigational facility now allows transit between the inland waterways and the ocean.

Sanding up of the Broadwater has been eliminated.

Increased tidal flow has improved water quality / fishing and flood relief.

A safer access now exists for commercial and recreational vessels.

Increased economy to the Gold Coast from the commercial fishing fleet and charter vessels.

## **COST.....**

30 million dollars.

