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AJQ wharf for Portsmouth City Council. 2019

# A LIST OF THE MARINE PROJECTS CARRIED OUT WORLDWIDE INTEGRITY GROUP OF COMPANIES

INTEGRITY TESTING PTY. LTD, INTEGRITY TESTING LTD AND INTEGRITY  
TESTING(INTL) PTY. LTD

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## INTRODUCTION.

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Integrity has what we consider as the iPhone and Android phone equivalent of inspection, testing, the condition monitoring and load rating of Marine structures.

The two systems are firstly our iPhone being the Mod-Shock® system for testing of the supports to the structures and secondly the Android DBTS® system testing the decks and how they are applied in the testing of marine structures we attach by separate attachment the presentation “Rehabilitation of bridges the Integrity way”.

We consider that marine structures are very similar to bridges, but continuous in one direction and hence we consider that our bridge testing techniques are applicable from our vast experiences in bridge testing stemming back from 1991, with over 1,800+ bridges tested in this period.

Our methodology we would consider therefore to be as an iPhone and Android by our known ability for our systems to work and proven so over 28 years since the Australian office was opened, with ALL our clients entirely satisfied and with no claims on the company since its inception 42 years ago.

Marine structures followed quite closely to the bridge testing our first being in 1992 and we attach some of the known and remembered projects as initially ALL were paper reports and then storage on floppy discs, portable hard drives etc. Now of course we have cloud storage and hence better record keeping.

Over the next few pages you will see that we have a total of 260 marine structures tested from Wharfs, docks, piers and jetties and in addition over 2kms of the Wharfs and jetties at HMS dock yards in Portsmouth.

And as with Android and iPhone we will continue to develop our DBTS® and Mod-Shock® for the benefit of our clients in the future.



Bell Bay wharf, Tasmania, photos from the 2018 inspection and testing.

LIST OF MARINE PROJECTS.

FROM THE UK TO WESTERN AUSTRALIA.

<b>MARINE PROJECTS WORLDWIDE GOING FROM EAST TO WEST.</b>					
This is not a full comprehensive list as projects Over 20 years ago may not have been recorded.					
Projects identified with this indicates that the facilities were for Ocean going ships generally in excess of DWT of 30,000+					
The levels of testing were Full level 3 (FULL 3), which was testing of All of the supports plus the deck and in a large number of the wharfs the Safe Berthing capacity (BC)					
LOCATION	Project Name	CLIENT	DATE year	No of wharfs	Description of projects and our involvement
<b>UK</b>					
Portsmouth	HMS docks at Portsmouth	BAE Surface ships	2014 ongoing	No sure but over <b>2kms</b> of wharfs and jetties	Investigated virtually all of the wharfs and jetties at the HMS Portsmouth. The testing was all FULL 3, investigations, including BC on all the major wharfs. The highlight being the successful berthing of the largest new ship in the UK fleet
Portsmouth	AJQ for Portsmouth CC	Portsmouth C.C	2019	One	FULL 3 on this wharf with steel sheet piling and recommendations on reducing the seabed level
Portsmouth	Camber Quay	Portsmouth C.C	2019	one	FULL 3 on this wharf with steel timber and concrete piles, for safe loading on the deck and future repairs
<b>Australasia</b>					
Papa New Guinea	Port of Raubul	Govt of PNG	2010	Two	FULL3 with safe loading of the decks and recommended repairs for 20 year extended life.
Cockatoo Island	Loading wharf	Pluton Resources	2017	4 berths	FULL 3, with safe loading and BC and repairs required for 20+ year life.
<b>Western Australia</b>					
Geraldton	Main wharf at Geraldton	Port of Geraldton	1999	2 berths	FULL 3, with safe loading and repairs for 20 years life.
Fremantle	2 main wharfs at Fremantle port	Fremantle PA.	1997	2 wharfs	Testing of substructure for proposed new decking
Bunbury	Main port at Bunbury	Bunbury PA	2014	1 wharf	Testing of the anchor dolphins for vertical and horizontal capacities
Esperance	Tanker jetty	Esperance C.C	1993, 95 and 97	1 jetty 500m	Tested jetty 3 times, designed repairs, carried out repairs and retested after the repairs.



East end of Reid Pier at Williamstown, Victoria. Testing in 2018.



Table 2.

From South Australia to end of Victoria.

LOCATION	Project Name	CLIENT	DATE year	No of wharfs	Description of projects and our involvement
South Australia From WA border to the Victorian Border	ALL jetties and wharfs	Govt of SA	1995 to 2000	57 Jetties and Wharfs	We inspected and test 57 jetties and wharfs, the complete inventory of the South Australian government with FULL 3. Initiated a repair program and then handed to the local Councils to maintain The longer jetties included Ceduna, Streaky Bay, Smokey Bay, Elliston, Venus Bay, Robe, Coffin Bay, Kingston, Tumby Bay, Arno Bay, Glenelg Beach, Victoria harbor and Henley beach. All of these berthing for coastal shipping and fishing boats.
Port Lincoln	Main jetties	Port of Lincoln PA	1997 and 2000	3 Wharfs	Testing these jetties twice with FULL 3 and second time the client adopted our repairs recommendations.
Walleroo	Wheat export jetty	Wheat Board of Aus.	1997	2 wharfs	Full 3, both wharfs indicated serviceable and still operational.
Port Pirie	Heavy metal exports	Pasimco	1997 and 2000	3 wharfs	FULL 3, all wharfs found to be serviceable but recent \$350 million upgrade with new owners.
Whyalla	Coal import and product export	BHP	1998 to 2001	4 wharfs	FULL 3, including sheet pile wall testing, tie rods etc as partial collapse of the coal import jetty. BHP sold the factory to an Indian company
Victoria.					
Portland	Import and export for Aluminum smelter	Alcoa	2005	4 wharfs	FULL 3, all wharfs found to be serviceable, possible closure this year
Port Fairy	Port Fairy fishing harbor	Port Fairy C. C	2010	berthing for 16 Ocean going Fishing boats	FULL 3, all wharfs found to be serviceable with minor repairs still in use
Warranbool	Warnabool fishing harbor	Warranbool C. C	1994	Berthing for 12 oceans going Fishing boats	FULL 3. all wharfs to be found serviceable with minor repairs still in use
Queenscliff	Queenscliff main pier	Port Phillip PA	2005 and 2007	2 wharfs	FULL 3, both wharfs for emergencies for large shipping if they cannot get through the heads, a draught problem

LOCATION	Project Name	CLIENT	DATE year	No of wharfs	Description of projects and our involvement
South Australia					
Geelong	Geelong Harbor wheat, wood chips, ford cars and Shell refinery	Port of Geelong	1998 to 2004	12 Wharfs	FULL 3, for all of these wharfs over a 6 years period, numerous repairs required and after repairs all of the berths still operating.
Avalon	Explosives wharf	MOD Australia	1997	2 wharfs	ALL explosives in Australia delivered from this 2km jetty. FULL 3 on the loading area, protection systems recommended for the steel piles still in service.
Williamstown	Naval dockyards	BAE	1994 to present	10 wharfs	FULL 3, particularly on the wharf where BAE safely berthed the largest ship in the Australian Navy. The largest consultant in the world did an investigation and required \$8million AUD to make the wharf safe for the largest ship. ITPL after the investigation gave the ALL clear and the Ship berthed their and ITPL was awarded a worldwide Bronze medal from BAE for innovative systems
Melbourne	Docklands redevelopment	Robert Bird Group	1993 to present	14 Wharfs	This was the original Port of Melbourne with 14 ocean going wharfs. ITPL has tested over 10,000 piles and numerous FULL 3 inspections for the development of the entire dockland
Port Melbourne	Princess pier	Victoria Government	2014 and 2012	2 wharfs	Former wharfs for container ships now disused. FULL 3 to determine if the pier could be reused as it's a heritage site.
Port of Melbourne	Station Pier	Spirit of Tasmania	2015	2 wharfs	FULL 3 on an area of the wharfs damaged by a ship collision, repairs recommended and affected
Port Phillip bay Western Port Bay	Jetties, piers and docks for inter bay ferries, fishing boats	Parks Victoria	1996 to 2005	53 jetties, piers and wharfs	FULL 3 on all of the 53, jetties, piers and docks for Parks Victoria with a comprehensive repair and maintenance program, program still going. Sorrento, Queenscliff, Brighton, Black rock, Mornington, Hastings etc.
Hastings	Oil Terminal	Shell Australia	2001	2 Wharfs	FULL 3, wharf serviceable, but on- set of corrosion of the steel support piles, information given to a CP consultant and impressed CP now in operation.
Gippsland	Tanker Jetty	Gippsland Ports	1997 and 2002	2 Wharfs	FULL 3, The original tanker jetty now heritage, inspections to try and save the jetty, still not resolved



Port McKay testing of ALL of the wharfs in 2013, some FULL 3 others only the supports. Client GHD.



Tasmania to New South Wales

LOCATION	Project Name	CLIENT	DATE year	No of wharfs	Description of projects and our involvement
Tasmania					
Bell Bay	Aluminum Wharf	Bell Bay aluminum	1995, 2003, 2017	2 wharfs	Pile testing initially and then FULL 3 for possibly heavier loadings of the wharf discussion still in progress.
Hobart	McQuarie wharfs	Govt Tasmania	1994 and 2017	4 wharfs	Pile testing initially and then FULL 3 for possibly heavier loadings of the wharfs, new Antarctic ships being introduced.
Launceston	Ferry terminal	Spirit of Tasmania	2013	1 wharf	FULL 3, for heavier loadings and pile testing.
New South Wales					
Eden	Fishing boat Wharf	Worley Parsons	2015	4 Wharfs	Tested the steel caissons, similar to steel sheet piles.
Wollongong	BHP Smelter Wharfs	BHP	1993 and 1996	4 wharfs	Tested the supports for ALL wharfs, recommended protection systems.
Sydney	Woolloomooloo	Robert Bird Group	1998 and 2002	4 wharfs	FULL 3, originally wool export wharfs redeveloped into a hotel and apartments, initially tested in 1998, recommended repairs and retested in 2002
Sydney	Walsh Bay	Sydney C.C	2000 to 2004	6 Wharfs	FULL 3 for wharfs 1, 2, 3 and 4 and piles testing for ALL of the Wharfs Original wool export wharfs turned into the Sydney Dance group and others into hotels and apartments.
Bangaroo	Bangaroo wharf	Bangaroo Development corp	2007	3 Wharfs	FULL 3 for wharfs, wharfs with sheet piled walls with loadings for construction traffic, still in progress.
Port McQuarie	Port McQuarie Fishing boats	Port McQuarie C. C	2003	4 fishing boat Wharfs	FULL 3, for serviceability of the wharfs ALL serviceable
Coffs Harbour	City Jetty	Coffs Harbour C.C	2006	1 long jetty	FULL 3, world champion ships for power boat racing, see if jetty could accommodate large crowds. Confirmed it was Ok and no problems
Ballina	Port of Ballina	Ballina C.C.	2008	2 Wharfs	Sheet pile wharfs testing to see serviceability of the sheet pile wall.



The original Melbourne docks shut off by the construction of the Balty Bridge, development of the site commenced in 1991 till this day. ITPL have tested over 10,000 supports to the docks and hard standing areas with FULL 3 where the original docks are being used as roads and common areas.

Queensland and others

LOCATION	Project Name	CLIENT	DATE year	No of wharfs	Description of projects and our involvement
Queensland					
Brisbane	Port of Brisbane wharfs 1 to 3	Port of Brisbane PA	1994	3 Wharfs	FULL 3, before and after reconstruction with added impressed CP
MacKay	Port of Mackay	MacKay P. A.	2013	6 wharfs	FULL 3 on nos 1 and 2 wharfs, the remainder testing of all the supports
Dunk Island	Dunk Island Jetty	GHD	2006	1 jetty	FULL 3, inspection after TC wrecked the island and the need for repairs to the jetty.
Townsville	Berths 1, 2, 3 and 4	Townsville P.A	2007	4 Wharfs	FULL 3, on wharfs 1 and 2, all of the supports to the remaining wharfs, repairs recommended and added impressed CP
Cairns	Berths 1 and 2	Cairns C.C	2008	2 Wharfs	FULL 3, wharfs for cruise ships to berth, serviceable, still in use.
New Zealand					
Christchurch	Christchurch Port Lyttleton Harbor	Opus international	2007	10 Wharfs	FULL3, the two large wharfs, oil terminals and testing of the supports for the remainder after the very Large Earthquake which hit Christchurch. Information used to allow parts of the wharfs to be used for relief supplies and repairs to others.
Tonga					
Tonga	Inter-Island ferry Terminal	Infracorr	2019	1 wharf	Testing of the sheet pile wall for serviceability and length of the piles.
<b>TOTALS</b>	Wharfs for DWT 30,000 +	Various from MOD to Councils to PA around the world	1992 to present	120 Wharfs 2 Kms	Both FULL 3 and support testing of the piles and other foundations. For MOD Portsmouth Dockyards.
	Jetties and piers	Generally, for State Governments and Councils Total Structures	1992 to present	139 jetties and piers 260 + 2kms	Both FULL 3 and all with testing of the piles and other support foundations.

THANK YOU FROM ALL OF THE INTEGRITY TESTING COMPANIES AND IF ENQUIRIES ARE REQUIRED PLEASE CONTACT OUR HEAD OFFICE IN AUSTRALIA ON +610409437019 OR ON e mail [jihiggs@integritytesting.com.au](mailto:jihiggs@integritytesting.com.au) WHO CAN HELP YOU AND DIRECT YOU TO THE PERSON IN CHARGE IN YOUR AREA OF THE WORLD.

