Scour Tech

CAPABILITY STATEMENT 2024

Concept, Design, Supply of Scour & Erosion Protection Solutions

WWW.SCOURTECH.COM.AU

INDEX

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ABOUT SCOUR TECH

Scour Tech International focuses on the protection of subsea (underwater) structures and coastal erosion due to Hydrodynamic scour (removal of sediment such as silt, sand, gravel). Scour Tech's patented, Fabric Formwork, is designed to provide protection and ensure the life expectancy of a structure is increased substantially. Scour Tech's solutions cater for any design and are custom made to suit our client's needs, whatever they may be. Scour Tech specializes in providing long term scour and erosion prevention. We offer scour solutions, custom engineering, rapid responses, manufacturing, and supply, 100% Australian made.

Our services include challenging and bespoke expertise where projects are difficult to navigate where there is "no text book" solution.

Scour Tech's Fabric Formwork can be installed in any location, including difficult to access areas, such as, under a pontoon or jetty. Due to its characteristics, Scour Tech's Fabric Formwork, allows concrete to be poured in-situ with minimal environmental impact.

Structures we would service are:

/ Bridge abutments
/ Bridge piles
/ Dam walls
/ Riverbed scour
/ Coastal erosion
/ Scour due to vessel propulsion

SERVICES OFFERED

Scour Tech works collaboratively with its Clients, Engineers, and Suppliers to provide unique and custom solutions

Our engineering and project management expertise enables a single point of contact for project delivery through investigation, feasibility, detailed design and documentation, fabrication, installation supervision, and handover.

Project Management

The Scour Tech team are experienced in providing our clients with complete project management support, including systems and procedures for simple to complex multi-level projects. From the early stages of planning and coordinating,through to project execution.

Investigation

To ensure that we provide a first-rate solution, Scour Tech uses the latest technology in seabed scanning with BlueView 3D sonar scanning. Should conditions permit, divers can be used if necessary.

Engineering

Scour Tech experienced Engineers and modelling team, collaborate with asset owners, clients, and design Engineers to deliver value driven custom solutions. Our team will ensure the best in Engineering, constructability, and material for each project.

Detailed Design

Once we have designed the initial concepts, we develop design recommendations that can be prepared in AutoCAD to create 3D imaging of the solution. Once all parties have witnessed the design, we can make improvements where necessary.

Tested

Scour Tech has the capability to test designs to ensure they are going to perform as per their requirements. Specific control measures are put into place to represent the scenario the application is going to be installed in.

Managing Manufacturing & Supply

Scour Tech manages the manufacturing and supply of products to ensure quality and delivery requirements are met.

Installation

Scour Tech provides a step-by-step installation guide to ensure products are installed accurately to ensure we achieve the best result from the product.

MARKET SECTORS

Energy

/ Wind farms
/ Hydro power
/ Dams
/ Power

Utilities

/ Outfalls
/ Intake structures
/ Dams
/ Reservoirs
/ Pipelines
/ Pump stations

Waste & Waste Treatment

/ Settlement ponds
/ Sludge holding
/ Basin and channel linings
/ Outfalls
/ Pipe lines
/ Pump wells

Mineral Resources Oil & Gas

/ Wharfs
/ Load Out facilities
/ Intake structures
/ Dams
/ Reservoirs
/ Pipelines
/ Settlement ponds
/ Drainage

Transport Infrastructure

/ Ports
/ Marina's and jettys
/ Wharfs
/ Bridges
/ Roads
/ Rail
/ Airports

PRODUCT APPLICATIONS

Fabric Formed Mattress

Fabric Form mattresses is a concrete slab poured underwater contained within a fabric formwork structure.

Pile Bags

Pile or grout bags are designed for a range of applications, from scour protection to seabed reinstatement.

Cavity Bags

Cavity bags are a solution for fixing cavities in or around a structure, whether the hole was created from scour, or the on-site construction hasn't met design requirements.

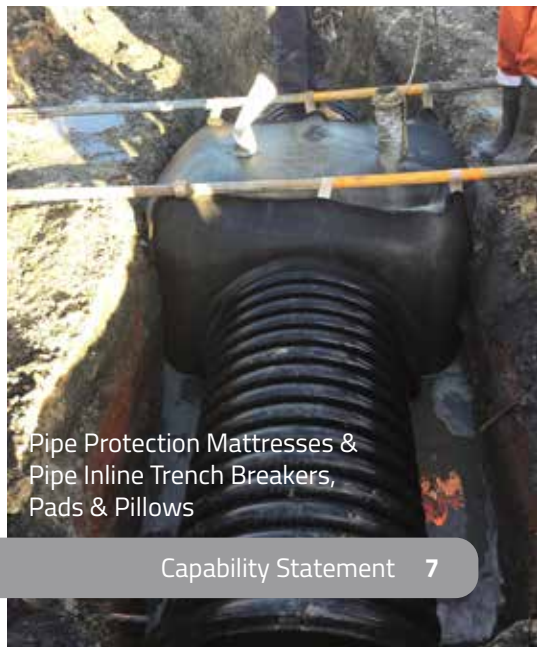
Pipe Protection Mattresses & Pipe Inline Trench Breakers, Pads & Pillows

Trench breakers, Pads and Pillows are custom designed to protect pipe underground.


Fabric Formed Mattress


Pile Bags


Cavity Bags


Pipe Protection Mattresses & Pipe Inline Trench Breakers, Pads & Pillows

PRODUCT APPLICATIONS

Block Mattress

Block mats provide a high degree of flexibility, allowing the mats to closely follow the contours of a seabed, riverbank or pipeline.

Block Mattress

Rock Bags

These are flexible nets, filled with rocks for erosion control, flood defense and scour protection.

Rock Bags

Gabions/Rock Mattresses

Gabions or Rock Mattresses are flexible cages, twisted and woven wire mesh structures.

Gabions/Rock Mattresses

Concrete Armour, Cubilok

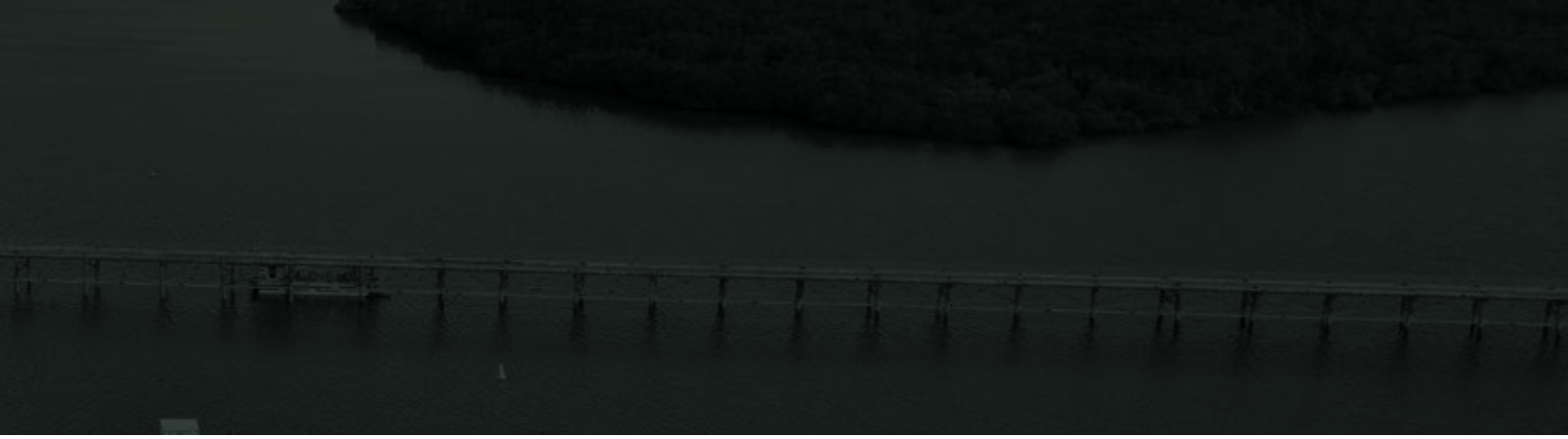
Concrete Armour including Cubilok Protects embankments from erosion and scour.

Concrete Armour, Cubilok

ARTIFICIAL REEFS

Artificial Reefs are man-made structures placed on the seabed to promote marine life and dive sites. These reefs are placed in areas with a featureless bottom that is designed to help boost the ecosystem of the ocean.

Scour Tech design artificial reefs to suit their locations. With the use of recycled concrete, it provides cost effective construction along with the benefits of providing less landfill, along with preserving precious resources.

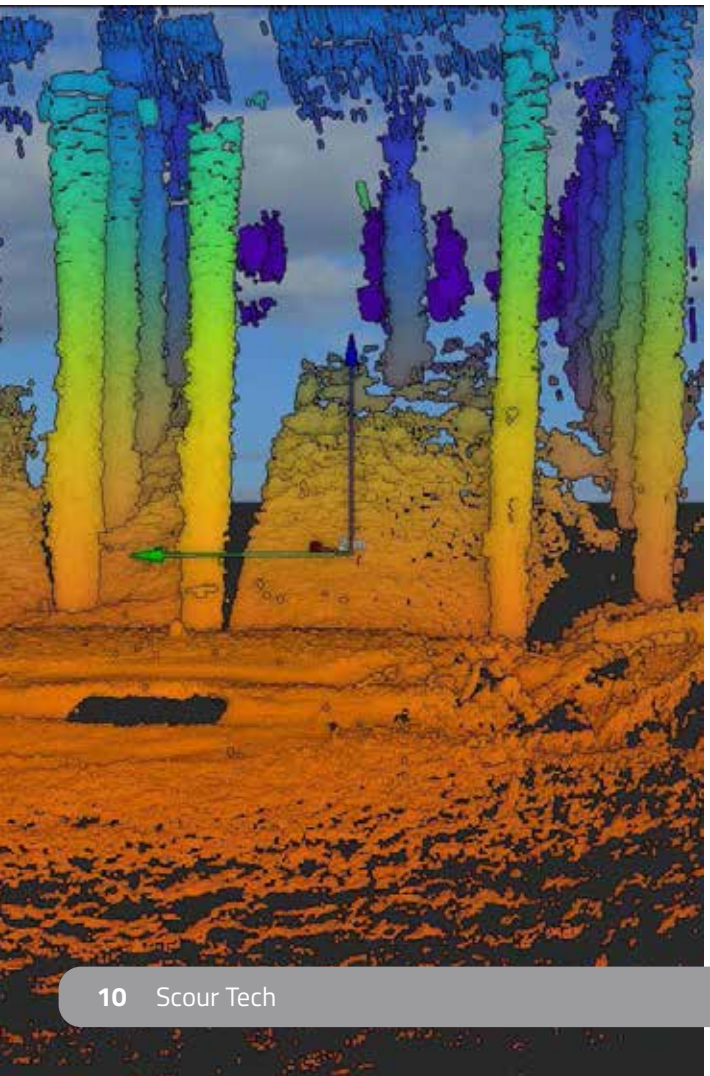


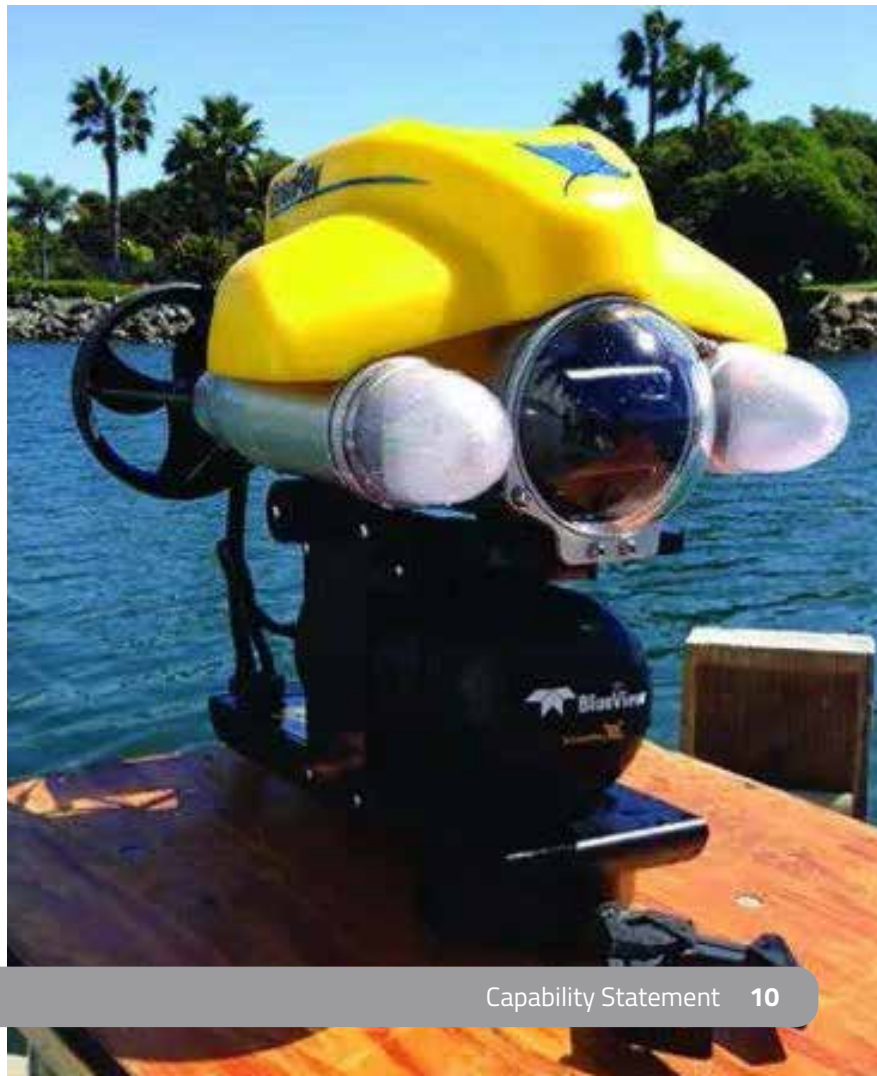
BLUEVIEW SONAR

Scour Tech provides 2D imaging and 3D Scanning sonar technology. Inspections are carried out on underwater infrastructures to inspect problems caused by corrosion, scour, impact damage and debris.

Sonar is the best choice to use for underwater inspections of bridge structures to enhance traditional inspection methods.

Blueview imaging is designed for high resolution imaging and well suited for inspections, environment evaluations and diver monitoring.





MATERIALS

Our products are 100% Australian manufactured. By manufacturing locally, Scour Tech has the ability to provide fast response for flood recovery, undermined structures and retaining structures.

Geotextile fabrics are long lasting, strong and durable materials that provide the perfect encapsulation for pouring concrete in-situ. The fabric is extremely versatile allowing it to be constructed in any shape or form for any of our applications.

Utilising renewable and recycled products, they can be constructed into woven and non-woven geotextiles. Geotextiles are available in a arrange of material grades for any application.

Scour Tech has tested these materials in all its application with a range of different control measures to ensure the mat's materials are acceptable for its purpose and environment.

Test	Units	400R	600R	900R	1200R
Fibre Type	-	100% Virgin Polyester Fibre			
CBR Burst Strength (AS 3706.4)	N	2,750	4,360	6,140	8,850
CBR Toughness (AS 3706.4)	kJ/m^2	2.7	5.6	8.1	9.3
Wide Strip Tensile Strength MD[3] (AS 3706.2)	kN/m^2	14.8	21.2	30.4	45.5
Wide Strip Tensile Strength XMD[2] (AS 3706.2)	kN/m^2	15.6	26.6	38.9	57.2
Wide Strip Toughness MD (AS 3706.2)	kJ/m^2	5.5	10.2	14.6	21.7
Wide Strip Toughness XMD (AS 3706.2)	kJ/m^2	5.8	12.7	18.6	30.0
Grab Tensile Strength MD (AS 3706.2)	N	820	1,250	1,790	2,800
Grab Tensile Strength XMD (AS 3706.2)	N	870	1,440	2,160	3,260
Abrasion Resistance MD/XMD (BAW Rotating Drum)	kN/m Strength Retained	7.5/6.9	17.3/17.3	22.7/26.2	34.2/40.5
12 Month Outdoor Exposure MD/XMD (ASTM D5970M-16)	kN/m Strength Retained	8.1/7.1	17.7/17.0	23.2/23.2	42.4/47.6
Hydrocarbon (Diesel) Resistance MD/XMD (AS 3706.12)	% Strength Retained	>90	>90	>90	>90
Accelerated UV Resistance MD/XMD (AS 3706.11)	% Strength Retained	>50	>60	>80	>80
Pore Size O_{95} (AS 3706.7)	µm	≤75	≤75	≤75	≤75
Pore Size O_{95} Capillary Flow Method (ASTM 6767)	µm	182	124	126	108
Permittivity (AS 3706.9)	s^{-1}	1.41	0.69	0.45	0.30
Coefficient of Permeability (AS 3706.9)	m/s x 10^{-4}	48	34	23	20
Flow Rate @ 100mm Head (AS 3706.9)	L/m^2/s	141	69	45	30

OUR CLIENTS & WORK HISTORY

Client	Consulting Engineer	Project	Scope of Works
McConnell Dowell	Jacobs Engineering Group	Sydney Cove Overseas Passenger Terminal	Design scour protection mattresses for 10,729m² 59 – 28m x 6.0m x 350mm
BHP Aurecon	Aurecon	SABR Hay Point	Design articulating scour protection mattresses for 3711m² 32 – 10.5m-21.0m x 6.3m x 800mm
City of Gold Coast	Bonacci Infrastructure	Isle of Capri Bridge	Design new bridge abutment for 77.93m² 1 – 15.6m x 5.0m x 1.0m
Dep. of Transport & Main Roads	SMEC	Rooney Bridge	Design scour protection mattresses for the following applications: Pile scour protection mattresses for 293m² 12 - 11.1m x 2.4m x 600mm Abutment scour protection mattresses for 1408m²
City of Vancouver	Northwest Hydraulics	BC Ferries, Horshoe Bay – Berth 1	Design scour protection mattresses for 229m² 15 – 4.2m x 3.4m x 450mm 3 – 3.4m x 2.1m x 450mm 1 – 9.5m x 1.4m x 450mm
McConnell Dowell	Jacobs Engineering Group	Webb Dock & McGraw Wharf Upgrade, Burnie TAS	7 Scour mattresses 26m x 6m x 450mm 27 custom cavity bags, averaging 1.5m x 2m x 450mm
Waterway Construction	Jacobs Engineering Group	Eden Breakwater Upgrade, Eden NSW	86 square pile bags 4m x 4m x 300mm 45 custom cavity bags (fill holes between existing scour mats)
Lendlease	Jacobs Engineering Group	Kingsford Smith Drive Upgrade, Brisbane	4 round pile bags 3m x 400mm 8 cavity bags 6m x 400mm 11 pipe bags 1.5m x 1.5m x 800mm, 1 headwall containing 5 formwork mattresses
Jacobs Engineering Group	Madsen Giersing	Qld Alumina Limited pipeline upgrade, Gladstone Qld	32 round pile bags 1.6mø x 1.5m
JM Kelly Group	Dep. of Transport & Main Roads	Callaghan Park Boat Ramp, Rockhampton Qld	3 Scour mattresses 26m x 6m x 200mm
McConnell Dowell	Jacobs Engineering Group	Kiribati Wharf Upgrade, Kiribati	20 Cavity Bags