



"Hammerstones"

a sculptural proposal for

Waverley Mall, Bondi Junction, NSW

© Paul D Johnson & Gail Mason 2016

Conceptual Framework

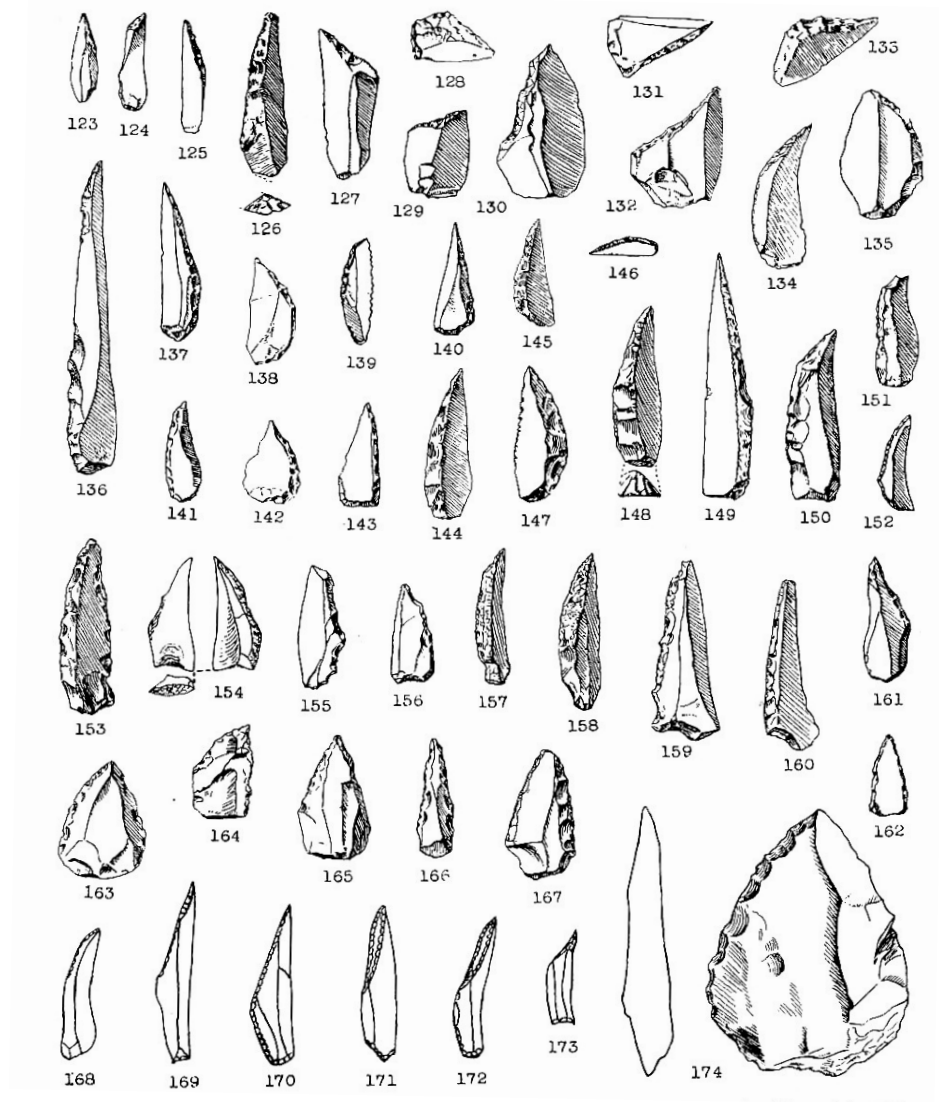
Artefacts - Bondi Points - were found at Bondi at a large site on the northern end of the beach in 1899. According to the Encyclopaedia of Aboriginal Australia these were first called 'chipped-back surgical knives' because they are shaped like a scalpel or penknife blade, the name 'Bondi' was given to them in 1943...Bondi Points are part of a larger class of 'backed blades' but they are long and thin, in contrast to other microliths which are shorter and often geometric in shape. However, there is a clear size distinction between the groups. Bondi points were first made in Australia about 4,500 years ago...These tools were probably used as spear points and barbs, with the blunted back and the blunter end of the tool being held in place by resin, as with more recent death spears. Bondi points and other backed blades were no longer commonly made when whites arrived.

The Encyclopaedia of Aboriginal Australia: Aboriginal and Torres Strait Islander history, society and culture. Canberra: Aboriginal Studies Press for AITSIS, 1994, p.139.

We propose a series of 5 contemporary sculptured forms, based on these microliths, spread along Waverley Mall.

By alluding to pre-European settlement and using contemporary materials and technology, we are able to ponder the distance travelled by the various inhabitants of this country.

The materials are selected for their rich visual contrasts – the copper echoing the natural pigments in stone and all materials 'aged' to allude to the discarded shards chipped off by ancient stone workers.



Backed artifacts / Bondi Points 2500 BC

"Art makes visible that which isn't."

CONCEPT

Form

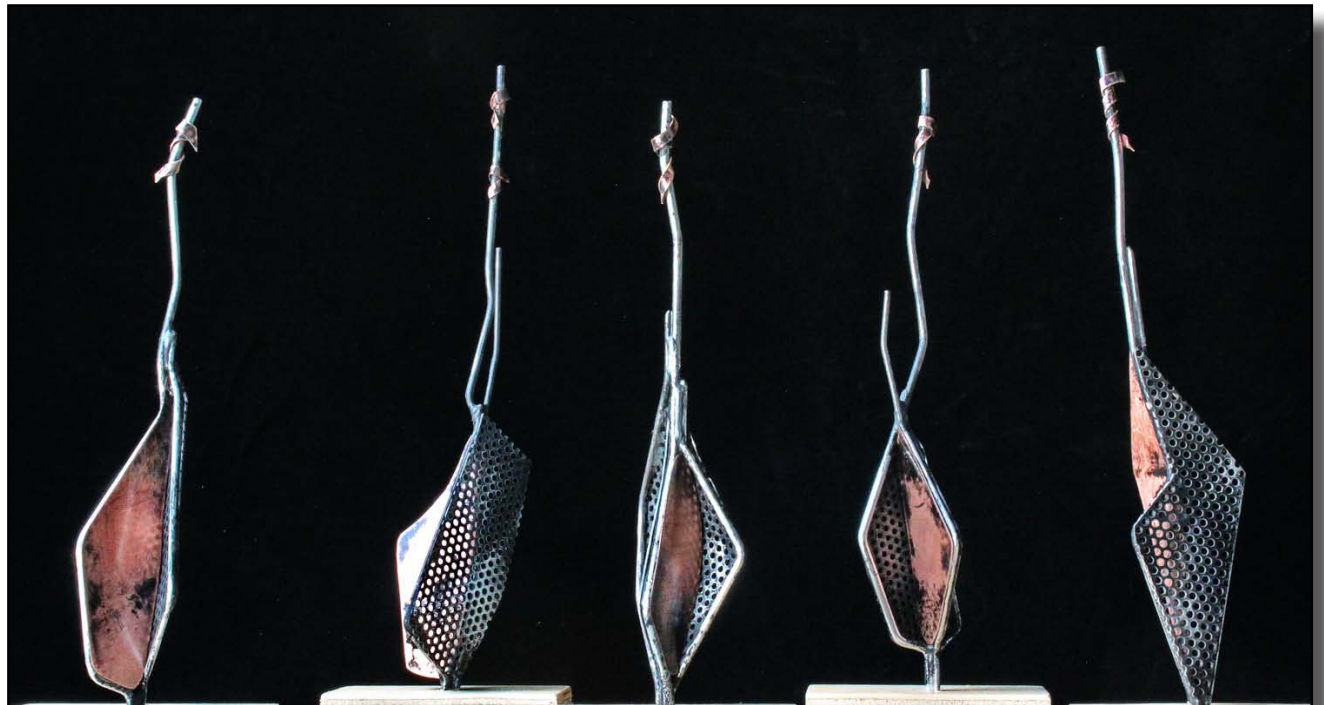
The materials and shapes of our sculptures are inspired by these archaic stone artefacts. They echo the changing facets of the artefacts as one moves around the sculptures. Breaking up the form into different materials, solid and mesh, bridges the gap between neolithic industry and contemporary structural surfaces.

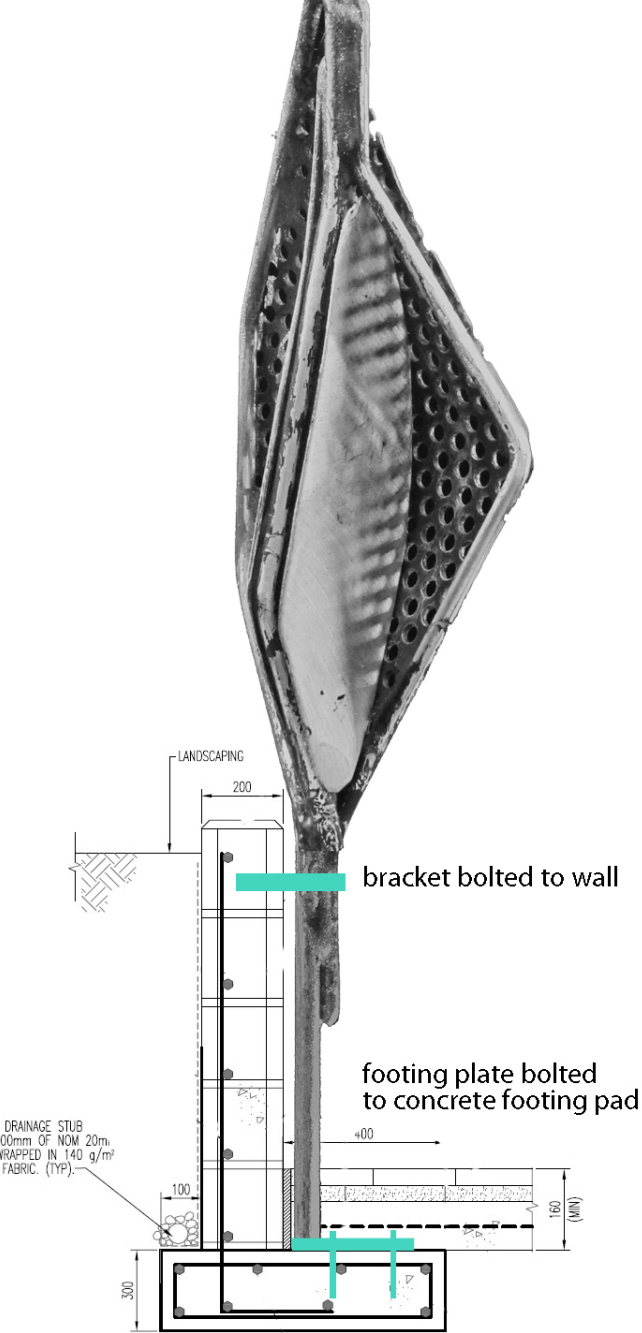
These forms extend high into the canopy of the Plane trees in order to place lights among the foliage and branches.



Colour

Bondi Points were made from a stone called Silcrete - a blend of stone, sand and silica; hence the reddish colouring. Since Paleolithic times, silcrete has been made more workable by heating the stones under fires - a practice used by both Aboriginal peoples and by our Paleolithic ancestors 45,000 years ago.





PLANTER BOX WALL DETAIL
SCALE 1:10

PLACEMENT & SCALE

Sculpture Locations

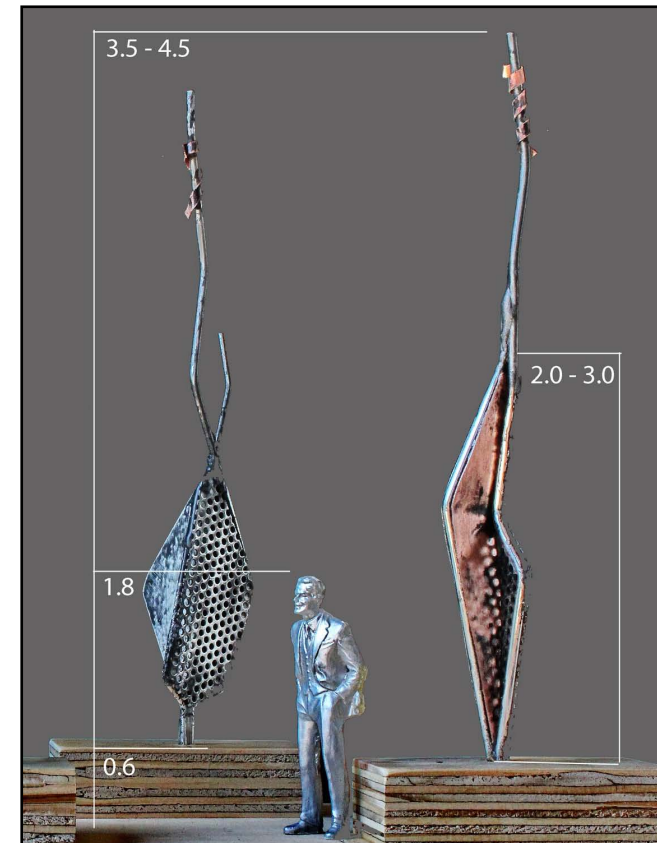
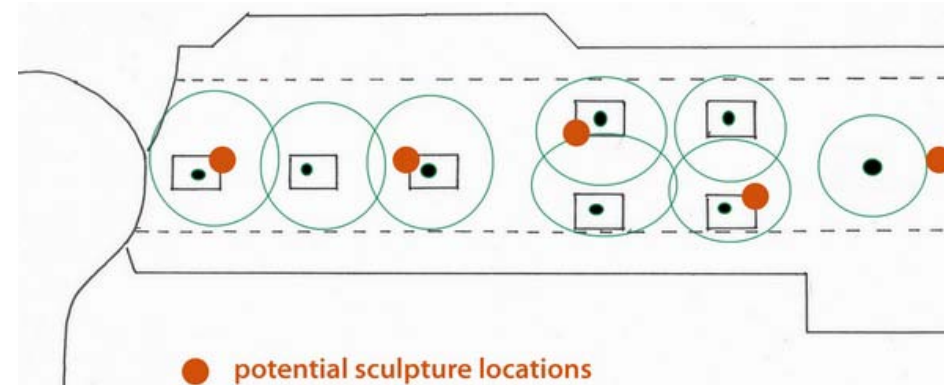
The five sculptures are more or less equally spaced throughout the mall. The vertical elements would be placed between major limbs of the plane trees with enough space to ensure minimal maintenance over the years.

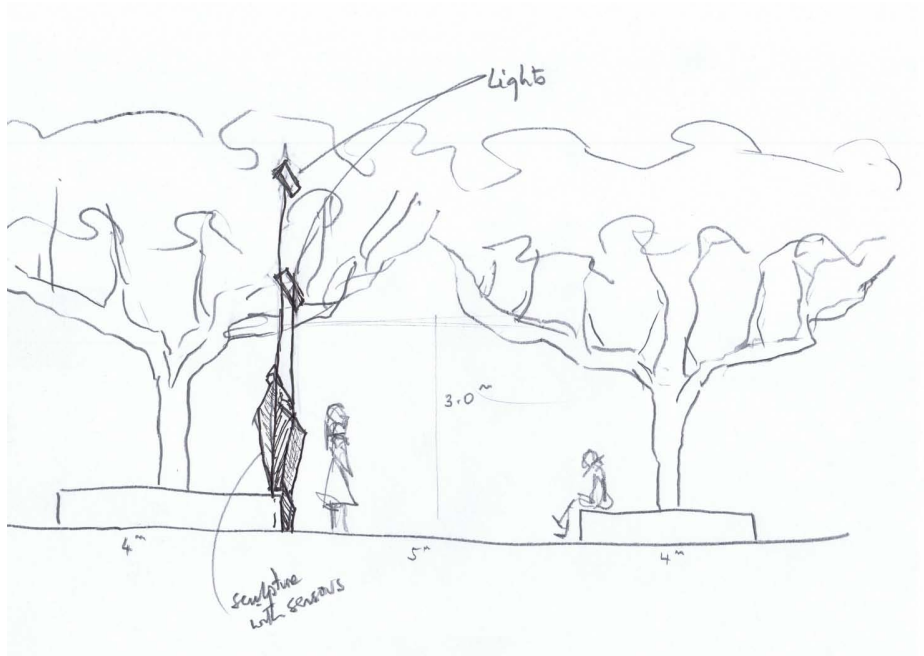
They do not occupy any significant pedestrian space and they will be supported by the planter boxes in all but one case.

The Council engineer can advise the best position - inside the planter box, or attached to the outside of them. As the weight of each is no more than 80 kgs, they can be bolted down to the footings of the planter box walls and stabilised with bracket higher up the wall.

Scale

The sculptures are 'human' scale although the lighting support poles extend well beyond. They are designed to fit comfortably between the top of the planter boxes and the tree canopy.





Interactive Lighting in the Mall

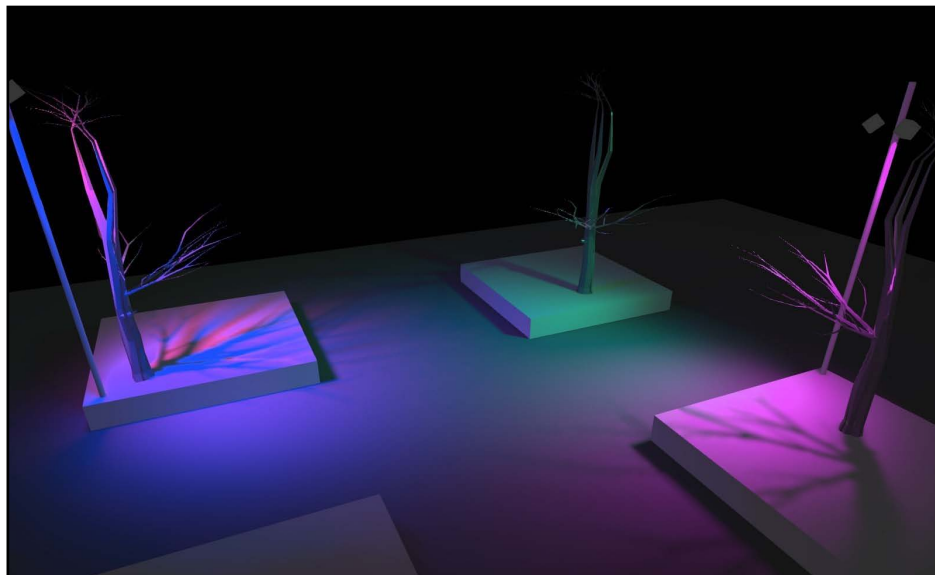
The five sculptures have powerful LED down lights on top, within the tree canopy. Each sculpture contains movement sensors that activate the lights sequentially as people move through the mall.

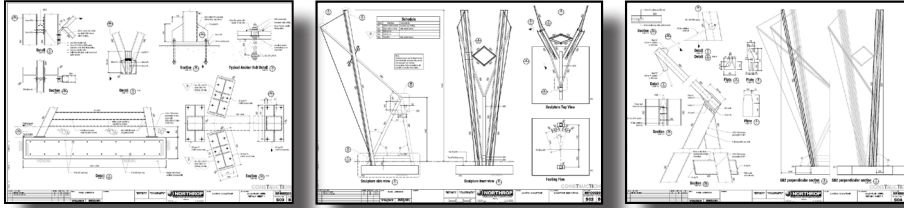
There are many options for programming these lights, but a simple example would be to have the ground brighten ahead of people and fade behind them. Once installed, the program can be changed at any time.

Being among the foliage and branches, the lights throw patterns of the Plane tree canopy onto the ground - a pattern that changes with the seasons.

Where the light beams overlap, patterns and colours become more complex.

The fixtures are German-made 60W Grunzell LEDs which are built for extreme weather [seaside] conditions. These are supplied by Digilin Australia and are supported by a Sydney based office. Total power draw for the lighting would be about 420W when activated.





"Counterbalance" 2012; Loxton, SA; example of our engineer's drawings

Engineering

The foundations, support structure and material specifications would be engineered and certified by Northrop Consulting Engineers, Brisbane and Canberra. This company has handled all our public art projects since 2006.

Materials

THE SCULPTURES

Supported by a central column of 63 x 6mm structural aluminium tube, the external cladding is 4mm aluminium sheet and mesh. All aluminium is abraded, sprayed with black etch primer, rubbed back for a tonally varied surface, then spray coated with 'Like Armour'.

COPPER

These 2.0mm thick sheets are also etched, rubbed back and treated with Like Armour for long term protection against oxidation and graffiti.

ALUMINIUM MESH

This has a bespoke design based on the Bondi Points that were first discovered and recorded in 1899. They will be modified to remove sharp edges and potential entrapment issues.

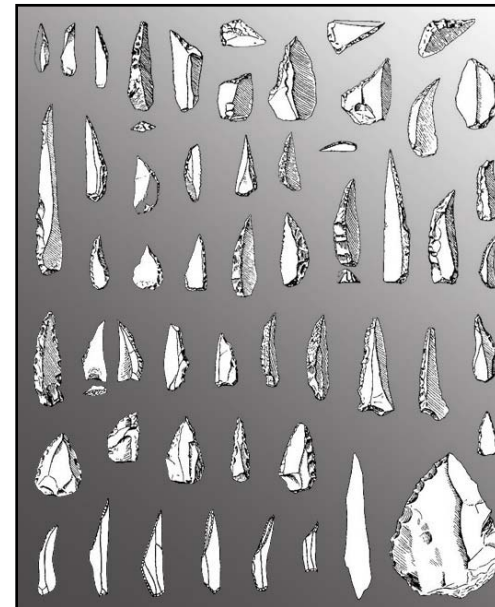
Construction & Installation

All work would be fabricated in our workshops on the Sunshine Coast and trucked to site for a 2 to 3 day installation.

MATERIALS & CONSTRUCTION



"Silk Road" 2008. Gold Coast Convention Centre, QLD. Working with aluminium RHS



left: Bondi point drawings as a beginning for a site-specific mesh design.



right: bespoke mesh designed for WA Botanic Gardens based on 11 endemic seed shapes.

Indicative Budget for “Hammerstones”

Materials	6,665
Fabrication & subcontracting	15,750
Supply lighting components + program	15,650
Site visits, packing & transport	7,110
Office overheads, insurances & professional fees	8,470
Artists’ fees	20,000
Installation incl electrical supply & hardware	<u>8,675</u>
Subtotal	82,320
Contingency 10%	8,232
Total [excl GST]	90,552

note: subject to engineering assessment

Proposed Time-line & Payment Schedule

2016	time		payment
End Nov	8 weeks	Meet & discuss; sign agreement; commence design development including: stakeholder consultation, structural and lighting engineering, risk analysis, and final budget. [note: Dec/Jan reduced services]	10%
2017 end January	12 weeks	submission of Final Construction Documentation, sign fabrication agreement, commence construction	50%
end April		complete fabrication; provide photo-documentation; arrange for installation of electrical conduits	30%
early May	2 weeks	package and freight, install sculpture, connect, test and adjust lighting	
mid May	2 weeks	submit Maintenance Manual; practical completion	10%

Insurances & Warranties

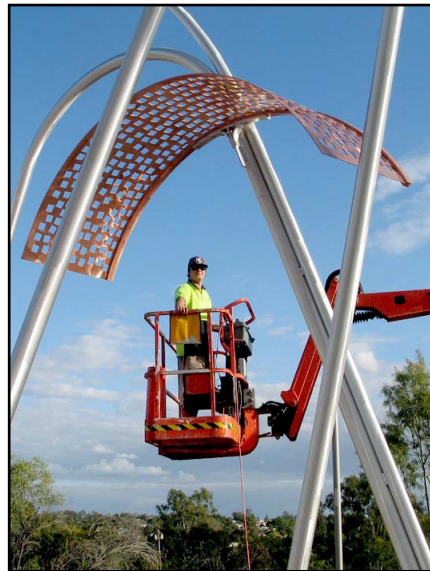
Artventure holds continuous Public Liability insurance of \$20 million and Professional Indemnity insurance of \$5 million. The artwork is insured for transit and installation, from studio to hand-over.

All workmanship, materials and products are guaranteed against failure for a 12 month period from the date of practical completion.

Health & Safety - installation

Asafety plan will be submitted prior to any on-site work and compliance with all requirements under the OHS act is assured.

The artist holds a current 'Blue Card' – evidence of completion of the QLD Government course for Health & Safety in the Construction Industry. The artist is also a trained operator of boom-lifts and scissor-lifts by the Elevating Work Platform Assn. of Australia. Artventure is also has the CM³ Certificate of Prequalification for Risk Management.



Public Safety

The work will have no trip hazards or sharp protrusions. It will be clearly illuminated at night. The perforated mesh sections will be too small for hand holds for climbing the structures.

Maintenance

All components are solidly built with an indefinite life expectancy. The copper and aluminium surfaces are coated with 'Like Armour' which we have been using for 8 years with no visible degradation. The metallic iron finish elsewhere can easily be restored with a matching can of pressure pack ['Metallic Charcoal']. Annual hosing to remove surface grime will keep the work looking fresh and bright.

Lighting and electrical components are Australian made [Digilin] and come with full warranties and a Sydney-based back-up service.

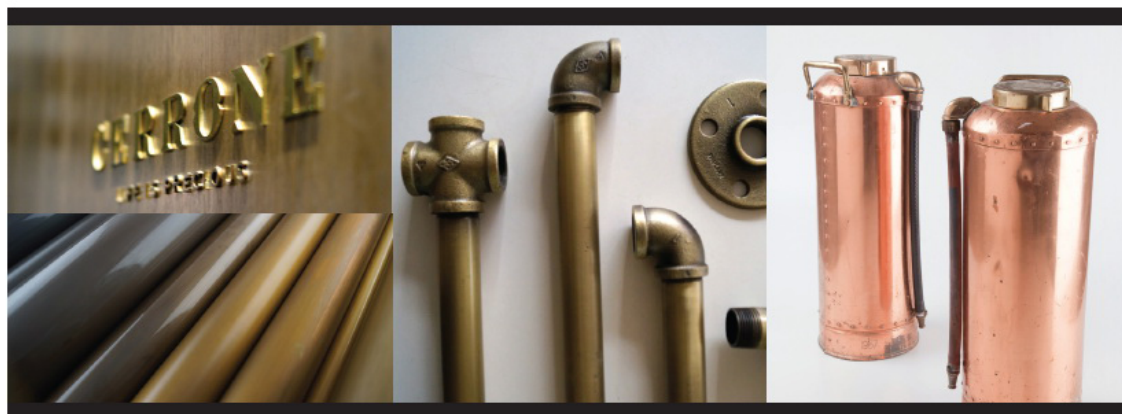
QUALITY ASSURANCE

APPENDICES

Like Armour Metal Protection

Like Armour Standard

Like Armour UV



AROA's Like Armour acrylic polymer lacquer is a metal finishing product that offers superior protection from corrosion, tarnishing and surface oxidation for bare metals, including copper, brass, bronze, zinc, silver, steel, aluminium and electroplated surfaces.

Like Armour is suitable for any number of commercial and industrial applications where protection of metal is required, from protection of zinc and zinc alloy die castings, alloy wheels and copper piping, to taps and household fittings, window frames, decorative items, signage, metal artworks and jewellery.

Superior Protection

Like Armour, and Like Armour UV – ultra violet (UV) stabilised for external applications – contains a unique corrosion inhibitor that chemically penetrates into the metal surface, offering long lasting protection. The clear, protective lacquer provides:


- High resistance to chipping, peeling and adhesion to other block surfaces
- Exceptional outdoor durability, tested in the harshest conditions
- Ease of application using a brush, spray, dip or electrostatic spray
- Fast drying time, touch dry in 15-20 mins, hard in 24 hours
- Ease of removal, using complementary AROA thinner

Like Armour, and Like Armour UV, and complementary thinner, are available in 1L, 4L and 20L tins, dependent on required application*.

*For optimum long-term weathering and corrosion resistance, a clear film build of 25 microns is recommended. For industrial applications, the lacquer may be baked at 150 degrees C to further increase hardness and resistance to solvents. Like Armour UV is recommended to provide additional exterior protection.





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Digilin
AUSTRALIA

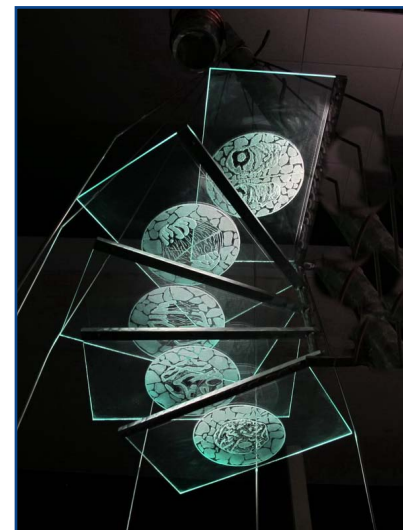
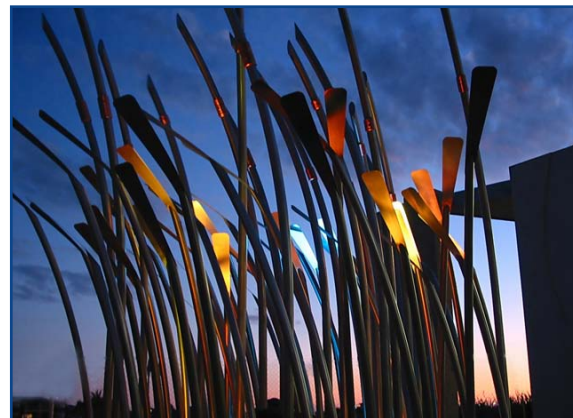
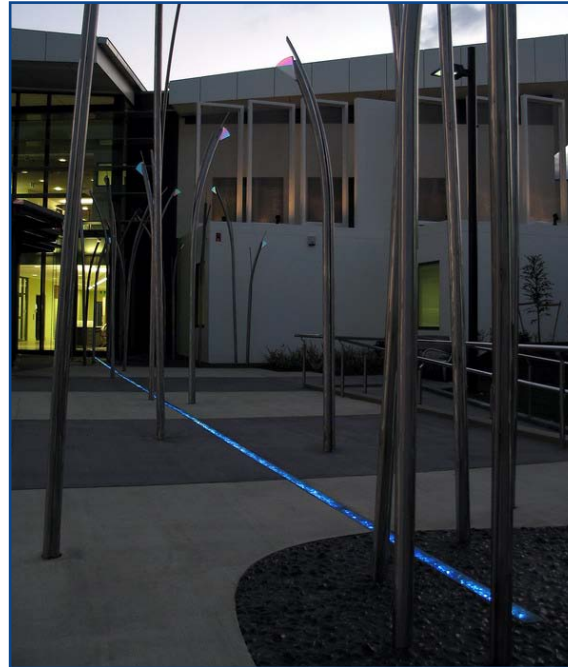
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<http://digilin.com.au/>

Digilin have supplied programmed LED and custom designed fibre-optic lighting to most of our projects since 2006.



PROJEKTOR

LED Flood/Spot 14w - 60w
868 - 4291 Lumens

DIGILIN

Architectural High Performance LED Projector

The Projektor is an architectural IP65 rated luminaire that is suitable for both exterior use as well as for large public interior applications. The compact design makes it perfect for building facades, landscaping, entrances, security areas, terraces and gardens.

The luminaire is constructed with the LED driver compartment with built in (IP67) driver thermally separated in a surface powder coated corrosion resistant die cast aluminium housing.



SPECIFICATIONS

Model	B218-14	B218-25	B228-35	B228-60
Colours	2700K, 3000K, 3500K, 4000K, 5000K			
Luminaire Lumens	868	1773	2504	4291
Typical CRI	80			
Beam Options	18°, 30°, 55°, 73°		15°, 23°, 46°	
Performance	70% Lumen Maintenance @ 50,000 Hours (L70)			
Luminaire Power	14w	25w	35w	60w
IP Rating	IP 65			
Material & Finish	Powder Coated Die Cast Aluminium			
Colours	White, Black, Silver/Grey			
Power Supply	Voltage 100-270V (50/60Hz)			
Reflector	Highly specular aluminium coated PC			
Weight	1.5kg		4.2kg	

DIMENSIONS

