

ACO Drain in Prestigious WSUD Projects

Pitt Street Mall, Sydney

Two high profile Australian projects feature ACO's recent contribution to water sensitive urban design (WSUD), Dorset Square Carpark redevelopment in Melbourne and the Pitt Street Mall upgrade, Sydney.

Recently featured in the publication, Engineers Australia, is Knox City Council's award winning, Dorset Square Carpark redevelopment. The Stormwater Industry Association of Victoria commended the project for the quality of the drainage integration for both permeable and impermeable pavements whilst adhering to the principles of WSUD.

Storm Consulting, the project's engineers, incorporated **KlassikDrain** with **Heelguard Iron** grates, for the drainage of the impermeable pavements. Both the paving and trench drain systems were structurally supported with concrete edge strips and foundations that tie into the surrounding concrete pavements.

Pitt Street Mall, the well known pedestrianised section of Pitt Street, has also recently undergone a major refurbishment. Bound by Market Street and King Street, it is one of Australia's busiest and most cosmopolitan shopping precincts.

The upgrade included, new granite paving and landscaping; a new catenary lighting system; public street furniture and fixtures; and most significantly, an environmentally sustainable water management solution where the stormwater is diverted off awnings directly onto vegetation. This was largely achieved with the re-grade of the existing surface to fall into the centre to a trench drain made to evoke the Tank Stream, Sydney's original water source. Planners required the appearance of the drain to harmonise with the new paving design and the architecture of the old buildings nearby. Architects, Tony Caro and Associates designed a pattern for ACO to portray on its ductile iron grates. The sequence of grates would then allow the pattern to have visual continuity to suggest the effect of water trickling down the pavement. A lighting system is also suspended in the underlying channel run to give a unique visual night effect.

ACO's custom designed grates are rated to Class D210kN (AS3996) to cater for emergency and maintenance vehicles; and are locked into ACO's 300mm wide modular precast drainage system.

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Sustainable drainage is an element of the hydrological cycle. It is the collection of rainwater, its treatment and, ultimately, its reuse. The process involves capturing water run-off, which may or may not contain pollutants, so it can be dealt with in a controlled manner. The water can then be treated, stored for future use, or transported to receiving waterways. This transfer of water should come at low cost, and cause minimal damage and danger to the environment. Surface drainage, as exhibited in both these recent projects, can be used where rainwater has collected on impermeable areas for the 'capture' part of this process.

Grated trench drains are ideal for the capture and collection of stormwater run-off. They form a barrier to prevent run-off from flowing onto the soft landscaping where collection is more difficult. ACO provides a wide range of trench drains to meet the hydraulic needs of WSUD projects.



Article in Engineers Australia

For more information, visit www.acoaus.com.au/drain

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For more information on ACO's products or services, contact our sales office or visit:

www.acoaus.com.au

ACO PIPE - New Building Drainage Handbook



ACO's Wide Range of Pipe Sizes

ACO Polycrete Pty Ltd, Australia's foremost manufacturer of stainless steel drainage systems has launched a new technical handbook for the building drainage industry. The guide is also a product catalogue for the **ACO Pipe** system and features an extended range of stainless steel pipes & fittings for multi-drainage applications.

The **ACO Pipe** system is a modern metal alternative to PVC, HDPE soil and waste pipework. All components are manufactured from austenitic grade 316 stainless steel, and are chemically pickled and passivated for optimum durability and corrosion resistance.

ACO Pipe comprises a comprehensive range of pipe lengths to 6 metres for diameters up to 160mm. Pipes and fittings are socketed and can be push-fit assembled. The range is designed principally to address the needs of all stakeholders, building owners, designers, builders and end-users with features that include:

- Long service life – components are manufactured from grade 316 stainless steel for high corrosion resistance and low on-going maintenance.
- Quality design & manufacture – components exhibit better geometric concentricity, fitting design and weld quality than any other product in the industry.
- Optimum joint integrity – components have a low coefficient of thermal expansion compared with HDPE (in particular) which tends to fail when operating temperatures vary between 10°C and 60°C.
- Superior seal security – components comprise a unique double lip sealing system, ideal for extraneous conditions.
- Ease of installation – components are lightweight and push-fit for quick assembly.
- Connection adaptability – components are suitable for either push-fit or weld-up connection methods.

The new 28 page, A4 size, full colour handbook is a guide and covers issues relating to planning, designing, assembly and maintenance. Below ground installation is also featured as a special topic. Additionally, the guide gives specifiers and buyers, clear detailed information on **ACO Pipe**, pipes and fittings; and auxiliary items to facilitate installation.

To request your free 28 page handbook, contact ACO:
Tel (Aus): 1300 765 226
Tel (NZ): 0800 448 080
Tel (Export): + 61 2 4747 4000



ACO extends its ShowerDrain range

The complete ShowerDrain range



ShowerDrain as shown in the publication, InfoLink Architectural

Australia's most popular residential drainage system now has an extended product offering.

The **ACO ShowerDrain** range now comprises channels and floor drains which complement each other for use in a wide range of bathroom designs. These systems, designed for residential wet areas, comprise a wide choice of compact drainage systems designed for optimum performance, aesthetics and safety. **ACO ShowerDrain** comes complete with the industry's broadest selection of highly aesthetic, foot friendly grates.

New to the range is **ShowerDrain Gully**, floor waste point drainage systems, complete with grates specifically designed to complement the **ShowerDrain Channel** range. Manufactured from 100%, stainless steel and available in 150mm x 150mm, 200mm x 200mm (Tile Insert grate only) or built to custom requirements, **ShowerDrain Gully** can easily be secured into the topping screed, ideal for existing (retrofit) or new bathrooms; and is generally installed in the middle of the shower area; or as and overflow relief gully within the bathroom.

Seven grate options are available including **Linéaire**, a unique patented Australian made grate designed with anti-slip features to ensure surfaces are safe to walk on when wet, ideal for floor areas requiring enhanced slip resistance.

For more information, visit: www.acoaus.com.au/stainless

ACO Opens New Branch in South Australia

As part of an ongoing pursuit to deliver a world class service to the Australian construction industry, ACO Polycrete Pty Ltd has recently opened a new state sales office and warehouse in North Dry Creek, South Australia. This move is the final step which now allows the Australian manufacturer to service its regions through all major Australian capital cities with a direct supply of products from its seven stocking locations and deliver a more personalised and efficient customer service.

ACO's presence in South Australia hasn't come overnight. For nearly 15 years, the manufacturer, through commercial partners, has been servicing the state with its extensive portfolio of stormwater, building drainage systems; cable pit and ducting systems; access covers and other products for niche applications.

According to David Eisenhuth, ACO's Managing Director, the move has been very timely. 'we have taken the bold decision to expand our sales operations so that customers can benefit from a more efficient and direct product supply'.

In 2009, after a long association with local distributors, ACO similarly decided to open a state sales office and warehouse in Canning Vale, Western Australia. A move that has seen ACO become a highly regarded direct supplier of construction products to the Western Australian construction industry.

The new state sales office and warehouse is located at Unit 14, 17-19 Churchill Road North Dry Creek SA. 5094

Phone – 08 8162 7800 Fax – 08 8162 7899

For more information, visit: www.acoaus.com.au/locat



New ACO Branch, Adelaide

Discrete Drainage for Sacred Grounds

Recent government funding to the Australian War Memorial has resulted in an upgrade of the Eastern Precinct to match the quality and character of the rest of the complex. This involved the construction of new courtyards and associated buildings; improved public access and facilities as well as the replacement of the existing café where, near the water feature, a bronze statue of Australian military hero, Weary Dunlop is positioned

Designers selected **KlassikDrain** with **Heelguard Iron** grates to keep walk areas free from ponding during heavy storms. A high quality and efficient drainage solution was critical, not only for the convenience and safety of passing pedestrians, but to stop water from penetrating the suspended slab and into the underlying carpark.

A discrete drainage solution was also required adjacent to the water feature. ACO's **Miniklassik** with **Intercept Iron** grates was installed. The modular system, comprising metre length channels of 50mm (internal width), is designed to be unobtrusive yet functional.

For more information, visit www.acoaus.com.au/drain



Quarry & Rickertt Road Upgrade

The suburb of Thornside, Brisbane has recently undergone an \$11 million road upgrade at Quarry and Rickertt Rd.

The upgrade was undertaken to widen the existing single carriageway to a dual carriageway system. The construction of the additional lanes not only shortened travel times to Brisbane city for bayside residences, but also allowed designers to improve safety for both pedestrians and drivers. This was accomplished with the introduction of a median to separate the city bound carriageway from the other one heading to the coast. Engineers specified **PowerDrain** in both 200mm and 300mm widths beside the median to stop stormwater run-off from transgressing across the super elevated sections. In some sections, **PowerDrain** was also installed along the kerbline adjacent to the footpath.

Roads provide the most challenging environments for drainage systems. A variety of vehicle types, from cars to semi trailers, traveling up to high speeds, breaking and turning in various weather conditions, 24 hours a day, can impose severe stresses on road surfaces. Only proven, reliable, quality products are used in these applications and drainage systems need to work efficiently to ensure surface water is removed quickly and that accidents do not result from aquaplaning.

ACO's **PowerDrain** grated trench drains are available in 3 widths and are built to withstand road traffic. The ductile iron grates are rated to Class G900kN (AS3996) and are locked with **PowerLok** (boltless locking mechanisms); into integrally cast ductile iron edge rails with anti shunt mechanisms. **PowerLok** mechanisms allow quick and easy access to the underlying trench to minimize disruption during maintenance.

For more information, visit www.acoaus.com.au/drain

Quarry Road, Brisbane

Formula One – High Performance Drainage!



PowerDrain at V8 Pit Lane - Grand Prix, Melbourne

PowerDrain, ACO's heavy duty trench drain system has recently been installed in two Australasian venues hosting the Formula One Grand Prix, the Sepang International Circuit (SIC) in Malaysia and the Australian Grand Prix, Melbourne.

Since 2008, ACO has worked closely with SIC and contractor, Nippon Road to provide drainage for the upgrade of the Sepang track. The most recent installation provided a quick and sustainable solution in time for the opening of the 2010 Malaysian Formula One Grand Prix. Following the client's decision to replace the previous deteriorated cable ducting run, ACO supplied **PowerDrain** in a 300mm width to serve both, as a drainage and telecommunications ducting enclosure. The insertion of a cable tray, fixed to the inside walls of the polymer concrete channels, allowed for this dual service trench to perform to SIC's requirements.

The Australian Formula One Grand Prix, V8 Pit Lane is the most recent addition to this world class venue. Over 500 metres of **PowerDrain** was supplied to provide drainage of sufficient capacity to keep the road surface from ponding during heavy rainstorms. ACO backed its product with hydraulic calculations to ensure all drainage requirements were met.

PowerDrain is the product of choice for both Australian and Malaysian Formula One venues for its durable construction and its ability to withstand the repetitive down force exerted by Formula One cars. For both these installations, **PowerDrain's** locking assembly, **PowerLok**, was augmented with a purpose designed **Tombac Bar** and **Stopper** to ensure system compliance with the stringent security and safety requirements of the track. During maintenance, the locking device is easily disabled to provide quick and easy maintenance.

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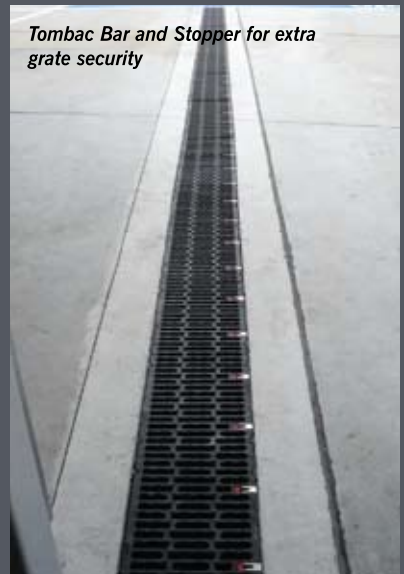
Asphalted pavements designed for racing tracks differ from that of normal roads. A racing track's pavement and its drainage elements require very high quality control with respect to stability, surface regularity and durability. For many years, cast in situ drainage had been standard practice in Formula 1 tracks. Recently, however, findings by a research group carried out at Paul Ricard HTTT (High Tech Test Track) indicated that in time, bolts would cause potential issues with safety; were unsightly; and would oxidize causing maintenance issues.

ACO's **PowerDrain** grated trench drains are available with 90 tonne capacity ductile iron grates locked with boltless mechanisms into integrally cast ductile iron edge rails with anti shunt mechanisms. The underlying trench comprises interlocking precast channels made from polymer concrete, a durable resin composite with excellent strength properties.

Numerous racing tracks around the world, such as the Nürburgring and Hockenheimring tracks, Europe; and the Formula One track in Shanghai, China; are drained with ACO's world famous trench drains.

For more information, visit: www.acoaus.com.au/drain

Tombac Bar and Stopper for extra grate security



Klassik Solution for Auckland's Premier Hub



Aotea Square,
Auckland

First opened in 1979, Aotea Square has recently been upgraded into a safe, family-friendly environment for residents and visitors. It is now the city centre's premier open space. Striking designs and sculptures have transformed the domain into a new creative hub attracting thousands of people who come together to enjoy the best of Auckland's arts and entertainment.

At the start of the project, designers were faced with the challenge of managing the stormwater. Specifically, a solution was required to stop water from penetrating the concrete slab and entering the car park areas beneath. The drainage system needed to be heel friendly, aesthetically compatible with the pavement and strong enough to withstand the wheel loads from emergency vehicles. The high volume of surface water run-off from the expansive catchment areas required the underlying drainage system to be large enough to handle the anticipated stormwater volumes.

As a result of these requirements, consultants specified ACO's **Heelguard Antislip** grates as part of ACO's **KlassikDrain** system. The grates were purpose manufactured for Class D210kN (AS3996) loadings, strong enough for the transit of emergency and service vehicles.

The drainage system needed to be heel friendly, aesthetically compatible with the pavement and strong enough to withstand the wheel loads from emergency vehicles.

Designed for public pedestrian areas, forecourts and car parks, **KlassikDrain** is available in widths up to 300mm and features an integrally cast steel protective edge. The system can accommodate over 10 different grate types, including ACO's patented stainless steel **Heelguard Antislip** grates which comply to AS1428.2 (Design for Access and Mobility). All grates are secured with the **'QuickLok'** boltless locking device. A nylon stud is factory fitted to the grate, allowing it to snap tight into a bar positioned across the channel for quick and easy maintenance.

For more information, visit www.acoaus.com.au/drain

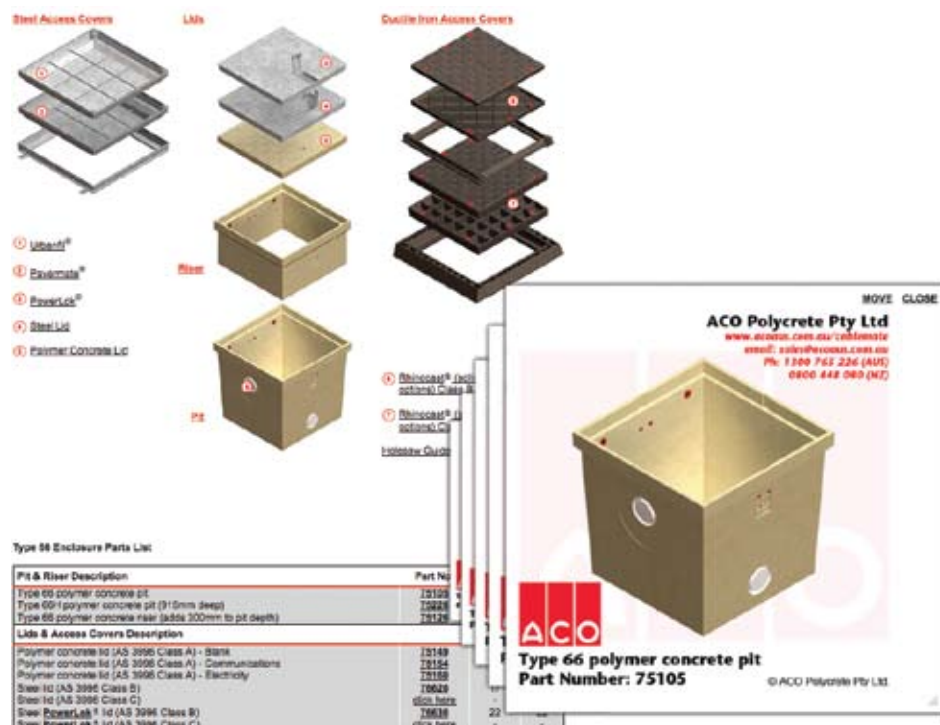
Instant, User-friendly Product Details - Online

To support the upgrade of **ACO Cablemate**, the industry's most advanced range of trafficable cable enclosures, ACO has refurbished its website.

The final stage of the **ACO Cablemate** web upgrade is now live. The site features a number of technical support pages to aide in product selection, specification and installation. Product pages, detailing every enclosure size are easy to understand and navigate to. Clicking on any product code allows the user to download an image for specification and/or for general email communication.

The **ACO Cablemate** range comprises

- Product solutions for all load classes;
- The industry's largest range of lids and access covers including ACO's new barless universal PowerLok lid(patent pending) and other OH&S friendly lids.
- Purpose designed pit bodies manufactured from materials with excellent insulation
- A full range of site accessories to ensure trouble free installation
- Services by an established technical advisory department to ensure correct product selection and advice on installation



**For further information,
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