

# Style and Function:

Specifying linear drainage systems for the hospitality industry



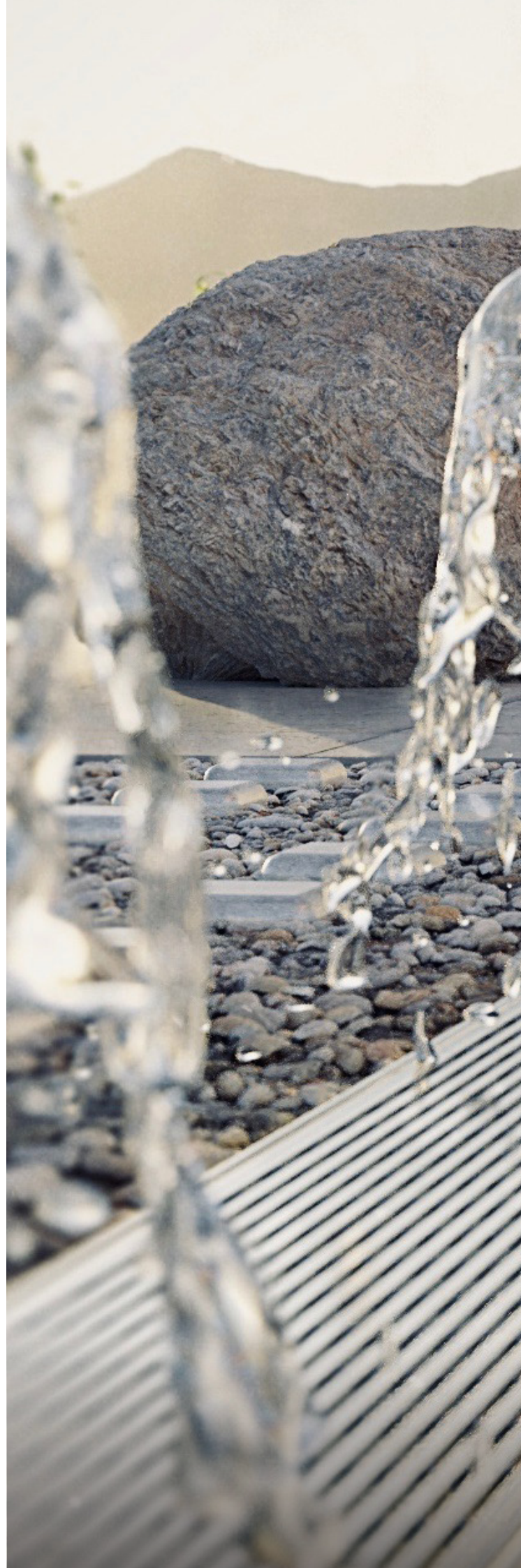
For the past five years, the Australian hospitality industry enjoyed a sustained period of growth.<sup>1</sup> Buoyed by high tourist numbers and plentiful investment,<sup>2</sup> it moved from strength to strength - and naturally a strong foundation of hospitality-focused architectural projects accompanied the boom.

However the global economic havoc caused by the COVID-19 pandemic has decimated the industry - both in real terms and in short-term growth potential. At the time of writing, in March 2020, businesses are closing, full rosters of employees being laid off and future investment in the sector has all but dried up as the world waits to see just how protracted the fallout will be.

Far from dwelling on what is undoubtedly a bleak short and mid-term forecast, the industry has already begun to adapt. Bars and restaurants have adopted takeaway models, hotels have ramped up their hygiene procedures to salvage consumer confidence. The Australian Government is moving to support the industry financially and State Governments are relaxing their licensing regulations to allow businesses to trade in different ways. The focus for hospitality businesses is now on short-term contraction in order to return to growth in the longer term. When economic confidence is restored - as it undoubtedly will be - hospitality businesses will once more increase trade and ancillary industries, such as architecture and design, will once more be in demand. In the meantime, specifiers (who are also feeling the pinch of this unprecedented situation) may find it pertinent to stay abreast of innovative fixtures for use in future hospitality projects.

Designing and specifying for hospitality projects requires a dual focus on functionality and aesthetic in order to create an environment that is pleasing for patrons but also efficient, sustainable and compliant. One of the most important things to get right in any hospitality project is finding the right drainage system for the job. Drainage in hospitality poses a unique set of challenges due to the breadth of business types and significant water usage typical of the sector. Whereas for years traditional pipe drains were the norm, they frequently provided sub-par drainage. Modern linear drainage designs strike the perfect balance of pleasing aesthetics and efficient functionality. They are suitable across a wide range of use cases, provide excellent accessibility and provide excellent sustainability outcomes.

This whitepaper will examine the differences between linear and traditional drainage types, some of the varied use cases relevant to the hospitality industry, why linear drainage is best for accessibility and how it can help designers and specifiers meet sustainability goals in their hospitality projects.





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## Traditional vs Linear Drainage

Traditional drainage uses a single drainage trap placed over a pipe that is directly connected to the main waste outlet. They can be unsightly with drain grates positioned in the middle of floors or surfaces. To operate effectively, traditional systems utilise complex four-way grading in order to adequately channel waste water towards the drain - this grading can increase construction time and costs significantly. Traditional drainage systems limit accessibility because they require hobs or other barriers to prevent spillover from showers into other areas. Traditional drainage systems are also prone to ponding: for example in a tiled bathroom or kitchen, if all tiles in the vicinity of the drain are not exactly flush with the overall gradient they can create small pools of waste water and refuse which pose a serious slip hazard and can act as breeding grounds for bacteria and vermin. The reliance on a single drainage trap means that traditional drainage is prone to blockages which can in turn block the main waste outlet (or Overflow Relief Gully).

Linear drainage systems, on the other hand, utilise an in-ground trough or channel to quickly and safely remove waste water from floor-level and funnel it efficiently towards the main drainage system. Linear drains can run the length of a room, balcony or outdoor area which means that rather than a four-way grade, only a single gradient fall towards the drain position is required. Their straight, geometric aesthetic creates a contemporary look, allowing the drainage system to become an integral part of an overall design, rather than something to be hidden. Linear drainage systems sit in-ground, removing the need for hobs and barriers, thus increasing accessibility for people with limited mobility. Through a combination of simpler grading requirements, greater drainage area and easier accommodation of larger tiles, linear drains minimise pooling and blockages by promoting more consistent water flow. This makes them safer and more efficient than traditional systems.

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## Linear Drainage for the Modern Hospitality Industry

The service of food and drink is integral to any hospitality business. However, wherever food or drink is prepared, drainage is a key concern - both for efficient functionality of space, and the safety of staff and patrons. The Australia and New Zealand Food Standards Code mandates that any food premises must have sufficient drainage as to prevent waste water contaminating the food or drink.<sup>3</sup> Premises must also have flooring that does not allow pooling of water and ensure that any floors that are hosed down (such as commercial kitchens) are graded towards a drain or gully in order to allow the waste water to sufficiently drain away.<sup>4</sup> Similarly, there are specific requirements relevant to hospitality, such as the need for drainage across the front of cool rooms. These obligations must be met in order for projects to be compliant with the Building Code of Australia and can be found in *AS/NZS 3500:2018 - Plumbing and Drainage Set*.<sup>5</sup>

Linear drains can also provide a safe, design-focused drainage solution for swimming pool areas in hotels or other

hospitality businesses. Whilst legislation and regulations related to aquatic facilities are set on a state-by-state basis in Australia, *AS2610.1:2007 - Spa pools: Public spas* sets out the requirements for elimination of backwash water from pool areas, as well as requirements for the finishes of physical surfaces including drainage grates.<sup>6</sup> Linear drains along the edges of pools can quickly and effectively remove backwash water, creating a more sanitary environment within the pool and drastically decreasing slip hazards from excess water in the surrounding area.

The sleek design of linear drainage options can also be used to create a luxury finish in bathroom areas. Drain grates come in a range of designs, from clean lines to geometric shapes to tile inserts, ensuring they will fit within the overall design of the project. Grates and trenches are frequently made of high-grade stainless steel, meaning they are not only visually pleasing but durable, tough, and easy to clean.

## Linear Drainage for Accessibility

All buildings and new construction in Australia are subject to the *Disability (Access to Premises — Buildings) Standards 2010* legislation,<sup>7</sup> the principles of which were subsequently adopted into the National Construction Code. *AS1428.1-2009 Design for access and mobility-General requirements for access - New building work* stipulates that accessible showers must be step and hob free, and also outlines requirements for gradients of shower floors.<sup>8</sup> Compliant linear drainage systems provide for the installation of smoother, safer, more even floors which can minimise falls, slips and other safety incidents. Similarly, the in-ground trenches used in a linear system means that no steps or barriers are required, even if the drain runs along the line of entry to the shower.

*AS 1428.1-2009* also states that buildings must contain a 'continuous accessible path of travel to, into or within a building providing access to all accessible facilities.'<sup>9</sup> Linear drains provide an aesthetically pleasing means of satisfying this requirement. They can be placed at regular intervals around the edge of outdoor areas to drain water away from thoroughfares, or even directly across a pathway to provide excellent drainage. Level threshold drains also provide an excellent means of ensuring that water from outside does not enter a premises. Threshold drains can be customised to run along sliding door tracks in any shape to create a safety-focused environment with minimal slip hazards.

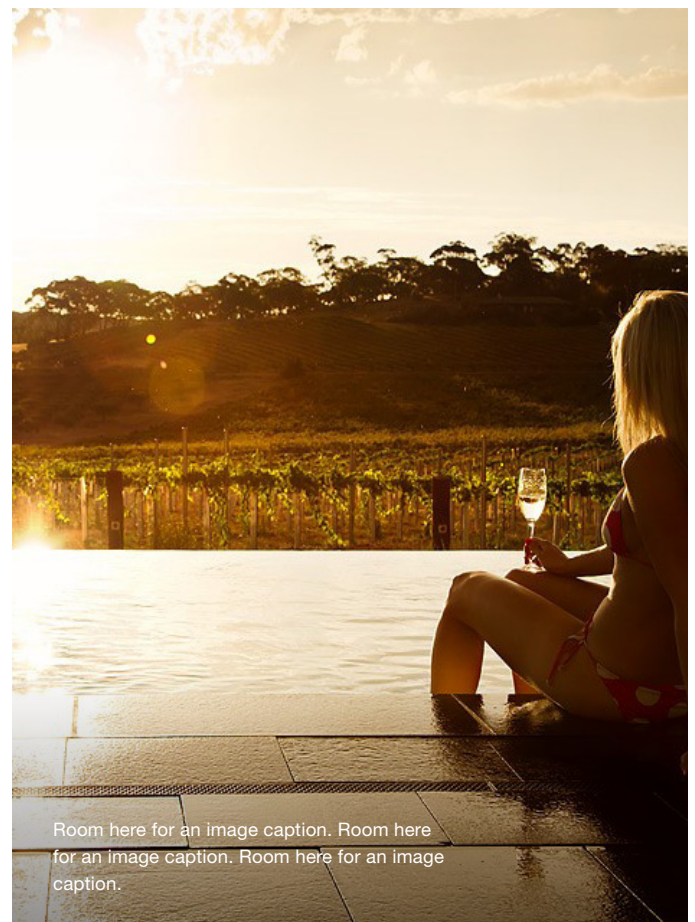


## Achieving Sustainable outcomes

A sustainable water management plan is an integral part of any hospitality business, and sustainable drainage solutions are a crucial part of any water management plan. With figures showing that inefficient use of water can cost hotels in the region of \$200,000 per year, but savings of 20-25% can be realised without compromising guest comfort,<sup>10</sup> it is easy to see why this makes sense.

In addition to the obvious economic benefits, effective and sustainable drainage has huge environmental advantages for hospitality projects. Adequate drainage will minimise flooding to landscaped areas, reducing the loss of trees, plants, and redistribution of top soil. It will also prolong the life of any construction, reducing mold, damp, and related degradation to wood, concrete and other materials.

There are a number of frameworks to help specifiers in selecting sustainable drainage solutions. Linear drainage solutions adhere to such frameworks as the Water Sensitive Urban Design guidelines which take a holistic view of water management by ensuring the best possible water quality is discharged, giving it the best chance of reuse through natural stormwater systems. Similarly, bodies like Green Building Council Australia offer guidelines and product certifications for the top tier of sustainable building materials and products. Specifiers should look for these certifications when selecting a drainage solution.





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## Stormtech

For 30 years, Stormtech drains have been at the forefront of sustainable, accessible and forward-thinking design in Australia. Stormtech's award-winning grates and drains are versatile, efficient, and meet the stringent design and functionality requirements of the modern market. They provide a safe and efficient means of drainage with a minimal, modern aesthetic that fits seamlessly within contemporary architecture.

Stormtech drains connect with all standard plumbing fittings and are compliant with all relevant standards and the National Construction Code. Stormtech has been a member of the Standards Australia Committee since 2006 and has Standards Australia International Certification.

Stormtech takes a whole-of-cycle approach to water management and drainage and all designs are created with Water Sensitive Urban Design principles in mind. All Stormtech drains are Watermark certified for use in Australia. Stormtech is also the only drainage manufacturer with Level A GreenTag certification, which is the product rating certification approved by the Green Building Council of Australia.