



# ALTERNATE SOLUTIONS FOR CIVIL STRUCTURES

- RETAINING WALLS • CULVERTS • TANKS & PITS
- MARINE ENVIRONMENTS

# TRANSITION FROM CONVENTIONAL CIVIL METHODS TO A DINCEL CIVIL ALTERNATIVE.

There is often a trade-off associated with the vertical elements for civil and infrastructure projects; either a long lead time if they are constructed off-site or a long build time if they are constructed on-site. The Dincel system with its patented snap-lock technology eliminates the need for this trade-off with the benefits easily translated to real financial savings around construction time, labour and cost of raw materials.

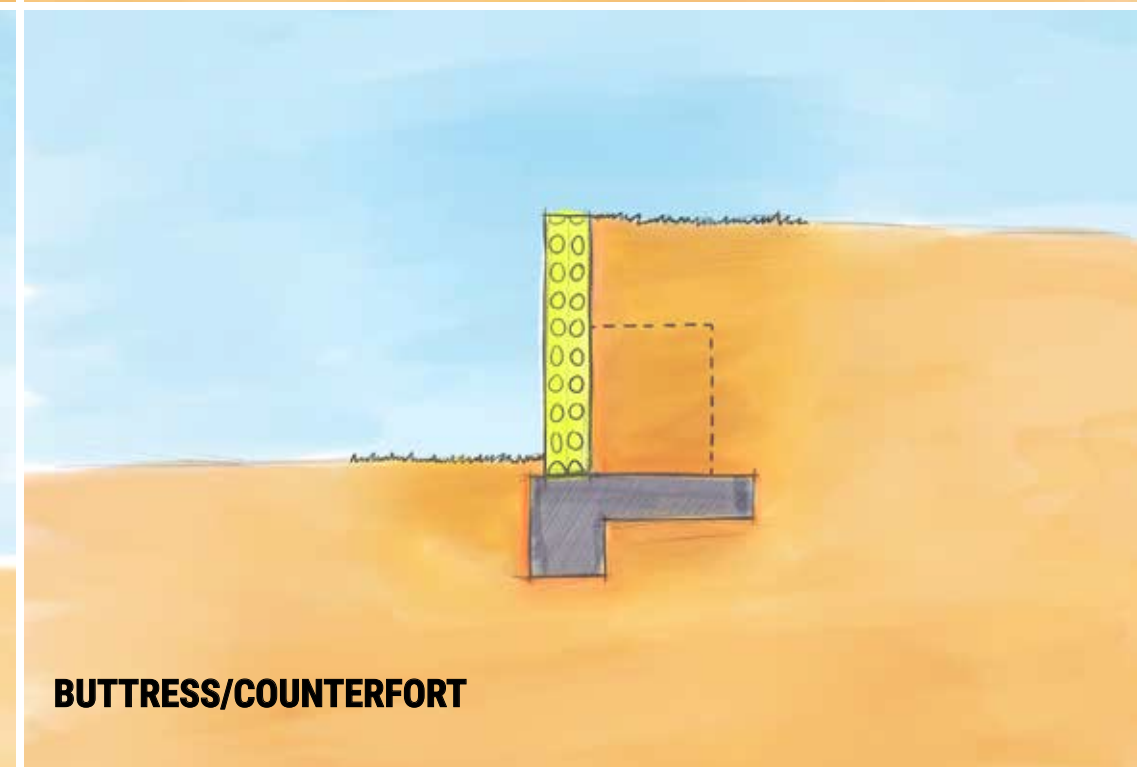
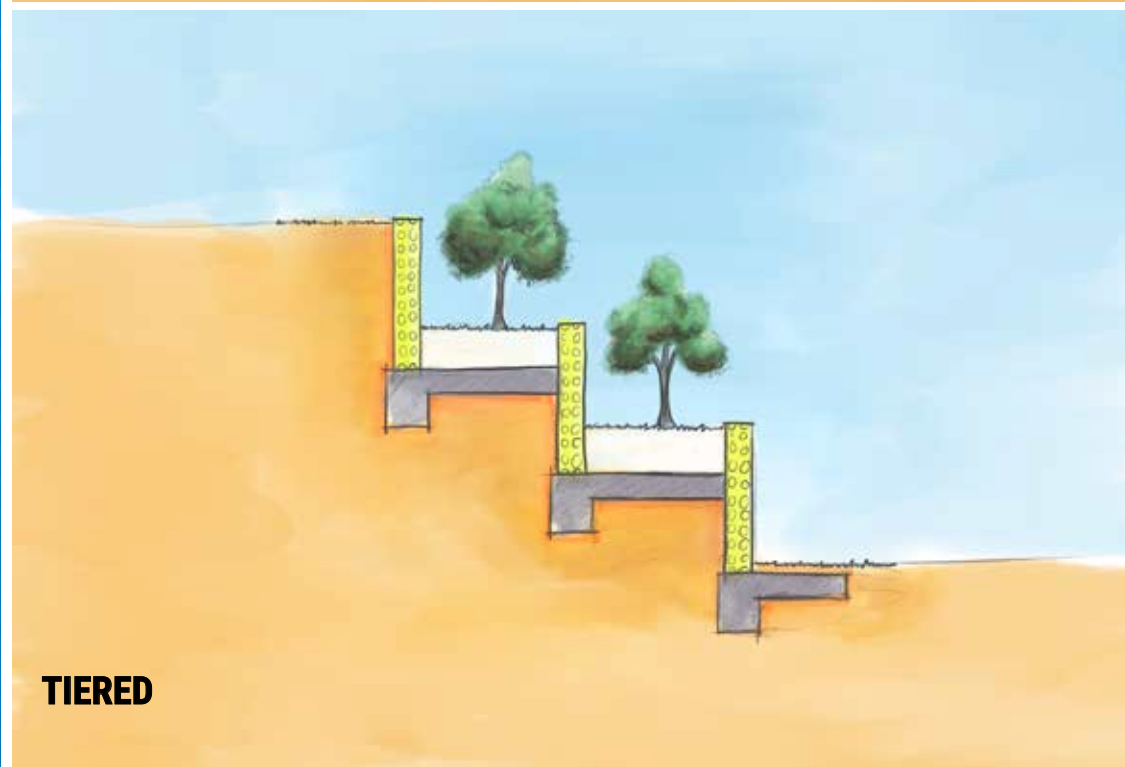
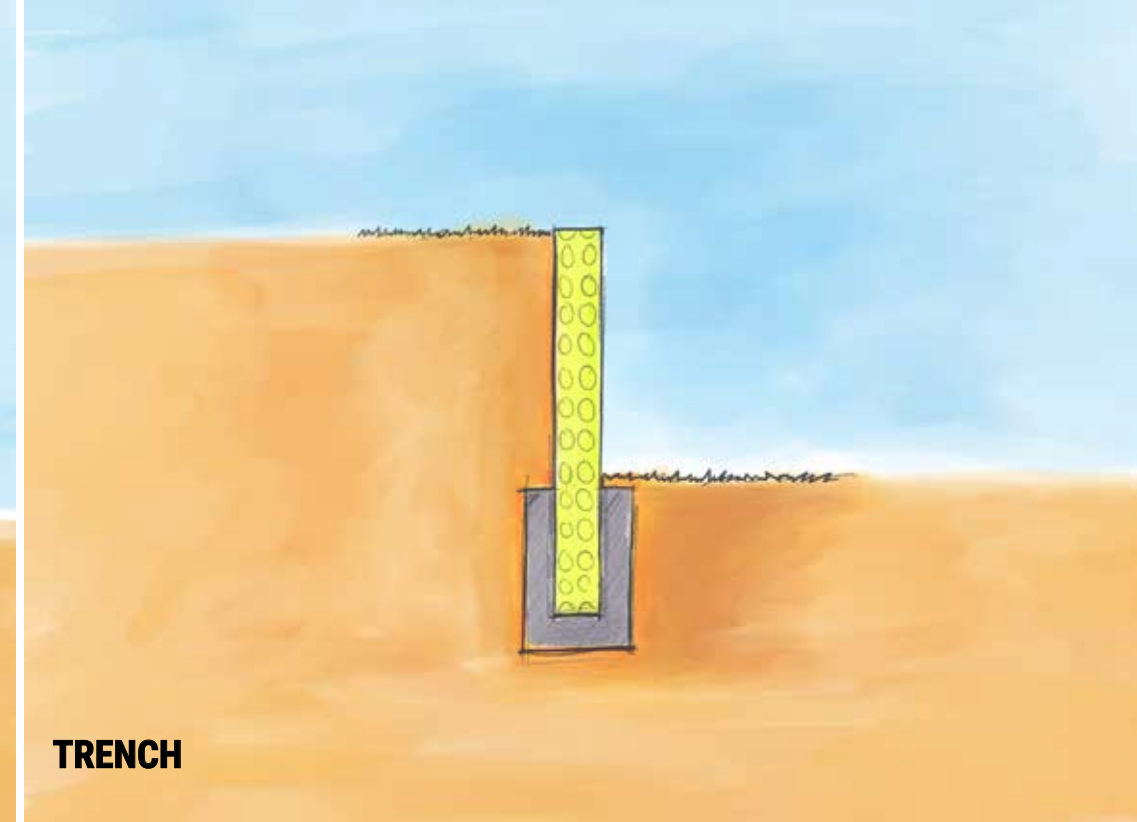
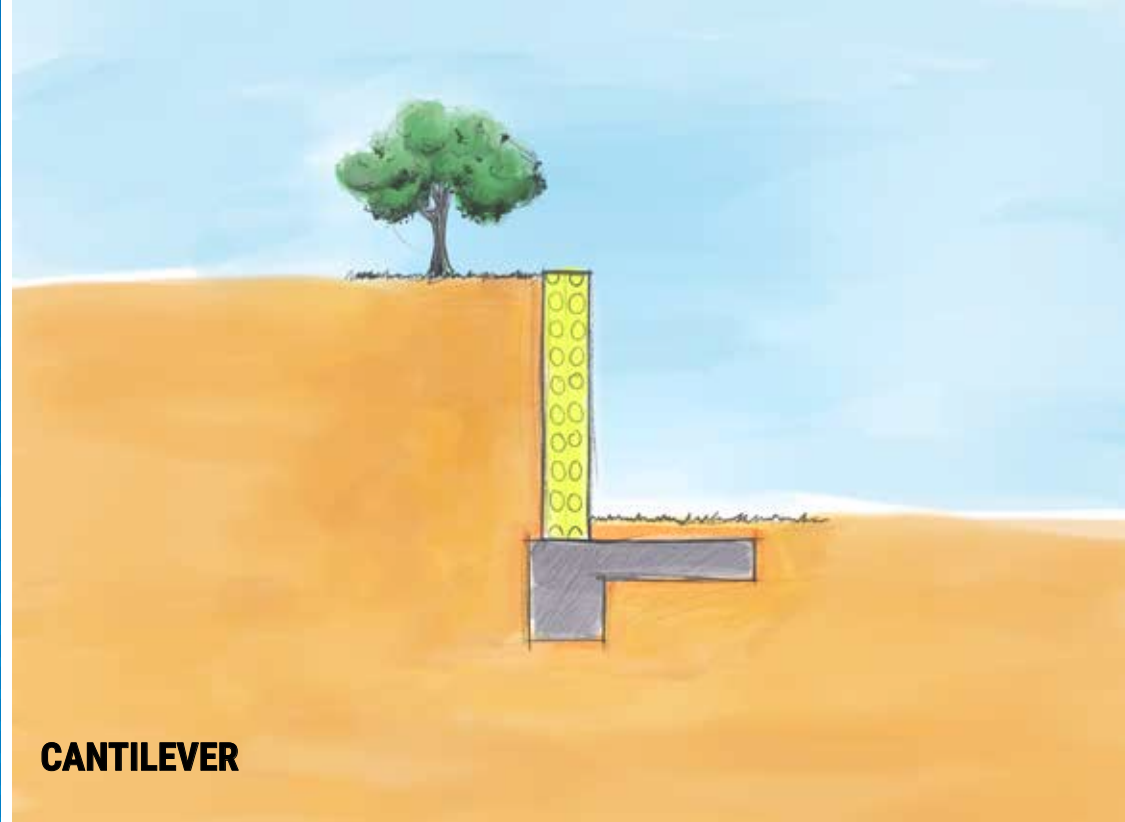
Whether you are at an early stage assessment or have current project commitments, we can gladly **review and advise of alternate build methodologies.**

**Combined with our established industry network of Design Engineers & FRP Contractors, we also can:**

- Assist with preliminary concepts and budget costings.
- Undertake product endorsement with Authorities and Design consultants.
  - Offer engineering guidance and support.
- Provide component scheduling and QS assistance.
- Coordinate Dincel component supply and delivery.
  - Give installation guidance with the off-site Dincel Training Academy.
  - Supply templates for installation checklists, SWMS and ITPs, in conjunction with site-based quality assurance inspectors.

# RETAINING WALLS.

- Lightweight modular components - minimal craneage
- Waterproof\* - up to 6m height
- 100+ year lifetime guarantee
- Able to be constructed from one side only - reduced over excavation
- No crack control vertical joints





# Cantilever.



Dincel 275 • 150m length • Up to 3m height • Alternative Design (originally specified blockwork)  
• Concrete volume and reinforcement tonnage reduction • Tripartite 'Works Contract' - Client/Dincel Supply & Supervision/Local FRP Contractor





# Tiered.



Dintel 275 • 70m (total length of two walls) • 2.4m height • Alternative Design (originally specified blockwork)  
• Concrete volume and reinforcement tonnage reduction • Design and use of Dintel endorsed by Council

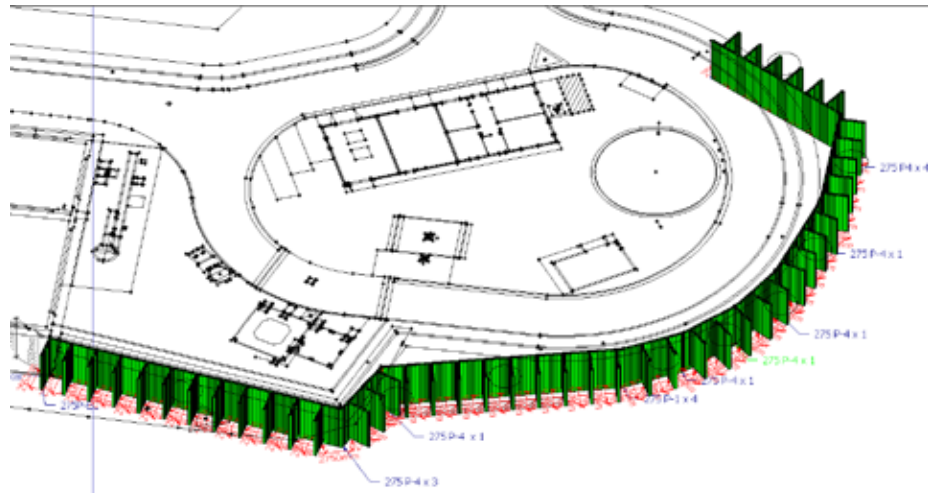




# Buttress / Counterfort.



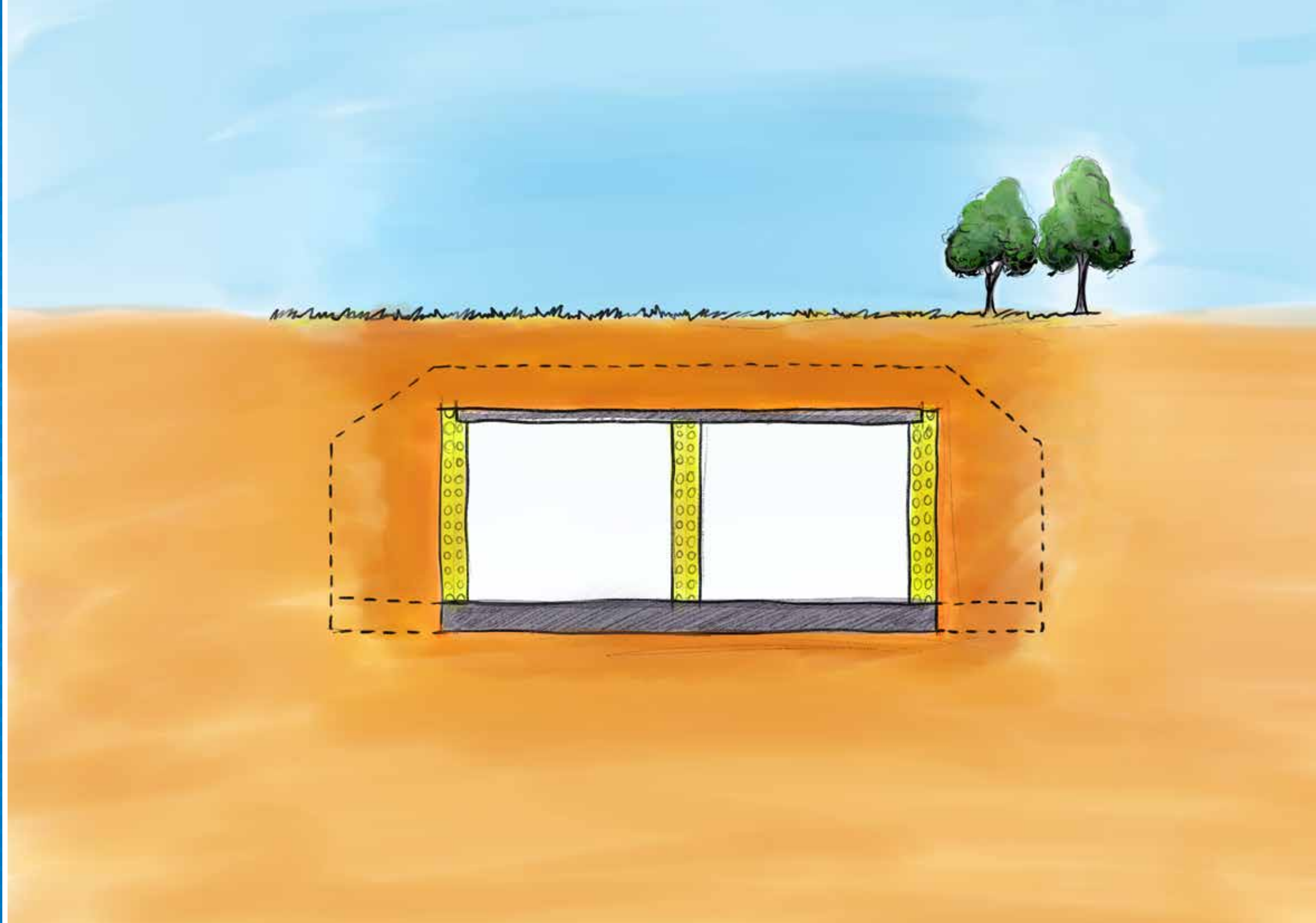
Dintel 275 • 200m length • Up to 6m height • Alternative Design (originally specified cast in-situ reinforced concrete) • Significant reduction in total concrete volume and reinforcement tonnage





# CULVERTS.

- Minimal lead time - max 5 days from order
- Lightweight modular components - no heavy craneage
- Size and wall shape flexibility
- 100+ year lifetime guarantee
- Graffiti resistant





# Culvert.



Dintel 200 • 2 Cell - 3m x 1.8m x 40m length (including Wingwalls & Headwall each end)  
• Culvert on critical path for commencement of subdivision Civil works • Alternative Design (originally specified precast culvert crowns) • Allowed provision for early works site access • Design & Certification by Dintel recommended engineers • Build works included Dintel walls, combined with “clear spanning” metal decking





# Culvert.



Dintel 155 & 275 • 2 separate Culverts: 3 Cell - 2.1m x 1.5m x 22m length & 3 Cell - 2.7m x 1.5m x 14m length  
• Culverts on critical path for commencement of further Civil works • Alternative Design (originally specified precast culvert crowns) • Isolated site - craneage cost reduction & speed paramount • Design & Certification by Dintel recommended engineers • Build works included Dintel walls, combined with "clear spanning" metal decking





# Culvert.



Dintel 200 • 2 separate Culverts: Single Cell - 2.7m x 3m x 20m length each • Culverts on critical path for commencement of further major Civil works • Alternative Design (originally specified precast culvert crowns) • Difficult site access for heavy craneage • Alternate structural design review, build works included Dintel walls and suspended metal decking





# Pre-Fab Culvert Crowns.



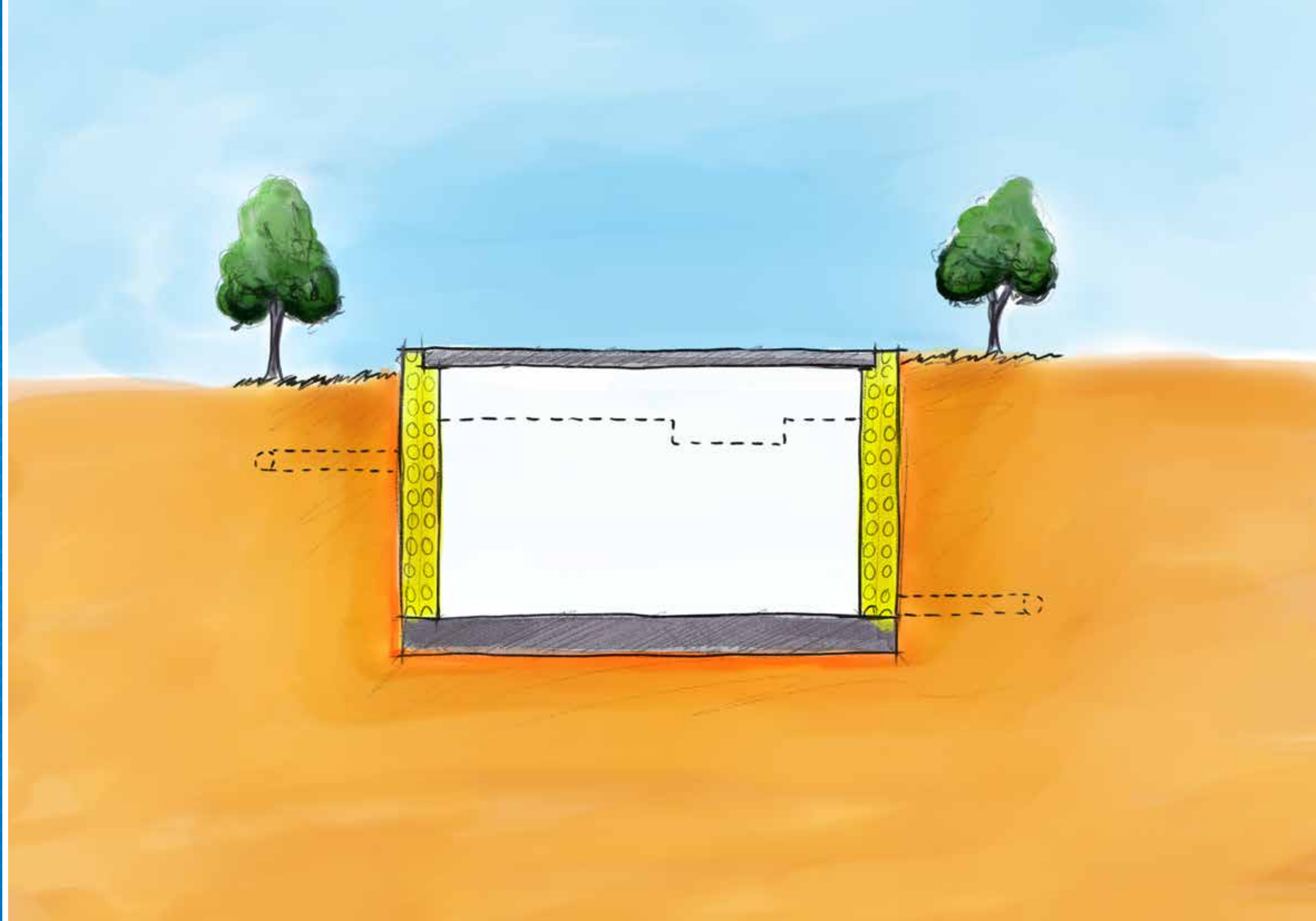
Dinzel 155 • 27m of culvert crowns located beneath a major arterial road • The existing drainage pipework had to remain operational and site construction could only be done during the night • Alternative Design (originally specified cast in-situ reinforced concrete) • Offsite prefabrication of 9 no. 3m length Dinzel culvert crowns (incl. placement of reinforcement) delivered, installed and concrete poured during a single nightshift





# TANKS & PITS.

- Lightweight modular components - minimal craneage
- Waterproof\* walls - up to 6m height
- Chemical resistant walls
- 100+ year lifetime guarantee
- Reduced WHS & confined space issues





# OSD Tank.



Dincel 155 & 200 • 2 separate OSD tanks 24m x 24m x 3m height typically • Series of different height walls internally varying from 1m to 3m height • Part of a major infrastructure project with requirements for fully charged sections and overflow via filtration chambers & weir walls • Alternative Design (originally specified as precast tanks) • Civil & structural engineering assistance provided • Use of Dincel walls and clear spanning metal decking, simplified OH&S (confined space) issues and provided waterproof\* structures





# Water/Oil Separator Tank.



Dincel 200 • 3m dia. x 3m height tank constructed with P1 (basic panel) & P4 (15 deg angle accessory) Dincel components • Confined and restricted work zone • Very fast wall construction (less than 2 hours) with minimal bracing required due to circular design • Dincel panels provided a waterproof construction that contained fluid and full protection from internal chemical attack • Large wall pipe penetrations easily accommodated





# Septic Tank.



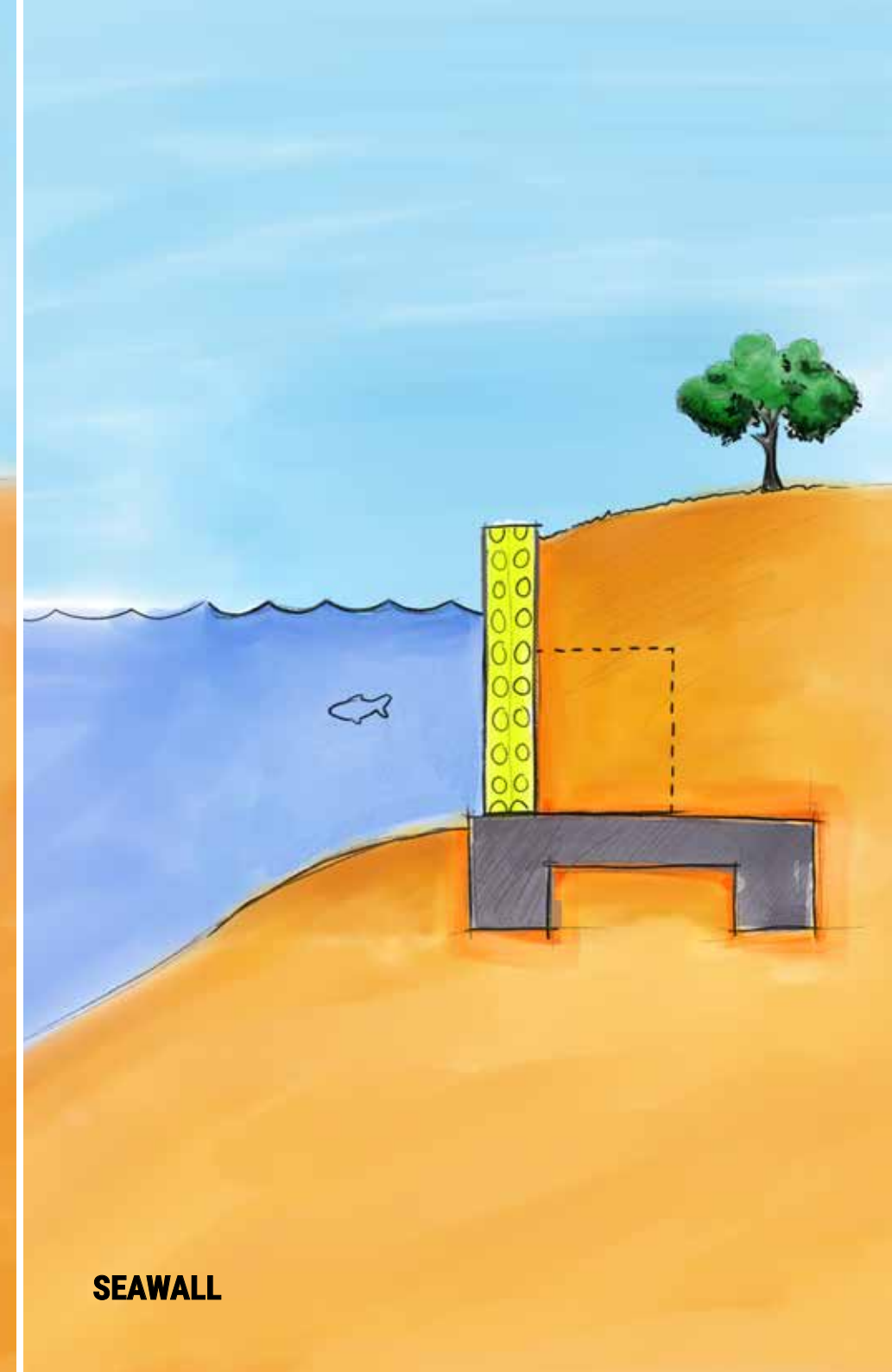
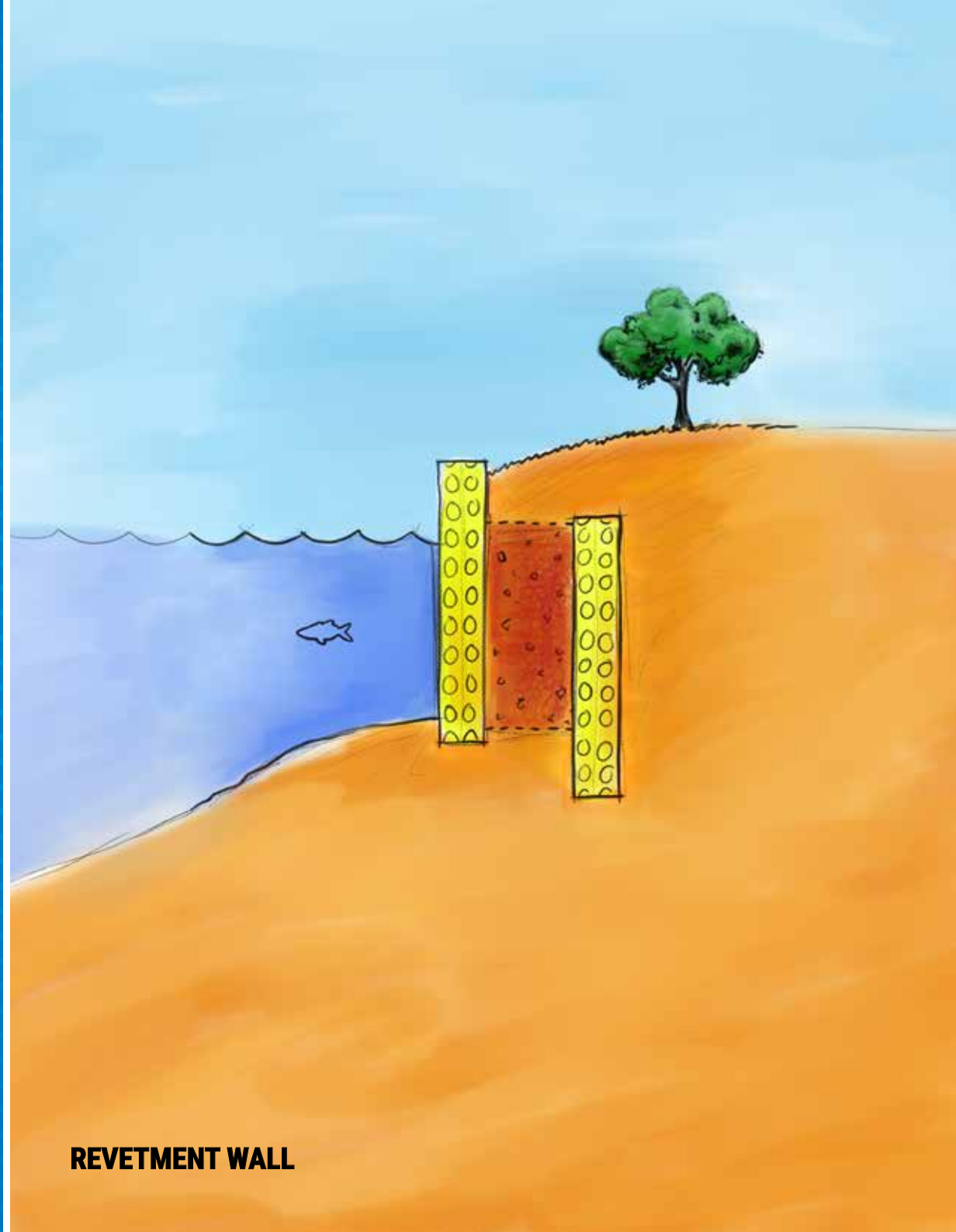
Dincel 155 & 275 • 8m x 3.5m x 3m height tank • Very remote & difficult sloping site with limited crane access  
• Dincel wall design utilised "Bar Chip" fibres to minimise horizontal reinforcement • Construction speed important to maintain existing services operation • Engineering support provided • Use of Dincel walls and clear spanning metal decking, simplified OH&S (confined space) issues and provided a watertight structure





# MARINE.

- Fast construction
- Saltwater & chemical resistant
- 100+ year lifetime guarantee
- No crack control vertical joints





# Revetment Wall.



Dintel 275 • 90m length • Up to 2.5m height • Project designed to provide extra external recreation area  
• Construction undertaken after residential units were finished and occupied • Only access available from waterside and Dintel panels were floated up to site on barges





# Seawalls.



Dintel 200 - 65m length total walls • Various different heights up to 2.5m • Constructed walls behind soil bund



Dintel 275 - 300m length • Up to 3.5m height • Project designed to provide extra access for boat maintenance and repairs • Active in tidal conditions







[www.dinzel.com.au](http://www.dinzel.com.au)



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