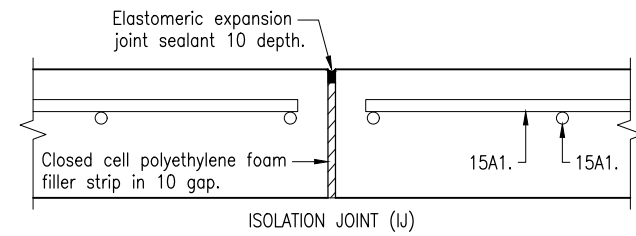
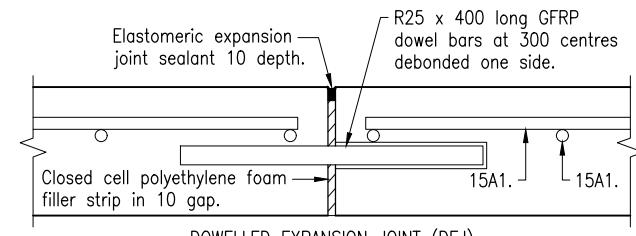


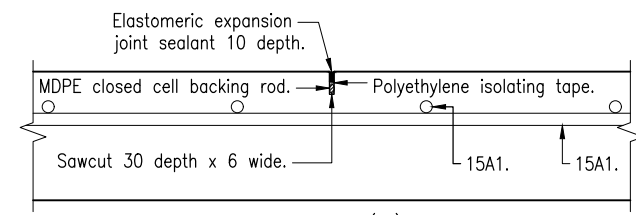
CAST INSITU SLAB WITH PLANK CONNECTION DETAIL



ISOLATION JOINT (IJ)

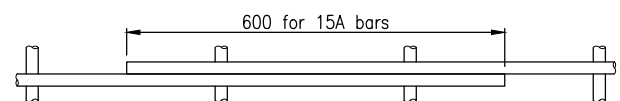


DOWELLED EXPANSION JOINT (DEJ)



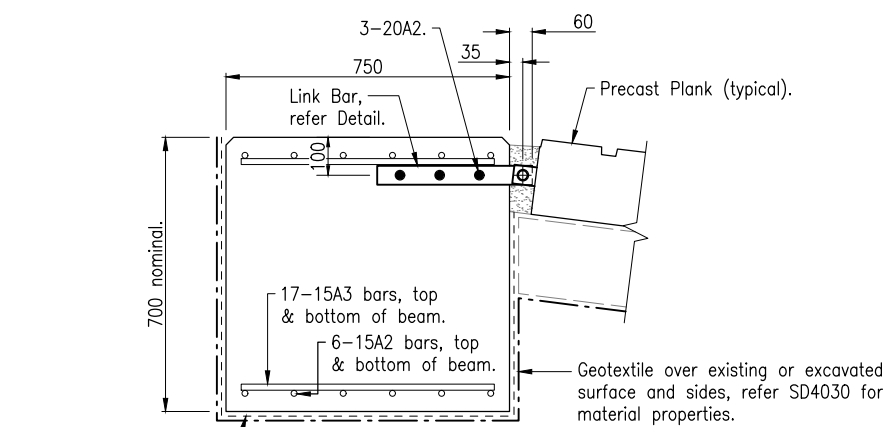
CONTRACTION JOINT (CJ) DETAIL

SLAB JOINT DETAILS



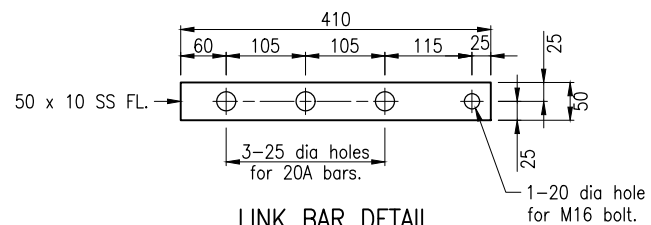
REINFORCEMENT LAP DETAIL

(Laps shall be staggered)



ANCHOR BEAM TYPE 1 FRP

0.2 mm thick waterproof polythene membrane.



LINK BAR DETAIL

(Quantity = 3 per lane typically)

NOTES:

- APPLICATION OF THIS STANDARD DRAWING: This Standard Drawing shall only be used:
    - In conjunction with MRTS300, and
    - when referenced by a certified project drawing for a boat ramp designed in accordance with the TMR design manual "Design Criteria for Boat Ramps".
  - CONSTRUCTION OF BOAT RAMP shall be in accordance with MRTS300.
  - DESIGN LOADING: These slab and anchor details are designed for:
    - a multi axle trailer of maximum 2 tonnes per axle at minimum 750 centres.
    - recreational boating facilities with a signed maximum load limit of 8 tonnes per lane.
  - CONCRETE: shall be S40/20 designed, placed, and cured in accordance with MRTS300.
  - GFRP REINFORCEMENT: All reinforcement shall be supplied in accordance with MRTS271 and have these properties:
- |   |   |
|---|---|
| Transverse coefficient of thermal expansion | $\leq 30 \times 10^{-6} / ^\circ\text{C}$ |
| Minimum tensile strength                    | 1000 MPa                                  |
| Durability designation                      | D1 (as defined in CSA S807)               |
| Elastic Modulus                             | Grade III (as defined in CSA S807): 60GPa |
- REINFORCEMENT COVER: Minimum 40 unless shown otherwise.
  - DOWELS: Tuf-Bar Dowel #8 or approved equivalent.
  - STAINLESS STEEL: Link bars shall be Grade 316 stainless steel flats to ASTM A276. All sharp edges shall be removed and neatly finished.
  - SURFACE FINISH: Trafficable surface for vehicles and pedestrians shall be medium broom finished at 90° to the boat ramp control line. All exposed concrete shall have R20 trowelled edges unless shown otherwise.
  - CURING: An approved curing compound shall be applied immediately following surface finishing.
  - FORMWORK STRIPPING: Formwork shall not be removed at less than five (5) days.
  - DIMENSIONS are in millimetres unless shown otherwise.

Departmental Specifications:

- MRTS271 Glass Fibre Reinforced Polymer (GFRP) Reinforcement  
MRTS300 Construction of Boat Ramps



Australian and International Standards:

- ASTM A276 Standard Specification for Stainless Steel Bars and Shapes  
CSA S807 Specification for fibre-reinforced polymers

Reinforcement Schedule

Bar Mark	Dnom*	Dmax**	Length	Quantity	Centres
Schedule for cast insitu slab with plank connection.					
15A1	15	18	—	—	250
20A1	20	24	—	3	—
Schedule for 4000 wide anchor beam type 1.					
15A2	15	18	3920	12	130
15A3	15	18	670	34	250
20A2	20	24	3920	3	—

- \* Nominal diameter.  
\*\* Maximum diameter including the surface profile.

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BOAT RAMP CONSTRUCTION					
CONCRETE SLAB AND JOINT DETAILS (GFRP REINFORCED)		A3	Standard Drawing No		
		Not to Scale	4033		
		A	Date 11/2024		