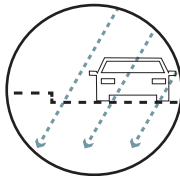

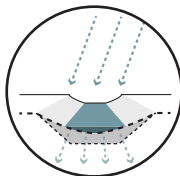
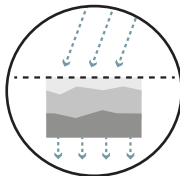

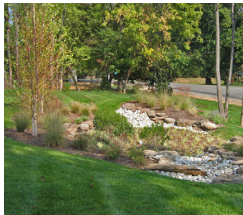

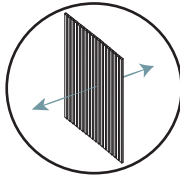


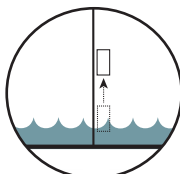
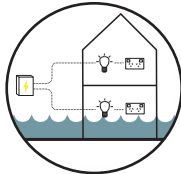
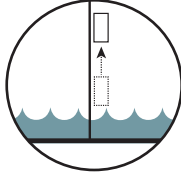
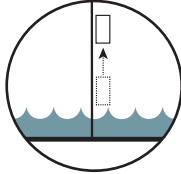
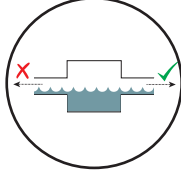
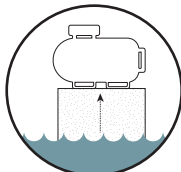


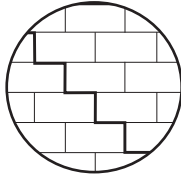
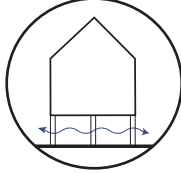
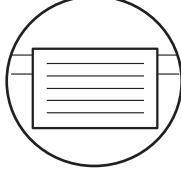
Flood-resilience strategies

CODE	DESCRIPTION	DIAGRAM	IMAGE
A - THE YARD			
A1.1	<p>Replace any impermeable materials to permeable materials to absorb and slow the flow of water.</p> <ul style="list-style-type: none"> • Examples of permeable materials: gravels, permeable pavers, turf and planting bed. • Examples of impermeable materials: asphalt, concrete, traditional stone, brick or concrete 		
A1.2	<p>Create a bioswale and/or rain garden system.</p> <p>Bioswale Bioswales are a simple landscaping and garden feature used to slow, collect and filter overland flow, allowing for the redirection of flood water away from the house. When designing a bioswale, make sure it does not redirect water to your neighbouring properties. NOTE: Prior to implementing this strategy consult Brisbane City Council for approvals</p> <p>Raingarden Raingardens similarly collect water and are vegetated with water plants. NOTE: Prior to implementing this strategy consult Brisbane City Council for approvals.</p>	<p>Bioswale</p>  <p>Rain garden</p> 	 
A1.3	<p>Relocate any yard-based structures that are in the path of overland flow.</p>		
A1.4	<p>Create fencing which allows overland flow flood waters through.</p> <p>Flood damage to fences can be avoided by ensuring the fence is water permeable and made of a resilient material.</p>		
A1.5	<p>Install a submersible pump and sump.</p>		
B - EXTERNAL SERVICES			
B1.1	<p>Raise the electrical meter board above the 50% Annual Exceedance Probability (AEP) flood level.</p>		

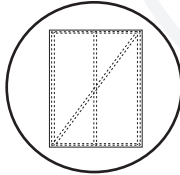

B - EXTERNAL SERVICES

CODE	DESCRIPTION	DIAGRAM	IMAGE
B1.2	Install separate circuits (with breakers) on ground level and upper levels.		
B1.3	Raise the air conditioning condenser above the 50% AEP flood level.		
B1.4	Raise the hot water unit above the 50% AEP flood level onto a concrete plinth.		
B1.5	Install non-return valves on the existing sewer lines to stop backflow through plumbing fixtures. NOTE: Queensland Urban Utilities (QUU) will be installing non-return valves as part of the Flood Resilient Homes Program.		
B1.6	Elevate the pool's pump and electrical power systems above the 50% AEP flood level.		

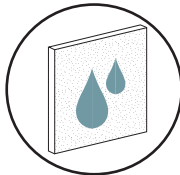
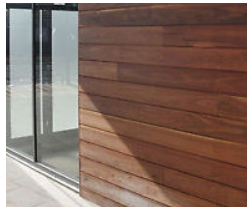
C - EXTERNAL STRUCTURE

C1.1	Consult a RPEQ Structural Engineer for recommendations if there is any visible subsidence or cracking of the substructure. To find a RPEQ, please visit bqeq.qld.gov.au		
C1.2	Provide adequate drainage and ventilation to sub-floor area. NOTE: Consult a RPEQ Structural Engineer for recommendations.		
C1.3	Add additional air vents to above the 50% AEP flood level.		

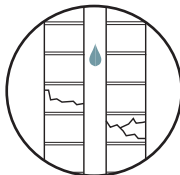
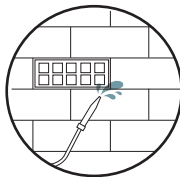
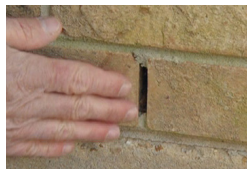
C - EXTERNAL STRUCTURE

CODE	DESCRIPTION	DIAGRAM	IMAGE
C1.4	<p>Replace any damaged structural bracing.</p> <p>NOTE: Consult a RPEQ Structural Engineer for recommendations. To find a RPEQ, please visit bqeq.qld.gov.au</p>		
C1.5	<p>Consult a RPEQ Structural Engineer for recommendations if there is any visible evidence that the structural posts or columns in the path of overland flow flooding are either rusted or unstable due to consistent contact with water.</p>		

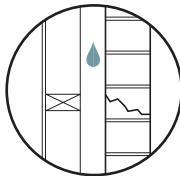
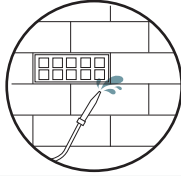
D - EXTERIOR

D1.1	<p>Replace external cladding with suitable water-resistant cladding.</p>		
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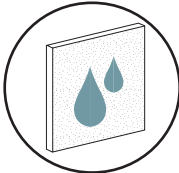

D2 - DOUBLE BRICK

D2.1	<p>Consult a RPEQ Structural Engineer for recommendations if there is any obvious damage to the cavity brick from flood waters.</p> <p>To find a RPEQ, please visit bqeq.qld.gov.au</p>		
D2.2	<p>Clean out any blocked weep holes and consult a RPEQ Structural Engineer for recommendations.</p>		
D2.3	<p>Add more weep holes for water to escape.</p> <p>NOTE: Consult a RPEQ Structural Engineer for recommendations.</p>		

D3 - BRICK VENEER

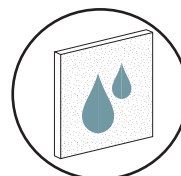
D3.1	<p>Consult a RPEQ Structural Engineer for recommendations if there is any obvious damage to the brickwork from flood waters.</p> <p>To find a RPEQ, please visit bqeq.qld.gov.au</p>		
D3.2	<p>Clean out any blocked weep holes and consult a RPEQ Structural Engineer for recommendations.</p>		

D - EXTERIOR

CODE	DESCRIPTION	DIAGRAM	IMAGE
D3.3	<p>Add more weep holes for water to escape:</p> <p>NOTE: Consult a RPEQ Structural Engineer for recommendations.</p>		
D3.4	<p>Remove water-damaged sections of internal plasterboard linings.</p>		
D3.5	<p>Remove non water-resistant linings and replace with a water-resistant product.</p>		

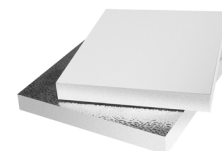
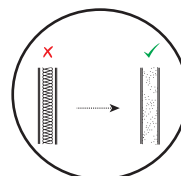
D4 - CAVITY WALL FRAMING

D4.1 Replace non water-resistant framing with suitable water-resistant framing.



D5 - INSULATION

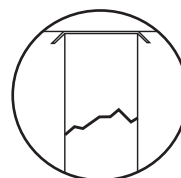
D5.1 Remove wool insulation batts and replace with suitable closed-cell insulation.



E - INTERIOR

E1 - INTERNAL STRUCTURAL MEMBERS

E1.1 Consult a RPEQ Structural Engineer for recommendations if there is any evidence of damage to structural members caused by flooding. To find a RPEQ, please visit bpeq.qld.gov.au

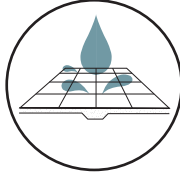
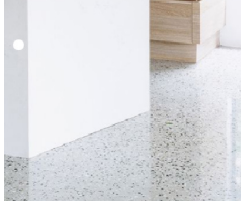
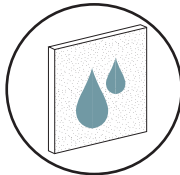


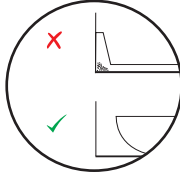
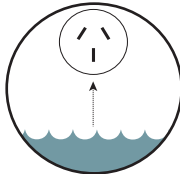

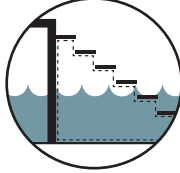

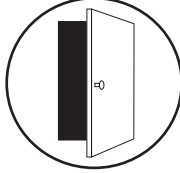
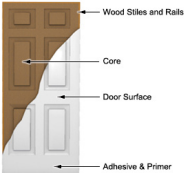


E1.2 Consult a RPEQ Structural Engineer for recommendations if structural members should be replaced as part of a retrofit program.

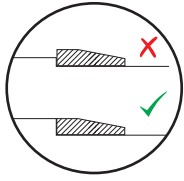

NOTE: Structural members are supports that are essential to the integrity of any structure.



E - INTERIOR

CODE	DESCRIPTION	DIAGRAM	IMAGE
E2 - INTERNAL FLOORS			
E2.1	Remove existing flooring and replace with water-resistant/proof flooring.		
E3 - INTERNAL WALLS			
E3.1	Remove existing wall linings and replace with water-resistant/proof linings to above the 50% AEP flood level.		
E3.2	Waterproof the junction between the wall lining and floor substrate.		
E4 - WET AREAS - BATHROOMS			
E4.1	Remove baths with low-height cavity walls and replace with a: <ul style="list-style-type: none"> • free-standing bath that can be cleaned underneath • shower. 		
E5 - INTERNAL SERVICES - ELECTRICAL			
E5.1	Elevate powerpoints and datapoints above the 50% AEP flood level.		
E6 - INTERNAL STAIRS			
E6.1	Eliminate any cavities under or within the structure of the stairs.		
F - DOORS, WINDOWS AND BUILDING OPENINGS			
F1.1	Replace hollow core doors with: <ul style="list-style-type: none"> • solid core doors • aluminium and glass doors. 		<p>Solid core door</p>  <ul style="list-style-type: none"> Wood Stiles and Rails Core Door Surface Adhesive & Primer

F - DOORS, WINDOWS AND BUILDING OPENINGS

CODE	DESCRIPTION	DIAGRAM	IMAGE
F1.2	<p>Remove stepped door thresholds and replace with door thresholds flush to adjoining internal finished floor levels.</p> <p>NOTE: Consult a RPEQ Structural Engineer for recommendations.</p>		
F1.3	<p>Seal all frames to building fabric.</p>		