

Memo Number	VT-002	Discipline	Vertical Transportation
Project Name	1 Barrack Lane and 81-83 George Street, Parramatta	Project Number	24378
To	Simon Liang	Company	Freecity Parramatta Development No 1 Pty Ltd
From	Peter Flinn	Company	Collective Engineering
Date	9 April 2026		
Topic	Lift Design and PMF		

Background

The proposed development at 1 Barrack Lane and 81-83 George Street, Parramatta, is subject to a Probable Maximum Flood (PMF) level of 14.95m AHD. The PMF level is above the development's proposed ground level, which ranges from 8.1m to 8.6m AHD.

Vertical Transportation Services (VTS) systems proposed for the development include:

- 4 x tower passenger lifts
- 2 x vehicle lifts
- 1 x bike store passenger lift

The following design safety measures are proposed for the lift systems to mitigate the impacts of a PMF event in which water enters the lift pits via the landing doors on level ground.

The control measures will ensure that lifts are unavailable for use during a PMF event. The controls include facilities for both manual intervention and automatic response. The following outlines the control intent to be incorporated into the lift control systems.

Manual Intervention

The Building Manager will act as the Chief Flood Warden and is responsible for implementing the Flood Emergency Response Plan (FERP).

The FERP recommends that the Ground Floor of the building be closed and occupants relocated to the Level 3 refuge area when a **Moderate** or **Major** flood warning is issued through the FloodSmart system.

For each lift group, the system will include a flood-control key switch at the ground landing, adjacent to the lift entry, to be activated by the Building Manager or their delegate.

The key switch will be labelled "Flood Control".

Tower passenger lift group

The tower passenger lifts will also include a duplicate key switch on the level 3 landing. The tower passenger lift key switches will include the following key positions: OFF – Level 3 – Park.

The control system shall include logic to accept the most onerous condition of the two key switches, with Park being the most onerous condition.

Key Position	Control response
Off	The lifts will operate normally
Level 3	The passenger lifts will remain operational but will not serve any levels below level 3.
Park	The lifts shall be arranged to park

The key will be withdrawable at each position.

Vehicle and bike store lift groups

The vehicle and bike store lift group key switches will include two positions: Off – Park.

Key Position	Control response
Off	The lifts will operate normally
Park	The lifts shall be arranged to park

The key will be withdrawable at each position.

Water Detection

A water detection system is proposed for each passenger and vehicle lift shaft pit. Upon activation, the lift control system must be configured to park the lift(s) at or above the nominated base level specific to each lift group.

The **nominated base levels** for each group are:

- tower passenger lifts: level 3 (20.7 m AHD)
- vehicle lifts: level 2 (16.9 m AHD)
- bike store passenger lift: level 2 (16.9 m AHD)

Programming

The proposed operating sequence for the lifts is as follows:

Level 3 key switch

Upon switching to Level 3, the passenger lift control system shall:

- Cancel existing car and landing calls below level 3
- Stop accepting new landing and car calls below level 3
- The lift display screen shall display a flood message

Park (key switch or water detection)

Upon activation by either the key switch or the water detection system, the relevant lift control system shall:

- Cancel all existing car and landing calls.
- Stop accepting new landing and car calls.
- Be arranged to park at or above the nominated base level, with the lift response dependent on the current lift status:
 - If the lift is in motion or not at a floor level: Stop travelling to the destination floor, then travel to the closest available floor at or above the nominated base level, open and close the doors as would normally be the case for a regular car call.
 - If the lift is stationary below the nominated base level: The lift shall travel to the closest available floor at or above the nominated base level, open and close the doors as would normally be the case for a regular car call.
 - If the lift is stationary at or above the nominated base level: The lift shall remain stationary and park with the doors closed.
- The door open button and associated controls within the lift car shall remain operational for persons inside the lift car. The door-open functionality applies only when the lift is stationary at an available floor.
- The lifts shall remain unavailable for service until the mode is cleared by attending service personnel.
- The lift car and landing display screens shall display an "Out of Service" message.

The above programming is applicable to all passenger and vehicle lifts.

The water detection lift control response shall be deactivated only by authorised personnel.

The control mode shall be remotely activatable by supervisory systems.



Peter Flinn
Principal