FLOOD EMERGENCY MANAGEMENT PLAN

SITE: ***Waitākere District Court – New Courthouse project***
14 Edmonton Road, Henderson

DATE: ***January 2026***

Status: ***Issued for Notice of Requirement (Fast-Track)***

Version History:

Revision Name	By	Revision #	Date
Notice of Requirement Draft	TBIG	R1.1	August 2025
Notice of Requirement (Fast-Track)	TBIG	R2	08 August 2025
Notice of Requirement (Fast-Track RFI responses)	TBIG	R3.1	23 January 2026

1. Flood Risk Overview

This Flood Emergency Management Plan (FEMP) has been prepared to ensure that a significant flood event – specifically a 1-in-100-year event – is effectively managed. The objective of this plan is to minimise the impact of flooding on the individuals within the site and to protect property, including vehicles, from damage during such an event.

The flooding information currently available on Council's Geographic Information System (GIS) for the proposed courthouse development at 14 Edmonton Road, Henderson, is undergoing revision. The existing dataset, originally prepared by Jacobs in 2016, is considered outdated and has been superseded for the purposes of this plan.

In advance of the updated GIS modelling from Healthy Waters, ACH Consulting have prepared a site specific flood model based on revised parameters provided by Healthy Waters to simulate a 1-100 year flooding event through the site. This model is based on actually flooding data from the 2023 Auckland Anniversary flooding and an updated climate change factor of 3.8ºC (previously 2.1ºC). Based on this model it is anticipated flood waters could reach a depth of 1,610mm on site.

Refer to Figure 1 below for the extent of the peak flooding levels through site:

Figure 1 Extent of peak flooding levels during a 1 in 100-year event at 14 Edmonton Road, post development.

As illustrated in figure 1, the site will be full inundated during a 1-100 year event. Based on the ACH Consulting modelling, the peak is to occur approximately 14 hours and 10 minutes after the storm commencement.

The site is subjected to a dual-phase flooding sequence. Surface water from Edmonton Road overland flow path begins to overtop the road and enter the site approximately 10 hours and 25 minutes after the onset of the storm. The more severe flooding occurs when the Oratia Stream overtops Alderman Drive, entering the site at approximately 13 hours and 20 minutes.

Flood waters begin to recede around 14 hours and 45 minutes with access to the road restored by 15 hours and 25 minutes. During the more severe flooding, access to the building will be cut off for around 2 hours and 50 minutes.

It is the intention of the Ministry through the implementation of the Flood Emergency Management Plan that the Waitākere District Court is evacuated prior to flood waters entering the site. the anticipated flooding timeline line provides sufficient window for the activation of the FEMP and evacuation protocols.

This FEMP aims to ensure the safety of individuals and vehicles through a robust warning, evacuation, and communication system.

Key Objectives

- Provide early flood warnings.
- Ensure safe evacuation.
- Maintain clear communication during flood events and ensure readiness of site staff.
- Facilitate effective post-flood return to 'business-as-usual'.

These key objectives will be addressed through the following sections of this FEMP:

1. Site specific flood risk assessment;
2. Staff roles and responsibilities;
3. Flood response protocols including activation and Monitoring;
4. Flood hazard signage and alert;
5. Evacuation protocols;
6. Communication plan;
7. Process for annual inspections, certification, reviews and updates; and
8. Post flood recovery protocols;

2. Site Specific Flood Risk Assessment

Prior to the development of this site, a site specific flood risk assessment was completed by Holmes Group to understand the risk to the users of the courthouse, the building, and neighbouring properties during an event. Holmes Group concluding the mitigation measures incorporated into the design for the Waitākere Courthouse provide more than adequate protection to the structure and its occupants. The impact the proposed development on the neighbouring properties is less than minor.

However, due to the region wide scale of the flooding and the requirements for continued monitoring of stormwater in a large storm event, the overall risk to the development is considered **Low** to **Medium**.

The mitigations proposed to address this risk includes:

- Finished floor level of 8.6mRL which ensures a freeboard of 320mm, 20mm above the minimum requirement.
- Raised ground floor level and creation of a void along Edmonton Road, which allows flood water to pass underneath the building, minimising the impact of the development on neighbouring properties. This includes the creation of a 5m wide channel from the void and under the building which will direct flood water along the overland flow path.
- When the site is not in flood, the void will be blocked off by a barrier to prevent access to underneath the courthouse. When flooding on site occurs, the barrier will open up, allowing water to pass through.
- The building is constructed out of resilient and robust materials to ensure it is not damaged when the site is flooded.
- Implementation of a Flood Emergency Management Plan which outlines procedures when the site is to be inundated.
- An automated early warning system which will alert occupants of flooding event predicted to hit the site. This would be integrated into the FEMP response procedures.
- Flood depth markers located around the site to indicate the depth of flood water if ground level is not visible when vacating the building.

As noted above, one of the best way to protect occupants during an event is for the building to be vacated prior to flooding occurring on site. This FEMP articulates the process for evacuating the building prior to the site being inundated, and if this is not possible, outline how the building can still be vacated when the site is experiencing peak flooding levels.

3. Site Staff Roles and Responsibilities

The Court Manager will be responsible for establishing a Flood Response Team who will be responsible for implementing the FEMP when required. The Court Manger is to ensure a representative from all departments who work within the building is appointed to the Flood Response Team.

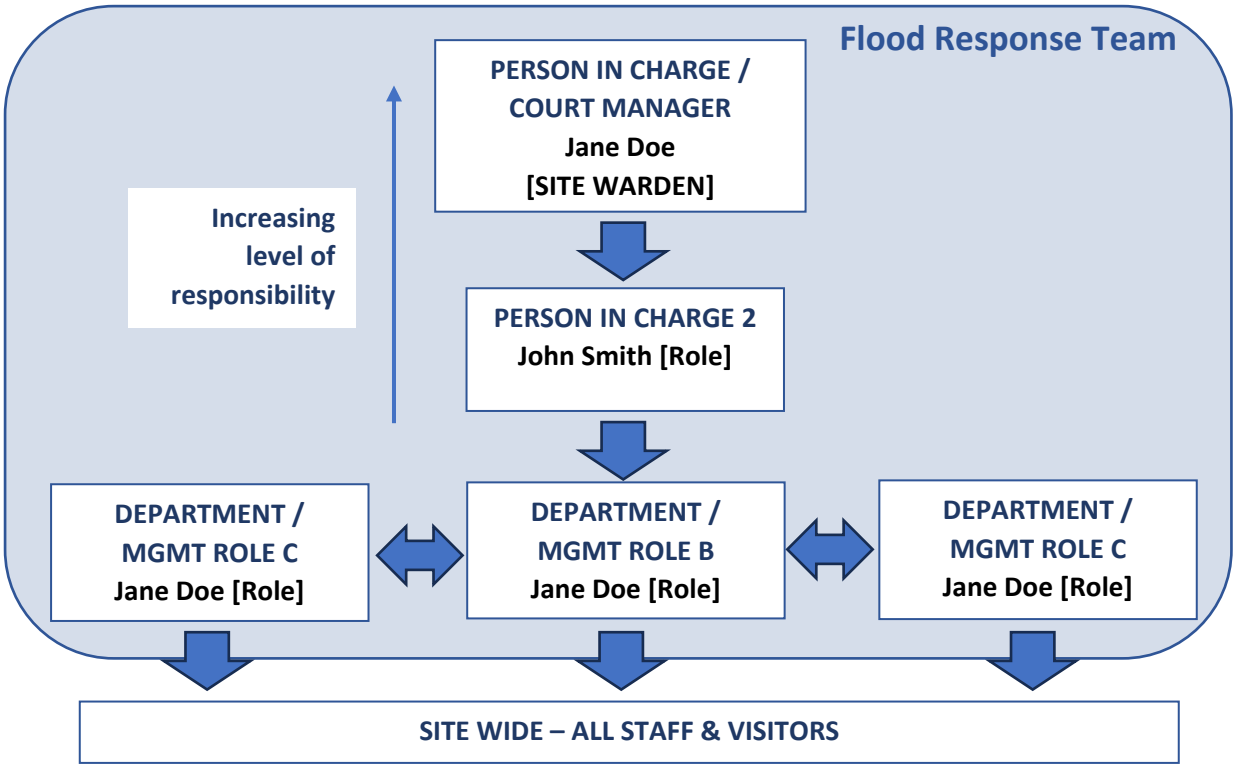

Figure 2 Flood Response Team Hierarchy diagram.

The above hierarchy of ON-SITE ROLES sets out the delegated authority for decision making and responsibility for safety on this site.

The Court Manager, and by extension the Flood Response Team, are responsible for the following under the FEMP:

- Monitoring of weather events which could potentially result in the site being flooded.
- Activation of the FEMP and undertaking the steps outlined in the plan including implementation of evacuation plan as required.
- Arrange for post event inspections to ensure building has not sustained damaged during event.
- Grant approval for the building to be reoccupied post event.
- Arrange regular inspections of the flood mitigation equipment within the building to ensure they remain operational.
- Arrange training for new staff regarding the FEMP protocols.
- Undertake trial evacuations to test site responsiveness to potential events.
- Undertake regular reviews of the FEMP to ensure it remains fit for purpose.

The Flood Response Team, are responsible for notifying the following groups on the activation of the FEMP and implementation of said plan (in no particular order):

Ministry of Justice – site staff / Judiciary	Ministry of Justice – visiting staff
Court Security	Court attendees, legal representatives, detainees
NZ Police – attending personnel / enforcement officers	General public / site visitors

4. Flood Response Protocols

Based on the updated modelling, the site is expected to experience flooding during storm events classified as 10% AEP (1-in 10-year ARI) or above based on Healthy Waters updated projections. As a starting point, the threshold that will trigger the implementation of this Flood Emergency Management Plan is **Severe Weather Warning (Orange).**

Orange Warning - take action
Used when the forecast indicates incoming bad weather (expected heavy rain, strong wind or heavy snow) will meet our Severe Weather Criteria. It signifies that people need to be prepared and **take action** as appropriate as there could be some disruption to their day and potential risk to people, animals and property. The majority of warnings issued by MetService will be orange. An Orange Warning will always be displayed as a hexagon icon.

However, a site specific warning system may be more appropriate to better manage the flood risk for this site. The Ministry are committed to working in with Healthy Waters Hydrometics Team and Auckland Civil Defence to develop a more appropriate warning system which is specific to the flood risk for this site. The intention is to develop and implement this warning system prior to the occupation of the building.

In advance of this system being put in place, the **Orange Flooding Warning – Take Action** will be the trigger for implementation of this FEMP.

The following flow chart outlines the step-by-step decision making process once the orange warning has been issued for the Henderson area.

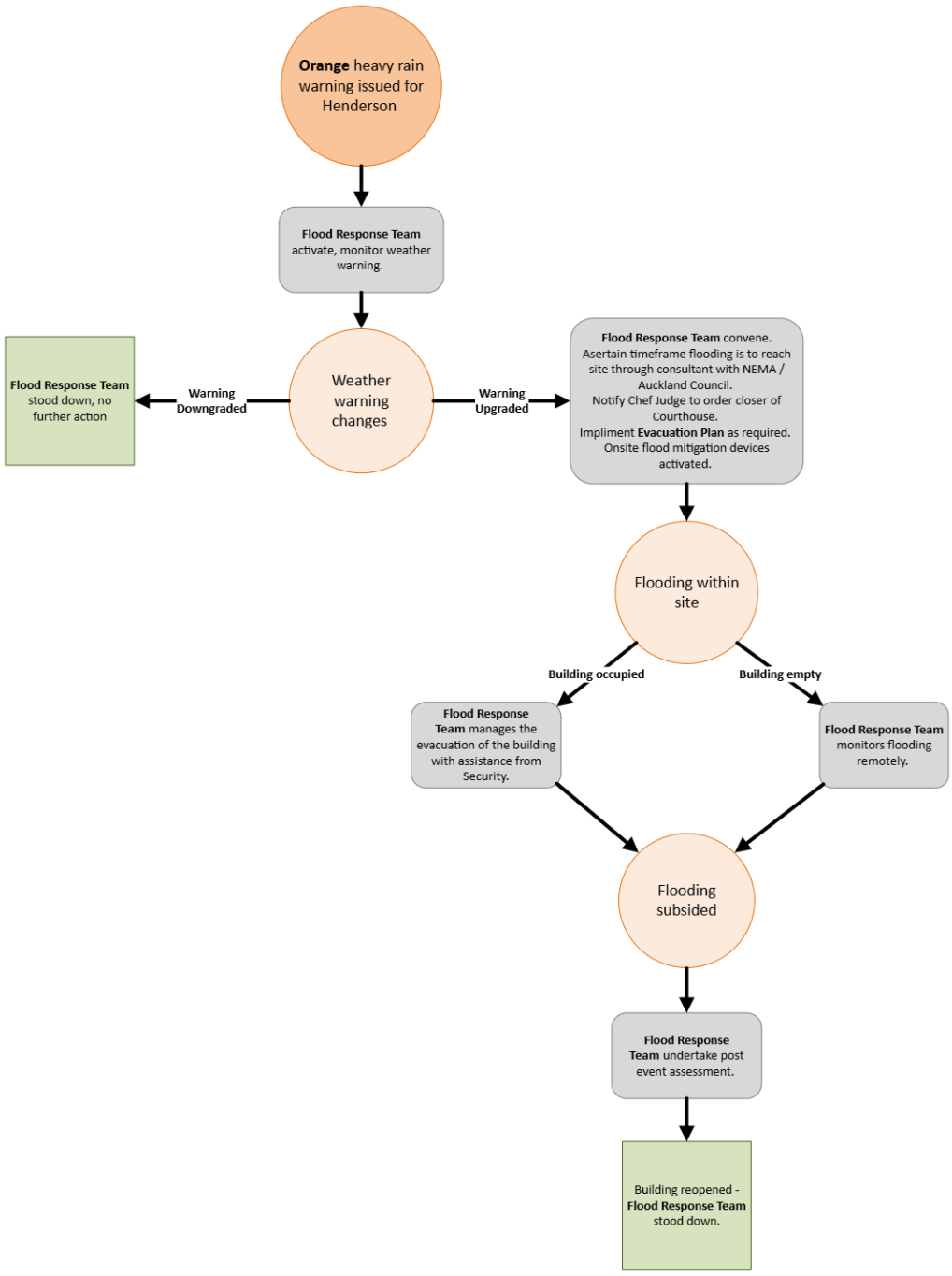

Figure 3 Decision Flow Diagram for Flood Response Team during an event.

The below table summarises the flood mitigation and management measures which will be implemented as part of the above decision flow diagram:

Flood Management Component	Implemented Measure
Weather monitoring	The Court Manager and Flood Response Team will be responsible for monitoring the weather. These individuals are responsible for monitoring the "Orange Warning" issued by New Zealand Met Service. They may also receive a text notification from the National Emergency Management Agency (NEMA).
Weather monitoring platforms	Weather will be monitored via Met Service and NEMA.

Activation of Flood Emergency Management Plan	The FEMP will be activated when an Orange Flood Warning is issued for the Henderson Area. The Flood Response Team will be activated when the FEMP is activated.
Procedure for Severe Weather Forecasts	The Ministry is to develop an Evacuation Plan for the courthouse prior to occupation. This framework will cover pre-event (36-48 hours), pre-event (24 hours) and during the event operations and activities, like the examples provided below: • Examples of the pre-event (36-48 hours) procedures includes forecast analysis and development of a standby roster with confirmed staff to address any on-site requirements. • Examples of pre-event (24 hours) includes forecast analysis, standby staff confirmed and necessary contact with key stakeholders. In the event the site will be flooded, the aim is to ensure the building is full vacated prior to flood waters reaching the site.
Designated Person for Implementing the Flood Response Plan	The Court Manager will be responsible, and this level of detail will be provided in the Evacuation Plan.
Procedure for flooding during the operational hours.	• The Ministry will work with the NEMA and Auckland Council (48-24 hours out) and notify stakeholders / partners to ensure building is not occupied during a flooding event. • The Chief District Court Judge will issue a gazette notice to close the courthouse in the instance of a flooding event. • If the building is occupied when site is flooded, the Court Manager and /or Flood Response Team will organise the evacuation of the building via a safe pathway. • If a safe pathway is not available during an event, any occupants still in the building will be instructed by the Court Manager and / or the Flood Response Team to stay in place until the flood waters have subsided sufficiently to allow a safe exit.
Evacuation of Custodial Area	The Custodial area on the ground floor is under the control of the NZ Police and Corrections. This team will be responsible for evacuation of the Custodial area prior to and during an event. Noting that the Custodial area is not expected to be inundated during the 1% AEP storm event, and depth of potential flood water at the entrance to the Sally Port will be less than 400mm (During a 1% AEP event) so the Custodial Vans will still be able to exit the site if PIC's are still needing to be evacuated.
Staff evacuation drills	Multiple emergency response plans are in place within the courthouse, and the flood evacuation plan will be included in the overall emergency response plans. New staff are briefed on these plans during their induction.
Platforms for communicating the weather warnings	Weather warnings will be communicated via group email and SMS. Notification of the Courthouse closure will be communicated in person where possible, group email and SMS.
Flood Emergency Management Plan review	The Flood Emergency Management Plan is to be reviewed post a flooding event and annually, along with the Weather Warnings & Floodplain Monitoring Log provided in Appendix B.
The Flood Response Team Deactivation	The Flood Response Team will be deactivated when the Orange warning has been downgraded and no flooding has occurred on site, or post event inspection has been completed, and FEMP review has been carried out.

5. Flooding Risk and Mitigations

Through the implementation of this Flood Emergency Management Plan and design of the building a number of the flood risks identified through the site specific modelling have been mitigated or eliminated.

Extent of Flooding Across Site

Based on the simulation run for the site, it is anticipated there will be variable levels of flooding occurring across the site during different size events.

During a 1 in 10 year event (10% Annual Exceedance Probability (10% ARP)), it is anticipated the northern section of the site next to Falls Park where the underground culvert terminates will be come flooded at its peak. Flooding will not occur at the entrance points to the building, so safe egress from the building will be maintained throughout the event.

Figure 4 Extent of peak flooding levels during a 1 in 10 year event, post development.

During a 1 in 50 year event (2%AEP), it is anticipated at the flooding peak some overtopping will occur across Edmonton Road and Alderman Drive. This will have the potential to affect egress from the building, so the intention would be to evacuate the building prior to this occurring.

Figure 5 Flow of Flood Water Through Site at Peak during 1 in 100-year event, post development.

As articulated in Section 1, during a 1 in 100 year event (1% AEP) or greater, the site will be full inundated at the peak of the storm. The intention would be to full evacuate the building prior to flooding reaching the site, which is anticipated to be 10 hours after the commencement of the storm.

Flood Water Pathway

As illustrated in Figure 06, the majority of flood water will enter the site from overtopping Alderman drive from the Oratia Stream. The flood water will then move through the site, past the proposed the building and will then re-enter the Oratia Stream via the Falls Park to the north of the site.

Figure 6 Flow of Flood Water Through Site at Peak during 1 in 100-year event, post development.

Due to the quantity of water that is anticipated to run through the site during an event, several measures have been put in place to assist with managing the flood water and minimising the impact on neighbouring properties.

These include:

- The design incorporates a specific "suspended slab" strategy to maintain the existing overland flow path (OLFP) beneath the building.
- A permanent void is established along Edmonton Road elevation to allow water to enter beneath the building rather than being deflected into neighbours.
- Engineered Channel:
    - A 5m wide rectangular channel along the southeastern boundary directs flows from Edmonton Road through a ~20m opening in the façade,.
    - An 8m wide trapezoidal channel runs through the centre of the site to increase storage and conveyance.
- Further regrading of the site is proposed to lower the existing ground level to increase flood water storage capacity on the site as well as redirect flooding around the building and through the void.

6. Flood Hazard Signage and Alert

Implementing a permanent flood warning system is crucial for ensuring that all users are aware of potential flooding. The below summarises the systems which will be installed on site to assist with notifying occupants of the flood risk.

Flood Warning Signage:

- Signage is to be installed at strategic locations around the exterior building to alert users to the risk of flooding. This will include warning signage around the under croft area noting that this is area is a flood water overland flow path during events (see example in Figure 2 below).
- These signs will be durable and reflective to remain visible under various weather conditions.

Figure 4: Example Flood Warning Signage 1

- It is proposed to install "DO NOT ENTER WHEN FLOODED" signs at strategic points at the base of the building where water depth could be hazardous to pedestrians.
- Where parking is proposed on grade, "CAR PARK MAY FLOOD" sign is to be installed in front of park (see example in Figure 3 below).

Figure 5: Example Flood Warning Signage 2

- These signs will be clear, with large print to ensure the signs are easily legible from a distance, to prevent people entering into a potentially dangerous situation.

Flood Marker Posts:

Marker Locations:

- Flood markers are proposed to be positioned at key locations, such as the bottom of stairs and vehicle ramps, to provide observable real-time water levels during flood events.

- These markers will provide clear, incremental depth markings up to 1000mm, aiding in quick assessment of flood depth by facility staff.

Figure 2: Example of Flood Marker Post

Overland Flow Path Route:

Under Croft Barrier Warning System:

- The specific details of how the flood barrier will function will be confirmed during later design phases, however, when the site is in flood, the barrier in front of the void along Edmonton Road will be opened to allow the flood water to pass under the building. Lights and or a siren will activate when the barrier is open noting the barrier is open and the area is flooded.

- The barrier will be opened by the Ministry prior to flood waters exceeding a height of 200mm above ground level at the entry point to the under croft. The barrier will also be constructed out of a metal grille which will allow light and ventilation into the under croft when lowered.

- Signage will be displayed when barrier is opened informing the public this is the overland flow path route for flood water and that they should not enter the under croft.

- The barrier would then be lowered once water has subsided to secure the under croft below the courthouse.

- An extensive maintenance regime would be proposed to ensure the barrier functions appropriately.

- As a further fail safe, the barrier includes a "free-swinging" fail-safe mechanism. If the automated lift fails, the force of the floodwater will push the barrier open to prevent a blockage that could exacerbate upstream flooding.

Weather Monitoring:

Check Weather Warnings:

- Regular monitoring of weather forecasts and flood warnings from meteorological services helps in assessing flood risks promptly and being forewarned/aware. Refer to **Appendix A** for the weather monitoring register that can be held by a nominated person.
- This proactive approach ensures that flood response protocols can be activated in time.\

7. Evacuation Plan

A well-defined evacuation plan is essential for ensuring the safety of courthouse users, visitors and pedestrians on the adjacent footpaths during flood events. This includes setting up evacuation routes, assembly points, and conducting regular drills.

Evacuation Plan to be prepared prior to the facility being commissioned. The evacuation plan will need to note the evacuation routes for the different stages of the flooding event, this will include pre-flooding and during flooding. Refer to **Appendix C** for indicative evacuation plans for the site.

An occupancy evacuation pathway risk assessment has also been undertaken to support the evacuation plan, this can be found under **Appendix D**.

Evacuation Routes:

Designated Route:

- An evacuation route leading away from flood water will be displayed on evacuation plans.
- Flood markers to be installed along the access route to display depth of water during evacuation route.

Assembly Points:

Safe Areas:

- An Assembly Point on higher ground will be designated and marked with durable, visible signage.
- This point will be easily accessible and provide a safe gathering point away from flood-prone areas.

Evacuation Drills:

Regular Drills & Training:

- Periodic evacuation drills will be conducted to familiarise users with evacuation procedures and routes.

- Staff training will be provided on evacuation assistance and use of emergency equipment.

Stay in Place:

In the event the building cannot be evacuated safely without external assistance, the evacuation plan will note the process for occupants to stay within the building until the flooding has subsided. The requirement for staying in place will be at the discretion of the Flood Response team. The Stay in Place plan will include:

- Process for alerting authorities.
- Location of where people are to congregate, with seating and access to bathrooms.
- Provisions for food and blankets in the event occupants need to stay for longer than two hours.

8. Communication Plan

Effective communication is vital for ensuring timely and accurate information dissemination during flood events. The Flood Response Team will be responsible for communicating warnings and procedures to occupants during an event. This response plan requires prominent display and communication of emergency contact numbers, utilising multiple notification channels, and coordinating with local authorities:

Emergency Contact Information:

Display Locations:

- Emergency contact numbers will be posted in prominent locations.
- This includes numbers for local emergency services, a site management call number and emergency response staff, ensuring help is readily accessible in case of an emergency.

Visibility:

- Use weather-resistant materials for contact information to maintain visibility and legibility under all conditions.

Notification Channels:

Multiple Platforms:

- Multiple channels will be utilised such as social media, and public address systems to broadcast flood warnings and evacuation instructions.
- Keeping these channels updated ensures that all site personnel receive timely information.

Coordination with Authorities:

Protocol Establishment:

- A clear communication protocol will be in place to allow for efficient communication with local emergency services to optimise and coordinate flood response efforts from such services.
- Roles and responsibilities will be defined for all Ministry of Justice staff members on site who may have a role and will be involved in ensuring effective management of the situation.

9. Post Event Activities

Prior to the building being available post event, the Court Manager is to instruct the Facilities team to undertake an inspection of the building to ensure it is fit for occupation. The inspection will need to include, but is not limited to, the following:

- Inspection of the under croft to assess if any damage has occurred or if debris needs to be removed.
- Inspection of perimeter fencing to ensure site is still secure.
- Close of the under croft flood barrier on Edmonton Road.
- Inspection of vehicle entry and Sally Port area for any signs of flooding.
- Testing of building services to ensure they are operational.

Following the completion of the post event inspection and confirmation the building is in working order. The Court Manager can confirm the building can be reopened and the Chief District Court Judge to lift the closure gazette on the Courthouse.

Lessons Learnt

Prior to the deactivation of the Flood Response Team, a lessons learnt review is to be undertaken of the Flood Emergency Response Plan and associated activities to ensure the plan is still fit for purpose, or updates are to be made. The review is to also capture what worked well.

10. Maintenance, Inspections, Review and Certification

Ensuring flood management systems are operational, flood response plans are fit for purpose, and the occupants are trained to respond to an event is critical to ensuring peoples safety.

Maintenance of flood management systems:

The Court Manager is responsible for ensuring regular maintenance and testing is completed on the flood management systems installed within the building. This includes, but is not limited to:

- Under croft flood barrier.
- Flood warning alarms.
- Flood warning displays across the building.

The maintenance of these systems will be defined in the operational and maintenance manuals for those devices which will be supplied post installation. The maintenance requirements for those systems are to be referenced in the FEMP.

Certification of Flood Emergency Management Plan:

Prior to occupation, the Flood Emergency Management Plan is to be finalised and issued to a suitably qualified person for review and certification.

Review of Flood Emergency Management Plan:

Annual reviews of the FEMP are to be undertaken by the Flood Response Team to determine if the plan is fit for purpose. A suitably qualified person is to assist with the reviews were deemed necessary by the Court Manager.

This annual review is in addition to the lessons learned review which is completed when the FEMP is activated due to the site being flooded.

Employee Training

As part of new starter induction process, all personnel must be educated on the FEMP and their role in its implementation during an event.

Where a new person is appointed onto the Flood Response Team, they are to be trained on the operation of all flood mitigation measures to ensure they are aware of how they operate and what their purpose is in mitigating the flood risk for the site.

Appendix A – Weather Warnings & Floodplain Monitoring Log

Date of weather warnings	***Name of Monitoring Person***	***Post-weather comments***

Appendix B – Emergency Contact Sheet

Contact	*Phone Number*	*Availability*
Local Emergency Services	111	24/7
Site Manager		9:00 AM - 5:00 PM
After-Hours Site Contact		After 5:00 PM
Flood Monitoring Coordinator		During Flood Warnings
Local Police Department		24/7
Local Hospital		24/7
Local Fire Department		24/7

Appendix C – Indicative Evacuation Plan's

Appendix D – Occupancy Evacuation Pathway Risk Assessment

The following matrix has been prepared to assess the risk to occupants during an event.

Occupant Type	Event Status	Egress Route	Exposure to Flood Water on site	Maximum Flood Water Depth & Velocity	Flood Hazard Vulnerability (as per Plan Change 120 Classifications)
Public (Able-bodied Users)	Pre – Flooding	Public Entrance including accessible routes.	No	N/A	N/A
Public (Users with limited mobility, Children)	Pre-Flooding	Public Entrance including accessible routes.	No	N/A	N/A
Public (Able-bodied Users)	During Event	Controlled, via Service area and 1:20 sloped vehicle ramp.	Yes	0.4m at 0.6m/s	**Medium – High Flood Hazard Area**
Public (Users with Limited mobility, Children)	During Event	Controlled, via Service area and 1:20 sloped vehicle ramp.	Yes	0.4m at 0.6m/s	**Medium – High Flood Hazard Area**
Staff / Judicial / Security (Able-bodied Users)	Pre-Flooding	Staff and Public Entrances including accessible routes. Vehicle Ramp if by Car.	No	N/A	N/A
Staff / Judicial / Security (Users Limited mobility)	During Event	Controlled, via Service area and 1:20 sloped vehicle ramp.	Yes	0.4m at 0.6m/s	**Medium – High Flood Hazard Area**
Custodial	Pre-Flooding	Controlled, via vehicle ramp in PIC Vehicles.	No	N/A	N/A
Custodial	During Event	Controlled, via vehicle ramp in PIC Vehicles.	Yes	0.4m at 0.6m/s	**Medium – High Flood Hazard Area**

Plan Change 120 Flood Hazard Risk Ratings (extracted from page 49)

Risk Category	1% AEP Event	Primary Stormwater Network 100% blocked
Very High Flood Hazard Area	where floodwaters have a depth equal or greater than 1200mm or depth x velocity product greater than or equal to 0.8m2/s	where floodwaters have a depth equal or greater than 1200mm with 50mm of rainfall (approximately a 20 per cent AEP event)
High Flood Hazard Area	where floodwaters have a depth between 500mm and 1200mm or depth x velocity product between 0.4m2/s and 0.8m2/s	where floodwaters have a depth between 500mm and 1200mm with 50mm of rainfall (approximately a 20 per cent AEP event)
Medium Flood Hazard Area	where floodwaters have a depth between 500mm and 300mm or depth x velocity product between 0.4m2/s and 0.24m2/s	where floodwaters have a depth between 500mm and 300mm with 50mm of rainfall (approximately a 20 per cent AEP event)
Low Flood Hazard Area	where floodwaters have depth equal to or less than 300mm or depth x velocity product less than or equal to 0.24m2/s	all other flood prone areas not meeting the definition for very high, high and medium flood hazard areas