

i. Outline

FLOOD & STORM WATER EMERGENCY RESPONSE PLAN

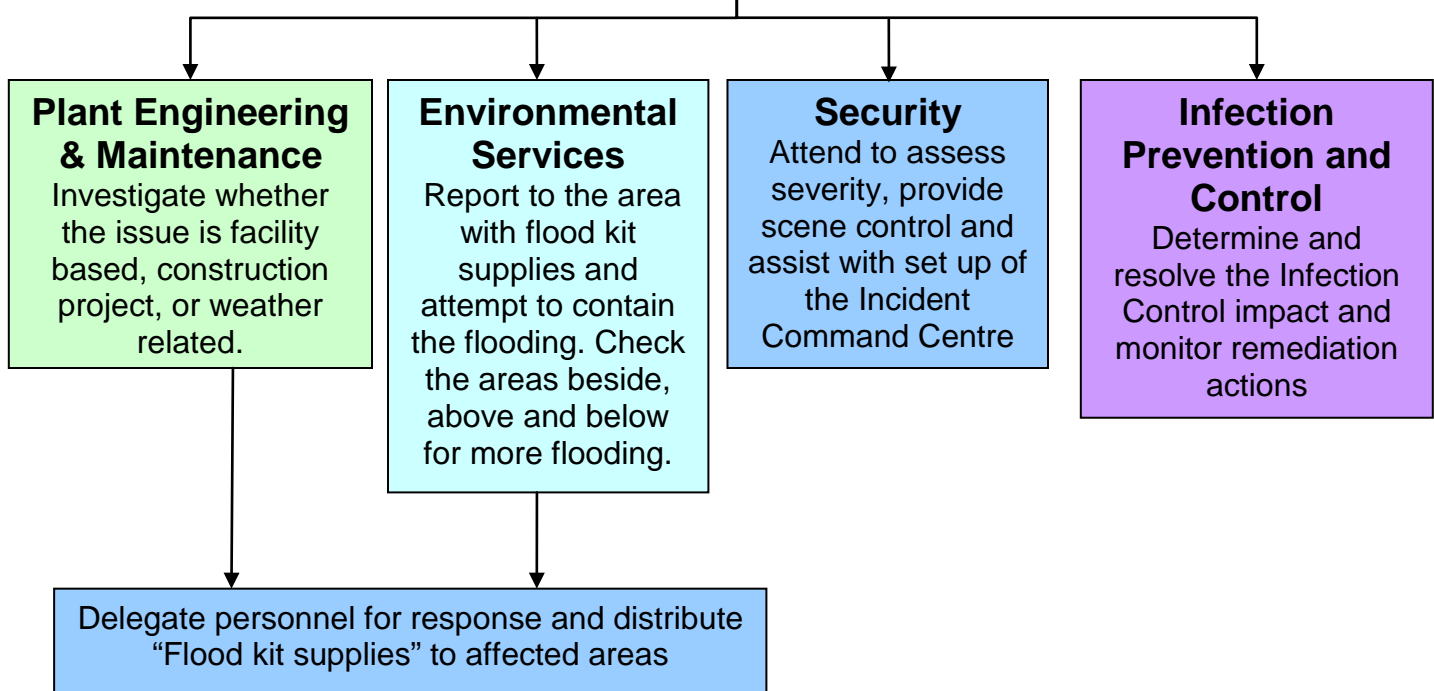
Upon Discovery of a Flood/Storm Water Emergency

All Staff

Call **4444** to report the location and severity of the flood.
Assist with the area response if required

Switchboard

Make necessary flood announcement and notifications to Plant Engineering & Maintenance, Security, Infection Prevention and Control, Occupational Health, Safety and Wellness and Environmental Services.



Upon Hearing a Flood Announced Overhead

All Staff

Do **not** call Switchboard unless it is urgent
Assist with the area response if required
Refer to page 7

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1.0 General Overview

1.1 Plan to Be Used In Case of a Flood/Storm Water Emergency

This plan will be utilized if there is a flooded area within the building, either from an internal or external source, such as storm water. A flood, by definition, is: a very large amount of water (or contaminated water/sewage) that has overflowed from a source such as a severe rainfall downpour leading to an influx of storm water, river or a broken pipe onto a previously dry area. Many hospital services may be impacted. As a result, this plan is in place to effectively and efficiently manage the effects of a flood in the hospital.

1.2 Authority to Declare a Flood

Anyone that is aware of a flooded area within the building is authorized to activate the flood/storm water emergency response plan. Facility based flooding will occur immediately related to burst pipes, infrastructure failure or construction projects. Weather related floods develop slowly during an extended period of rain or in a warming trend following a heavy snow. Catastrophic floods are associated with burst dams, hurricanes, tsunamis and earthquakes.

1.3 What Flooding Can Do

Flooding can cause site erosion, structural and nonstructural building damage, the destruction or impairment of utilities and mechanical equipment, damage to or loss of contents, health threats from contaminated floodwater, and temporary or permanent closure. In addition, off-site flooding can block access routes to and from the site.

Site damage – Hospital grounds may be subject to erosion, with the possible loss of soil and damage to paved areas, including access roads. Large amounts of debris and sediment can accumulate on the site, especially against fences.

Structural damage – Foundations can be eroded, destabilizing or collapsing walls and heaving floors. Roofs are exposed to all elements which can lead to wear and damages. Roof damage is common during the winter months because of the massive amount of weight added by annual snowfall and ice accumulation

Infrastructure damage – the source of the flood may be from damaged, aged or malfunctioning existing infrastructure (pipes, sprinklers, heating and cooling systems) causing a partial or complete loss of functionality.

Saturation damage – Saturated walls and floors can lead to plaster, drywall, insulation, and tile damage, mould and moisture problems, wood decay, and metal corrosion.

Utility system damage – Electrical wiring and equipment can be shorted and their metal components corrode. Ductwork can be fouled and expensive heating and cooling equipment ruined. Storage tanks can be displaced and leak, polluting

the areas around them. Sewers can back up and contaminate the water supply and building components

Contents damage – Hospital furniture, diagnostic equipment, computers, files, books, lab materials and equipment, food services goods and equipment can be damaged or contaminated.

Health threats – Mould growth and contaminants in flooded hospital areas can pose significant health threats to patients and staff.

Hospital closure – Flooded areas of the hospital must be closed during cleanup and repair. The length of closure and the ability of the affected hospital area to return to normal business is dependent on the severity of the damage and lingering health hazards. It may also depend on how quickly disaster assistance is made available for cleaning and repair.

1.4 Preventing or Mitigating Flood Damage

Reducing or eliminating damage caused by potential flooding is difficult to predict in hospitals. The goals of the hospital when faced with flooding are to ensure that:

1. operations can continue without interruption, and
2. the facility suffers the least possible amount of physical damage
3. the infection control impact is resolved

Some practical measures may be undertaken:

- Provide off-site computer backup storage for electronic hospital records
- When replacing mechanical and electrical equipment, devise ways of elevating or flood-proofing
- Consider relocating medical records, information services, library etc. to a higher level of the building
- Add, clean or repair check valves in sewer lines to prevent sewage from backing up into the hospital
- Have sump pumps available
- Consult with engineers or planning experts before attempting structural upgrades or construction that may affect the integrity of the infrastructure
- Determine which staff, materials, procedures and equipment are absolutely necessary to protect the hospital and keep it operating

1.5 Recovering From a Flood

In the event of a large-scale flood, precautionary steps may need to occur before transitioning back to 100% normal hospital operations. Do not enter an area if:

- Floodwater remains in or around the building (it may be electrically charged or contaminated)
- The building appears to be damaged (masonry cracks, wall or roof sagging, or other structural distress)
- You smell gas or hear a hissing or blowing sound
- There are downed electrical wires in the vicinity or any sign of electrical damage (office equipment damp or wet)

1.6 Weather monitoring

Monitoring of weather alerts will be conducted by the Mobile Patrol Supervisor. Any notifications of a storm or rainfall warning will result in increased patrols of areas prone to flooding and potential pre-action deployment of flooding response supplies to Burr 0, if determined to be necessary by Protection Service On-Call Manager in consultation with Burr 0 Management, Environmental Services, and Maintenance.

1.7 Areas Prone to Flooding

Below-grade areas of the building are by nature more prone to flooding due to storms or external water infiltration.

Of note, Burr 0 has had some significant flooding in the past due to municipal water infrastructure issues. As a result, extra steps have been taken to monitor for water/flooding in the area. As well, additional flood response resources have been deployed in Burr 0 (see section 1.7 Flood Kits information below).

Another area of the building which has had previous issues with water intrusion is Armstrong 0. However, steps have been taken to mitigate the potential for water entering the building in this location.



1.8 Flood Kits

Flood absorbent materials are available in the Connell 0 “cage” at the Connell 0 and Kidd 0 intersection.

Also available are vacuums, pumps, absorption materials, water dams, boots, goggles/face shields, impermeable coveralls, protective gloves, N95 respirators and other related items to help mitigate a flood on Burr 0 in room 21.0.024.

A gas powered pump is stored in the flammable storage room outside of Douglas 1 (near the Anatomic Pathology entrance). This pump is to be used by Maintenance staff only.

Instructions on the use of flood supplies are provided in Appendix D of this document.

1.9 Notification

All areas affected by flooding will be notified by overhead announcement. Services dependent on these affected areas will be notified by email, phone or Vocera, if applicable.

1.10 Incident Command Centre

In the event of a flood an Incident Command Centre¹ will be immediately established in and by the Protection Services department. The Director of Protection Services/Delegate will assume command and coordinate the response activities.

1.11 Definitions

Flood

A very large amount of water (or contaminated water/sewage) that has overflowed from a source such as a severe rainfall downpour leading to an influx of storm water, river or a broken pipe onto a previously dry area. An accumulation of fluid that:

- Wets fixed porous materials such as drywall, carpeting, ceiling tiles, wooden furniture, etc. and/or
- Covers a water-impervious area that will require more than 10 minutes to remove the water

Remediation

Refers to the general clean up, repair, or replacement of building components after water intrusion

¹ “Incident Command Centre” is a centrally located space available to coordinate and manage resources.

Water Intrusion

Entry of environmental (rain), potable (broken water pipe), damaged infrastructure systems (HVAC or sprinkler) or sewage (pipe break or backup) into a building's interior spaces, requiring actions beyond simple removal.

1.12 After-Hours Management

The organization employs an after-hours support model that combines on-site and on-call roles outside normal working hours.

1. Operations Manager (Administrative Coordinator (ACO))

- The organization will share one Operations Manager (Administrative Coordinator (ACO)) available for both main sites and satellites supported by an on-call escalation as needed for issues of great complexity or risk

2. Director On-Call (DOC) (Duty Administrator – Duty Admin)

- In the event there is a major issue of great risk or complexity that cannot be handled by the Operations Manager (ACO) they will escalate to the DOC (Duty Admin)
 - The DOC (Duty Admin) acts on behalf of the CEO (or delegate) in their absence and also is a resource to assist the Operations Manager (ACO) as circumstances require and as outlined in the hospital policies

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2.0 Response & Recovery – All Staff

Response

2.1 Upon Discovery of a Flooded Area

All Staff

- ☐ Call Switchboard at **4444** to report the flood if there is potential for considerable damage (e.g. Electronic or sensitive equipment, patient records, potential for mould growth or structural damage)
- ☐ Notify staff in the immediate area to activate the Flood/Storm Water Emergency Response Plan
- ☐ Look for any potential flood-related hazards in the affected area to ensure the integrity and safety of hospital property by removing or raising equipment and material
- ☐ Take necessary steps/precautions to mitigate water damage to personal and facility property in the affected area

2.2 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan

All Staff

Do Not Call Switchboard Unless It Is Urgent

- ☐ Return to your area of work to assist with the area response, if required
- ☐ The water from all floods should be considered contaminated until proven otherwise
- ☐ Consider which staff, materials, procedures and equipment in your area are absolutely necessary to protect and keep functioning
- ☐ Use outlets in areas that are NOT affected by the flooding or have Ground Fault Interrupt (GFI) protection. GFI plugs are typically located near water sources (sinks, hoses, etc.). They often have a reset button built into them, which is used if the internal ground fault interrupt is tripped
- ☐ Isolate and refrain from entering any areas affected by the flood
- ☐ Lower all non-ambulatory patient electric beds to the lowest level on units where flooding has occurred. Beds that are in direct contact with water should be unplugged; if safe to do so, and staff should not use functions that require electricity
- ☐ Report to your immediate supervisor any critical functions affected by the flood, so they can notify the Incident Command Centre
- ☐ Do not use elevators in the vicinity of the flood
- ☐ A multidisciplinary team (Planning Office, Infection Prevention and Control, Maintenance, Environmental Services, Protection Services, Occupational Health,

Safety and Wellness and staff from affected area) need to conduct an inventory of all water-damaged areas, building materials and furnishings

- ☐ Any flooding in a food preparation area requires the input of Public Health
- ☐ Await further instruction from the Incident Command Centre
- ☐ Be prepared for partial or full evacuation of affected areas
- ☐ Refer any media or public inquiries to the Strategy Management & Communications office
- ☐ Ensure a SAFE Report is submitted online

Recovery

2.3 Upon Notification That the Crisis Has Concluded

- ☐ Discuss with Environmental Services/Facilities Operations and Maintenance when fans/dehumidifiers should be shut off based on the construction of the area affected by flooding
- ☐ Notify appropriate department if hidden water damage is found
- ☐ Refer any media or public inquiries to the Strategy Management & Communications office
- ☐ Resume normal duties

3.0 Response & Recovery – Switchboard

Response

3.1 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan

- ☐ Notify:
 - ☐ Kingston Hospitals' Security Operations Centre at **4142**.
 - ☐ Director Plant Engineering & Maintenance/Delegate, if not already aware
 - ☐ Director of Environmental Services/Delegate
 - ☐ Infection Prevention and Control Practitioner (after hours notify on call person)
 - ☐ Occupational Health, Safety and Wellness (after hours notify on call person)
 - ☐ Administrative Coordinator (**after hours only**)
 - ☐ Information Management Help Desk (in case water damage affects information management systems or equipment)
- ☐ Announce overhead three times ***"Flood Response Required – Location"***
- ☐ Refer any media inquiries to Strategy Management & Communications office

3.2 If the flood is in your area

- ☐ Look for any potential flood-related hazards in the affected area to ensure the integrity and safety of hospital property by removing or raising equipment and material
- ☐ Take necessary steps/precautions to mitigate water damage to personal and facility property in the affected area
- ☐ Make notifications and announcements as indicated above, if not done already

Recovery

3.3 Upon Notification That the Crisis Has Concluded

- ☐ Once notification is given by the Incident Commander, announce over the public address system three times, ***"Flood, location, All Clear"***
- ☐ Participate in debriefing session

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4.0 Response & Recovery – Plant Engineering & Maintenance

Response

4.1 If aware of a weather-related flood watch/heavy rain forecast Director Plant Engineering & Maintenance/Delegate

- ☐ Determine staffing needs for potential response to flooding incident
- ☐ Decide if pumping truck should be staged outside Burr 0 and contact service provider as required
- ☐ Ensure available Maintenance staff are aware of flooding response equipment locations, how to use the equipment and the plan for deployment (See Appendix E)

4.2 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan Director Plant Engineering & Maintenance/Delegate

- ☐ Investigate whether the issue is facility based, construction project, or weather related
- ☐ Determine the cause and magnitude of the flood, and appropriate containment and clean up response required
- ☐ Notify Planning Office and/or contractor construction company if warranted
- ☐ Consider the impact to the facility, if the source of the flood is from existing infrastructure (pipes, sprinklers, heating and cooling systems) causing a partial or complete loss of functionality
- ☐ Direct Plant Engineering & Maintenance staff to repair, contain and assist with clean-up of flood water utilizing recommendations from departmental protocols. Liaise with Infection Prevention and Control , Occupational Health, Safety and Wellness and other impacted departments for response
- ☐ Notify Infection Prevention and Control Services of any disruption to water supply to patient care areas and allow sufficient time for the implementation of alternative arrangements if disruption is warranted for repairs (**Refer to Appendix B**)
- ☐ Liaise with and provide status updates to the Incident Commander on the response to the incident
- ☐ If the water damage was from a clean source and cannot be repaired or was not dried out within 48 hours, refer to Infection Prevention and Control Policy – Section 2-71.01, Mould Remediation policy
 - ☐ If the flood was from a contaminated source, remediation must occur

- ☐ Assume role of Operations Officer in the Incident Command Centre – **refer to page 19**

Plant Engineering & Maintenance Staff

- ☐ Respond to affected areas based on priority need as designated by Director Plant Engineering & Maintenance/Delegate
- ☐ Don flood personal protective equipment (gown, gloves, mask with visor, boots)
- ☐ Assist with containing the spread of the flood water using supplies in the flood cart
- ☐ Look for any potential flood-related hazards in the affected area to ensure the integrity and safety of hospital property by removing or raising equipment and material
- ☐ Take necessary steps/precautions to mitigate water damage to personal and facility property in the affected area
- ☐ Maintenance to take photos of flooded areas depicting surrounding infrastructure to document incident for insurance purposes
- ☐ Perform any plumbing/maintenance repairs required in response to the incident
- ☐ Open any concealed spaces that have been wet (drywall, ceiling space) to facilitate drying, in consultation with Infection Prevention and Control Services
- ☐ Perform response and recovery functions as authorized by the Director of Plant Engineering & Maintenance/Delegate (**Refer to Appendix A**)

Recovery

4.3 Upon Notification That the Crisis Has Concluded

Director Plant Engineering & Maintenance/Delegate

- ☐ Prepare for a debriefing with Facilities staff

Plant Engineering & Maintenance Staff

- ☐ Doff flood personal protective equipment, decontaminating as required.
- ☐ Follow up with Occupational Health, Safety and Wellness, if required
- ☐ Participate in a debriefing session
- ☐ Resume normal duties

5.0 Response & Recovery – Protection Services

Response

5.1 If aware of a weather-related flood watch/heavy rain forecast

Protection Services On-Call Manager

- ☐ Request the Shift Supervisor to increase patrols in flooding prone areas (Burr and Armstrong) and the rest levels 0 and 1. Exterior checks should be completed as well
- ☐ Consider coordinating with Burr 0 management, Maintenance and Environmental Services to pre-deploy water barriers (Insta Dams/Flood Gates) across doorways to prevent potential flood waters from getting in
- ☐ Have Shift Supervisor review the Use of Flood Kit Supplies (Appendix D) and Burr 0 Flood Response (Appendix E) and check that Burr 0 southeast doors (George St.) is closed, secure and sand bags are in place. Also check that Armstrong 0 southwest doors (Lower University Ave.) are closed, secure and sandbags/sump pump is in place

Security Shift Supervisor

- ☐ Increase rounds through flooding prone areas (Burr 0, Armstrong 0, etc.)
- ☐ Review Use of Flood Kit Supplies (Appendix D) and flood response plan for Burr 0 (Appendix E)

5.2 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan

Kingston Hospitals' Security Operations Centre

If not already aware, notify:

- ☐ Director of Protection Services/Delegate²
- ☐ Mobile Patrol Supervisor
- ☐ Strategy Management & Communications on call
- ☐ Monitor weather broadcasts and report any updates to the Incident Command Centre regarding the flood if the cause was weather related
- ☐ Communicate any flood watch information from weather broadcasts to other facilities if instructed by the Incident Commander:
 - ☐ Providence Manor: 613-549-4164
 - ☐ Providence Care Hospital: 613-544-4900
 - ☐ Hotel Dieu Hospital: 613-544-3310

² "Delegate" is the next level of appointed authority. In this case the Protection Services On-call Person

Director of Protection Services/Delegate

- ☐ Determine the cause and magnitude of the flood, and coordinate the appropriate response
- ☐ Notify Strategy Management & Communications representative on call to determine if any communication is needed to any or all of staff, patients, visitors, public at large/media.
- ☐ Establish the Incident Command Centre in the Protection Services department and assume role of Incident Commander – **refer to page 17**
- ☐ Notify Manager, Emergency Management, Parking and Security Operations Centre

Manager, Emergency Management, Parking & Security Operations Centre/Delegate

- ☐ Coordinate the Security response to the flood in collaboration with the Incident Commander
- ☐ Plan and implement traffic restrictions to/through the site and provide direction for alternate routes
- ☐ Assume role of Logistics Officer in the Incident Command Centre – **refer to page 19**

Security Shift Supervisor

- ☐ Report to the area to assess level of severity and provide scene control
- ☐ Look for any potential flood-related hazards in the affected area to ensure the integrity and safety of hospital property by removing or raising equipment and material
- ☐ Take necessary steps/precautions to mitigate water damage to personal and facility property in the affected area
- ☐ Photograph or video flooded areas depicting surrounding infrastructure, equipment and potential damage to personal and facility property for documentation and insurance purposes
- ☐ Assist with the set-up of the Incident Command Centre, if required
- ☐ Provide Incident Command with a detailed preliminary report of the incident
- ☐ Oversee Security Officers' response
- ☐ Request the Security Operations Centre to have Mobile Patrol Supervisor respond

Mobile Patrol Supervisor

- ☐ Collect extra radios for use by the site for the duration of the Flood/Storm Water Emergency Response Plan
- ☐ Provide assistance, as required, for response and recovery efforts

Security Officer

- ☐ Provide scene control and isolate the area
- ☐ Provide security functions as directed by the Security Shift Supervisor for response and recovery efforts
- ☐ Provide signage and barriers to isolate affected areas including elevators
- ☐ Assist with re-routing of traffic flow (staff, patients, visitors, etc.) in affected areas

Recovery

**5.3 Upon Notification That the Crisis Has Concluded
Kingston Hospitals' Security Operations Centre**

If not already aware, notify:

- ☐ Director of Protection Services/Delegate
- ☐ Mobile Patrol Supervisor

Security Shift Supervisor

- ☐ Ensure that all documentation is collected for debrief preparation
- ☐ Dismantle the Incident Command Centre if activated and update supplies as needed
- ☐ Ensure that a comprehensive occurrence report is filed immediately
- ☐ Participate in a debriefing session

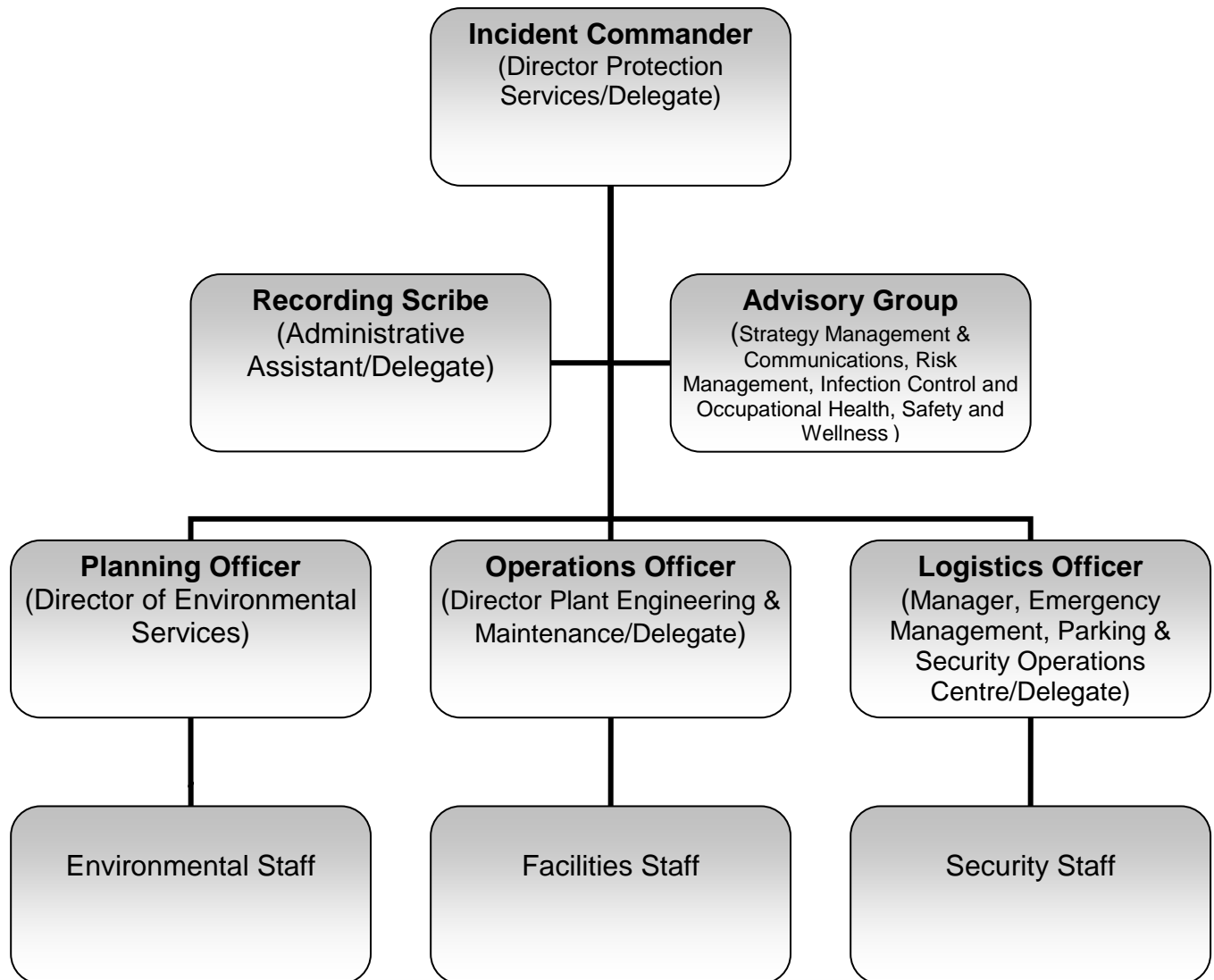
Mobile Patrol Supervisor

- ☐ Collect all extra radios used during the incident
- ☐ Participate in a debriefing session

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6.0 Response & Recovery – Incident Command Centre

6.1 Incident Management System



Response

6.2 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan

Incident Commander

- ☐ Establish the Incident Command Centre
- ☐ Notify Switchboard of the location and contact information for Incident Command
- ☐ Appoint the following positions, only if the regular assigned persons are not available

- ☐ **Operations** _____
- ☐ **Planning** _____
- ☐ **Logistics** _____
- ☐ **Recording Scribe** _____
- ☐ Notify, if not already aware
 - ☐ Administrative Coordinator, if not already aware
 - ☐ Infection Prevention & Control
 - ☐ Occupational Health, Safety and Wellness
 - ☐ Strategy Management & Communications office
 - ☐ Provide update to the Strategy Management & Communications office, and if required determine what internal or external messaging needs to be provided
- ☐ Assess adjacent to (beside, above and below) the flooding for migrating water or water damage as a result of the flood, including building materials (drywall, flooring, etc.) and equipment/supplies/furniture
- ☐ **Ensure that potentially affected areas containing valuable assets are checked thoroughly (patient records, expensive clinical equipment and supplies, information technology infrastructure or equipment, etc.) for additional flooding**
- ☐ Notify Risk Management
 - ☐ If the damage to recover and repair the damage due to a flood is anticipated to exceed \$5000 AND it occurs after hours, then a new property claim should be submitted directly to our insurer via Cunningham Lindsey Canada. They may wish to send out an insurance adjuster at the earliest possible time to review the situation.
 - ☐ Ensure required information for insurance purposes is gathered
- ☐ If the cause of the flood is weather related, instruct Kingston Hospitals' Security Operations Centre to communicate flood watch information to Administration at Hotel Dieu Hospital and Providence Care sites and continue to monitor weather information
- ☐ Regularly assess risk (structural, utility, saturation, contents, health threats) and authorize flood response and recovery efforts
- ☐ Provide solutions for potential additional hazards and complications impacting the facility if the source of the flood was infrastructure related (sprinkler system, sewage pipe, water heated radiators)

- ☐ Review potential electrical issues (outlets, smoke alarms, equipment) and authorize implementation of by-pass procedures, as required
- ☐ Liaise with Infection Prevention and Control Services and Occupational Health, Safety and Wellness regarding flood risk analysis
- ☐ Consider the impact to patient care and liaise with appropriate leadership staff based on affected area
- ☐ Liaise with Strategy Management & Communications to provide communication updates regarding incident internally and externally, if required
- ☐ Establish business cycle to receive status reports from Operations, Logistics and Planning Officers
- ☐ Prepare to provide a situational report to the President & CEO
- ☐ Liaise with the President & CEO and assess the need to activate the Emergency Operations Center (EOC) and call back of Program Directors
- ☐ Be prepared to transfer command to a higher authority (e.g. President & CEO)
- ☐ If required, notify the Kingston Hospitals' Security Operations Centre **(4142)** to call EOC members and have them report to the EOC
- ☐ Notify Kingston Hospitals' Security Operations Centre to recall Program Directors, if required
- ☐ Authorize staff fan-out lists, as required, in consultation with Program Directors/Managers
- ☐ Ensure the EOC is appropriately informed of any identified risk issues, if active

Planning Officer – Director Environmental Services/Delegate

- ☐ Provide progress updates to the Incident Commander
- ☐ Provide assistance to Plant Engineering & Maintenance staff by allocating and deploying staff as necessary to manage the flood and to assist with the resumption of normal functions
- ☐ If applicable, liaise with Planning Office and contractor construction company to manage the flood and assist in the return of normal functions to the facility

Operations Officer – Director Plant Engineering & Maintenance/Delegate

- ☐ Take necessary steps to ensure the flood is not increasing
- ☐ Consider re-routing of flood water into existing drains, toilet drainage holes etc.
- ☐ Regularly assess risk (structural, utility, saturation, contents, health threats) and make recommendations on flood response and recovery efforts
- ☐ Review potential electrical issues (outlets, smoke alarms, equipment) and determine if by-pass procedures should be implemented

- ☐ Provide assistance to Environmental Services by allocating and deploying staff as necessary to manage the flood and to assist with the resumption of normal functions
- ☐ Contact remediation services company (i.e. Service Master) to assist with remediation of the area, as required
- ☐ If applicable, liaise with Planning Office and Contract company to manage the flood and assist in the return of normal functions to the facility

Logistics Officer – Manager, Security, Access Control, Life Safety & Special Projects/Delegate

- ☐ Look for any potential flood-related hazards in the affected area to ensure the integrity and safety of hospital property by removing or raising equipment and material
- ☐ Take necessary steps/precautions to mitigate water damage to personal and facility property in the affected area
- ☐ Ensure Security requirements to manage the flood incident are provided
- ☐ Ensure the extent of the flood is documented by video recorder or digital camera
- ☐ Consider whether a search of the facility should be conducted to account for areas affected by the flood
- ☐ Gather and prepare search team kits, if required
- ☐ Contact available staff to prepare to assist in the search of the facility, if required
- ☐ Be prepared to coordinate search teams, and security staff actions, if required
- ☐ Provide radio communication as necessary to Incident Command Centre
- ☐ Prepare for the termination of the emergency and any debriefing requirements
- ☐ Ensure the continuation of Security functions in the remainder of the facility

Recording Scribe

- ☐ Document response actions and communication within the Incident Command Centre

Advisory Group

- ☐ Provide information and resources to the Incident Commander as required

Recovery

**6.3 Upon Notification That the Crisis Has Concluded
Incident Commander**

- ☐ Upon notification that the flood incident has been resolved authorize Switchboard to announce an “All Clear”
- ☐ Ensure appropriate recovery actions are taken by staff (area cleared, damaged areas repaired)

- ☐ Prepare for a debriefing with Incident Command Centre and Emergency Operations Centre, if activated
- ☐ Instruct staff to resume normal duties

Planning Officer

- ☐ Prepare for a debriefing with the Incident Command Centre
- ☐ Prepare for a debriefing with Environmental staff

Operations Officer

- ☐ Debrief staff on lessons learned and procedural/equipment changes needed
- ☐ Instruct staff to resume normal duties

Logistics Officer

- ☐ Ensure replacement of flood kit supplies if utilized
- ☐ Compile any reports for debriefing

Recording Scribe

- ☐ Document recovery actions and communication within the Incident Command Centre

Advisory Group

- ☐ Prepare for a debriefing with the Incident Command Centre
- ☐ Provide recovery options based on area of expertise

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7.0 Response & Recovery – Environmental Services

Response

7.1 If aware of a weather-related flood watch/heavy rain forecast

Director Environmental Services/Delegate

- ☐ Determine staffing needs for potential response to flooding incident
- ☐ Ensure available ES staff are aware of flooding response equipment locations, how to use the equipment and the plan for deployment (See Appendix E)

7.2 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan

Director Environmental Services/Delegate

- ☐ Upon notification that an area is flooded, direct Environmental Services staff to ensure measures are taken to contain the flood
- ☐ Assess adjacent areas (beside, above and below) the flooding for migrating water or water damage as a result of the flood, including building materials (drywall, flooring, etc.) and equipment/supplies/furniture.
- ☐ **Ensure that potentially affected areas containing valuable assets are checked thoroughly (patient records, expensive clinical equipment and supplies, information technology infrastructure or equipment, etc.) for additional flooding**
- ☐ Direct Environmental Services staff to assist as required with water removal, drying processes, or surface cleaning and disinfection following departmental procedures
- ☐ Liaise with and provide status updates to the Incident Commander on the response to the incident
- ☐ Assume role of Planning Officer in the Incident Command Centre – **refer to page 19**

Environmental Services Staff

- ☐ Respond to affected areas based on priority need as designated by Director Environmental Services/Delegate
- ☐ Respond to affected area with the **“Flood Cart” (located behind Connell 0 cage)**
- ☐ Don flood personal protective equipment
- ☐ Assist with containing the spread of the flood water using supplies in the flood cart
- ☐ Presume that areas adjacent to (beside, above and below) the flooding are also affected until they are investigated and ruled out
- ☐ Look for any potential flood-related hazards in the affected area to ensure the integrity and safety of hospital property by removing or raising equipment and material

- ☐ Take necessary steps/precautions to mitigate water damage to personal and facility property in the affected area
- ☐ Assist with clean-up of the flood water and affected areas surrounding the incident

Recovery

7.3 Upon Notification That the Crisis Has Concluded Director of Environmental Services/Delegate

- ☐ Ensure all flooded and affected surrounding areas have been cleaned
- ☐ Discuss with Clinical Staff/Plant Operations & Maintenance when fans/dehumidifiers should be shut off based on the construction of the area affected by flooding
- ☐ Doff flood personal protective equipment, decontaminating as required.
- ☐ Follow up with Occupational Health, Safety and Wellness, if required
- ☐ Liaise with Plant Engineering & Maintenance to ensure all damaged structures and wet materials are replaced (e.g. linens, curtains)
- ☐ Attend debrief session

8.0 Response & Recovery – Infection Prevention and Control Services

Response

8.1 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan Infection Prevention and Control Practitioner/Delegate

- ☐ Report immediately to the area that is flooded to assess and resolve the Infection Prevention and Control impact
 - ☐ If water is determined to be clean, Infection Prevention and Control Services will advise on modifications to personal protective equipment in consultation with the Occupational Health, Safety and Wellness
- ☐ Recommend barriers necessary, negative or positive pressure air movement, traffic routes, etc.
- ☐ Monitor remediation actions, especially if the remediation utilizes barriers, negative pressure, etc.
- ☐ Halt any work that is proceeding with inadequate barriers; walk off mats or other breaches in Infection Prevention and Control protocols outlined in Infection Prevention and Control Policy Manual, Section 2-70.01 (Construction)
- ☐ Ensure plans for remediation or drying measures are reviewed before start of work to protect patients and staff
- ☐ Assist in the planning for potential disruption of water (**Refer to Appendix B**)
- ☐ Coordinate with Occupational Health, Safety & Wellness when construction/renovation or remediation may have an impact on staff working in the area

Recovery

8.2 Upon Notification That the Crisis Has Concluded Infection Prevention and Control Practitioner

- ☐ Ensure remediation actions are complete, as outlined in Infection Prevention and Control Policy Manual, Section 2-70.01 (Construction)
- ☐ Attend debrief session

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9.0 Response & Recovery – Information Management

Response

9.1 Upon Receiving Notification That There is a Need to Activate the Flood/Storm Water Emergency Response Plan Representative of Information Management/Delegate

- ☐ Upon notification that an area is flooded, ensure measures are taken to prevent damage to information management equipment
- ☐ Ensure back up procedures functioning to prevent loss of information technology services
- ☐ Look for any potential flood-related hazards in the affected area to ensure the integrity and safety of hospital property by removing or raising equipment and material
- ☐ Take necessary steps/precautions to mitigate water damage to personal and facility property in the affected area
- ☐ Take necessary steps to rectify any loss of information technology services

Recovery

9.2 Upon Notification That the Crisis Has Concluded Representative of Information Management/Delegate

- ☐ Ensure all areas have information technology services
- ☐ Attend debrief session

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10.0 Appendix A – Remediation Actions

NOTE: all applicable actions from Section 2-70.01 (Construction, Renovation and Maintenance) need to be followed. Population Risk Group, Construction Activity Type and Preventive Measure Analysis need to be established for each area under remediation.

Wet Item	Actions	MRP
Carpet (sewage contamination)	Remove excess water Discard carpet	Environmental Services Maintenance
Carpet (Wet from clean water less than 48 hours)	Extract water Shampoo or steam clean carpet (all furniture, cabinets, etc., need to be removed from area)	Environmental Services
Carpet (Wet from dirty water)	Discard carpet	Environmental Services Maintenance
Carpet (Wet More than 48 hours)	Extract water Discard carpet	Environmental Services Maintenance
Ceiling Tile	Remove and discard tile(s)	Maintenance
Drywall	Remove drywall and insulation (if present) to 30 cm (12 inches) above wet mark, and discard. <ul style="list-style-type: none"> ▪ If more than 48 hours, and more than 1 square meter is involved, a remediation services company may need to be consulted. 	Maintenance
Electrical	Must be inspected by an electrician. <ul style="list-style-type: none"> ▪ Electric circuit breakers, GFI's (Ground Fault Interrupters) and fuses that have been wet need replacing. ▪ Switches and outlets can be cleaned and reused (if in doubt, throw them out). ▪ Electric motors, light fixtures, etc., need to be opened, cleaned and air dried by a qualified person 	Maintenance
Files/Papers (Essential)	Dry, photocopy, discard if possible	Medical Records
Files/Papers (Non-Essential)	Discard	Environmental Services Medical Records
Laminate Surfaces (Good Condition)	Dry, and clean with disinfectant solution	Environmental Services
Laminate Surfaces (Poor Condition)	Discard	Environmental Services

Wet Item	Actions	MRP
Upholstered Furniture	<ul style="list-style-type: none"> ▪ Flood due to drinking (potable) water: <ul style="list-style-type: none"> ○ Dry within 48 hours and monitor for mould ○ >48 hours: dispose ▪ Flood due to floods, roof leaks, sewage backup or ground water: <ul style="list-style-type: none"> ○ Dispose 	Environmental Services

11.0 Appendix B – Special Considerations During Water Disruption

Risk	Interventions	MRP
Lack of potable water for drinking and food preparation	Schedule interruptions for low activity times Obtain/provide potable water for consumption (potable water can be arranged through Food and Nutrition Services)	Maintenance, Materials Management, Food and Nutrition Services
Lack of water for hand washing	Use disposable towelettes for hand cleaning: patients and personnel, then use alcohol based hand-sanitizer	Nursing, Materials Management
Lack of water for flushing toilets, patient bathing	Obtain water supply for bathing and cleaning Use waterless bathing system i.e. Bath-in-a-bag (may have to be procured through 3SO). Use Zorbi bags for toilets and commodes	Maintenance, Materials Management
Contamination of potable water supply-during disruption	Ensure all air and stagnant water is removed from pipes once flow re-established Ensure proper disinfection of water supply by chlorination	Maintenance, Infection Prevention and Control City of Kingston Public Utilities

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12.0 Appendix C – Listing of Main Shut Off Valves

The following main shut off valves can be used by Maintenance to shut off water supply in the event of a flood emergency.

- 1 – Armstrong 0: Room # 16-0-016
- 2 – Kidd 00: Room # 22-0-131-1
- 3 – Connell 0: Room # 2-025
- 4 – Watkins 0: Room # 4-1-211-2
- 5 - Victory 0: Room # 3-0-108-0
- 6 – Burr 0: Room # 21-0-103
- 7 – GIDRU: Room # 3-1-300

Sprinkler Valve Locations:

Old Wing	Old Door Number	New Wing	New Door Number
Victory 0	3-045	Victory A	3-0-108-0
Victory 1	3-122	Victory A	3-1-207-0
Victory 2	3-227	Victory A	3-2-206
Victory 3	3-325	Victory A	3-3-208
Victory 4	3-422	Victory A	3-4-206
Empire 1	3-122	Victory B	3-1-207-0
Empire 2	3-227	Victory B	3-2-206
Empire 3	3-325	Victory B	3-3-208
Empire 4	3-422	Victory B	3-4-206
GIDRU 1	P Lot	Victory C	GIDRU Parking Mech. Rm
GIDRU 2	30-2-018	Victory C	3-2-318
GIDRU 3	30-3-012	Victory C	3-3-312
GIDRU 4	Mech RM	Victory C	3-4-303-0
Nickle 1	9-106	Watkins A	4-1-104
Watkins 1	4-123C	Watkins B	4-1-211-2
Angada 1	6-102 (Doran)	Watkins C	4-1-400
Doran 1	6-102	Watkins D	4-1-400
Doran 2	6-202	Watkins D	4-2-400
Doran 3	5-216 (Angada)	Watkins D	4-3-317
Burr All	21-003 (West Wtg.)	Burr	21-0-103
Burr 0	21-0-150	Burr	21-0-011
Burr 1	21-1-118	Burr	21-1-008-0

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13.0 Appendix D – Use of Flood Kit supplies

Remember that in an emergency you can direct available resources/staff to assist in fighting the flood (ESA/Porters).

Always be mindful of dangers and safety concerns such as submerged power outlets/power bars and seek to deploy proper PPE for staff involved in the emergency. If you see someone being unsafe stop them.

Always try to contain the water from accessing areas that house expensive equipment and/or relate to patient care/treatment within the hospital.

Initiate emergency protocols as per Emergency Code Procedures and initiate calls to seek additional assistance as needed from Management and Leadership in a timely manner to ensure best coordination of available resources in mitigating damages to the facility/equipment and risks to Patient/Staff/Visitor safety at the hospital.



Note: Each containment “sock” (long thin pillow) can absorb up to 4 gallons of water.

Note: The same process can be used on the “pillows” as well if available.

Note: For high levels of water containment within hospital hallways please look to use a pyramid technique as in the image here below (note: please disregard trademark logo).



Note: The use of sandbags is also key where available in order to help contain water intrusion into buildings via doorways/hallways. Areas such as the KGH BURR 0 (Southeast) stairwell are supplied with insitu sandbags as well as extra sandbags that can be deployed as needed where needed.



Available in Burr 0 flood supplies room (21.0.024):



NEW

INSTA-DAM

Instant Fluid Control

- Instant flexible dam controls & diverts fluid
- Deploy, rinse, store & reuse as needed
- Polyurethane material is chemical resistant
- Block entryways to redirect flow
- Use with water, oil, chemicals & more

Features

- 2in x 2in square shape seals to surfaces
- 4ft length for continuous protection
- Use to wrap, contain or divert fluids
- Ships & stores in hi-vis Fluid Control tubing
- Protect entryways with square shape

ITEM #	DESCRIPTION
QDID224	2in x 2in x 4ft



Includes storage container with carrying strap

INSTA-DAM

INSTRUCTIONS

- Clean surface where you will place the Dam to ensure a tight seal (Debris can reduce the quality of the seal, a smooth surface is best)
- Lay in position to control & divert fluids
- When finished, wash Insta-Dam with soap using warm water
- Dry with a clean towel, cloth or wipe before storing
- Wrap & store Insta-Dam in its original plastic wrap & slide into supplied storage tube. Keep in horizontal position and out of direct sunlight

NOTICES

- Insta-Dam should always be wrapped & stored away in the plastic wrap, do NOT throw this away
- Regularly inspect to ensure Insta-Dam is in good condition
- Do not let Insta-Dam touch itself for long periods of time, as it may get stuck together & could cause damage during separation
- Long term exposure to incompatible liquids could cause deterioration & reduce its life
- Leaving Insta-Dam on a surface for a long period of time, could cause it to stick to the surface. This could cause damage when trying to remove
- Lift slowly & look for etching & stretching. If that occurs, use a putty knife to help loosen Insta-Dam from surface & prevent damage to product

CARE OF URETHANE PRODUCTS



- Always keep product wrapped in original plastic wrap to avoid it sticking to itself & other objects
- Do not hang the product by one end or drape it over an object, store flat
- Store the product in a cool, dry place out of direct sunlight

AVOID

- The flexibility & sealing functions diminish at temperatures below -30°F
- Temperatures above 120°F (49°C)
- Prolonged exposure to excessive (80-100%) humidity
- Prolonged exposure to direct sunlight

Disclaimers: Urethane Notice
Due to the nature of soft urethane, the physical properties may change over time with exposure to certain environmental conditions like temperature, humidity, & UV radiation. Typical life expectancy is 5 years. Inspect Insta-Dam regularly to be sure it is still in good condition. Due to variables beyond our control, ASP cannot guarantee the use & satisfaction of this product.

Incompatibility:
Hydrogen Peroxide at 30% showed some degradation after 4 hours of contact.

ABSORBENT SPECIALTY PRODUCTS
QUICKDAMS.COM

FLOODGATE

Blocks Entryways from Flood Water

**BE PREPARED
MULTI-USE
BE PROTECTED**

- Stop water in it's path
- Easy to use & install
- No alterations needed
- Installs in just minutes- inside or outside
- Entryway remains accessible while in use
- Neoprene sleeve creates water tight seal
- Expandable sturdy steel frame
- Adjusts for openings 30in to 50in
- For larger openings, stanchions join units together
- Flood protection up to 26in high



**Residential • Commercial • Industrial • Retail • Hospital • Government
Nuclear • Hotels • Multi-Tenant Properties & More**

Front

Opening larger than 50in?
Join multiple Flood Gates using the Stanchion

With Neoprene Sleeve

Back

Stanchion (optional)
Note: Stanchions must be installed underground prior to use. Base sits flush with surface.

Floodgate consists of:

- 1in Steel Tube Frame - provides the support structure
- 7/8in Front Steel Flat Sheets- block & take the weight of the water
- 1.5 ton Scissor Jack - expands & creates a secure fit within door frame
- Neoprene Sleeve - surrounds entire system & provides a watertight seal around its perimeter
- Stanchion & Side Rails (optional)

FLOOD GATE	
Fits Openings	Part #
30in to 35in (76cm to 89cm)	QDFG30
35in to 40in (89cm to 101cm)	QDFG35
40in to 45in (101cm to 114cm)	QDFG40
45in to 50in (114cm to 127cm)	QDFG45

For larger sizes, please contact us.

Learn More
Scan to watch video

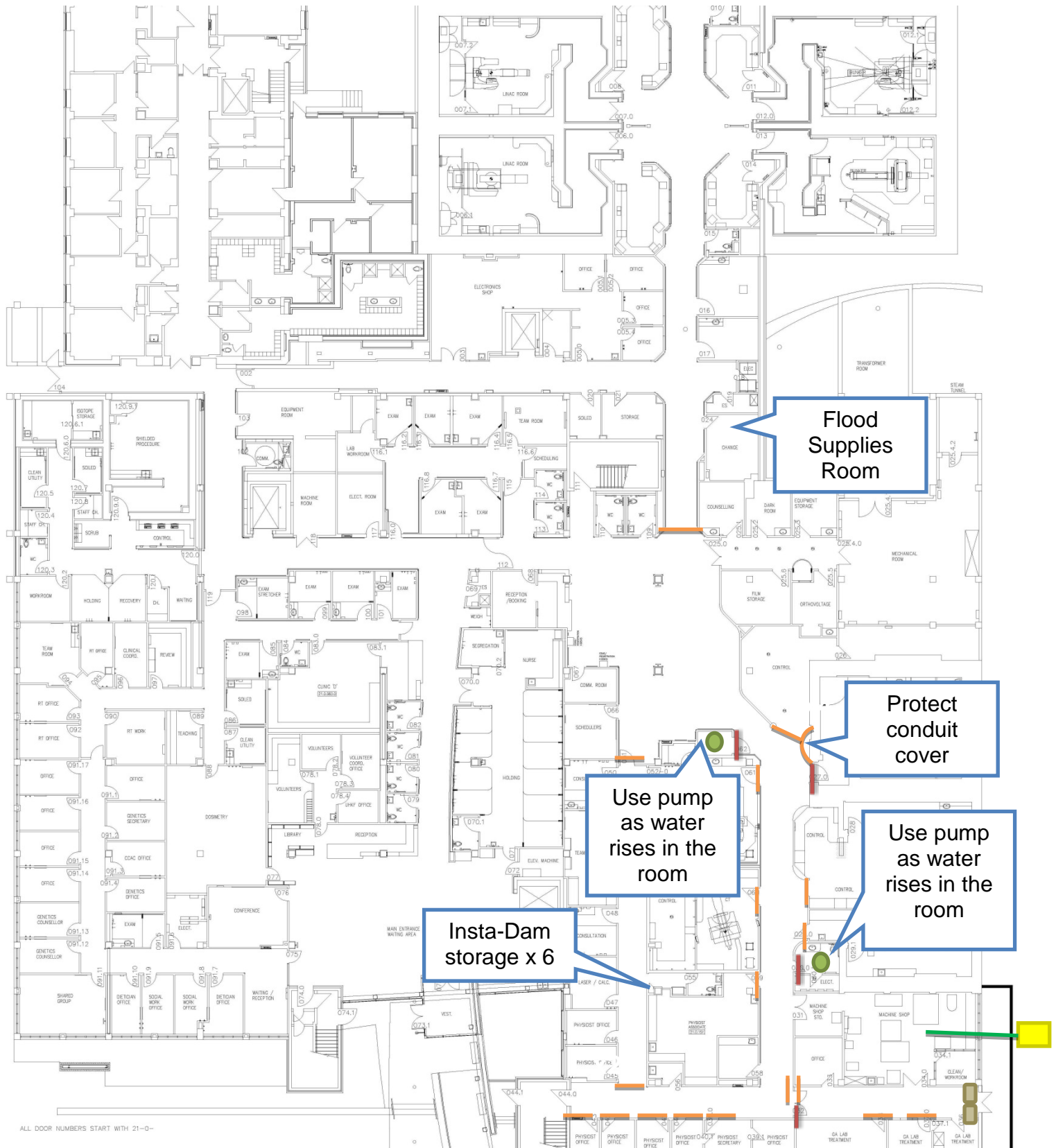
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THE NEXT GENERATION IN FLOOD PROTECTION






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14.0 Appendix E: Burr 0 Flood Response Supply Deployment

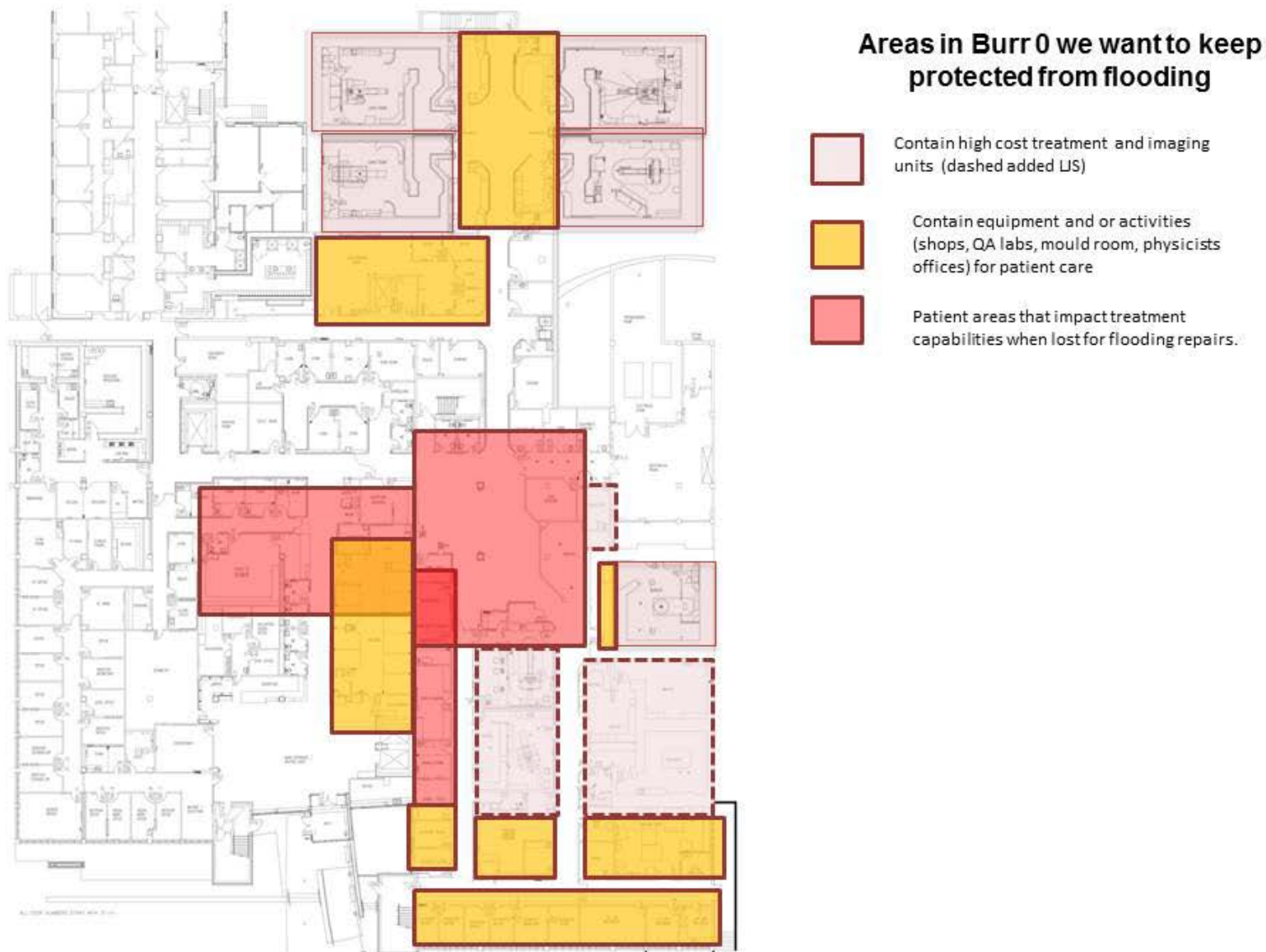


Legend	
 Insta-Dam – 28 available  Flood Gate – 4 available  Electric submersible pump – 2 available Gas-powered pump (operated only by Maintenance)	 Gas powered pump hose line  Sand bags

Tips

- These are only proposed locations of deployment on Burr 0.
- Every situation is different; make use of the supplies to mitigate damage as much as possible.
- **Call 4444** to report the flood. Use the Flood Plan from the Emergency Codes binder/intranet page and initiate calls to seek additional assistance as needed from Management and Leadership in a timely manner to ensure best coordination of available resources in mitigating damages to the facility/equipment and risks to patient/staff/visitor safety at the hospital.
- Focus on protecting high value patient care equipment.
- **USE PPE!** (i.e. boots, goggles, masks, gloves, gowns)
- Establish a “decon” area (lay down absorbent pads soaked with Oxivir to walk over) outside the flooding so contaminated water is not spread through the hospital.
- Remember that in an emergency you can direct available resources/staff to assist in fighting the flood (ESA/Porters).
- Always be mindful of dangers and safety concerns such as submerged power outlets/power bars and seek to deploy proper PPE for staff involved in the emergency. If you see someone being unsafe stop them.
- Always try to contain the water from accessing areas that house expensive equipment and/or relate to patient care/treatment within the hospital.

15.0 Appendix F: Burr 0 Flood Protection Areas



Appendix F – Burr 0 Flood Protection Areas

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