

Management of mould following flooding in healthcare environment- the role of environmental sampling

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Hosted by Prof. Jean-Yves Maillard
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The Weather Network
Weather Network - Newborns transferred from flooded hospital after storm in Mexico

'Apocalyptic' Dubai floods shake picture-perfect city

2 days ago



REUTERS

Work to clear Manor Hospital

2020



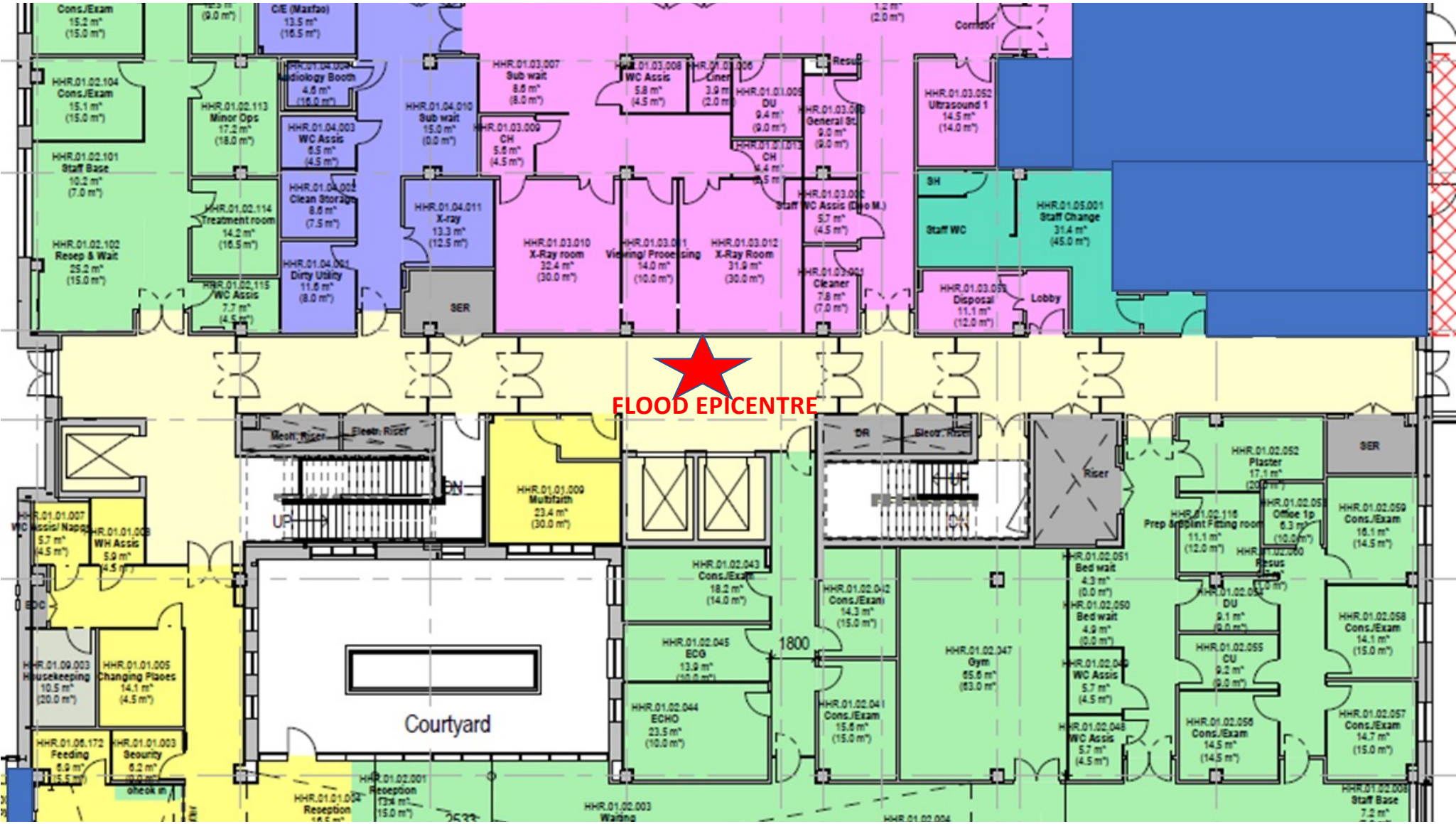
Flooding in healthcare now not uncommon and such events are reported to be increasing worldwide.



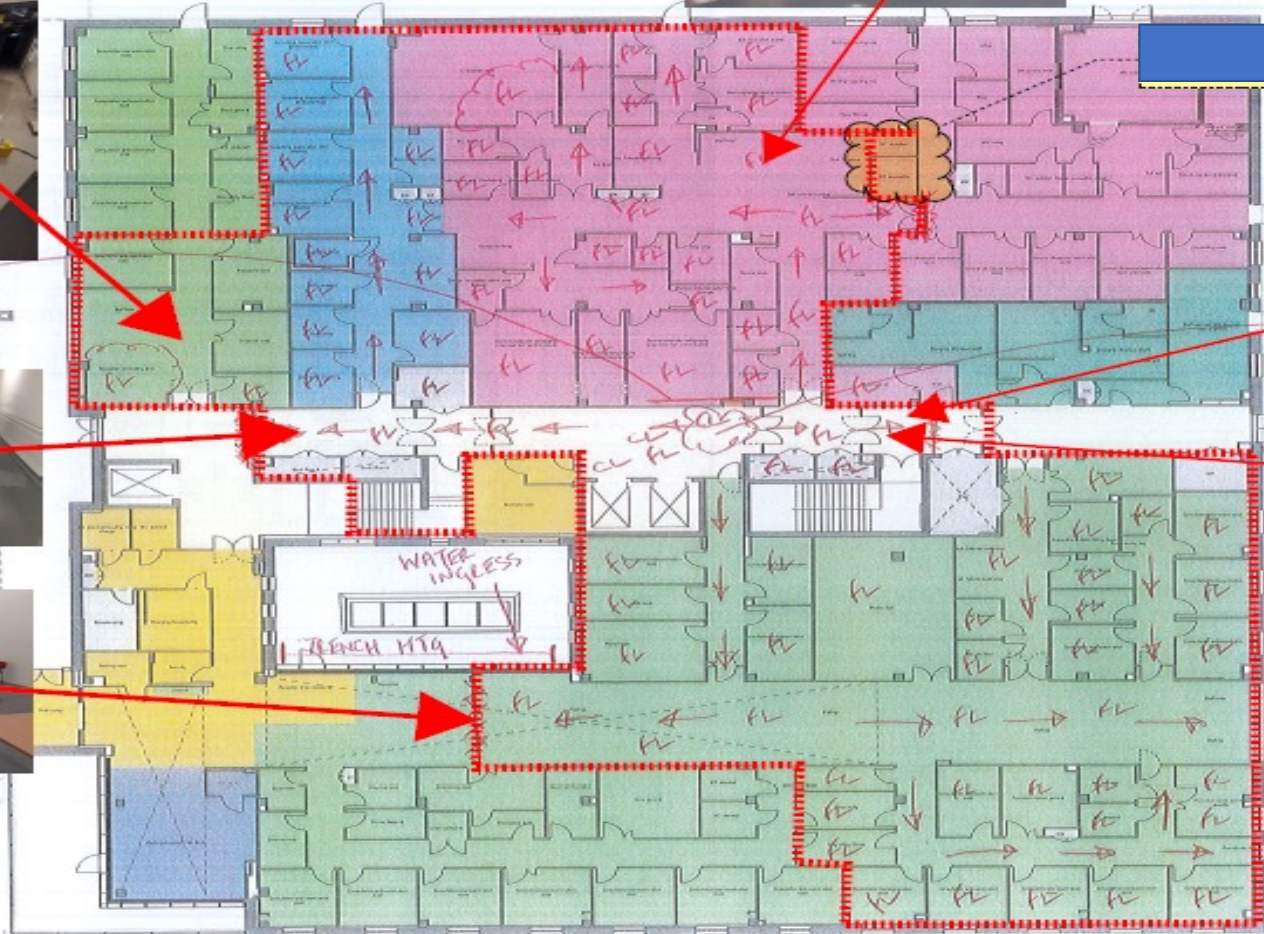
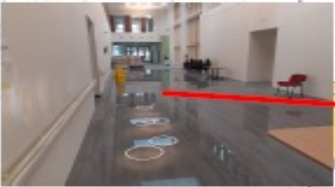
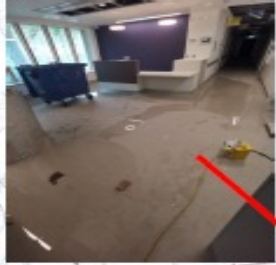






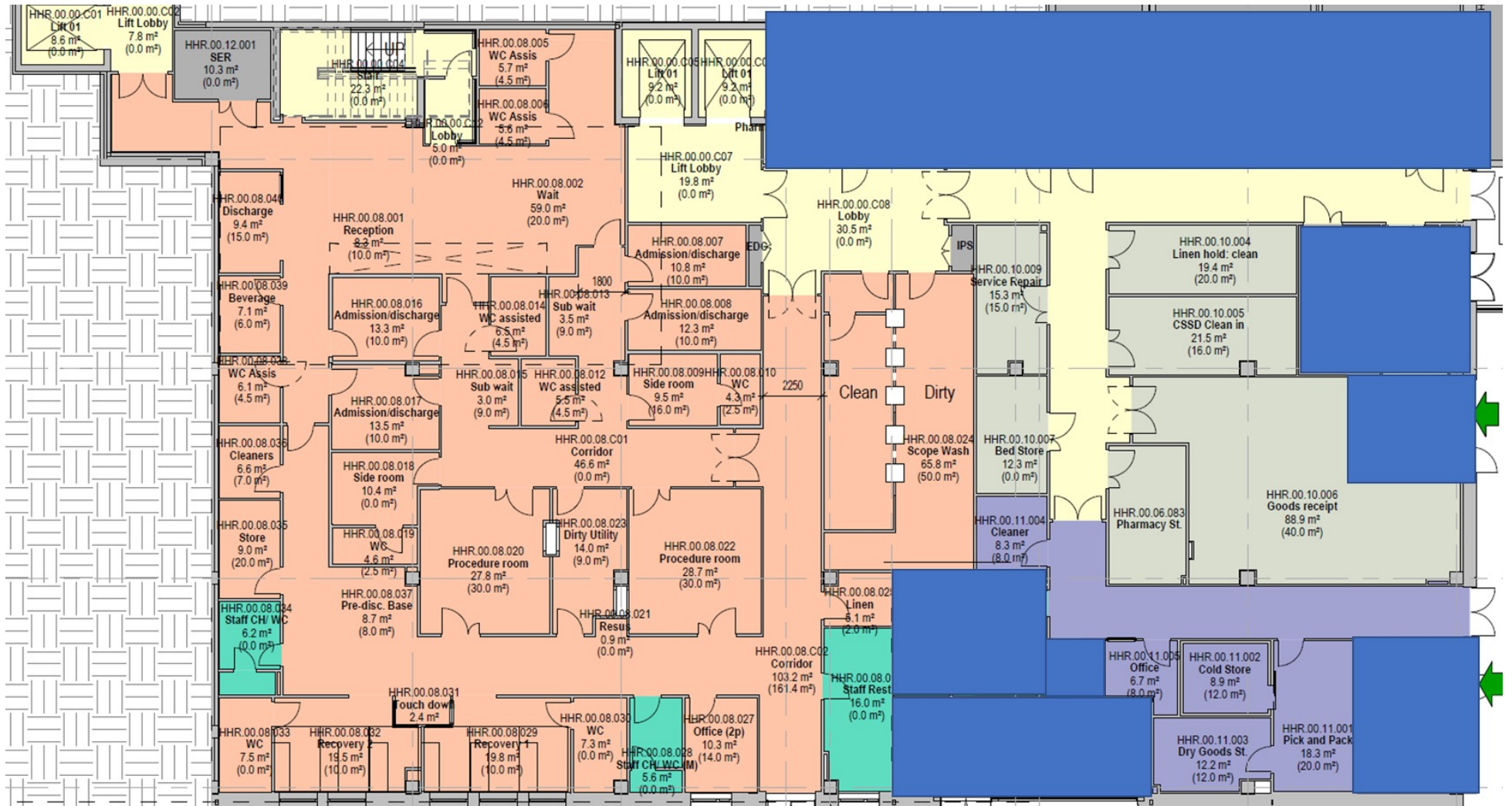


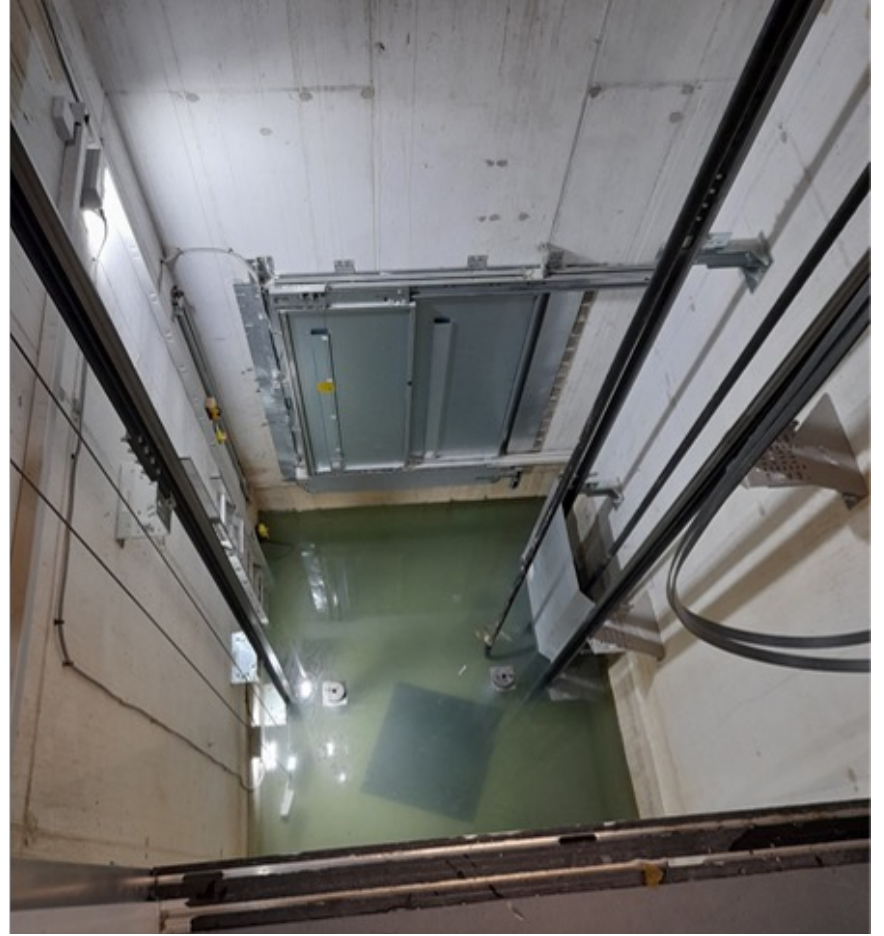
FLOOD EPICENTRE



1m 4000

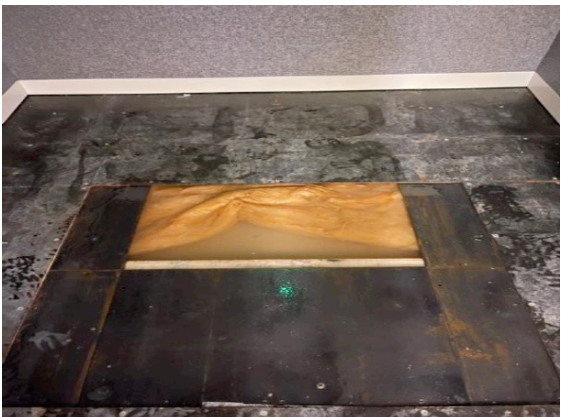














44 Cons Exam



43 Cons Exam



40 CU



46 Procedure General

LEVEL 00	Size	Drying Target Slab	Drying Target Wall	Floor Reading Perimeter	Diff		Wall Reading	Diff	
		REL	WME %	REL		DRY/ WET	WME %	REL	DRY/ WET
Discharge	9.4	207	16	999	-792	Wet	100	-84	Wet
Beverage	7.1	207	16	999	-792	Wet	100	-84	Wet
WC ASSIS	6.1	207	16	999	-792	Wet	100	-84	Wet
Cleaners	6.6	207	16	999	-792	Wet	100	-84	Wet
Store	6	207	16	999	-792	Wet	100	-84	Wet
Staff Change	6	207	16	999	-792	Wet	100	-84	Wet
Reception	8.3	207	16	999	-792	Wet	100	-84	Wet
Wait	59	207	16	999	-792	Wet	100	-84	Wet
WC ASSIS	5.7	207	16	999	-792	Wet	100	-84	Wet
WC ASSIS	5.6	207	16	999	-792	Wet	100	-84	Wet
Admission/Discharge	13.3	207	16	999	-792	Wet	100	-84	Wet
Admission/Discharge	13.5	207	16	999	-792	Wet	100	-84	Wet
Side Room	10.4	207	16	999	-792	Wet	100	-84	Wet
WC	4.6	207	16	999	-792	Wet	100	-84	Wet
PreDisr Poo	0.7	207	16	999	-792	Wet	100	-84	Wet
WC									Wet

Technical Abbreviations:

MMS = Moisture Measurement System.

GPK = Grams Per Kilo (Weight of moisture measured in a cubic meter of air)

W.M.E = Wood Moisture Equivalent, a scale of measuring moisture level in any building material expressed as a % moisture content of wood.

RH = Relative Humidity, the measure of moisture content in the air.



DIRECT CONTACT MC (Moisture Content) READING



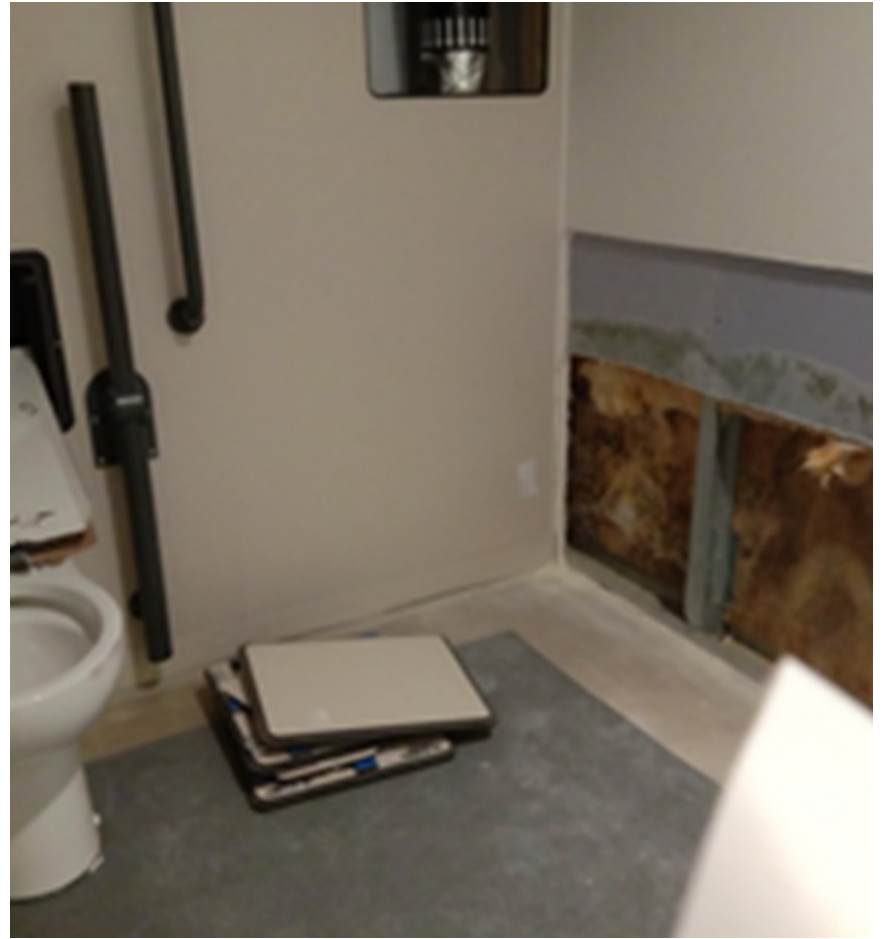
HYGRO STICK BASELINE READING



DRYING Moisture readings Final

LEVEL 00	Size	Drying Target Slab	Drying Target Wall	Floor Reading Perimeter	Diff		Wall Reading	Diff		
		MC	WME %	MC		DRY/WET	WME %	REL	DRY/WET	
Discharge	9.4	3.5	16	2.8	0.7	DRY	12	4	DRY	
Beverage	7.1	3.5	16	2.8	0.7	DRY	11	5	DRY	
WC ASSIS	6.1	3.5	16	2.6	0.9	DRY	11	5	DRY	
Cleaners	6.6	3.5	16	2.6	0.9	DRY	10	6	DRY	
Store	6	3.5	16	2.6	0.9	DRY	9	7	DRY	
Staff Change	6	3.5	16	2.6	0.9	DRY	9	7	DRY	
Reception	8.3	3.5	16	2.9	0.6	DRY	9	7	DRY	
Wait	59	3.5	16	2.6	0.9	DRY	8	8	DRY	
WC ASSIS	5.7	3.5	16	2.5	1	DRY	8	8	DRY	Leak Found
WC ASSIS	5.6	3.5	16	2.6	0.9	DRY	8	8	DRY	
Admission/Discharge	13.3	3.5	16	2.5	1	DRY	8	8	DRY	
Admission/Discharge	13.5	3.5	16	2.6	0.9	DRY	8	8	DRY	
Side Room	10.4	3.5	16	2.6	0.9	DRY	8	8	DRY	
WC	4.6	3.5	16	2.6	0.9	DRY	11	5	DRY	
PreDisc Base	8.7	3.5	16	2.6	0.9	DRY	11	5	DRY	
WC	7.5	3.5	16	2.5	1	DRY	11	5	DRY	Leak Found
Recovery	19.5	3.5	16	2.6	0.9	DRY	10	6	DRY	Leak Found
Recovery 2	19.8	3.5	16	2.6	0.9	DRY	10	6	DRY	Leak Found
Corridor	103.2	3.5	16	3.1	0.4	DRY	11	5	DRY	





IPC Risk assessment:

1. Risks supporting mould propagation within building material:

Porous material (wood/ insulating material) Vs concrete

- * Contact with flood water likely to be \geq 48 hours
- * Warm and humid day
- * Many areas with poor air circulation/ little direct sunlight

2. Risk to patients: Patients with increased risk include:

- * severely immune suppressed
- * undergoing invasive procedures (e.g. bronchoscopy/ eye surgery)

3. Risk to staff:

- * Prolonged exposure to mould
- * Immune suppressed will be at highest risk of mould related illnesses.
 - Respiratory symptoms (such as in nose, throat, lungs)
 - Development or worsening of asthma / Hypersensitivity pneumonitis
 - Respiratory infections
 - Allergic rhinitis (often called “hay fever”) / Bronchitis / Eczema

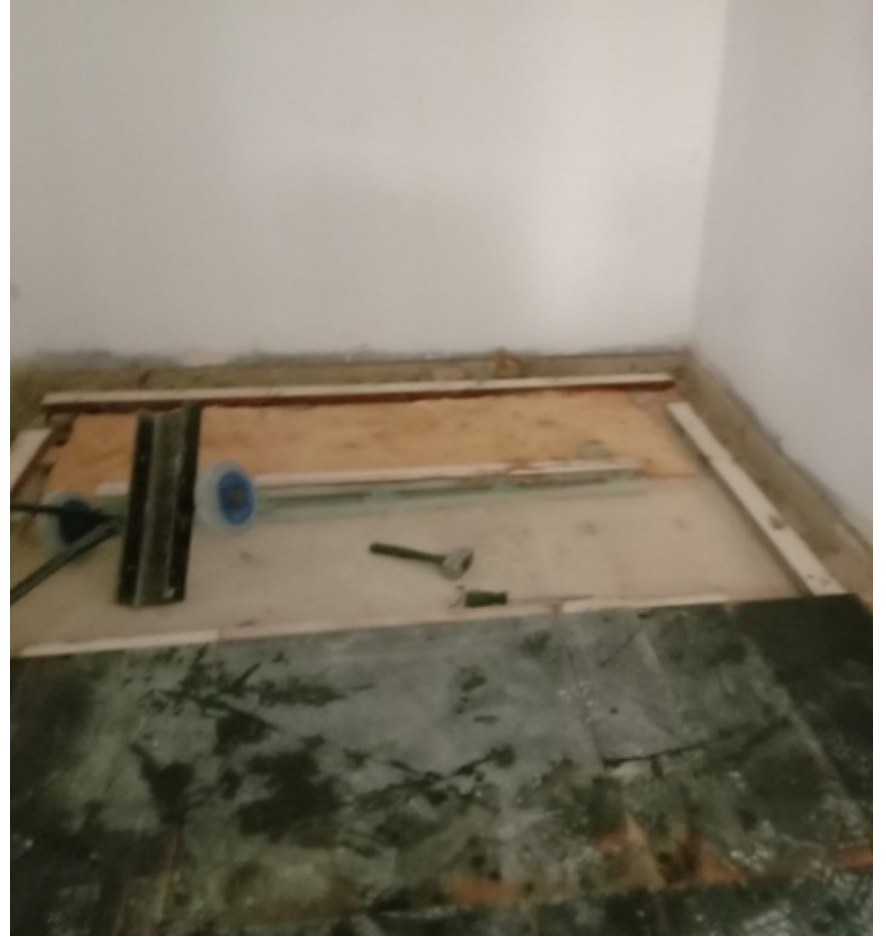
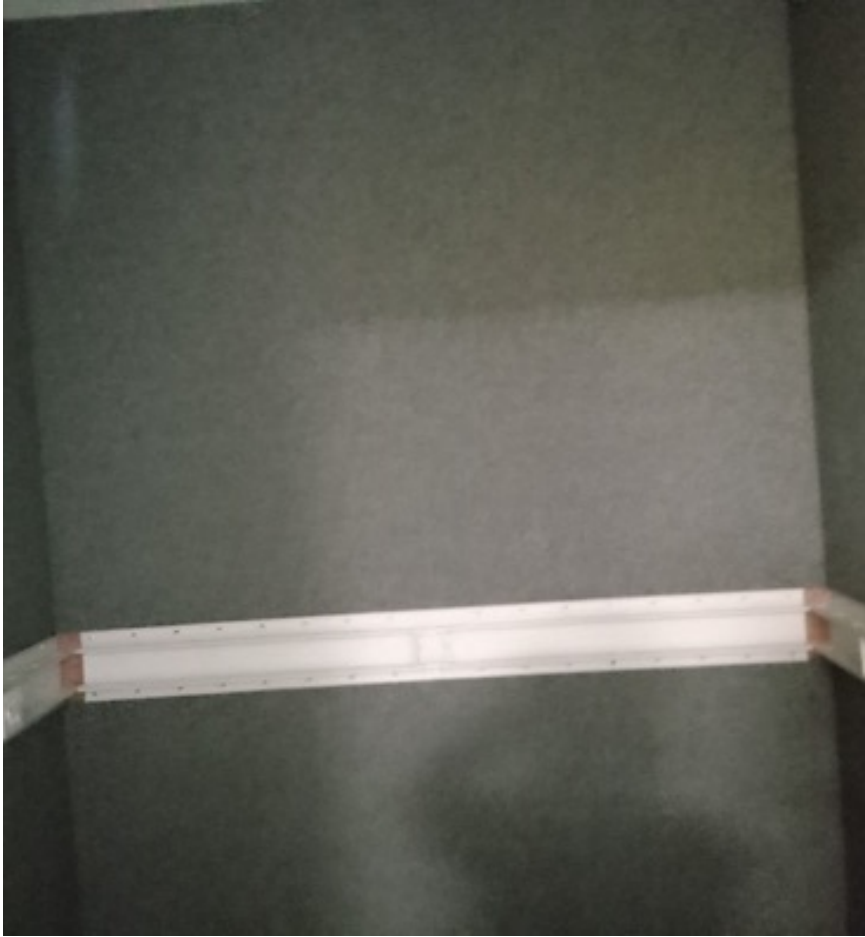
4. Risk to equipment and environment: Contamination of drugs, linen, equipment (e.g. bandages, heart monitors, catheters, tubes), and HVAC system.





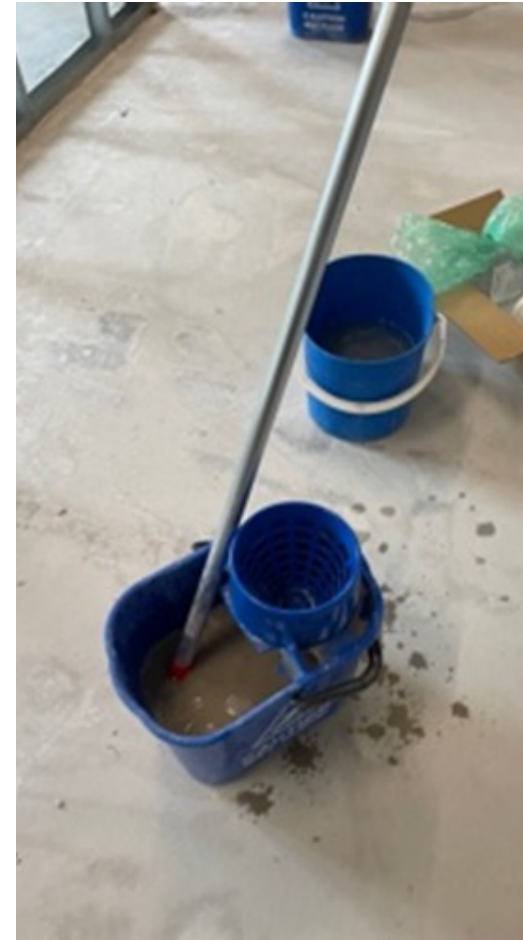
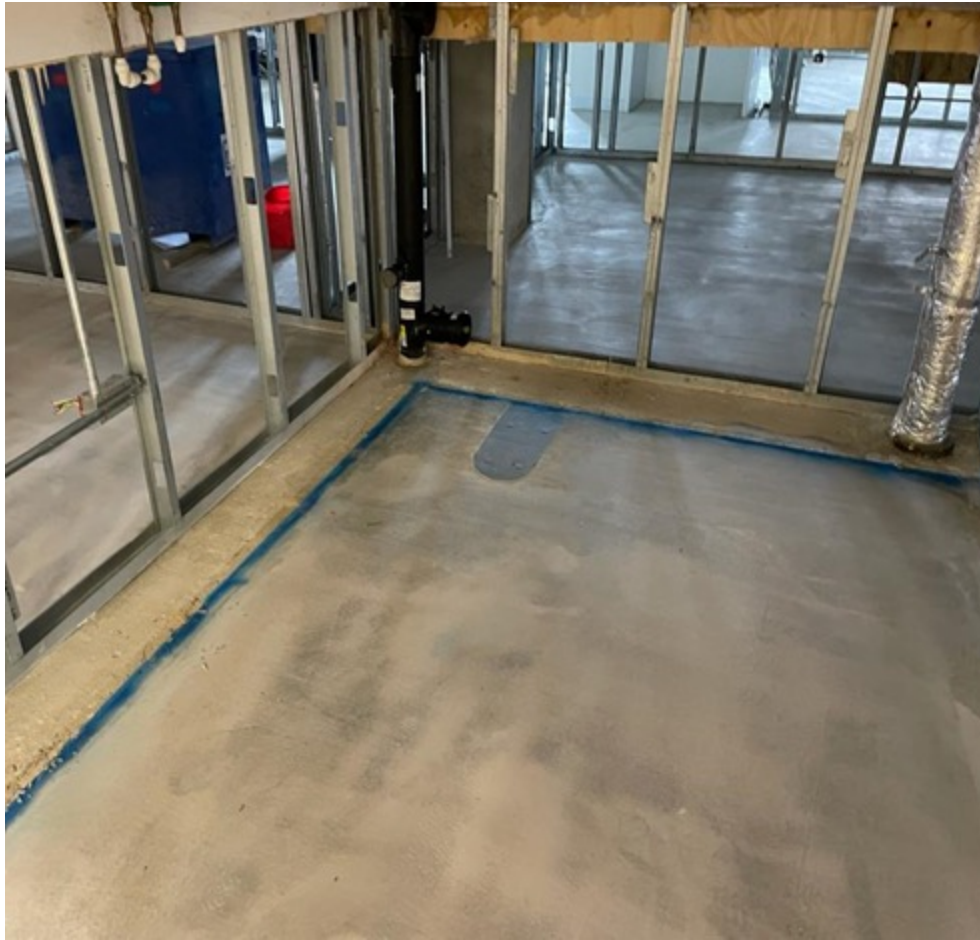
Max fax rooms with trenches





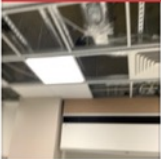






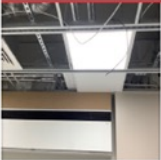






LEVEL 01

X-ray room next to leak , no water in ceiling , walls above ceiling no sign of damp or water.
Duct and grilles all ok.



LEVEL 01 X-RAY ROOM 02

Ceiling and wall all dry no water damage all duct dry no damage.



RISER 1 LEVEL 01 AHU 01 ENDOSCOPY EXTRACT

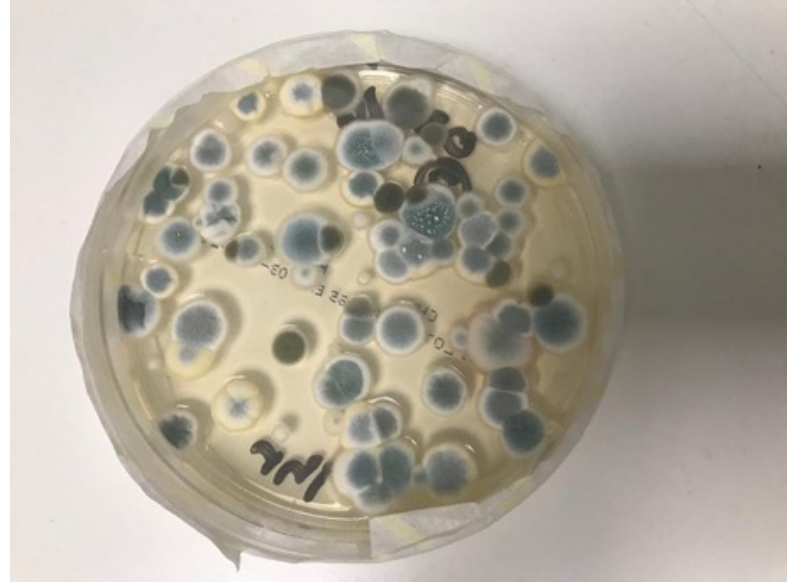
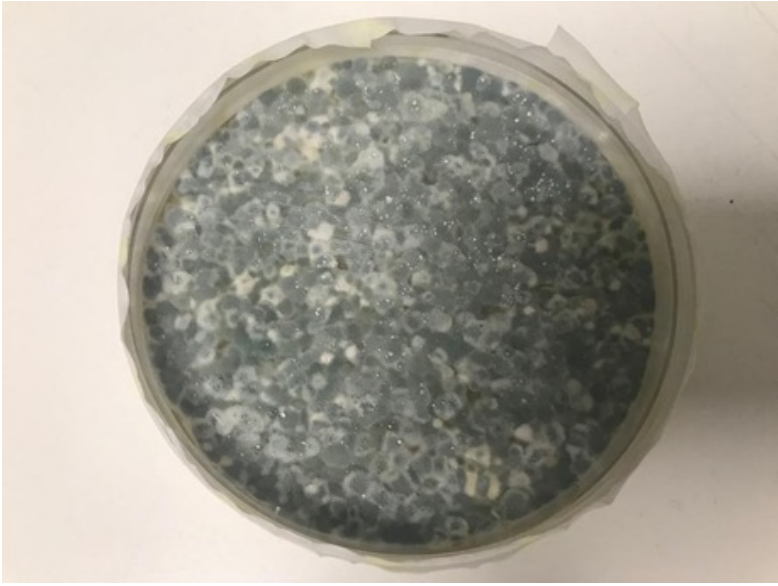
Tested Damper all working all ok.FSD 0-03.
Open and shutting ,no sign of water in riser ,fire stopping looks damp , but no sign of damage to duct.



RISER 01 LEVEL 01.

Damper FSD 0-03 open and shutting ok.







Water damage theatre roof



Ceiling void above ICU



Ceiling void
haemato-oncology
unit



Ceiling in drug preparation area



Leak in patient toilet in CF unit



Key points:

- Mould in healthcare will pose serious threat to vulnerable groups of patients and staff
- Important not to just fix the leak but to understand risk of mould propagation from building material that has been wet (dependent on time, temperature, environment)
- Settle plates for monitoring mould in air may help manage risk/ provide reassurance



Government tables 'Awaab's Law' in memory of boy who died in mouldy flat in bid to improve social housing conditions

The government has already committed to a rapid review of existing guidance on the health impacts of damp and mould, followed by new guidance tailored to the housing sector, to be published by summer 2023.



Sophie Morris
Political reporter @itsophieorris

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Thank you
Questions??

APRIL

- 3 ... Assessment of Mould Remediation in a Healthcare Setting Following Extensive Flooding
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