Future-facing Environmental Bathrooms



Green Building Encyclopaedia

Future-facing Sustainable Bathrooms, Bathing and Sanitaryware

Design

Chicane pathway with no inter-visibility entering and leaving public toilets

No doors and no ironmongery for bacteria transfer

Interior designers seem to be pushing for unisex communal toilets in offices

 Space saving seems to be the driver

 Socializing will probably consume more time

 But happier staff?

 Sequential layouts with some logic to the movement of people

 Time saving navigation and sequence of activities

Wet-soap-dry machines in larger numbers or phased out in high demand toilets

Need to keep customers flowing

Will hand wash and drying taps over basins clog up the flow of people

Architect designed vanity unit/basin tops banned!

Avoid splash water flooding vanity top then dripping onto floors

Architect designed vanity unit tops and taps tested together on full-flow, low-flow and drip-drip.

Outward opening door to small cubicles (French approach) to reduce space needed

 Robust internally hooking ironmongery to give users confidence

Consider Ska rating (Environmental Assessment Method) for fit-out and refit.

 More robust and comprehensive than BREEAM

Sanitaryware

All water saving profiles/outlets

Proximity actuated, water saving, flow regulated, aerated taps (except bath taps)

 No more tooth brushing with tap open long term

Proximity actuation (presence or departure)

Proximity actuated low water flow sprinkler taps

No-more percussion push-taps ever especially in pressurized multi-storey projects

No more water hammer (for quiet Schools Universities Hospitals)

Proximity actuated foaming soap dispensers

Baths

 Smart baths for water management

 Voice actuated and voice recognition

 Fills the bath for you

Knows your temperature and depth preference(s) and lighting/music scenarios,

Showers

Atomized mist showers

 75% water saving

 Easy DIY fitting

 Standard threads for connecting

 3 stage mineral-based water cleaning

 Mineral adding

 Aromatherapy addition

<https://www.indiegogo.com/projects/cirrus-shower-revolutionary-uses-75-percent-less-water-design#/>

Water saving showers (even if rain showers)

Smart showers for water management

 Voice actuated and voice recognition

Knows your temperature preference, head settings, stops and starts water for you

 Audible

“Wet, soap-up, rinse”

Count down

 Controls with attitude

lets you know when you’re consuming too much water

or lingering too long

Urinals

Effective visual privacy between urinals

 Elbow rests on urinal dividers in public houses! Somewhere to lean if drunk!

 Waterless smell-extracting urinals

Visual privacy if urinals are part of communal unisex toilets (unlikely)

Female urinals will probably never catch on except at music festivals

 Too many risks of wet clothes to consider them?

Rainwater harvesting

 Effective Wisy filters on down pipes

To Flush toilets

 Clothes Washing Machine

Grey water harvesting

 From basins to flush toilets

 Australian basin on WC cistern

 Roca/Laufen model basin beside WC

 From baths to flush toilets

 In wall pre plumbed systems

 No energy intensive UV or chemical cleaning of water

 If you must, use Solar PV to run it

Fabric first refurbishments

 Whenever a bathroom is refurbished or refitted, use it as a trigger point for a proper job

Decent Homes, privately, Insurance repairs, etc.

All removed parts diverted from landfill for reuse or recycling

 Insulate the external walls, and all voids that are opened up, properly for before refitting

So it does not have to be undone and then redone later (GreenDeal, ECO)

Refit with access panels to minimize leak damage and avoid refits next time

 Insulate all hot and cold pipes everywhere not just the 1st meter from the cyclinder

Acoustics:

No more noisy hand driers

 ‘Quiet mark’ promoted more widely

Awarded to exceptionally quiet fast-air blower hand-driers

Not just to the first company that asked to be assessed

And not likely to be awarded to Dyson Airblade (whether they applied or not)

Men not allowed to pee standing up in blocks of flats and hotels after 9pm

Acoustic privacy in cubicles especially in unisex communal toilets

 Airtightness measures at all pipes through walls/floors/roofs/partitions/ceilings/in casings/ducts

Vitreous china

Higher recycled content vitreous china:

Resource efficiency

Lower temperature baked vitreous china:

low embodied energy and potentially low embodied carbon

Ironmongery:

Reduced chemically intensive chromium plating to metalwork

Anti-bacterial silver-plated flush handles/plates/buttons/knobs/taps etc.

Anti-bacterial coatings:

Anti-bacterial silver-plated cubicle and door ironmongery on way out

Anti-bacterial silver-plated flush handles/plates/buttons knobs, taps, etc.

Anti-bacterial coated WC bowels: skid-mark-eating self-cleaning

Anti-bacterial coated everything in Prisons, Hospital and Mental institutions

Sealants:

Purpose-made profile single-piece rubber gasket water-tight seal to walls and floors:

avoiding silicone sealant:

easy reclaimable, cleanable, resalable and reusable china

Energy consumption

Effective design hand driers down to 500 Watts and still effective in 10 seconds

 Fast air blower hand drying in preference to heat

 Enhanced Capital Allowance promoted widely

 Energy Technology List listed appliance adopted more widely

Shower waste heat recovery transferred to shower hot water supply, fitted everywhere

Insulated hot and cold pipes (everywhere including domestic)

Plumbing:

 Waterless smell-extracting urinals

 Move away from PVC to ABS in downpipes

 Move away from PVC to Polypropylene in waste pipes

 Airtightness/acoustic/fire/smoke/weather measures at all pipes through elements

walls/floors/roofs/partitions/ceilings

 Flow regulating/isolating valves

 Insulated pipes everywhere

Electrical wiring

 Move away from PVC sheathing to Low Smoke Low Halogen LSLH

Water consumption

 Isolation/flow regulation valves on all appliances

 Set to low flow by default (CITB Skills training needed)

 Dual flush leak-free WC valves every time

 Leek-free mono-block swivel taps

 Enhanced Capital Allowance promoted widely

 Water Technology List listed appliance adopted more widely

Leak-Flood prevention

 Special valves to limit size of floods due to leaks, fitted on appliances:

 Washing machines

 Dish washers

 Water fountains

Easter and western WC habits will probably never merge for the majority

Westerners with medical guidance may adopt squatting

Western poo inspection platforms will never catch on in UK except in medical buildings perhaps

Easterners catered for:

Robust Toilet seats that will not break if not lifted and squatted upon (Seen in schools)

Squatting profiled feet places on western sitting WC bowl?

Truly rimless toilets (not smaller rims) with a ledge

First seen by me in Belfast during their ‘troubles’

Assumed to be designed ‘nowhere to hide explosives’

Rimless toilets in Prison WCs

No where to hide ‘miniature mobiles, drugs, sharps’

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