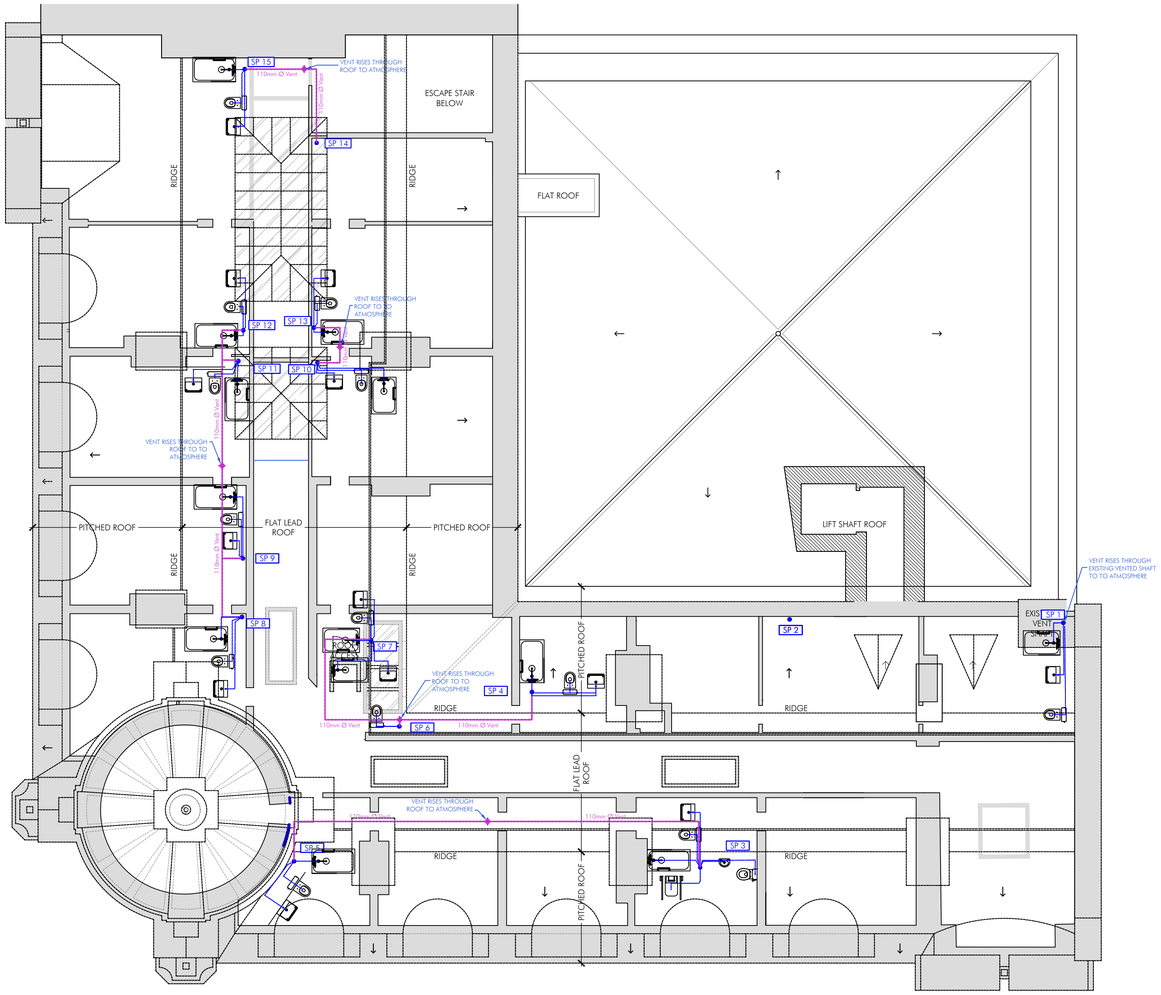

PROPOSED ROOF VOID DRAINAGE
SCALE 1:100

0 1m 2m 3m 4m 5m 10m
SCALE 1:100 IN METRES

INDICATIVE LINE OF DRAINAGE RUN
ALTERNATIVE ROUTE OF DRAINAGE RUN
INDICATIVE LINE OF DRAINAGE RUN WITHIN ROOF VOID
INDICATIVE LINE OF BRANCH FROM LOCAL AAV POSITION
IC APPROX LOCATION OF INSPECTION CHAMBER
APPROX LOCATION OF RODDING EYE

ALL DRAINAGE RUNS AND POSITIONS OF SPS / HOLES THRU FLOOR ETC. ARE INDICATIVE - EXACT POSITIONS TO BE DETERMINED ON SITE

GENERAL DRAINAGE NOTES

- FINAL DESIGN OF DRAINAGE TO BE BY SPECIALIST DRAINAGE/M&E CONTRACTOR
- ALL MATERIALS AND INSTALLATION TO MANUFACTURER'S INSTRUCTIONS.
- RECORD ALL INVERT LEVELS AND GRADIENTS ON AS-BUILT DRAWINGS.
- ALL WORK TO COMPLY WITH BUILDING REGULATIONS PART H AND LOCAL AUTHORITY REQUIREMENTS.

INTERNAL FOUL DRAINAGE

- ALL WORKS TO COMPLY WITH BUILDING REGULATIONS APPROVED DOCUMENT H1, BS EN 12056-2 AND BS EN 1329/1453.
- ALL FITTINGS TO BS EN 12056-2:2000 AND BS EN 1401-1:2019. TRAPS TO WASTES TO BE 75MM DEEP SEAL ANTI-SYPHON.
- SOIL & VENT PIPES (SVPs) TO BE 110 MM DIA PVC-U TO BS EN 1329.
- BRANCH CONNECTIONS: WCS = 100 MM MIN, BASINS/SINKS/BATHS = 50 MM MIN.

PIPE SIZES TO BE:

- W.C.'S HAND BASINS - 32MM
- WASH HAND BASINS - 32MM
- BATHS, SHOWERS AND ICE MACHINE - 38MM
- ALL WASTES TO CONNECT TO BS EN SINKS - 38MM
- ALL WASTE CONNECTIONS TO SVPS TO BE MIN. 215MM FROM WC BRANCH CONNECTIONS, ENSURING CORRECT TO SOIL AT BENDS, WITH APPROPRIATE ACCESS NOTCHES IN ANY SURROUNDING BOXING.

HORIZONTAL GRADIENTS:
- 100 MM PIPE = 1:40 PREFERRED (1:80 MIN)
- 50 MM PIPE = 1:20 MIN

- MAX BRANCH LENGTHS: WC 6 M @ 1:40 FALL; 50 MM WASTE 3 M @ 1:20 FALL.
- USE SWEPT OR LONG RADIUS BENDS - NO SHORT 90° BENDS AT BASE OF STACKS.
- PROVIDE ACCESS FITTINGS AT BASE OF STACKS, CHANGES >45°, AND MAX 22 M INTERVALS.
- SVPS TO TERMINATE ≥ 900 MM ABOVE ROOF LEVEL AND ≥ 3 M FROM OPENABLE WINDOWS.
- WHERE VENTING NOT PRACTICAL, USE AAV TO BS EN 12380.
- ALL HORIZONTAL WASTE AND CONDENSATE DRAINAGE PIPEWORK SHALL BE INSTALLED AT A MINIMUM FALL OF 1:50.

BELOW GROUND FOUL DRAINAGE

- INSTALL TO APPROVED DOC H1, BS EN 752 AND BS EN 1401.
- MIN PIPE DIA = 100/110 MM FOR DOMESTIC FOUL DRAINS.
- GRADIENTS: 100 MM = 1:40 PREF (1:80 MIN); 150 MM = 1:80 PREF (1:150 MIN).
- USE SWEPT JUNCTIONS (≤45° TO DIRECTION OF FLOW).

DRAINAGE TO BASEMENT TO BE CAST IRON

BASEMENT DRAINAGE TO BE HARDGREAVES FOUNDARY HALIFAX MECHANICALLY JOINTED CAST IRON SYSTEM.

BRACKETS
THE HALIFAX SOIL AND DRAIN SYSTEMS ARE DESIGNED TO BE USED IN A RANGE OF COMMON SITUATIONS. TO AID WITH THIS FLEXIBILITY, THERE ARE A RANGE OF BRACKETS DESIGNED TO SUIT DIFFERENT APPLICATIONS.

SUPPORT INTERVALS
IT IS A REQUIREMENT OF BS EN 12056 CODE OF PRACTICE THAT SUPPORTS FOR A HORIZONTAL PIPE RUN ARE NO MORE THAN 3M APART. HARGREAVES RECOMMENDS THAT SUPPORT IS PROVIDED EVERY 1.5M WITH THE FIRST BRACKET PLACED WITHIN 500MM OF THE FIRST COUPLING. THE PIPE SHOULD ALSO BE SUPPORTED AT EVERY CHANGE IN DIRECTION OR CONNECTION WITH ANOTHER PIPE. IN THE CASE OF LONG PIPE RUNS, IT MAY BE ADVISABLE TO PLACE LATERAL SUPPORT EVERY 12M. THE MAXIMUM LENGTH FOR A SINGLE THREADED ROD TO A BRACKET SHOULD BE 750MM HOWEVER LONGER DROPS MAY BE UTILISED IF TWO RODS AND A SPLIT BAND CLIP ARE USED.

WHEN THE PIPES ARE RUNNING VERTICALLY, THE STACK SHOULD BE SUPPORTED BY A LOAD BEARING BRACKET AT EACH FLOOR LEVEL SUCH AS THOSE LISTED BELOW. THE MAXIMUM SEPARATION BETWEEN BRACKETS SHOULD BE 3M. IT IS IMPORTANT THAT EACH BRACKET IS CORRECTLY SECURED AS THE INSTALLATION PROGRESSES TO AVOID UNDUE STRAIN AT THE BOTTOM OF THE STACK. IT IS RECOMMENDED THAT EXTRA SUPPORT IS PROVIDED NEAR FITTINGS TO ENSURE CORRECT ALIGNMENT OF THE STACK.

PIPE SYSTEM DESIGN GUIDANCE
EXCERPTS & REFERENCES FROM BS EN 12056-2:2012.
(IT SHOULD BE NOTED THAT THESE REQUIREMENTS ALSO FORM PART OF THE BUILDING REGULATIONS 2010 – DOCUMENT H (2015 EDITION))

ND.3.2.4 – BRANCH PIPE BENDS AND JUNCTIONS

THIS SECTION REFERS TO THE USE OF SWEPT-RADIUS BRANCHES

BENDS IN BRANCH DISCHARGE PIPES SHOULD BE AVOIDED, ESPECIALLY FOR SINGLE AND RANGES OF WASH BASINS, AS THEY CAN CAUSE BLOCKAGES AND INCREASE SELF-SIPHONAGE EFFECTS. WHEN THEY ARE UNAVOIDABLE, THEY SHOULD BE OF A LARGE RADIUS.
JUNCTIONS BETWEEN BRANCH DISCHARGE PIPES OF ABOUT THE SAME DIAMETER SHOULD BE SWEPT IN THE DIRECTION OF FLOW USING SWEPT ENTRY BRANCHES, WITH A 25MM MINIMUM ROOT RADIUS; OTHERWISE, 45° BRANCHES SHOULD BE USED. TO MINIMISE THE RISK OF BLOCKAGE, BRANCHES UP TO DN 40 SIZE JOINING LARGER DIAMETER HORIZONTAL BRANCHES OF DN 100 OR OVER SHOULD, IF PRACTICABLE, CONNECT TO THE UPPER PART OF THE PIPE WALL OF THE LARGER BRANCH. FOR THE SAME REASON, OPPOSED BRANCH CONNECTION IN THE HORIZONTAL PLACE TO A MAIN BRANCH DISCHARGE PIPE SHOULD BE AVOIDED.

ND.3.5.2 – BENDS AT THE BASE OF STACKS

BENDS AT THE BASE OF A DISCHARGE STACK SHOULD BE OF LARGE RADIUS (MINIMUM CENTRE LINE RADIUS 200MM) OR TWO 45° RADIUS BENDS MAY BE USED. INCREASING THE DIAMETER OF THE BEND AT THE BASE OF A STACK IS AN ALTERNATIVE BUT THIS MAY OVERSIZE THE DRAIN AND BE UNECONOMIC.

ND.3.5.3 – BRANCHES AT THE BASE OF STACKS

GENERALLY, FOR SYSTEMS UP TO FIVE STOREYS, THE DISTANCE BETWEEN THE LOWEST BRANCH CONNECTIONS AND THE INVERT OF THE DRAIN SHOULD BE AT LEAST 750MM, BUT 450MM IS ADEQUATE FOR LOW RISE SINGLE DWELLINGS. FOR LARGER MULTI-STOREY SYSTEMS IT IS BETTER TO CONNECT THE GROUND FLOOR APPLIANCES TO THEIR OWN STACK OR THE HORIZONTAL DRAIN AND NOT DIRECTLY TO THE MAIN STACK. FOR BUILDINGS OVER 20 STOREYS HIGH, IT MAY BE NECESSARY TO CONNECT BOTH THE GROUND AND FIRST FLOOR APPLIANCES IN THE SAME MANNER.

ND.3.5.4 – OFFSETS

OFFSETS IN THE WET PORTION OF A DISCHARGE STACK SHOULD BE AVOIDED. WHEN THEY HAVE TO BE FITTED, LARGE RADIUS BENDS SHOULD BE USED AS DESCRIBED IN ND.3.5.2. IN A SECONDARY VENTILATED STACK SYSTEM, CONNECTIONS TO THE DISCHARGE STACK SHOULD BE MADE ABOVE AND NOT BELOW THE OFFSET. OFFSETS ABOVE THE TOPMOST APPLIANCE OR BRANCH CONNECTION DO NOT REQUIRE VENTING.

CONNECTING TO OTHER SYSTEMS

EQUIVALENT SYSTEMS
THE RANGE OF PIPE BORES IN THE HALIFAX SOIL AND DRAIN SYSTEM IS DESIGNED TO BE COMPATIBLE WITH ANY NUMBER OF EQUIVALENT SYSTEMS. THE STANDARD COUPLINGS WITHIN THE HALIFAX SOIL AND DRAIN SYSTEMS ARE SUITABLE FOR CONNECTING PRODUCTS OF OTHER MATERIALS INTO THE SYSTEM PROVIDED THE EXTERNAL DIAMETERS ARE THE SAME. (FOR EXAMPLE: A PLASTIC PIPE WITH AN O/D OF 110MM COULD BE JOINED TO THE 100MM HALIFAX DRAIN PIPE (HD4001) WITH A 100MM HALIFAX DRAIN DUCTILE IRON COUPLING (HD4012) BECAUSE THE OUTER DIAMETER IS THE SAME.)

CONVENTIONAL SOIL / DRAIN SYSTEMS
HALIFAX SOIL AND DRAIN ARE MODERN ADAPTATIONS OF A TRADITIONAL CAST IRON WASTE SYSTEM. DESPITE CONTAINING DIFFERENT JOINTING METHODS THAN WOULD HAVE ORIGINALLY BEEN USED, IT IS STILL POSSIBLE TO CONNECT THE NEW SYSTEM INTO EXISTING PRODUCTS USING A TRADITIONAL, CAULKED JOINT. THIS VERSATILITY ALLOWS THE HALIFAX SYSTEMS TO BE USED WHERE AN UPGRADE IS NECESSARY THUS SAVING MONEY OVER ALTERNATIVE SYSTEMS WHICH WOULD REQUIRE A FULL REPLACEMENT.

THREADED CONNECTIONS
THE HALIFAX SOIL SYSTEM THREADED BOSS IS DESIGNED TO SUIT STANDARD 2" BSPT THREADED CONNECTIONS FROM PLASTIC OR COPPER PIPE SYSTEMS AND PROVIDE A SECURE WAY OF TRANSITIONING BETWEEN SMALLER BORE PIPES OF OTHER MATERIALS. THESE BOSSED CONNECTIONS CAN OPERATE EITHER AS BLANK ENDS, WHERE THE OTHER SYSTEM CAN JOIN THE START OF THE HALIFAX SYSTEM OR, ON SPECIALLY DESIGNED BOSS PIPES, TO ALLOW THE INGRESS OF WASTE PART WAY THROUGH A SYSTEM. IN BOTH CASES, THE BOSSED FITTINGS CAN BE CONNECTED TO THE MAIN SYSTEM USING STANDARD HALIFAX SOIL COUPLINGS.

COMPRESSION FIT BOSS
THERE MAY BE SOME OCCASIONS WHERE USING A THREADED COMPONENT TO CONNECT INTO THE SYSTEM IS NOT PRACTICAL. IN THIS CASE, A COMPRESSION-FIT BOSS PIPE MAY BE MORE SUITABLE FOR USE. THESE CAN BE USED WITH ANY 50MM PIPE WHICH CAN SIMPLY BE PUSHED HOME AND THEN THE BOLTS ON THE FRONT PLATE, TIGHTENED TO FORM A WATER-TIGHT SEAL. THESE ARE AVAILABLE IN SINGLE, DOUBLE OPPOSED AND DOUBLE 90° VERSIONS.

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TENDER ISSUE

PROJECT
INNKEEPERS COLLECTION
1-3 YORK STREET (BROWNS)
MANCHESTER

TITLE
FOURTH FLOOR DRAINAGE SETTING OUT PLAN

SCALE
1:100 @ A1

JOB No	DRAWING No	REV
MAB46	AL38	/