PART H1: FOUL WATER DRAINAGE

Existing Drainage

A. All existing drainage runs are assumed and shall be ascertained by Contractor upon commencement of work. Contractor should allow for dye tests to be carried out to ascertain direction and flow of pipework.
B. Where ground conditions are poor or trees are present the contractor should allow for a CCTV survey to be carried out to affected drains.
C. Where existing drains are suspected to be in the vicinity of or run under the area of building a CCTV survey should be allowed for and carried out to ascertain the condition of pipes and need to move or replace them.
D. Where practicable new pipework should be laid so that the drainage run is outside the footprint of the building. Where a drain run is to pass under the building, no more than two connections should be possible into this route.

New Drainage

Below Ground

A. All new drains to be 100mm or 150mm dia Hepworths supasleeve vitrified clay pipes laid in straight lines with a min 1 in 80 m falls on trimmed trench bottoms with flexible joints, backfilled with selected as dug materials.
B. Provide 150 mm dia sleeve pipe with reinforced concrete lintels over a flexible joint each side where drains pass through foundation brickwork. Alternative: Subject to ground conditions and agreement with BCO plastic pipework may be used. Using either Hepworth PlastiDrain plain end 110, 160 and 200 dia pipes with separate flexible connectors or Ultrarib fully socketed system in 150, 225 and 300 dia, this type has a unique ring seal jointing system preventing seal dislodging during connection.

Above Ground

A. Wash hand basin to have 32 mm dia pvc waste pipe with a 75mm dia deep seal trap.
B. WC pan with outlet > 80mm to have 100 mm dia pvc waste pipe with a 50mm trap.
C. Ground Floor WC type to be horizontal outlet with outlet connector to an internal Soil sub stack.
D. First Floor WC type to be horizontal outlet with outlet connector to an internal SVP downpipe.
E. A branch pipe from a ground floor closet may discharge directly to a drain if the depth from the floor to the drain is 1.3m or less. Otherwise connected to a back inlet gulley.
F. Provide new 100 mm SVPs in position shown to collect waste from sanitaryware. Connection of bath waste pipe into SVP to be min 200mm below connection of WC, SVP to connect into main drains via slow radius curve (min 300mm radius) and to cease 900mm above head height of nearest window - head of pipe to be connected to a tile terminal with flexible hose connector.
G. Provide lead collar at junction of roof where SVP terminates at the roof structure. Box in svp as shown with 12.5 mm plasterboard, filled and taped joints with skim finish, provide glass fibre insulation to lag pipe.
H. Air admittance valves to be fitted to soil pipe in a position not liable to freezing, above the flood level of the highest sanitary fitting being served.

Manholes and Inspection Chambers

A. The contractor shall excavate for and construct new inspection chambers, size 450 mm dia to depths as shown on drawings in precast concrete bedded to manufacturers instructions with 450 mm dia medium duty manhole covers and frames set in mortar.
B. Provide all necessary bending and channelling to suit connections, all to the approval of the Local Authority Inspector.
C. Storm and foul manholes greater than 930 depth to comprise of 215 mm brick chambers to BS3921 internal dimensions 1200 x 750 mm build off 150mm thick concrete (1:2:4) slab. All connections formed in half channels and finished with 1:3 cement/sand benching.
D. Inspection chamers and manholes should have removable non-ventilating covers of durable material (such as cast iron, cast or pressed steel, precast concrete or plastics) and be of suitable strength.

Where foul water drainage from a building is to be pumped, the effluent receiving chamber should be sized to contain 24 hour inflow to allow for disruption in service. The minimum daily discharge of foul drainage should be taken as 150 litres per head per day for domestic use.

The calculation is based on a 3 bed 6 person dwelling = 900 litres.
A sewage pumping station of a min 1000 litres is recommended.

A foul water design rate calculation and rainwater calculation has been undertaken in accordance with BS EN 12056 Part 2 and Section 6, the total calculated flow rate for the dwelling is = 4.72 litres/sec

PART H3: RAINWATER DRAINAGE

Rainwater Disposal

A. It is now a requirement that all new rainwater is taken to a soakaway; subject to a percolation test. If ground conditions do not permit a soakaway, they can then be taken to existing surface water drain.
B. Where percolation proves that a soakaway is not possible, stormwater may be connected into existing mains drainage but this must be via a trap. (to satisfy H1) , or to a nearby watercourse.
C. See separate: Rainwater Run off Calculation Schedule (Issued Seperately) for downpipe and gutter sizing.
D. Provide a rainwater gutter, laid with any fall towards the nearest outlet.
E. Distance from the stop end to the outlet to be no greater than 50 x the depth of the gutter.
F. Black uPVC guttering and downpipes fixed in positions shown on plan and discharge into storm water gullies with combined rodding access,with stoneware bends and 150mm concrete bed and surround. Grating and frame to be provided at ground level. Storm water to be connected into existing main drainage via a trap to satisfy Part H1.

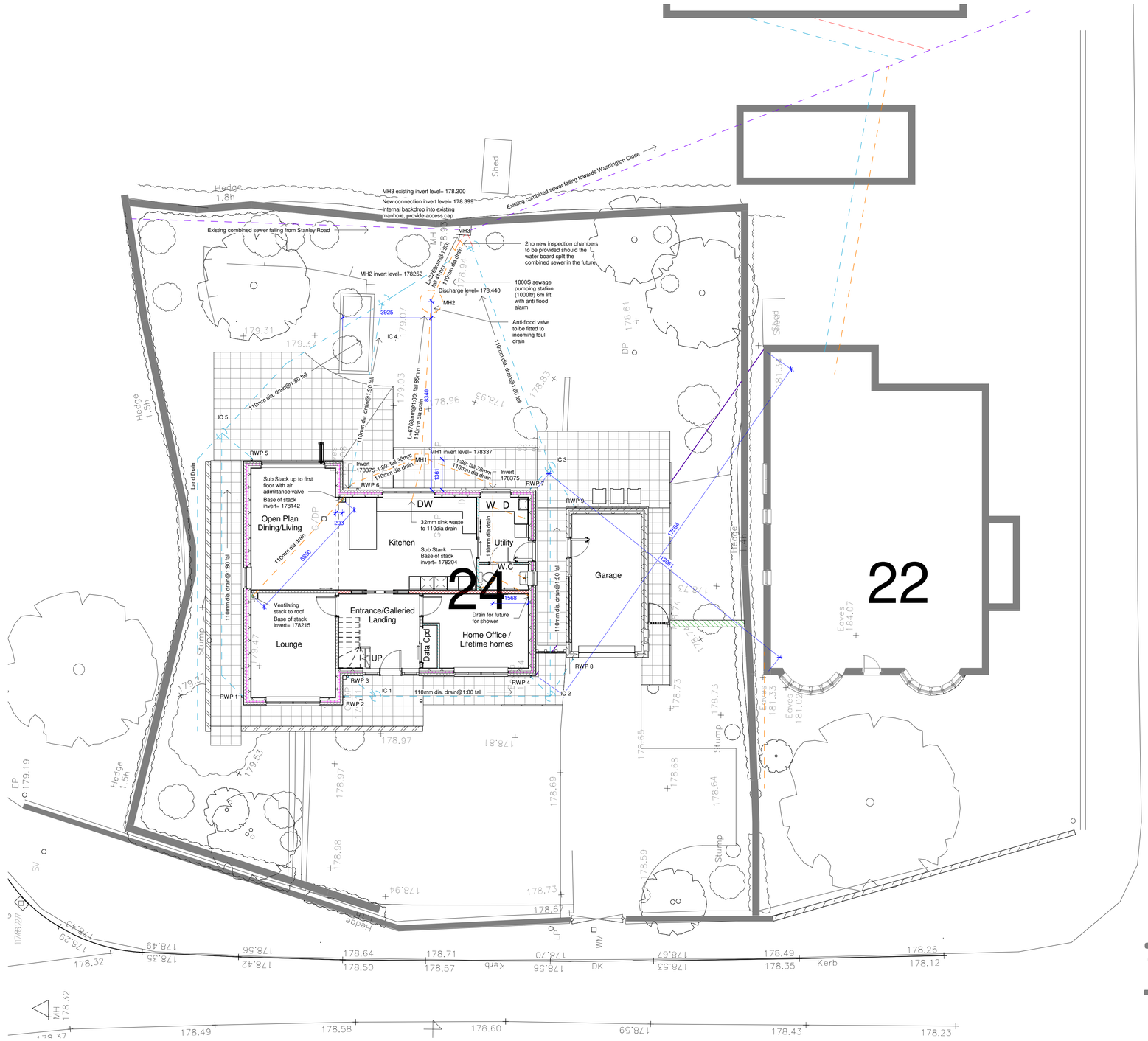
Building Regulation Part H3:

Soakway System

The Site Investigation Report clarifies that there is sandy gravelly clay yellow/brown to depth of 2.5m below ground and a yellow/brown clay to a depth of 4.3m. Percolation tests have confirmed a soakaway would be unsuitable. Surface water drainage is to discharge into the existing combined sewer via an existing manhole - MH3 to the rear of the garden.
Agreement has been sought with the Building Control Officer.

10. The minimum depth of cover to the crown of gravity pipes without protection should be as follows:

a) domestic gardens and pathways without any possibility of vehicular access, 0.35 m;
b) domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross vehicle weight in excess of 7.5 tonnes, 0.5 m;
c) domestic driveways, parking areas and narrow streets without footways (e.g., mews developments) with limited access for vehicles with a gross vehicle weight in excess of 7.5 tonnes, 0.9 m;
d) agricultural land and public open space, 0.9 m;
e) other highways and parking areas with unrestricted access to vehicles with a gross vehicle weight in excess of 7.5 tonnes, 1.2 m.



Proposed Drainage Plan
1 : 100

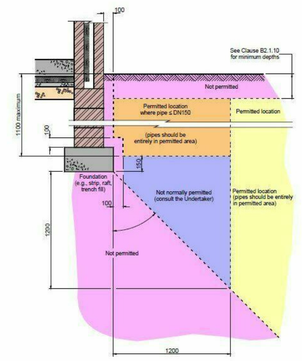
RWP Schedule			
RWP No.	RWP Dia.	Gutter	Description
RWP 1	50mm	75mm	Trap required
RWP 2	50mm	75mm	Trap required
RWP 3	63mm	100mm	Trap required
RWP 4	63mm	100mm	Trap required
RWP 5	63mm	100mm	Trap required
RWP 6	63mm	100mm	Trap required
RWP 7	63mm	100mm	Trap required
RWP 8	63mm	100mm	
RWP 9	63mm	100mm	

Foul drainage
Combined drainage
Surface water drainage

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Rev.	Drawn	Comments	Date
1	SS	Issued to Contractor following superstructure discussion with SE.	05/12/19
2	SS	ISSUED TO BUILDING CONTROL.	12/12/19
3	SS	Following percolation tests, soakaways have been omitted. Surface water drainage runs into the existing combined sewer via the existing manhole to the rear of the garden. A sewerage pump has been added, drainage runs, pipe sizes and falls have been added to the plan. Strip foundations have been omitted and replaced with a raft foundation	30/01/20
	BSP	Full Set of current Drawings and Schedules issued	14 Feb 2020
	SS/BSP	Full Set of current Drawings x 15no	20 Feb 2020
4	SS	Combined drainage run amended following site inspection. 2no new inspection chambers added to allow water board to to make future connections if the combined sewer is split.	22/04/20

FIGURE B.1
PERMITTED LOCATION OF SEWERS AND LATERAL DRAINS IN PROXIMITY TO BUILDINGS



To be read in conjunction with 18-063 Foul and Surface Water Drainage Calculation (issued separately) and 18-063 Pitched Roof Calculating Run off Calculation for gutter and downpipe sizes.

0 1 2 3 4 5 10
GRAPHIC SCALE: 1:100

CDM: Work must not start on site before a Construction Phase Health and Safety Plan is in place (if applicable). Client is responsible for ensuring that a Principal Designer and/or Principal Contractor has been appointed and the Health and Safety executive have been notified (for projects which will involve more than 500 person days and/or will last more than 30 working days on site).

North

Washington Close

Building Regulation Approval

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Architects : Interior Architecture : Conservation : Landscape

Client
Mr & Mrs Jones

Project
Replacement Dwelling at 24 Wedgwood Lane, Biddulph, ST8 6RL

Title
Drainage Plan

Status **RIBA Stage 4: Technical Design**

Date **Dec 2019** Drawn **SS**
Scale @A1 **1 : 100** Checked **-**
Project No **18-063** Drawing No. **AL(0)203** Dwg Status **C** Rev **4**

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Sheet Size (full size) **A1**