



PROPOSED FIFTH FLOOR PLAN  
N.T.S  
LOCATIONS OF THE WATER STORAGE  
UNDER THE TALL PLANTER

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEER'S AND ARCHITECT'S DRAWINGS, SPECIFICATIONS AND RISK REGISTERS.
2. DO NOT SCALE FROM THIS DRAWING. USE ONLY DIMENSIONS AS INDICATED. CHECK ALL SITE DIMENSIONS PRIOR TO PLACING ANY ORDER OR FABRICATION, WHERE A CONFLICT OF INFORMATION EXISTS SEEK CONFIRMATION FROM CONSULTANTS PRIOR TO PROCEEDING FURTHER WITH THE WORKS
3. TEMPORARY STABILITY OF THE EXISTING STRUCTURE AND ANY NEWLY CONSTRUCTED ELEMENTS OF PERMANENT WORKS DURING CONSTRUCTION IS SOLELY CONTRACTOR'S RESPONSIBILITY.
4. ONLY DRAWINGS AND SPECIFICATIONS ISSUED FOR **CONSTRUCTION** CAN BE USED FOR THE WORKS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEEK THE INFORMATION FROM CONSULTANTS.
5. ALL PROPRIETARY ITEMS TO BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS
6. ALL WATERPROOFING SUCH AS TANKING DETAILS, DAMP PROOF MEMBRANES, DAMP PROOF COURSES, CAVITY TRAYS ETC. ARE TO BE INSTALLED AS PER ARCHITECT'S DETAILS

**NOTE:**

TOTAL VOLUME OF SURFACE WATER  
STORAGE PROVIDED UNDER PLANTERS AT  
FIFTH FLOOR LEVEL: 4.7m<sup>3</sup>

THE GREEN ROOFS PROVIDED IN THE  
DEVELOPMENT AT 18-22 HAVERSTOCK HILL  
BEHAVES AS PERMEABLE SURFACE AS THE  
RAINWATER PERCOLATES THROUGH THE  
LAYER OF SOIL AND SUBSTRATE,  
GRADUALLY RELEASING INTO THE  
ATTENUATION TANK. THE GREENROOF  
PROVIDES ATTENUATION VOLUME OF  
APPROXIMATELY 1.68m<sup>3</sup>.

TOTAL ATTENUATION AT HIGHER LEVEL:  
(4.7 + 1.68)m<sup>3</sup> = 6.38m<sup>3</sup>

**APPROXIMATELY 31% OF THE REQUIRED  
VOLUME OF STORAGE REQUIRED TO LIMIT  
THE DISCHARGE RATE TO 2.4l/s FOR STORM  
EVENT WITH RETURN PERIOD OF 1 IN 100  
YEARS PLUS 40% CLIMATE CHANGE HAS  
BEEN PROVIDED AT UPPER LEVELS.**

**DRAINAGE NOTES**

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS AND ARCHITECTS DETAILS.
2. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH SEWER FOR ADOPTION 7TH EDITION, THE CURRENT BRITISH STANDARDS, CODES OF PRACTICE AND BUILDING REGULATIONS.
3. THE EXACT POSITION, LEVEL, SIZE AND USE OF EXISTING SEWERS TO BE CONFIRMED ON SITE. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORKS.
4. ALL UNCOVERED AND SHALLOW PIPEWORK TO BE PROTECTED AGAINST CONSTRUCTION TRAFFIC AS PART OF THE CONTRACTORS TEMPORARY WORKS REQUIREMENTS.
5. PROPOSED DRAINAGE PASSING THROUGH NEW FOUNDATIONS TO BE SLEEVED WITH CAST-IN OVERSIZED PIPEWORK.
6. EXACT LOCATION LINE AND LEVEL OF EXISTING STUBS TO EXISTING MANHOLES TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.
7. COVER LEVELS SHOWN ARE APPROXIMATE ONLY AND SUBJECT TO MINOR ADJUSTMENT TO SUIT THE FINAL EXTERNAL WORKS AND LANDSCAPING SCHEME.
8. THE NUMBER AND LOCATION OF ALL RWPS IS SHOWN INDICATIVE ONLY, ALL TO BE CONFIRMED BY ARCHITECT / M&E DESIGNER PRIOR TO COMMENCEMENT OF WORKS.
9. POP-UP POSITIONS FOR FOUL WATER APPLIANCES ARE SHOWN APPROXIMATE ONLY FOR THE PURPOSES OF UNDERSLAB DRAINAGE. EXACT LOCATIONS TO ARCHITECT'S SETTING OUT TO SUIT INTERIOR LAYOUTS ETC.
10. ALL ABOVE GROUND AND INTERNAL SURFACE AND FOUL WATER PIPEWORK TO SPECIALISTS DESIGN/DETAIL. NOT SHOWN HERE.
11. SEE ARCHITECT'S DETAILS FOR ALL SETTING OUT DIMENSIONS TO BUILDINGS AND BOUNDARIES ETC.
12. ALL RWPS, CHANNEL DRAINAGE AND SVPS TO BE FITTED WITH RODDABLE ACCESS PLATES.
13. ALL CONNECTIONS TO ROAD GULLIES AND CHANNELS SHALL BE 150mm NOMINAL BORE PIPEWORK. CONNECTIONS TO RWPS TO BE 100mm NOMINAL BORE PIPEWORK SUBJECT TO CONFIRMATION OF RWP SIZES AND/OR DESIGN FLOW. NO PIPE WORK TO BE DOWNSIZED IN THE DIRECTION OF FLOW.
14. CONNECTIONS TO FOUL TERMINAL FITTINGS TO BE 100mm NOMINAL BORE PIPEWORK SUBJECT TO CONFIRMATION OF ABOVE GROUND PIPE DIAMETERS AND/OR DESIGN FLOW. NO PIPE WORK TO BE DOWNSIZED IN THE DIRECTION OF FLOW.
15. ALL UN-NOTED PIPEWORK TO BE 100mm DIA. UNLESS SUBJECT TO THE NOTES ABOVE.
16. PRIVATE PIPEWORK TO BE U-PVC TYPE IN ACCORDANCE WITH WIS 4-35-01 UNLESS OTHERWISE NOTED.
17. ADOPTABLE PIPES UP TO AND INCLUDING 150mm DIA. TO BE 28kN/m STRENGTH CLAYWARE TO BS EN 295 (LATEST VERSION).
18. ADOPTABLE PIPES ABOVE 150mm DIA. AND UP TO AND INCLUDING 300mm DIA. TO BE 36kN/m STRENGTH CLAYWARE TO BS EN 295 (LATEST VERSION).
19. ADOPTABLE PIPES ABOVE 300mm DIA. TO BE CLASS M (SRPC) CONCRETE PIPES TO BS 5911 (LATEST VERSION) WITH SPIGOT AND SOCKET FLEXIBLE JOINTS.
20. ALL PIPEWORK ENTERING TO THE MANHOLES TO BE CONNECTED WITH PIPE SOFFITS LEVEL, UNLESS OTHERWISE NOTED.
21. PRE-FORMED CHANNELS TO BE USED AT ALL MANHOLES.
22. HIGH STRENGTH CONCRETE BENCHING TO BE STEEL TROWELLED TO A DENSE SMOOTH FACE NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS AND LAID IN ACCORDANCE WITH THE SPECIFICATION.
23. PIPE BENDS IS STRICTLY PROHIBITED TO CONNECT THE NEW DEVELOPMENT FLOW TO THE DIRECTION OF PUBLIC SEWER. THIS ALLOW THE CCTV CAMERA ACCESS TO THE FULL LENGTH OF PIPE.
24. GULLY TOPS AND MANHOLE COVERS TO BE PROVIDED IN ACCORDANCE WITH BS EN 124 (LATEST VERSION).
25. GROUP 1 (MIN. CLASS A15), AREAS USED AND ACCESSIBLE BY PEDESTRIANS AND CYCLISTS ONLY. NO EMERGENCY VEHICLES.
26. GROUP 2 (MIN. CLASS B125), FOOTWAYS, PEDESTRIAN AREAS, CAR PARKS. NO HGVs.
27. GROUP 4 (MIN. CLASS D400), ALL OTHER AREAS INCLUDING CARRIAGEWAYS AND HGV TRAFFICKED AREAS.
28. ALL MANHOLE COVERS LOCATED INTERNALLY, TO BE RECESSED, DOUBLE SEAL, AIRTIGHT TYPE, ALUMINIUM OR STEEL. RECESS DEPTH TO ARCHITECT'S REQUIREMENTS TO SUIT FINISHES ETC.
29. FIRST FLEXIBLE JOINT IN PIPES ADJACENT TO A MANHOLE SHALL BE 600mm MAX. FROM INSIDE FACE OF MANHOLE, CONNECTING TO ROCKER PIPE. FOR PIPE DIAMETERS 150mm - 450mm THE ROCKER PIPE LENGTH SHALL BE 500mm - 750mm AND FOR PIPE DIAMETERS 451mm - 675mm THE ROCKER PIPE LENGTH SHALL BE 750mm - 1000mm.
30. MANHOLES WITH OUTGOING PIPES GREATER THAN 600mm DIA. SHALL BE FITTED WITH GUARD BARS, SAFETY CHAINS OR OTHER APPROVED SAFETY DEVICES.
31. ALL SOFT SPOTS ENCOUNTERED IN THE TRENCH FORMATION TO BE REMOVED AND REPLACED WITH GRADED GRANULAR MATERIAL UNLESS INSTRUCTED OTHERWISE.
32. ALL PIPEWORK BELOW ROAD WITH LESS THAN 1200mm COVER SHALL BE PROTECTED WITH A 150mm MIN FN02 CONCRETE SURROUND WITH FLEXELL ISOLATION JOINTS @ 2.0m MAX. CENTRES TO COINCIDE WITH PIPE JOINTS.
33. ALL BURIED CONCRETE MUST CATER FOR CLASS 2 SULPHATE'S CONDITIONS IN ACCORDANCE WITH TABLE 1 OF BRE DIGEST 363.
34. THE DESIGN OF ANY TEMPORARY WORKS REQUIRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
35. FORMATION LEVEL FOR MANHOLE BASES AND PIPE TRENCHES TO BE FREE FROM SOFT SPOTS. BLINDING CONCRETE AND/OR STONE MAY BE USED AS DETERMINED ON SITE.
36. THE CONTRACTOR SHALL ALLOW FOR KEEPING SEWER TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMP, DE-WATERING AND WELL POINTING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY.
37. WHERE CONNECTION ARE TO BE MADE TO EXISTING MANHOLES/SEWERS, INVERT LEVELS, PIPE SIZES AND ORIENTATION SHOULD BE CHECKED PRIOR TO THE COMMENCEMENT OF THE WORKS AND ANY VARIANCE REPORTED TO THE ENGINEER IMMEDIATELY.
38. PROPOSED SURFACE WATER DRAINAGE ATTENUATION TANK FOR THIS PROJECT HAS BEEN DESIGNED FOR 1 IN 100YEARS STORM RETURN PERIOD (RP) PLUS 40% cc ALLOWANCES WITHOUT FLOODING TO THE PROPERTY.
39. EACH OUTLET OF THE CHANNEL DRAINAGE (ACO) HAVE SUMP UNIT TO COLLECT THE SILT.
40. WHERE PIPELINES CROSS, EACH IS TO BE SURROUNDED WITH GRADE ST4 MASS CONCRETE FOR A DISTANCE NOT LESS THAN 1m CENTERED ON THE CROSSING POINT. LENGTH OF SURROUND TO BE EXTENDED AS NECESSARY TO WITHIN 150mm OF THE NEXT NEAREST FLEXIBLE JOINTS.
41. PIPES PASSING UNDER BUILDING ARE TO BE SURROUNDED IN CONCRETE EXCEPT WHERE BEAM AND BLOCK GROUND FLOORS ARE TO BE USED.

PROJECT TITLE:  
18-22 HAVERSTOCK HILL

CLIENT:  
VABEL

PROJECT No:  
E0648

DRAWN:  
PG

CHECKED:  
BW

DRAWING TITLE:  
SuDS - FIFTH FLOOR LEVEL

DRAWING No:  
E0648-EEE-00-XX-DR-C-9036

STATUS DESCRIPTION:  
FOR INFORMATION

REV:  
P01

SCALE:  
NTS @A1

**engineeria**  
structural and civil engineers

a: 7 Ridgmount Street, WC1E 7AE,  
London, United Kingdom  
e: contact@engineeria.com  
t: (+44)207 580 4588  
w: www.engineeria.com

P01	2020.03.09	ISSUED FOR INFORMATION	SA	PG
rev	date	description	by	checked