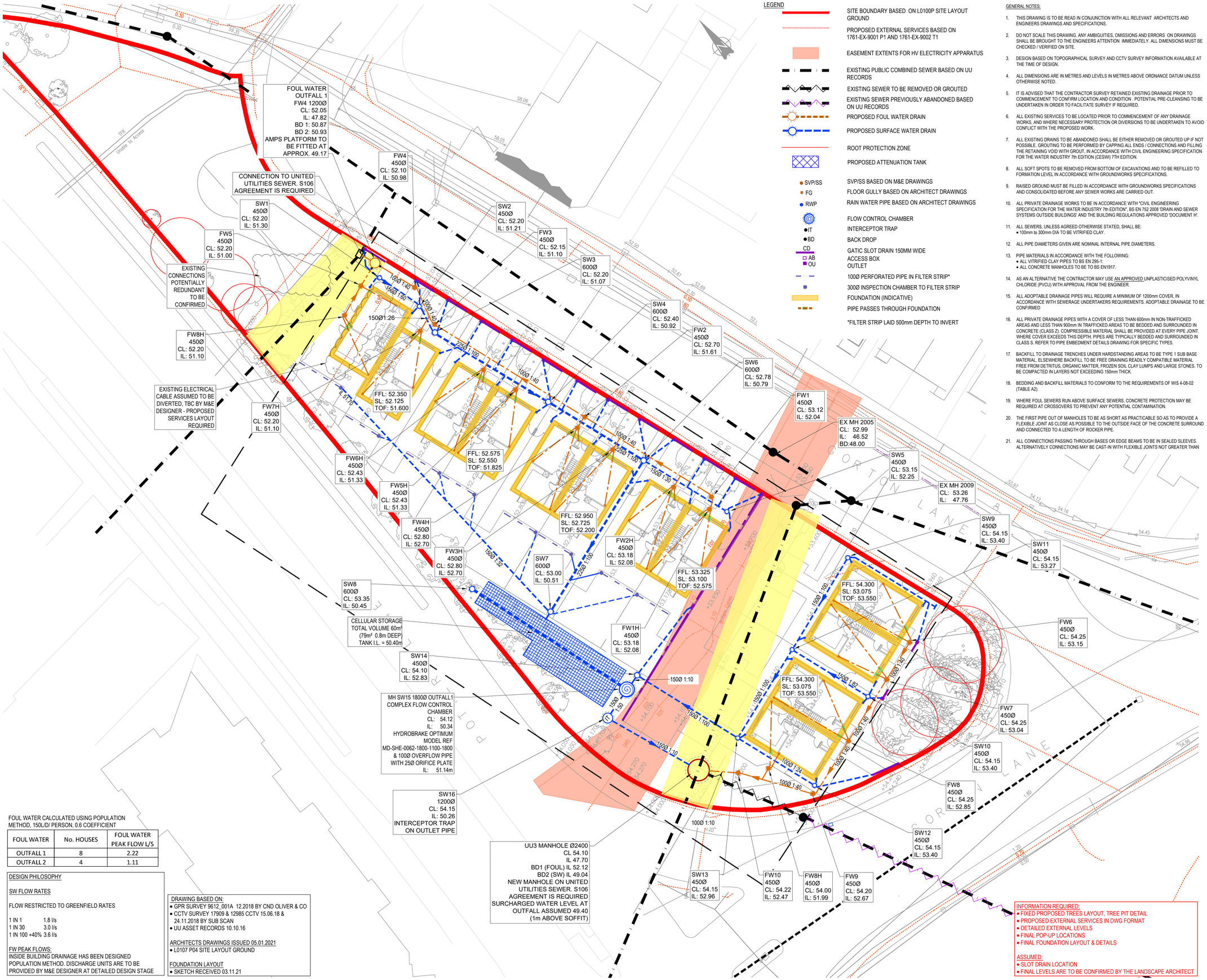


LEGEND

- SITE BOUNDARY BASED ON L0100P SITE LAYOUT GROUND
- PROPOSED EXTERNAL SERVICES BASED ON 1761-EX-9001 P1 AND 1761-EX-9002 T1
- EASEMENT EXTENTS FOR HV ELECTRICITY APPARATUS
- EXISTING PUBLIC COMBINED SEWER BASED ON UU RECORDS
- EXISTING SEWER TO BE REMOVED OR GROUTED
- EXISTING SEWER PREVIOUSLY ABANDONED BASED ON UU RECORDS
- PROPOSED FOUL WATER DRAIN
- PROPOSED SURFACE WATER DRAIN
- ROOT PROTECTION ZONE
- PROPOSED ATTENUATION TANK
- SVP/SS — SVP/SS BASED ON M&E DRAWINGS
- FG — FLOOR GULLY BASED ON ARCHITECT DRAWINGS
- RWP — RAIN WATER PIPE BASED ON ARCHITECT DRAWINGS
- FLOW CONTROL CHAMBER
- IT — INTERCEPTOR TRAP
- BD — BACK DROP
- CD — GATIC SLOT DRAIN 150MM WIDE
- AB — ACCESS BOX
- OU — OUTLET
- 100Ø PERFORATED PIPE IN FILTER STRIP*
- 300Ø INSPECTION CHAMBER TO FILTER STRIP
- FOUNDATION (INDICATIVE)
- PIPE PASSES THROUGH FOUNDATION

*FILTER STRIP LAID 500mm DEPTH TO INVERT

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND CCTV SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN.
4. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
5. IT IS ADVISED THAT THE CONTRACTOR SURVEY RETAINED EXISTING DRAINAGE PRIOR TO COMMENCEMENT TO CONFIRM LOCATION AND CONDITION . POTENTIAL PRE-CLEANSING TO BE UNDERTAKEN IN ORDER TO FACILITATE SURVEY IF REQUIRED.
6. ALL EXISTING SERVICES TO BE LOCATED PRIOR TO COMMENCEMENT OF ANY DRAINAGE WORKS, AND WHERE NECESSARY PROTECTION OR DIVERSIONS TO BE UNDERTAKEN TO AVOID CONFLICT WITH THE PROPOSED WORK.
7. ALL EXISTING DRAINS TO BE ABANDONED SHALL BE EITHER REMOVED OR GROUTED UP IF NOT POSSIBLE. GROUTING TO BE PERFORMED BY CAPPING ALL ENDS / CONNECTIONS AND FILLING THE RETAINING VOID WITH GROUT, IN ACCORDANCE WITH CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION (CESWI) 7TH EDITION.
8. ALL SOFT SPOTS TO BE REMOVED FROM BOTTOM OF EXCAVATIONS AND TO BE REFILLED TO FORMATION LEVEL IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS.
9. RAISED GROUND MUST BE FILLED IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS AND CONSOLIDATED BEFORE ANY SEWER WORKS ARE CARRIED OUT.
10. ALL PRIVATE DRAINAGE WORKS TO BE IN ACCORDANCE WITH "CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY 7th EDITION", BS EN 752 2008 'DRAIN AND SEWER SYSTEMS OUTSIDE BUILDINGS' AND THE BUILDING REGULATIONS APPROVED 'DOCUMENT H'.
11. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE:
    - 100mm to 300mm DIA TO BE VITRIFIED CLAY.
12. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.
13. PIPE MATERIALS IN ACCORDANCE WITH THE FOLLOWING:
    - ALL VITRIFIED CLAY PIPES TO BS EN 295-1:
    - ALL CONCRETE MANHOLES TO BE TO BS EN1917.
14. AS AN ALTERNATIVE THE CONTRACTOR MAY USE AN APPROVED UNPLASTICISED POLYVINYL CHLORIDE (PVCU) WITH APPROVAL FROM THE ENGINEER.
15. ALL ADOPTABLE DRAINAGE PIPES WILL REQUIRE A MINIMUM OF 1200mm COVER, IN ACCORDANCE WITH SEWERAGE UNDERTAKERS REQUIREMENTS. ADOPTABLE DRAINAGE TO BE CONFIRMED
16. ALL PRIVATE DRAINAGE PIPES WITH A COVER OF LESS THAN 600mm IN NON-TRAFFICKED AREAS AND LESS THAN 900mm IN TRAFFICKED AREAS TO BE BEDDED AND SURROUNDED IN CONCRETE (CLASS Z). COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS S. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.
17. BACKFILL TO DRAINAGE TRENCHES UNDER HARDSTANDING AREAS TO BE TYPE 1 SUB BASE MATERIAL, ELSEWHERE BACKFILL TO BE FREE DRAINING READILY COMPATIBLE MATERIAL FREE FROM DETRITUS, ORGANIC MATTER, FROZEN SOIL CLAY LUMPS AND LARGE STONES. TO BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK.
18. BEDDING AND BACKFILL MATERIALS TO CONFORM TO THE REQUIREMENTS OF WIS 4-08-02 (TABLE A2).
19. WHERE FOUL SEWERS RUN ABOVE SURFACE SEWERS, CONCRETE PROTECTION MAY BE REQUIRED AT CROSSOVERS TO PREVENT ANY POTENTIAL CONTAMINATION.
20. THE FIRST PIPE OUT OF MANHOLES TO BE AS SHORT AS PRACTICABLE SO AS TO PROVIDE A FLEXIBLE JOINT AS CLOSE AS POSSIBLE TO THE OUTSIDE FACE OF THE CONCRETE SURROUND AND CONNECTED TO A LENGTH OF ROCKER PIPE.
21. ALL CONNECTIONS PASSING THROUGH BASES OR EDGE BEAMS TO BE IN SEALED SLEEVES. ALTERNATIVELY CONNECTIONS MAY BE CAST-IN WITH FLEXIBLE JOINTS NOT GREATER THAN 150MM FROM FACE OF CONCRETE.
22. WHERE DRAINAGE PIPES ARE LESS THAN 300mm BELOW THE UNDERSIDE OF THE GROUND FLOOR SLAB, CONCRETE ENCASEMENT IS REQUIRED (CLASS Z). COMPRESSIBLE JOINTS ARE TO BE PROVIDED AT EVERY PIPE JOINT WITHIN THE CONCRETE.
23. WHERE PIPES ARE MORE THAN 300mm BELOW THE UNDERSIDE OF THE SLAB, CLASS S BEDDING IS ACCEPTABLE.
24. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.
25. PLASTIC CHANNEL SECTIONS WILL NOT BE PERMITTED WITHIN MANHOLE CHAMBERS. CLAYWARE CHANNELS SHALL BE USED WITHIN MANHOLES FOR PIPE SIZES UP TO AND INCLUDING 300mm DIAMETER.
26. ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.
27. SULPHATE RESISTANT CEMENT (C20-DC2) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED TO PROVE THAT SUCH PRECAUTIONS ARE NOT REQUIRED.
28. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES OR TO HAVE SUITABLE ROOT PROTECTION IN ACCORDANCE WITH SFA REQUIREMENTS.
29. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.
30. ALL INTERNAL DRAINAGE CONNECTIONS ARE PROVIDED TO THE PENETRATION POSITIONS SHOWN ON ARCHITECT AND M&E DRAWINGS. REFER TO DIMENSIONED LOCATIONS ON ARCHITECT'S GROUND FLOOR SETTING-OUT PLANS.
31. RAINWATER AND FOUL WATER POP UP LOCATIONS AND SIZES TO BE CONFIRMED BY ARCHITECT AND M&E ENGINEER.
32. ALL UNDERGROUND FOUL DRAINAGE SHOULD BE SUITABLY VENTED AT OR NEAR TO THE HEAD OF RUNS.
33. ALL ACCESS FITTINGS, STACKS, RWP'S AND GULLIES TO BE RODDABLE. ALL TO HAVE LOW LEVEL RODDING ACCESS PLATES UNLESS AN ALTERNATIVE MEANS OF ACCESS IS AGREED. ACCESS POINT TO BE ABOVE ANY GROUND FLOOR CONNECTED APPLIANCE SPILL LEVEL.
34. LARGE ACCESS FITTING REQUIRED ABOVE GROUND WHERE GREATER THAN 12M UP TO 22M TO A JUNCTION. SMALL ACCESS FITTING REQUIRED UP TO 12M TO A JUNCTION.
35. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.
36. ALL BRANCH CONNECTIONS TO BE MADE WITH SWEPT BENDS IN THE DIRECTION OF FLOW IN THE MAIN SEWER.
41. ALL FOUL CONNECTIONS TO BE 100Ø UNLESS NOTED OTHERWISE. WHERE NO WC'S ARE CONNECTED UPSTREAM, UNDERSLAB FW DRAINAGE TO BE LAID AT 1:40 MIN. AFTER THE CONNECTION OF AT LEAST 1 No. WC, A MIN. FALL OF 1:80 APPLIES.
42. ALL INTERNAL COVERS TO HAVE MECHANICALLY JOINTED CORNERS AND DOUBLE SEALED WITH RECESSED TRAY TO ALLOW FOR FINISHES.
43. ALL MANHOLE COVERS IN BLOCK/SLAB AND EXTERNAL PAVING AREAS TO HAVE RECESSED COVERS OF THE APPROPRIATE GRADE TO ACCEPT ARCHITECT'S PAVING PROPOSAL.
44. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE THE FOLLOWING SPECIFICATION:
    - B125 LOAD CLASS IN PEDESTRIAN AREAS
    - D400 LOAD CLASS IN VEHICULAR AREAS.
44. COVER LEVELS, GULLY POSITIONS, AND BUILDING LOCATION ARE APPROXIMATE AND SHALL BE CONFIRMED BY ARCHITECT/LANDSCAPE ARCHITECT. CONTRACTOR TO ALLOW FOR ADJUSTMENT TO SUIT AGREED POSITIONS AND FINISHED LEVELS, AND CONFIRM ALL COVER LEVELS ON SITE.
45. SLOPES SHOWN INDICATIVELY, CONTRACTOR SHOULD BUILD INVERT LEVELS SHOWN ON DRAWING
46. OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.
47. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING:-
    (I). ALL OPERATIONS SHOULD BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL HEALTH AND SAFETY POLICY OF THE DEVELOPER AS REQUIRED BY SECTIONS 2 OF THE HEALTH AND SAFETY AT WORK ACT 1974 AND IN PARTICULAR THE CONSTRUCTION (GENERAL PROVISIONS) REGULATIONS.
    (II). THE LOCAL AUTHORITY AND UTILITIES COMPANIES ARE TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK ON SITE.
    (III). PRIOR TO CONSTRUCTION THE ACTUAL POSITIONS AND DEPTHS OF SERVICES LIKELY TO BE AFFECTED BY THE WORKS SHOULD BE ESTABLISHED BY MEANS OF HAND DIG IN CLOSE LIAISON WITH THE UTILITY COMPANIES. THE CONTRACTOR SHALL IMMEDIATELY ADVISE THE ENGINEER OF ANY SERVICES EXPOSED WHICH MAY AFFECT THE DESIGN.
48. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PIPES ARE ADEQUATELY PROTECTED FROM CONCENTRATED LOADING BY CONSTRUCTION TRAFFIC DURING THE CONSTRUCTION PERIOD.
49. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.
50. THE CONTRACTOR SHALL ALLOW FOR KEEPING TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DE-WATERING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY & LLFA AND ENVIRONMENT AGENCY.
51. IT IS ADVISED THAT DRAINAGE WORKS ARE TO BE CONSTRUCTED FROM THE OUTFALL TOWARDS THE HEAD OF RUN TO ENSURE THE OUTFALL CAN BE ACHIEVED.
52. ALL DRAINS TO BE CCTV SURVEYED ON COMPLETION OF THE WORKS.

FOUL WATER CALCULATED USING POPULATION METHOD, 150L/D/ PERSON, 0.6 COEFFICIENT

FOUL WATER	No. HOUSES	FOUL WATER PEAK FLOW L/S
OUTFALL 1	8	2.22
OUTFALL 2	4	1.11

DESIGN PHILOSOPHY

SW FLOW RATES

FLOW RESTRICTED TO GREENFIELD RATES

1 IN 1 1.8 l/s
1 IN 30 3.0 l/s
1 IN 100 +40% 3.6 l/s

FW PEAK FLOWS:
INSIDE BUILDING DRAINAGE HAS BEEN DESIGNED POPULATION METHOD. DISCHARGE UNITS ARE TO BE PROVIDED BY M&E DESIGNER AT DETAILED DESIGN STAGE

DRAWING BASED ON:
- GPR SURVEY 9612_001A 12.2018 BY CND OLIVER & CO
- CCTV SURVEY 17909 & 12985 CCTV 15.06.18 & 24.11.2018 BY SUB SCAN
- UU ASSET RECORDS 10.10.16

ARCHITECTS DRAWINGS ISSUED 05.01.2021
- L0107 P04 SITE LAYOUT GROUND

FOUNDATION LAYOUT
- SKETCH RECEIVED 03.11.21

INFORMATION REQUIRED:
- FIXED PROPOSED TREES LAYOUT, TREE PIT DETAIL
- PROPOSED EXTERNAL SERVICES IN DWG FORMAT
- DETAILED EXTERNAL LEVELS
- FINAL POP-UP LOCATIONS
- FINAL FOUNDATION LAYOUT & DETAILS

ASSUMED:
- SLOT DRAIN LOCATION
- FINAL LEVELS ARE TO BE CONFIRMED BY THE LANDSCAPE ARCHITECT

Rev:	Description:	Date:	By:	Chkd:
P02	ISSUED FOR PLANNING CONDITION DISCHARGE	05.11.21	ATL	CG
P01	ISSUED FOR PLANNING	28.01.21	ATL	MW

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Status: PRELIMINARY

Project: GORTON LANE, MANCHESTER

Drg Title: PROPOSED DRAINAGE STRATEGY

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	28.01.21	ATL	ATL	MW
Scale: 1:200				

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
8790	- CUR -	01 -	XX -	DR -	D -	92500	-P02

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