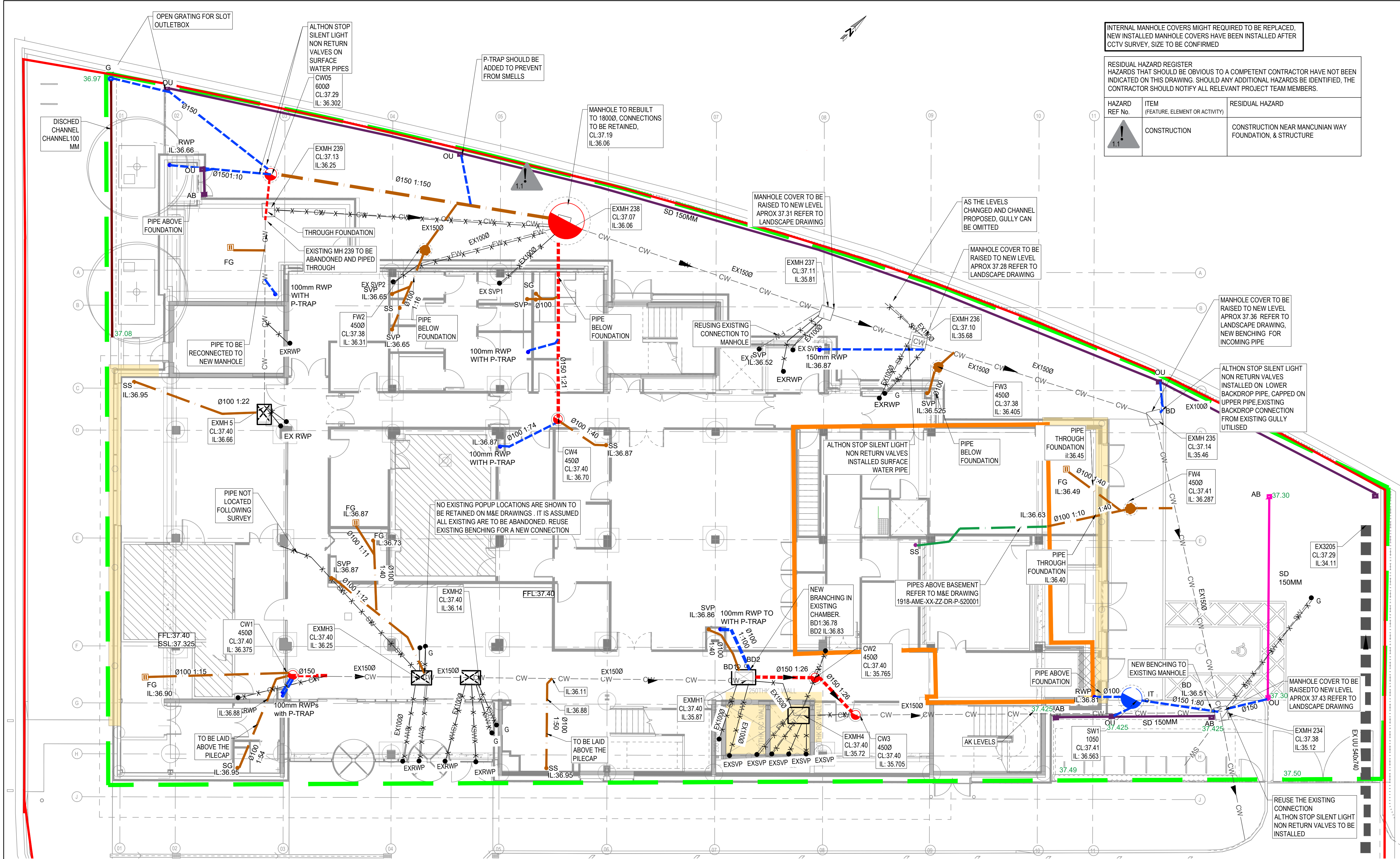




GENERAL NOTES:		1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.		2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.		3. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND CCTV SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN.		4. ALL DRAINAGE WORKS TO BE IN ACCORDANCE WITH THE CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY (CESWI) AS INCLUDED IN SEWERS FOR ADOPTION 7th EDITION, THE REQUIREMENTS OF APPROVED DOCUMENT H (2002 EDITION) AND BUILDING REGULATIONS 2010		5. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.		6. IT IS ADVISED THAT THE CONTRACTOR SURVEY RETAINED EXISTING DRAINAGE PRIOR TO COMMENCEMENT TO CONFIRM LOCATION AND CONDITION. POTENTIAL PRE-CLEANING TO BE UNDERTAKEN IN ORDER TO FACILITATE SURVEY IF REQUIRED.		7. 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.		8. 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.		9. ALL SOFT SPOTS TO BE REMOVED FROM BOTTOM OF EXCAVATIONS AND TO BE REFLIT TO FORMATION LEVEL IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS.		10. RAISED GROUND MUST BE FILLED IN ACCORDANCE WITH GROUNDWORKS SPECIFICATIONS AND CONSOLIDATED BEFORE ANY SEWER WORKS ARE CARRIED OUT.		11. 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'.		12. ALL SEWERS, UNLESS AGREED OTHERWISE STATED, SHALL BE: • 100, 150mm DIA TO BE VITRIFIED CLAY.		13. ALL PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS.		14. PIPES POLYPIPE TERRACOTTA SPECIFICATION HAS BEEN APPROVED TO BE USED FOR BELOW GROUND DRAINAGE IF OTHER UNPLASTICISED POLYVINYL CHLORIDE (PVCU) ENGINEER SHOULD APPROVE SPECIFICATION.		15. 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 2), COMPRESSIBLE MATERIAL SHALL BE PROVIDED AT EVERY PIPE JOINT. WHERE COVER EXCEEDS THIS DEPTH, PIPES ARE TYPICALLY BEDDED AND SURROUNDED IN CLASS 2. REFER TO PIPE EMBEDMENT DETAILS DRAWING FOR SPECIFIC TYPES.		16. 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.		17. BEDDING AND BACKFILL MATERIALS TO CONFORM TO THE REQUIREMENTS OF WIS 4-08-02 (TABLE A2).		18. WHERE FOUL SEWERS RUN ABOVE SURFACE SEWERS, CONCRETE PROTECTION MAY BE REQUIRED AT CROSSOVERS TO PREVENT ANY POTENTIAL CONTAMINATION.		19. 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.		20. 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.		21. WHERE PIPES ARE MORE THAN 300mm BELOW THE UNDERSIDE OF THE SLAB, CLASS 3 BEDDING IS ACCEPTABLE.		22. SEWER PIPES TO BE LAID IN MAXIMUM 3 METRE LENGTHS UNLESS THERE IS A SPECIFIC OPERATIONAL NEED TO LAY LONGER LENGTHS.		23. 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.		24. ALL NEW CONNECTIONS INTO EXISTING MANHOLES (OR INTO EXISTING SEWERS) TO BE 'SOFFITS LEVEL' UNLESS OTHERWISE NOTED.		25. 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.		26. SEWERS MUST HAVE 5m CLEARANCE FROM TREES AND HEDGES OR TO HAVE SUITABLE ROOT PROTECTION IN ACCORDANCE WITH SFA REQUIREMENTS.		27. THE CHAMBER SIZE OF MANHOLES WITH MORE THAN ONE CONNECTION IN THEM MAY NEED TO BE INCREASED TO ACCOMMODATE THE CONNECTIONS AND BENDS.		28. 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.		29. RAINWATER AND FOUL WATER POP UP LOCATIONS AND SIZES TO BE CONFIRMED BY ARCHITECT AND M&E ENGINEER.		30. ALL UNDERGROUND FOUL DRAINAGE SHOULD BE SUITABLY VENTED AT OR NEAR TO THE HEAD OF RUNS.		31. 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.		32. ALL GULLY AND CHANNEL DRAIN OUTLETS AND TERMINATION POINTS TO BE TRAPPED AND RODDABLE. INTERNAL GULLIES AND CHANNEL DRAINS TO BE SPECIFIED BY OTHERS.		33. ALL BRANCH CONNECTIONS TO BE MADE WITH SWEEP BENDS IN THE DIRECTION OF FLOW IN THE MAIN SEWER.		34. WHERE NO WC'S ARE CONNECTED UPSTREAM, UNDERSLAB FW DRAINAGE TO BE LAID AT 1:40 MIN. AFTER THE CONNECTION OF AT LEAST TWO WC, A MIN. FALL OF 1:80 APPLIES.		35. ALL INTERNAL COVERS TO HAVE MECHANICALLY JOINTED CORNERS AND DOUBLE SEALED WITH RECESSED TRAY TO ALLOW FOR FINISHES.		36. UNLESS NOTED OTHERWISE IN THE MANHOLE SCHEDULE, ALL MANHOLE, GULLY AND CHANNEL COVERS (IRONWORK) SHOULD BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATION: • A15 LOAD CLASS FOR INTERNAL CHAMBERS • D400 LOAD CLASS IN VEHICULAR AREAS.		41. 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.		42. 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.		(iiii) ALL OPERATIVES WORKING ON THE HIGHWAY WORKS MUST HAVE STREET WORKS ACCREDITATION.		43. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT PIPES ARE ADEQUATELY PROTECTED FROM CONCENTRATED LOADING BY CONSTRUCTION TRAFFIC DURING THE CONSTRUCTION PERIOD.		44. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES.		45. 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 & LFA AND ENVIRONMENT AGENCY.		46. 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.		47. ALL DRAINS TO BE CCTV SURVEYED ON COMPLETION OF THE WORKS.		48. MANHOLES/INSPECTION CHAMBER SHOULD BE BUILT TO DESIGNED INVERT LEVEL, SLOPE IS SHOWN INDICATIVELY.	
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DESIGN PHILOSOPHY

FOUL WATER

- PROPOSED FOUL WATER FLOW 6.30L/S BASED ON DISCHARGE UNITS 81 PROVIDED BY M&E

SURFACE WATER

- LOCAL AUTHORITY AND UU HAS BEEN CONTACTED AND CONFIRMED THAT SURFACE WATER IS NOT REQUIRED TO BE RESTRICTED AS IT IS A REFURBISHED BUILDING AND IMPERMEABLE AREA DOES NOT CHANGE

NEW AND EXISTING DRAINS CAPACITY HAVE BEEN CHECKED AND THERE ARE NO FLOODING ISSUES FOR STORM EVENT 1 IN 100-30% CLIMATE CHANGE

EXISTING POPUP LOCATIONS AND INTERNAL MANHOLES ARE SHOWN BASED ON THE CCTV SURVEY AND PROVIDED MEASUREMENTS. THERE MAY BE SOME INACCURACY IN EXISTING POPUP POSITIONS. IF DURING DEMOLITION POPUPS BOXED IN POPUPS FOUND, M&E ENGINEER SHOULD BE CONTACTED TO CONFIRM IF ANY EXISTING POPUP IS REUSED.

DRAWING BASED ON:

- GPR SURVEY BY SURVEY OPERATIONS 18H083/004 09.2018
- CCTV SURVEY BY SEP 16.05.2019, 05.09.19
- UNITED UTILITIES RECORDS 2018
- SLAB SETTING OUT B8910S-CTA-XX-00-DR-A-15100 P02
- PROPOSED GROUND FLOOR PLAN B8910S-CTL-XX-00-DR-A-20100 P02
- POPUP LOCATION DISCHARGE UNITS AND ROOF AREA FOR EACH RWP BASED ON 1918-AME-XX-0G-DR-P-520003 (P02) AND 1918-AME-ZZ-XX-CA-P-520002 - P01
- FOUNDATIONS PROVIDED 1016B-CUR-00-FN-DR-S-16100 C01
- INCOMING SERVICES 1918-AME-XX-DR-M-500001 - P2
- PROPOSED SERVICES TO SUBSTATION BY ELECTRICITY NORTH WEST 5500148478-01
- EXTERNAL LEVELS BASED ON B8910S-CTA-XX-00-DR-A-90100 26.07.21

LEGEND

EXISTING DRAINAGE

- FW FOUL WATER DRAIN
- SW SURFACE WATER DRAIN
- CW COMBINED WATER DRAIN
- PS PUBLIC SEWER

PROPOSED DRAINAGE

- FW FOUL WATER DRAIN
- SW SURFACE WATER DRAIN
- CW COMBINED WATER DRAIN
- PS PUBLIC SEWER

SYMBOLS

- EX SVP EXISTING STUB STACK/SVP
- SS SVP PROPOSED STUB STACK/SVP
- FG FOUL WATER FLOOR GULLY
- SG SHOWER GULLY
- RWP RAIN WATER PIPE
- EX RWP EXISTING RAIN WATER PIPE
- FW FOUL WATER MANHOLE
- SW SURFACE WATER MANHOLE
- CW COMBINED WATER MANHOLE
- SD GATIC TREADSAFE SLOT DRAIN D400
- SD GATIC TREADSAFE SLOT DRAIN B125
- AB ACCESS BOX
- OU OUTLET BOX
- BD BACK DROP
- IT INTERCEPTOR TRAP
- IT NEW FOUNDATION

AS BUILT BASED ON INFORMATION PROVIDED ON 15.09.21 From EricWright

CR2	FINAL CONSTRUCTION ISSUE	07.10.21	MW	MW
CR1	FINAL CONSTRUCTION ISSUE	22.09.21	MW	MW
C10	UPDATED TO COMMENTS	25.05.21	MW	MW
C09	SLOT DRAIN ADDED	24.05.21	MW	MW
C08	COVER LEVELS UPDATED, CHANNELS RELOCATED	23.05.21	MW	MW
C07	COVER LEVELS UPDATED, CHANNELS RELOCATED	12.05.21	MW	MW
C06	AS CLOUDED	27.10.20	MW	MW
C05	CONNECTION FROM HYBRID TOILET ADDED	21.09.20	MW	MW
C04	UPDATED AS CLOUDED	28.08.20	MW	MW
C03	UPDATED TO COMMENTS FROM 13.05.20	19.05.20	MW	MW
C02	DRAIN FROM EXISTING TREE PIT REMOVED	01.05.20	MW	MW
C01	STAGE 5	30.04.20	MW	MW

Rev:	Description:	Date:	By:	Chkd:

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Status:

Project:

MMU INSTITUTE OF SPORT

Dwg Title:

PROPOSED DRAINAGE

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	30.04.20	MW	MW	MW

Scale: 1:100

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category/Number:	Rev:
1016B - CUR - 00 - XX - DR - C -	92500	-CR2					

1016B - CUR - 00 - XX - DR - C - 92500 -CR2