

DRAINAGE LEGEND

EXISTING FEATURES

- EXISTING FOUL WATER DRAIN AND MANHOLE TO BE RETAINED

PROPOSED FEATURES

- SURFACE WATER DRAIN
- RAINWATER PIPE - REFER TO PUBLIC HEALTH ENGINEERS DRAWINGS FOR DETAILS OF TYPE
- ROAD GULLY (TRAPPED)
- CHANNEL DRAIN SYSTEM WITH SUMP UNIT
- THRESHOLD DRAIN DRAIN
- STORM WATER Ø475 PPIC 1200 DEEP MAX MAX NO. OF PIPES 5 (Ø100/Ø150)
- STORM WATER MANHOLE Ø1200 (TYPE A OR B) TYPE B MAX DEPTH FROM COVER TO SOFFIT OF PIPE 3m TYPE A DEPTH FROM COVER TO SOFFIT OF PIPE 3m - 6m
- STORM WATER MANHOLE TYPE D INTERNAL DIMENSIONS 900x675mm DEPTH FROM COVER TO SOFFIT OF PIPE LESS THAN 1m
- STORM WATER FILTER MANHOLE
- STORM WATER MANHOLE BACKDROP
- STORM WATER SOAKAWAY / ATTENUATION TANK GL = GROUND LEVEL TOTL = TOP OF TANK LEVEL BOTL = BOTTOM OF TANK LEVEL
- SUB BASE ATTENUATION- VOID RATIO 30%
- GRASS CRETE REINFORCEMENT SYSTEM
- FOUL WATER DRAIN
- ABOVE GROUND FOUL WATER CONNECTION - REFER TO PUBLIC HEALTH ENGINEERS DRAWINGS FOR DETAILS OF TYPE
- TRAPPED GULLY
- FOUL WATER Ø475 PPIC 1200 DEEP MAX MAX NO. OF PIPES 5 (Ø100/Ø150)
- FOUL WATER MANHOLE TYPE D INTERNAL DIMENSIONS 900x675mm DEPTH FROM COVER TO SOFFIT OF PIPE LESS THAN 1m
- PIPE DETAIL: Ø, LENGTH, GRADIENT, BEDDING TYPE
- MANHOLE REFERENCE: COVER LEVEL, INVERT LEVEL, SUMP INVERT LEVEL, MH TYPE, CATCHPIT MANHOLE (IF REQUIRED), COVER GRADE



FOR CONTINUATION SEE DRAWING P27007-LRW-XX-XX-C-DR-7502

NOTES

GENERAL

- DO NOT SCALE FROM THIS DRAWING. REFER TO FIGURED DIMENSIONS ON SITE.
- ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS ARE IN METRES UNLESS NOTED OTHERWISE.
- THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
- ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT AND/OR ENGINEER IMMEDIATELY, SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
- IT IS THE CONTRACTOR/SUBCONTRACTORS RESPONSIBILITY TO ENSURE COMPLIANCE WITH THE CURRENT BUILDING REGULATIONS, CODES OF PRACTICE, CURRENT STANDARDS AND PRODUCT MANUFACTURERS DETAILS AND SPECIFICATION.
- THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIATIONS AGREED DURING THE DURATION OF THE WORKS, INCLUDING THE RELOCATION OF SEWERS OR DRAINS, SO THAT AN "AS-CONSTRUCTED" DRAWING CAN BE PREPARED UPON COMPLETION OF THE PROJECT.

DRAINAGE GENERAL

- BEFORE COMMENCING CONSTRUCTION THE CONTRACTOR MUST CHECK THE INVERT LEVELS OF EXISTING SEWERS TO WHICH CONNECTIONS ARE MADE. IN ADDITION THE CONTRACTOR MUST LOCATE AND DETERMINE INVERT LEVELS OF THE EXISTING SPURS TO WHICH CONNECTIONS ARE PROPOSED. ANY DISCREPANCIES ARE TO BE NOTIFIED TO THE ENGINEER IMMEDIATELY, PRIOR TO CONSTRUCTION.
- ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTION POINT. THE WORKS CONTINUING UPSTREAM FOLLOWING CONFIRMATION OF THE TIE-IN INVERT LEVELS TO THE ENGINEER. CONNECTIONS TO MANHOLES OR LARGER SIZED PIPES ETC. SHOULD BE SOFFIT TO SOFFIT UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. IF THIS IS NOT POSSIBLE INFORM THE CIVIL ENGINEER IMMEDIATELY.
- ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT PART-H, AND TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
- IF ANY SUB SOIL DRAINAGE SYSTEMS ARE UNCOVERED DURING THE WORKS CONTACT THE ENGINEER FOR INSTRUCTIONS. SUB SOIL DRAINS ARE TO BE DIVERTED AROUND NEW WORKS AND CONNECTED INTO THE SURFACE WATER.
- ALL REDUNDANT DRAINAGE TO BE ABANDONED ONCE THE CONTRACTOR HAS SATISFIED HIMSELF THAT NO CONNECTIONS REMAIN LIVE. REDUNDANT DRAINAGE TO BE GRUBBED OUT.
- ALL FOUL WATER PIPE WORK IS TO BE VERIFIED CLAY UNLESS SPECIFIED OTHERWISE.

GENERAL

- ALL STORM WATER PIPE WORK IS TO BE STRUCTURED WALL PLASTIC UNLESS SPECIFIED OTHERWISE
- ALL UN-REFERENCED PIPES ARE ASSUMED TO BE Ø100. MINIMUM CONSISTENT GRADIENTS ALONG THE WHOLE LENGTH OF THE PIPE AS LISTED BELOW:
 - FW MIN GRADIENT - 1 IN 40 (Ø100) NO WC'S CONNECTED
 - FW MIN GRADIENT - 1 IN 80 (Ø100) MIN 1 WC CONNECTED
 - FW MIN GRADIENT - 1 IN 150 (Ø150) MIN 5 WC'S CONNECTED
 - SW MIN GRADIENT - 1 IN 100 (Ø100)
 - SW MIN GRADIENT - 1 IN 150 (Ø150)
- PROPOSED COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS TO ENSURE THEY LAY FLUSH.
- ALL MANHOLE COVERS IN AREAS OF BLOCK PAVING, COLOURED SURFACING, PAVING SLABS OR OTHER DECORATIVE PAVING AREAS ARE TO BE RECESSED TO ACCEPT THE PARTICULAR SURFACING TYPE.
- ALL EXISTING MANHOLE COVERS, GULLIES, ETC. ARE TO BE RAISED TO SUIT NEW LEVEL AND BUILDING REGULATIONS PART-H.
- ROAD GULLY OUTLET PIPES ARE TO BE Ø150mm. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS.
- SHALLOW PRIVATE DRAINS MAY REQUIRE PROTECTION USING CLASS 'Z' CONCRETE SURROUND OR PAVING SLABS BRIDGING THE TRENCH SUBJECT TO THE NHBC INSPECTOR'S REQUIREMENTS.
- ALL BELOW GROUND CONCRETE TO ACCORD WITH BS5328:1997/SULPHATE CLASS TBA.
- REFERENCE SHOULD BE MADE TO THE STRUCTURAL ENGINEERS DETAILS FOR ALL ASPECTS OF FOUNDATION DESIGN AND CONSTRUCTION.
- WHERE DRAINS PASS THROUGH FOUNDATIONS OR CONNECT TO MANHOLES, A FLEXIBLE PIPE JOINT SHOULD BE PROVIDED TO FORM A ROCKER PIPE IN ACCORDANCE WITH THE STANDARD DETAIL PROVIDED.
- WHERE DRAINAGE RUNS PASS CLOSE TO BUILDINGS OR THEIR INVERT LEVELS ARE BELOW FOUNDATION LEVEL, THEN THE TRENCHES ARE TO BE BACK FILLED IN ACCORDANCE WITH THE STANDARD DETAIL PROVIDED.
- ALL DOWNPIPES ARE TO BE SEALED AND CONNECTED DIRECTLY TO THE STORMWATER DRAIN. ACCESS POINTS ARE TO BE PROVIDED TO THE ABOVE GROUND LEVEL FOR EXTERNAL RWP'S AND IN ABOVE FFL FOR INTERNAL RWP'S. IF INTERNAL RWP'S ARE TO BECOME INACCESSIBLE THEN ACCESS CHAMBERS ARE TO BE PROVIDED EXTERNALLY TO ACCESS EACH RWP.
- ALL ROAD GULLIES SHALL BE FITTED WITH GRADE D400 GRATINGS AND FRAMES AND YARD GULLIES SHALL BE FITTED WITH GRADE B125 GRATINGS AND FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
- IN ORDER TO MAINTAIN THE SATISFACTORY FUNCTIONING OF SURFACE WATER SEWERS, ALL ROAD AND YARD GULLIES ARE TO BE "TRAPPED".

GENERAL

- UNLESS OTHERWISE NOTED, CHANNEL DRAINS ARE TO BE ACO MultiDrain MD SYSTEM WITH A15 GRATINGS IN PEDESTRIAN AREAS, C250 IN CAR PARKS AND D400 IN CARRIAGEWAYS. GRATING STYLE TO SUIT THE LANDSCAPE ARCHITECT'S SPECIFICATION. SLOTTED CHANNEL TO BE USED FOR AREAS WITH FALLS <1:15 MESH GRATING TO BE USED WHERE FALLS >1:15. SHOULD THE CONTRACTOR WISH TO USE A DIFFERENT SYSTEM, PRIOR APPROVAL TO USE SHALL BE SOUGHT FROM THE ENGINEER.
- UNLESS OTHERWISE NOTED, ALL THRESHOLD DRAINS AT DOORWAYS ARE TO BE ACO THRESHOLD DRAINS. SHOULD THE CONTRACTOR WISH TO USE A DIFFERENT SYSTEM, PRIOR APPROVAL TO USE SHALL BE SOUGHT FROM THE ENGINEER.
- MODULAR GEOCELLULAR STORAGE/SOAKAWAY SYSTEM TO CONFORM TO CIRIA C697 THE SUDS MANUAL, C698 STRUCTURAL DESIGN OF MODULAR GEOCELLULAR DRAINAGE TANKS & C699 SITE HANDBOOK FOR THE CONSTRUCTION OF SUDS. THE MANUFACTURER SHOULD PROVIDE A COMPLETE SET OF INDEPENDENT TEST RESULTS FOR A PROPOSED SYSTEM INCLUDING, AS A MINIMUM, STRESS/STRAIN CURVES FOR VERTICAL AND LATERAL COMPRESSION, AND CREEP TESTS UNDER SUSTAINED LONG-TERM LOADS. A BBA CERTIFICATE IS NOT INDEPENDENT TEST DATA.
- NO PRIVATE AREAS ARE TO DRAIN ONTO ADAPTABLE AREAS AND VICE VERSA. NO PRIVATE DRAINS SHOULD FEED INTO PUBLIC MAINTAINED SYSTEMS UNLESS SPECIFIED/APPROVED.
- AIR TESTING OF THE NEW FOUL AND STORM WATER SYSTEMS TO BS EN 1610 BEFORE BACK FILLING.
- SOFT SPOTS IN FORMATION ARE TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.

DRAINAGE COMPLETION

- THE REMOVAL OF ANY CONSTRUCTION DEBRIS FROM THE NEW FOUL AND STORM WATER SYSTEMS BEFORE FINAL TESTING AND CCTV INSPECTION. NO DEBRIS IS TO BE DISCHARGED INTO SEWERS OR WATERCOURSES.
- POST CONSTRUCTION AIR TESTING OF THE NEW FOUL AND STORM WATER SYSTEMS TO BS EN 1610 PRIOR TO HANDOVER.
- COMPLETE CCTV INSPECTION SURVEY OF ALL THE NEW FOUL AND STORM WATER SYSTEMS IS TO BE CARRIED OUT BY A THIRD PARTY AND A DIGITAL COPY OF THE REPORT AND VIDEOS PROVIDED BY THE CONTRACTOR TO THE CIVIL ENGINEER FOR CHECKING BEFORE THE WORKS CAN BE SIGN OFF BY THE CLIENT.
- DIGITAL TOPOGRAPHICAL LEVELS SURVEY TO THE ORDNANCE SURVEY BENCHMARK DATUM OF ALL THE NEW CHAMBERS ON BOTH FOUL AND STORM WATER SYSTEMS AND SUPPLIED IN EITHER DWG OR DXF FORMAT PROVIDED BY THE CONTRACTOR TO THE CIVIL ENGINEER BEFORE THE WORKS CAN BE SIGN OFF BY THE CLIENT.
- PROVIDE MANUFACTURERS OPERATION AND MAINTENANCE MANUALS FOR ANY INSTALLED PROPRIETARY PRODUCTS.

WARNING SIGN LEGEND

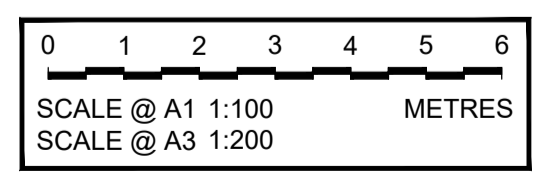
INDICATES RISKS REQUIRING THE FOLLOWING

- SPECIAL ATTENTION BY THE CONTRACTOR
- CONSTRUCTION WARNING
- FOR INFORMATION
- INFORMATIVE

PLANNING

PARTS OF THIS DRAWING SHOULD BE SHOWN IN COLOUR. IF THIS NOTE IS NOT RED REPRINT A COLOURED COPY

IMPORTANT NOTE: CAUTION
 ALL INFORMATION SHOWN ON THIS DRAWING FOR UNDERGROUND SERVICES/STATUTORY UNDERTAKERS' PLANT IS APPROXIMATE AND IS PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY. IT SHOULD NOT BE RELIED ON FOR EXCAVATION OR ANY OTHER WORKS PURPOSES AND CONTRACTORS MUST SATISFY THEMSELVES OF THEIR LOCATIONS PRIOR TO THE COMMENCEMENT OF WORKS.



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REV	AMENDMENTS	DATE	CAD	CHK	APPD
P02	SURFACE WATER LAYOUT AMENDED FOLLOWING LLFA OFFICER COMMENTS. SOAKAWAY INCREASE IN VOLUME FOLLOWING USING FEH22 RAINFALL DATA	19.11.25	LW	NK	LW
P01	PLANNING ISSUE	19.09.25	LW	NK	LW

LRW CIVIL DESIGNS LTD
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BIO DOT

ERECTION OF A COMMERCIAL BUILDING
 (WITHIN USE CLASS E(G) PARKING, LANDSCAPING AND OTHER ASSOCIATED WORK)

DRWN	ENGR	CHECKED	APPROVED
N.K	L.W	J.S	L.W
DATE	19.09.2025	SCALE @ A1	1:100 @ A1
STATUS			A
DWG No.	P27002	DRAWING No.	LRW/XX/XX/DR/C/7501
REV.			P021