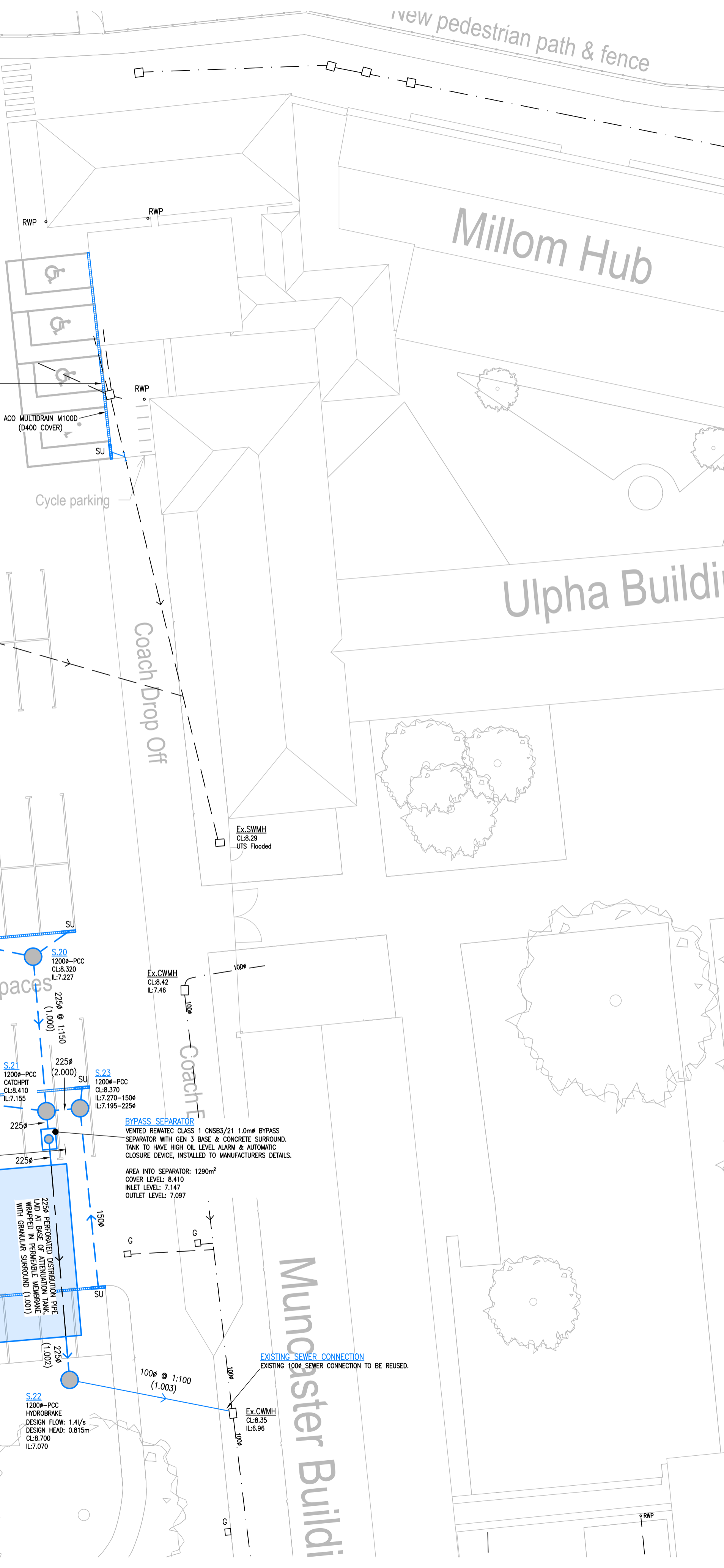
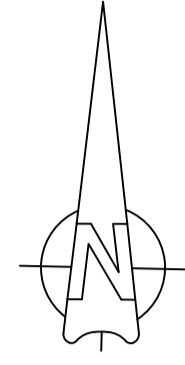


Castle View

A5093 Salti.



EXISTING SURFACE WATER DRAINAGE
EXISTING CHANNEL AT LOW POINT IN FRONT
OF BUILDING TO BE REPLACED AS PART OF
DEVELOPMENT. NEW Y-JUNCTION CONNECTION
MADE INTO EXISTING NETWORK.

EXISTING SURFACE WATER DRAINAGE
EXISTING GULLY IN CAR PARK TO BE RETAINED
AS THIS AREA IS NOT BEING DEVELOPED.

ACO MULTIDRAIN M1500
(D400 COVER)
Reconfigured 67 Parking Spaces

ACO MULTIDRAIN M1500
(D400 COVER)

REF. 365 SOAKAWAY TEST

CONTRACTOR TO ALLOW FOR BRE 365 SOAKAWAY
TEST TO BE CARRIED OUT UNDERNEATH PROPOSED
ATTENUATION TANK LOCATION TO CONFIRM
WHETHER SOAKAWAYS ARE FEASIBLE. IF SOAKAWAY
TEST IS SUCCESSFUL, THEN ATTENUATION TANK
WILL BE CONVERTED INTO INFILTRATION TANK.

CELLULAR ATTENUATION TANK
12x12x0.8m DEEP CELLULAR ATTENUATION TANK WITH PERFORATED
PIPE RUNNING THROUGH BASE WITH POROUS GRANULAR SURROUND.
TANK TO BE SUITABLE FOR VEHICULAR LOADING AND BE WRAPPED IN
HEAVY DUTY IMPERMEABLE MEMBRANE WITH WELDED JOINTS. TANK TO
BE VENTED TO UPSTREAM AND DOWNSTREAM MANHOLE & INSTALLED
TO MANUFACTURERS DETAILS. TANK MAY REQUIRE 150mm RC32/40
COVER SLAB WITH 1% LAYER OF A393 MESH TOP & BOTTOM &
50mm COVER TO PROTECT FROM VEHICULAR LOADING SUBJECT TO
MANUFACTURER REQUIREMENTS/CALCULATIONS.

DESIGN CRITERIA: 1h100 yr RETURN PERIOD (+40% CLIMATE CHANGE)
STORAGE PROVIDED: 109.4m³
COVER LEVEL: 8.400
TANK SLOTTES: 7.085
TANK OUTLET/BASE: 7.085

S.22
1200mm-PCC
HYDROBRAKE
DESIGN FLOW: 1.4l/s
DESIGN HEAD: 0.815m
CL.8.700
IL.7.070

BYPASS SEPARATOR
VENTED REMATEC CLASS 1 CONSL/21 1.0m³ BYPASS
SEPARATOR WITH GEN 3 BASE & CONCRETE SURROUND.
TANK TO HAVE HIGH OIL LEVEL ALARM & AUTOMATIC
CLOSURE DEVICE, INSTALLED TO MANUFACTURERS DETAILS.
AREA INTO SEPARATOR: 1290m²
COVER LEVEL: 8.410
INLET LEVEL: 7.147
OUTLET LEVEL: 7.097

Munster Buildi

ADDITIONAL SURFACE WATER DRAINAGE NOTES:

- LOCATION OF ALL EXISTING DRAINAGE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORKS AS IT IS APPROXIMATELY TRANSLATED FROM SURVEY DRAWING.
- ALL DRAINAGE AT MANHOLES/ACCESS CHAMBERS TO CONNECT WITH SOFFITS LEVEL UNLESS OTHERWISE NOTED. MANHOLE INVERT LEVELS SHOWN ON PLAN ARE THAT OF LOWEST OUTGOING PIPE.
- FOR SURFACE WATER DRAINAGE WHERE OBLIQUE CONNECTIONS ARE NOT POSSIBLE 87.5° CURVED SQUARE BRANCH CONNECTIONS TO BE USED IN DIRECTION OF FLOW OF MAIN LINE.
- ALL DRAINAGE WITHIN 300mm OF UNDERSIDE OF STRUCTURAL SLAB TO HAVE FULL GEN 3 CONCRETE BED AND SURROUND.
- ALL PROPOSED SURFACE WATER DRAINAGE TO BE 150mm DIA. LAID AT FALLS NOT LESS THAN 1:150 UNLESS OTHERWISE NOTED.
- ALL RAINWATER DOWNPIPES THAT DO NOT CONNECT DIRECTLY TO AN ACCESS POINT SHALL HAVE A RODDING FACILITY FITTED.
- ALL INTERNAL MANHOLE & INSPECTION CHAMBERS TO HAVE SCREW DOWN DOUBLE SEAL ACCESS COVERS.
- ALL INTERNAL & EXTERNAL SURFACE WATER INSPECTION CHAMBERS SITUATED IN AREAS WITHOUT VEHICULAR ACCESS TO BE TYPE 3 CHAMBERS WITH 150mm DOT TYPE 1 SURROUND UNLESS NOTED OTHERWISE.
- ALL EXTERNAL SURFACE WATER INSPECTION CHAMBERS SITUATED IN AREAS WITH VEHICULAR ACCESS TO BE TYPE 3 CHAMBERS WITH GEN 3 CONCRETE SURROUND UNLESS NOTED OTHERWISE.
- ALL TYPE 3 INSPECTION CHAMBERS WHERE DEPTH TO INVERT OF CHAMBER IS > 1m SHALL HAVE COVER FRAME WITH ACCESS RESTRICTED TO 350mm DIA. OR 300x300mm SQUARE.
- ALL EXTERNAL SURFACE WATER MANHOLES TO BE MIN. 1200mm DIA. WIDE WALL (125mm THICK) TYPE 2 PRECAST CONCRETE CHAMBERS UNLESS NOTED OTHERWISE.
- MANHOLE COVER LEVELS ARE SUBJECT TO CONFIRMATION OF FINAL EXTERNAL & INTERNAL LEVELS.
- EXTERNAL GULLY/CHANNEL POSITIONS SHOWN ARE INDICATIVE AND SUBJECT TO CHANGE FOLLOWING CONFIRMATION OF FINAL EXTERNAL LEVELS.
- FINAL GULLY POSITIONS TO SUIT SITE LOW POINTS WITH SUFFICIENT SURFACE FALLS TO ENSURE SURFACE WATER DRAINS WITHOUT PONDING (MINIMUM SURFACE FALL OF 1:60 IS RECOMMENDED).
- THE LOAD CLASS OF ALL COVERS, GRATINGS, GULLIES, CHANNELS & FRAMES TO CHAMBERS TO SUIT THEIR LOCATION AS FOLLOWS (REFER TO MANHOLE SCHEDULE FOR CONFIRMATION):
A15 - INTERNAL LOCATIONS
B125 - EXTERNAL WITH PEDESTRIAN ACCESS ONLY
C250 - EXTERNAL LIGHTLY TRAFFICKED AREAS
D400 - MAIN ROADS/HIGHWAYS
E600 - HGV/LOADING BAY AREAS
- GRATINGS IN PEDESTRIAN AREAS TO HAVE HEEL SAFE ANTI-SLIP COVERS.
- THE CONSTRUCTION OF ALL EXISTING GULLIES, MANHOLE CHAMBERS & THEIR COVERS & GRATINGS TO BE 'MADE GOOD' OR REPAIRED/REPLACED TO SUIT REVISED LEVEL/LOCATION.
- REFERENCE SHOULD BE MADE TO ARCHITECT & M&E ENGINEERS DRAWINGS FOR ABOVE GROUND DRAINAGE DETAILS & SET-OUT.
- ALL EXISTING DRAINAGE THAT IS MADE REDUNDANT AS A RESULT OF THE WORKS TO BE GRUBBED UP AND REMOVED.
- THE LAYOUT OF PIPELINES, MANHOLES ETC. IS DESIGNED TO SUIT THE PERMANENT CASE. ADDITIONAL LOADS OVER & ABOVE THOSE DESIGNED FOR MAY ARISE DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TEMPORARY PROTECTION TO ENSURE THAT PIPELINES, MANHOLES ETC. ARE NOT DAMAGED DURING THE CONSTRUCTION PHASE.

LEGEND.

- ABANDONED SEWER TO BE REMOVED
- - - EXISTING COMBINED SEWERS
- - - NEW COMBINED SEWERS
- FXX NEW COMBINED MANHOLE
- - - EXISTING SURFACE WATER SEWERS
- NEW SURFACE WATER SEWERS
- CONCRETE ENCASED SW SEWER
- SXX NEW SURFACE WATER MANHOLE
- EXISTING SURFACE WATER RISING MAIN
- SURFACE WATER RISING MAIN
- - - NEW LAND DRAINS
- BD VERTICAL BACK DROP
- PETROL INTERCEPTOR
- DRAINAGE CHANNEL
- G ROAD GULLY
- TG TRAPPED ROAD GULLY
- SU TRAPPED SUMP UNIT
- RWP RAIN WATER PIPE
- RE RODDING EYE
- DT PERMAVOID 150 DISTRIBUTION TANKS

General Notes

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. ALL DRAINAGE TO BE TO THE SATISFACTION OF THE LOCAL AUTHORITY BUILDING CONTROL AND MAIN DRAINAGE SECTIONS ON MATTERS INVOLVING PUBLIC SEWERS.
3. ALL PIPEWORK, BENDS AND JUNCTIONS TO BE EXTRA STRENGTH VITRIFIED CLAY TO BS 6519B1, BS EN 295 OR PVCu TO BS EN 1401 TO BE AGREED WITH RELEVANT AUTHORITY.
4. INVERT LEVELS ON EXISTING DRAINS & OUTFALLS TO BE CHECKED PRIOR TO COMMENCEMENT OF WORKS.
5. TRENCH WIDTHS GENERALLY:- AS SMALL AS PRACTICABLE BUT NOT LESS THAN PIPE DIAMETER +300mm OR LARGER IF SPECIFIED. TRENCH SIDES MUST BE VERTICAL FROM BOTTOM UP TO 300mm ABOVE CROWN OF PIPE.
6. WHERE DRAINAGE PIPES HAVE LESS THAN 1.2m COVER IN TRAFFICKED AREAS AND LESS THAN 600mm UNDER LANDSCAPED AREAS PIPES SHALL HAVE A FULL CLASS 2 CONCRETE SURROUND. CONCRETE PROTECTION TO BE DISCONTINUED AT EACH PIPE JOINT WITH COMPRESSIBLE MATERIAL. ALL OTHER FLEXIBLE PIPES TO HAVE CLASS S GRANULAR BEDDING DETAIL UNLESS OTHERWISE NOTED. ALL OTHER RIGID PIPES TO HAVE CLASS B GRANULAR BEDDING DETAIL UNLESS OTHERWISE NOTED.
7. GRANULAR BEDDING:
• 10mm SINGLE SIZED COARSE AGGREGATE SHALL BE USED ON PIPES NOT EXCEEDING 140mm DIAMETER.
• 2-14mm WELL GRADED COARSE AGGREGATE MAY BE USED ON PIPES EXCEEDING 140mm BUT NOT EXCEEDING 400mm DIAMETER.
• 4-20mm WELL GRADED COARSE AGGREGATE MAY BE USED ON PIPES EXCEEDING 400mm DIAMETER.
• THE DEPTH OF GRANULAR BEDDING UNDER THE PIPES SHALL BE X/6 OR 150mm, WHICHEVER IS GREATER, WHERE X=EXTERNAL DIAMETER OF THE PIPE.
8. ADOPTABLE PUBLIC SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH SEWERS FOR ADOPTION, 7th EDITION, SEPTEMBER 2012.
9. ALL PRIVATE DRAINAGE WORKS SHALL BE IN ACCORDANCE WITH "THE BUILDING REGULATIONS APPROVED DOCUMENT H" AND BRITISH STANDARD BS EN 752.
10. ALL NEW DRAINAGE TO BE TESTED PRIOR TO BACKFILL OF THE TRENCHES & PRIOR TO HANDOVER TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
11. THE CONTRACTOR MUST LIAISE WITH THE LOCAL AUTHORITY MAIN DRAINAGE SECTION PRIOR TO COMMENCEMENT OF WORK ON PUBLIC DRAINAGE.
12. TRENCH BACKFILL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 250mm ONCE 300mm COVER HAS BEEN PROVIDED TO THE TOP OF PIPE.
13. THE CONTRACTOR SHALL ALLOW IN HIS RATES FOR MAINTAINING FLOW IN PUBLIC SEWERS AT ALL TIMES DURING DIVERSION WORKS INCLUDING TEMPORARY PUMPING AND ALSO KEEPING EXCAVATIONS FREE FROM GROUNDWATER INCLUDING PUMPING AND FORMATION OF TEMPORARY SUMPS.
14. THE CONTRACTOR SHALL MAKE PROVISIONS FOR AND LIAISE WITH ALL RELEVANT STATUTORY BODIES FOR THE MANAGEMENT OF TRAFFIC WHILE CARRYING OUT WORKS IN THE PUBLIC HIGHWAY.
15. THE CONTRACTOR IS TO SATISFY HIMSELF TO THE POSITION AND AND DEPTH OF THE PUBLIC UTILITIES AND ALLOW FOR TEMPORARY SUPPORT, PROTECTION AND DIVERSION WORKS AS NECESSARY. THE CONTRACTOR SHALL ALSO INCLUDE FOR ANY TRIAL PIT EXCAVATIONS NECESSARY.
16. BACKFILL TO EXCAVATIONS IN PUBLIC HIGHWAYS TO BE WELL COMPACTED GRANULAR TYPE 1 TO CL.803 OF THE DTp SPECIFICATION FOR HIGHWAY WORKS 2009.
17. ALL EXTERNAL GULLIES TO BE 375mm DIA. MINIMUM, PRECAST CONCRETE, HEAVY DUTY, KITE MARKED & ANTI-THEFT.

P2	11.08.23	ISSUED FOR PLANNING APPROVAL.	M.H	C.J.H
P1	06/07/23	PRELIMINARY ISSUE	OJ	
Rev	Date	Comment	By	Check

Status Code	Drawing Status
S3	FOR APPROVAL

This drawing may only be used for construction/manufacture if status is CONSTRUCTION

Furness Partnership
Consulting Structural/Civil Engineers

London 20 Britton Street, London, EC1M 6TX
tel: 020 7490 4353 fax: 020 7490 4354
e-mail: info@furnesspartnership.com

Bradford The Paper Hall, Anne Gate, Bradford, BD1 4EQ
tel: 01274 392092
e-mail: mail@furnesspartnership.com

Project

MILLOM LEISURE CENTRE

Drawing Title

PROPOSED SURFACE WATER DRAINAGE LAYOUT SHEET 1 OF 3 CAR PARK SITE

FP Job No.	Drawn	Date	Checked	Scale @ A1
L2762	O.J	JUN '23	C.J.H	1:200

PROJECT	OPERATOR	ZONE / VOLUME	LEVEL / LOCATION	FILE TYPE	ROLE	SHEET No.	Rev.
L2762	FUR	XX	XX	DR	D	0921	P2