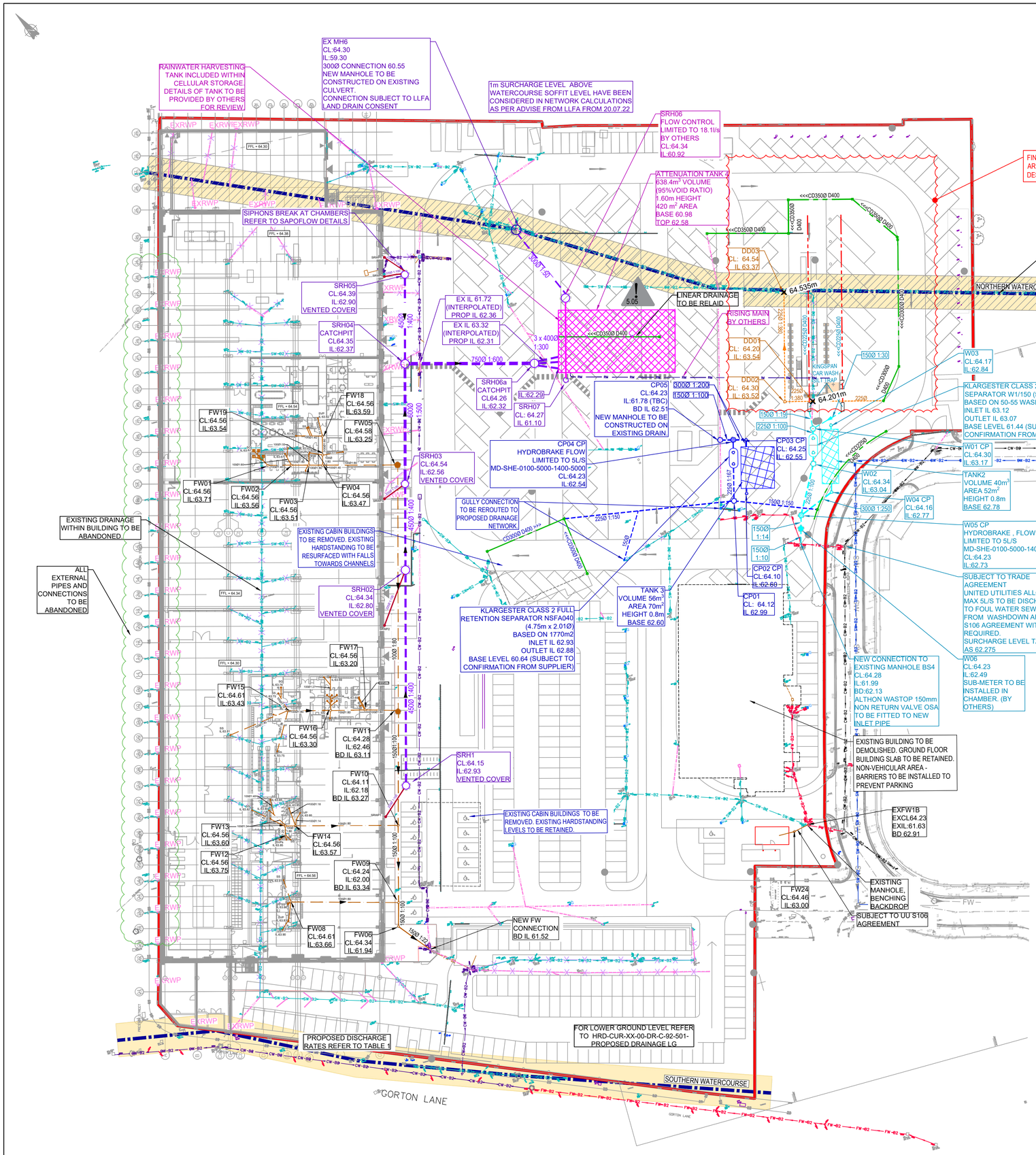


RESIDUAL HAZARD REGISTER
HAZARDS THAT SHOULD BE OBVIOUS TO A COMPETENT CONTRACTOR HAVE NOT BEEN INDICATED ON THIS DRAWING. SHOULD ANY ADDITIONAL HAZARDS BE IDENTIFIED, THE CONTRACTOR SHOULD NOTIFY ALL RELEVANT PROJECT TEAM MEMBERS.

HAZARD REF No.	ITEM (FEATURE, ELEMENT OR ACTIVITY)	RESIDUAL HAZARD
! 3.01	UNDERGROUND SERVICES	EXISTING LIVE SERVICES (SITEWIDE)
! 5.05	DEEP EXCAVATIONS	DEEP EXCAVATION MORE THEN 3M NEAR EXISTING CULVERT/ NEAR EXISTING FOUNDATION WALL/ ATTENUATION TANK

DRAWING BASED ON:
TOPOGRAPHICAL SURVEY BY SEP S15724-T
GPR SURVEY BY SEP S17480-U DEC 2018 JUNE 2018
CCTV SURVEY BY SEP DRAINAGE SURVEYS LTD DEC 2018 AND AUG 2020
UU RECORDS UUPS-ORD-76950
PROPOSED SITE PLAN
HRD-FRA-00-XX-SK-A-90-9006-C02

SAPOFLOW SIPHON SYSTEM 21.02.23
HRD-SAP-01-RL-DR-X-0001C02
HRD-SAP-01-RL-DR-X-0002 C02

KEY:

SITE BOUNDARY BASED ON HRD-FRA-00-XX-DR-A-90-0200

EXISTING SERVICES BASED ON CTV SURVEY S17480-U DEC 2018

FOUL WATER PIPE
SURFACE WATER PIPE
COMBINED WATER DRAIN

UNITED UTILITIES RECORDS UUPS-ORD-76950 ALL UU ASSETS ARE SHOWN INDICATIVELY

EXISTING UU SURFACE WATER SEWER
EXISTING UU COMBINED WATER SEWER
EXISTING WATERCOURSE
8M EASEMENT BASED ON SEWER FOR ADOPTION 6TH EDITION
ASSUMED SURFACE WATER DRAIN ROUTE
ASSUMED COMBINED DRAIN ROUTE
DRAINAGE TO BE ABANDONED

PROPOSED DRAINAGE

PROPOSED FOUL DRAINAGE
PROPOSED SURFACE WATER DRAINAGE - BUILDING DRAINAGE (SIPHONIC)
PROPOSED SURFACE WATER DRAINAGE - WASHDOWN AREA
PROPOSED SURFACE WATER DRAINAGE - GF CAR PARK
PROPOSED SURFACE WATER DIVERSION TO EXISTING
PROPOSED LINEAR DRAINAGE.
PROPOSED LINEAR DRAINAGE TO WASHDOWN AREA.
PROPOSED CELLULAR ATTENUATION TANK

LINEAR DRAINAGE IS CASTLOST TREADSAFE OR SIMILAR APPROVED. SIZES AS NOTED.

DP FOUL WATER DOWNPIPE
FG FLOOR GULLY
SRWP SIPHONIC RWP
PROPOSED SERVICES

TABLE 3: PROPOSED CATCHMENTS MAXIMUM FLOW RATES

CATCHMENT REF	AREA (Ha)	CALCULATION METHOD	FLOW RATE - 1:1 YEAR STORM EVENT	FLOW RATE - 1:30 YEAR STORM EVENT	FLOW RATE - 1:100 YEAR + 40% CC STORM EVENT
PA1 & PA2 (BUILDING)	0.260	50% BROWNFIELD: BASED ON MODIFIED RATIONAL METHOD	5.5 (50% OF 11)	13 (50% OF 26)	17 (50% OF 34)
PA3 (BUILIDNG)	0.783	GREENFIELD RUN-OFF	5.1	5.1	5.1
CATCHMENT PA1-3 TOTAL	1.043	LIMITED TO 30-YEAR STORM EVENT, AS AGREED WITH LLFA	18.1	18.1	18.1
CATCHMENT PA4 (DEMOLISHED BUILDING SLABS)	0.175	GREENFIELD RUN-OFF (INCREASED TO 5 l/s MIN FLOW TO AVOID BLOCKAGES)	5.0	5.0	5.0
CATCHMENT PB (WASHDOWN)	0.120	AS AGREED WITH UNITED UTILITIES (FOUL CONNECTION)	5.0	5.0	5.0
CATCHMENT PC (LOWR GROUND CP)	0.332	50% BROWNFIELD OF THE EXISTING 1-YEAR STORM EVENT AREA EC (25%)	7.0	7.0	7.0

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DESIGN BASED ON TOPOGRAPHICAL SURVEY AND CCTV SURVEY INFORMATION AVAILABLE AT THE TIME OF DESIGN. ALL EXISTING SEWERS, CONNECTIONS, PIPE SIZES AND INVERT LEVELS TO BE CONFIRMED BY CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS TO ENSURE CONNECTIVITY. ANY VARIANCE FROM THE INFORMATION SHOWN SHOULD BE REPORTED TO THE ENGINEER FOR REVIEW.
3. DO NOT SCALE THIS DRAWING. ALL DETAILS AND DIMENSIONS ARE TO BE CHECKED BY THE CONTRACTOR. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
4. ALL DIMENSIONS ARE IN METRES AND LEVELS IN METRES ABOVE ORDNANCE DATUM UNLESS OTHERWISE NOTED.
5. WHERE EXISTING DRAINAGE IS BEING USED, ALLOWANCES SHOULD BE MADE TO REMEDIATE THIS DRAINAGE IN LINE WITH AVAILABLE CCTV SURVEY INFORMATION. IF NO SURVEY IS AVAILABLE, IT IS ADVISED TO OBTAIN ONE PRIOR TO COMMENCEMENT OF WORKS.
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 PIPE DIAMETERS GIVEN ARE NOMINAL INTERNAL PIPE DIAMETERS. THESE ARE TO BE CONFIRMED ONCE A DETAILED CAPACITY CHECK HAS BEEN UNDERTAKEN AT A LATER DESIGN STAGE.
8. OUTFALL CONNECTION(S) SUBJECT TO AGREEMENT WITH THE APPROVING AUTHORITY.

FOR CLARITY THE EXISTING DRAINAGE WHICH WILL BE REUSED HAS BEEN SHOWN ON THE DRAWING FOR ALL EXISTING DRAINAGE WITHIN BOUNDARY REFER TO HRD-CUR-XX-00-DR-C-92-610- RETAINED AND ABANDONED DRAINAGE

DESIGN PHILOSOPHY SURFACE WATER

EXISTING BUILDING
SIPHON ROOF SYSTEM WITH RAINWATER HARVESTING TANK AND FLOW RESTRICTION BY STORMSAVER
FLOW LIMITED TO 18.1L/S 1 IN 30 YEAR STORM EVENT FOR ALL STORM EVENTS
TABLE 3 EXISTING AND PROPOSED CALCULATIONS, DRAWING NO. HRD-CUR-XX-00-DR-C-92-621

WASHDOWN AREA
TO DISCHARGE TO FOUL WATER SEWER FLOW LIMITED TO 5L/S AS REQUESTED BY UU

GROUND FLOOR CAR PARK
REUSING EXISTING CONNECTION TO NORTHERN WATERCOURSE. PROPOSED FLOWS REDUCED TO 5 l/s MIN. ORIFICE SIZE AS GREENFIELD RATES ARE LESS THAN 5 l/s

LOWER GROUND CAR PARK
REUSING EXISTING CONNECTION TO COMBINED SEWER GREATER REDUCTION THAN 50%, 7L/S FOR ALL STORM EVENTS

ALL SURFACE WATER DRAINAGE DESIGNED FOR UP TO 1:200 YEAR STORM EVENT, WITH 45% CLIMATE CHANGE ALLOWANCE

SURCHARGE LEVEL FOR 1 IN 100+45 CC ON CULVERTED WATERCOURSE: 1m ABOVE SOFFIT.

FOUL WATER
4.9L/S

Rev:	Description:	Date:	By:	Chkd:
P02	BUILDING(SIPHONIC) & GROUND FLOOR CAR APRK DRAINAGE AMENDED	07.07.23	ATL	MW
P01	ISSUED FOR COMMENTS	16.06.23	AL	MW

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Status: PRELIMINARY

Project: HAMMERSTONE ROAD

Drg Title: PROPOSED GROUND FLOOR DRAINAGE

Project No:	Size:	Date:	Drawn By:	Designed By:	Checked By:
068065	A1 Scale: 1:500	02.06.2023	KS	AL	MW

Project Code: Originator: Zone: Level: Type: Discipline: Category / Number: Rev:
HRD - CUR - XX - 00 - DR - C - 92-600 -P02

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