

RESIDUAL DESIGN RISKS

- Ground conditions - info S1 for details of strength, contamination and water table for all excavation works.
- Relief tops risks faced for location of existing services. The Principle Contractor is responsible for locating and clearly marking at the surface all existing service runs.
- Refer LID for details of all services dimensions and limitations.
- Contractor to allow for traffic management in agreement with LID.
- Any works to existing services subject to approval of the undertaker in accordance with contractors RDMs.

NOTE
DO NOT SCALE FROM THIS DRAWING. UTILISE ONLY NUMBERED DIMENSIONS.
THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS, NOTIFY MP CONSULTING ENGINEERS IMMEDIATELY OF ANY DISCREPANCIES.
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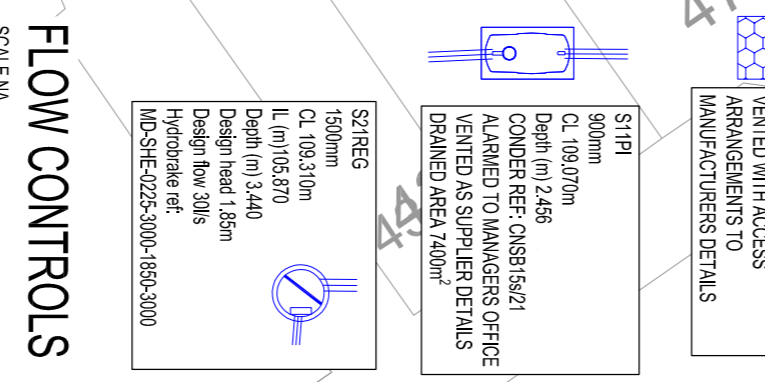
SURFACE WATER ASSESSMENT:

- Proposed development site comprises existing proposed site following the demolition of previous further education buildings. In accordance with the NPPF it is proposed to undertake a detailed surface water assessment for the proposed development.
- Site is located in an urban area and the proposed development is situated on a site with existing surface water drainage infrastructure.
- Site soil conditions are not considered suitable due to the previous prevailing dry open watercourse discharge is not suitable within the site constraints.
- existing site has surface and foul water connections to adjacent public sewers with no on site flow restriction.
- existing drainage area = 0.91 Ha
- the proposed site levels are set to fall in order to meet the existing boundary. It is proposed that for overall assessment, the discharge rate for proposed site be reduced by 75% of the pre-development flow, assuming a brownfield runoff rate of 40 l/s/ha
- existing site flow generation = 0.91 x 140 = 127 l/s
- proposed development flow = 0.25 x 127 = 32 l/s
- NPPF guidance suggests that development flow should be increased to account for climate change over the development life.
- For building development design the = 50 years peak rainfall intensity increased by 30%
- flow attenuation to be provided by inclusion of on the below ground tank and hydrophobic flow control
- design parameters for subs attenuation as follows:
- 100 year storm (minor network site boundary)
- storm of site flow = 38 l/s
- site flow = 21
- ratio = 0.43
- winter & summer storms considered
- storm durations of 60 to 600 minutes are considered for the 100 year assessments
- design criteria = 100 year +30% 120 min winter storm.
- storage requirements
- detention modelling using mch-charge simulation indicates the following results:
- 100 year design requires a 180m³ tank plus
- design flow 56.15 m³/hr
- design head 1.6m
- design flow 56.5 l/s
- oil separator
- class 1 bypass separator sized to suit full head standing area
- premier lean area reference CWS85/27, vented to supplies table, aligned to managers office

EXISTING DRAINED AREA ASSESSMENT

- SOFT LANDSCAPE 0.03 Ha
- HARD LANDSCAPE 0.34 Ha
- EXISTING BUILDINGS 0.57 Ha

- NOTES**
- All works and materials in heavily trafficked areas of highways to be in accordance with Smeets for Ardross. The condition 2012. All drainage within building area, non-ferrous handrails etc to be in accordance with building regulations.
 - Manhole covers and frames to be 600 x 600 clear opening. In accordance with EN 124, unless noted otherwise. Manhole covers within buildings to be double sealed and recessed to suit finish as required by Architect.
 - Verified clay pipes to be flexible jointed and comply with the requirements of EN 285. Clayware may be replaced with suitable PE products with Agreement Certificate, subject to approval of Building Control / Adopting Authority.
 - Concrete pipes to comply with the requirements of BS 5911, class N strength and to be heavily jointed.
 - Where cover to pipes is less than 1200 in roads and hardstandings or 900 elsewhere concrete protection is to be provided as detail. N.B. Unit final surface is placed, heavy traffic is not to be allowed over pipe trenches without special provisions.
 - Pipes and fittings are to be laid in accordance with Manufacturers recommendations.
 - Permanet trench reinstatements are to be in accordance with the HAUC Specification for the Rehabilitation of Openings in Highways, June 1992.
 - Surface water storage tank, min cover in accordance with manufacturers requirements to suit 40kWh. Imposed loading plus soil weight. Tank to be wrapped in sealed impermeable membrane. Suitable access for maintenance to be included in the tank. Vent in accordance with suppliers details.
 - Oil separator alarm to managers office.
 - Refer Architect for setting out of all above ground drainage connections.
 - Refer Architect for design of ventilation to FVU discharge unit.
 - All road gullies to be head guard in accordance with client specification.



Manhole Name	Cover	MH Depth (m)	Manhole Connection	Manhole Level (L,W) (mm)	Pipe Out PN	Pipe Out Invert Level (mm)	Pipe In Invert Level (mm)	Pipes in Diameter (mm)	Pipes in Backdrop (mm)
S17AMK	109.310	3.310	Tank	600	S1.000	108.800	108.800	150	160
S2.2AC0	107.880	0.880	AOO pump	150	S2.000	107.880	107.880	150	160
S3	108.070	2.080	Open Manhole	150	S3.000	108.874	108.874	300	300
S4	108.080	1.980	Open Manhole	150	S3.000	108.850	108.850	225	225
S5	108.070	2.230	Open Manhole	150	S2.000	108.834	108.834	300	300
S6QAMK	109.000	0.800	grax sump	350	S4.000	108.400	108.400	350	350
S7QAMK	109.000	0.400	grax sump	350	S3.000	108.600	108.600	150	150
S8QAMK	109.000	0.832	grax sump	350	S4.000	108.388	108.388	300	300
S9	110.300	1.350	Open Manhole	1050	S8.000	108.800	108.800	150	150
S10	109.070	2.877	Open Manhole	1050	S2.000	108.833	108.833	375	375
S11P1	109.070	2.456	Petrol Interceptor	900	S2.004	108.874	108.874	375	375
S12	109.070	2.469	Open Manhole	1050	S2.005	108.801	108.801	375	375
S137AMK	109.310	3.394	Junction	1050	S1.001	108.916	108.916	375	375
S14	109.000	1.090	Open Manhole	1050	S7.000	108.000	108.000	300	300
S15NODE	109.000	1.159	Junction	1050	S7.001	107.921	107.921	300	300
S16NODE	109.000	1.238	Junction	1050	S7.001	107.842	107.842	300	300
S17NODE	109.000	1.317	Junction	1050	S7.002	107.763	107.763	300	300
S18	109.000	1.396	Open Manhole	1050	S7.003	107.684	107.684	300	300
S19	109.070	1.581	Open Manhole	1050	S7.004	107.604	107.604	300	300
S207AMK	109.310	3.425	Junction	1050	S1.002	108.885	108.885	375	375
S21REG	109.310	3.440	Open Manhole	1500	S1.003	108.870	108.870	225	225
S22	108.500	2.839	Open Manhole	1200	S1.004	108.861	108.861	225	225
S23EXTG	103.720	1.290	existing	1500	S1.004	102.430	102.430	225	225
S24EXTG	103.780	1.478	existing	1500	S1.005	102.282	102.282	225	225

PROPOSED SURFACE WATER DRAINAGE GA
SCALE 1:250 @ A1

NOTE:
REFER UP DRAWING 4007 SURFACE DRAINAGE FOR COLLATERAL WORKS

Information Only

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Project: LID, TRINITY WEST
HUDDERSFIELD

Client: LIDL GB LTD.

Drawing Title: PROPOSED SURFACE WATER DRAINAGE GENERAL ARRANGEMENT

MR Shane Row	Sheet	Scale	Drawn
4000-S-0110	A1	1:250@A1	RSN

BM Ref Chain Vol. Level Type Rate Number Status Rev
4000-MP-00-ZZ-DR-S-0110-S2-0110-S2-P05