

GENERAL NOTES

- The contractor is to check and verify all buildings and site dimensions and levels, including existing sewer invert levels, before works start on site. The contractor is to comply in all aspects with the current building legislation, British Standards, building regulations etc.
- Positions of existing services/utility undertakers apparatus adjacent to or crossing proposed excavations are to be checked by the contractor prior to starting work.
- This drawing is to be read in conjunction with and checked against all other drawings, engineering details, specifications and any structural, geotechnical or other specialist document provided.
- This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.
- Where trees adjacent to the highway are proposed, root barriers of an approved type are required to prevent future structural damage to the highway.
- Any anomaly or contradictions between any of the above is to be reported immediately to QuadConsult Ltd.

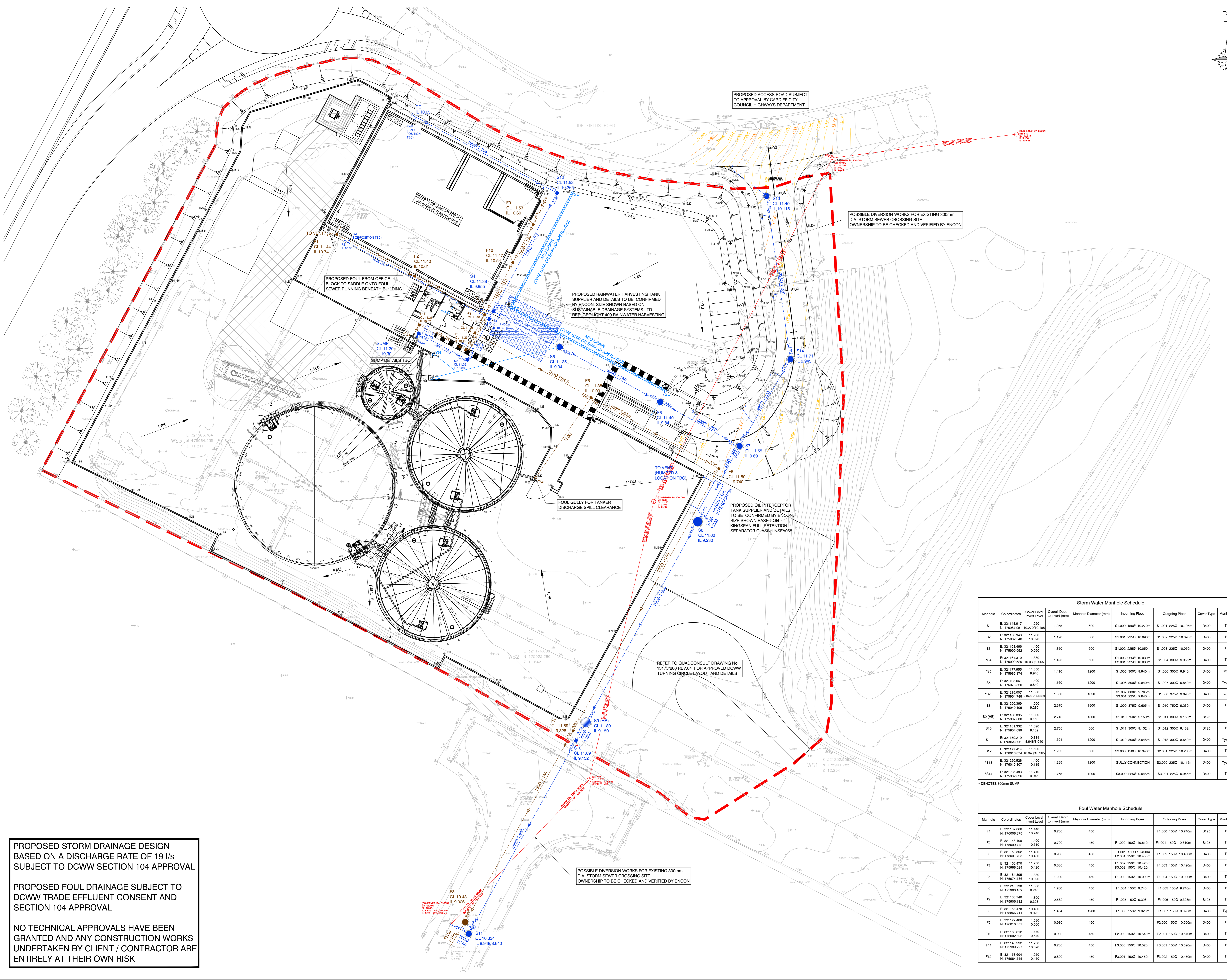
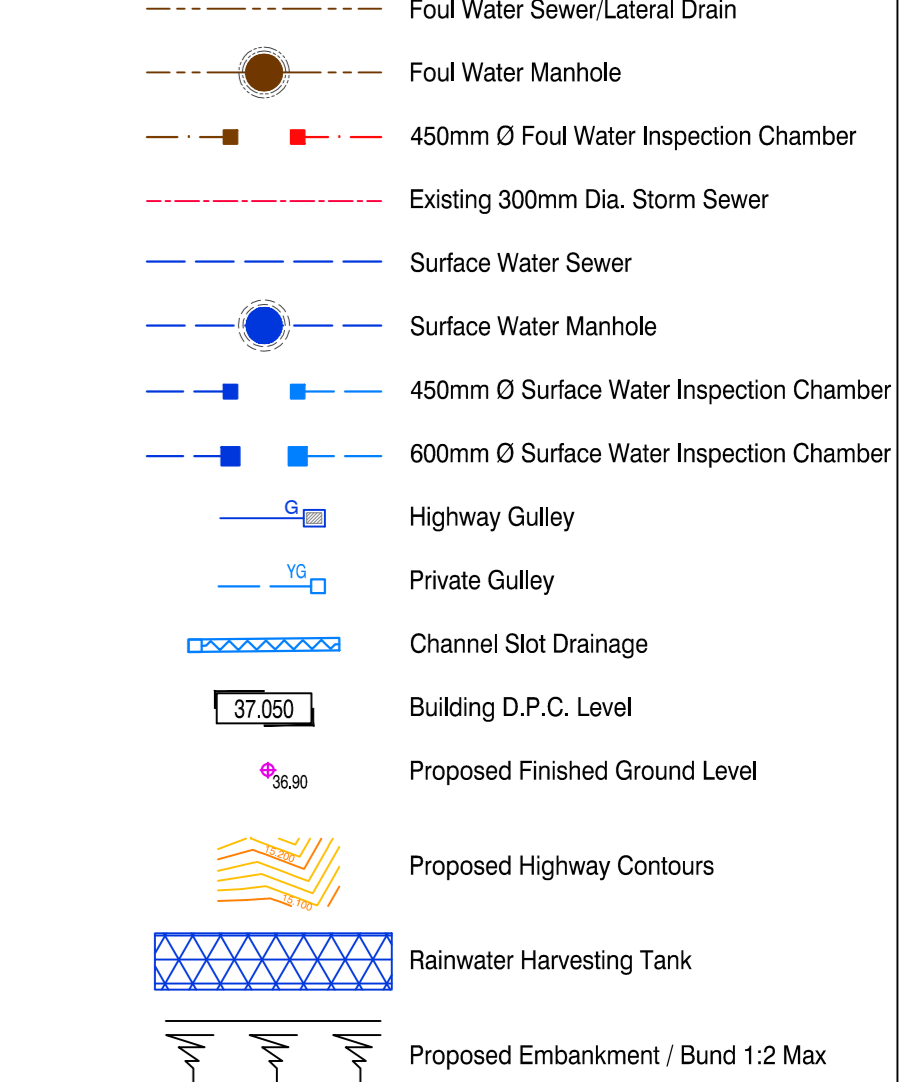
ROAD AND SEWER ADOPTIONS

- All works for adoption under a Section 38/278 agreement shall be carried out to the Highway Authority Specification for Road Construction and to the approval of the Area Highway Authority.
- All works for adoption under a Section 104 agreement shall be carried out to the National Water Council guide "Sewers for Adoption" 7th Edition and shall be in accordance with the Drainage Authority's additions and amendments.
- Any works carried out on site prior to confirmation of technical approval for Section 104 and Section 38 Agreements (including street lighting approval) are entirely at the developer's risk.
- Street lighting positions to be pegged on site and agreed by the Local Authority PRIOR to erection commencing.
- A clause is to be included within the Section 38 Agreement requiring that, prior to adoption, the developer is to process a Traffic Regulation Order covering whatever restrictions may be determined to be necessary in relation to on-street parking restrictions within the site roads. The situation will be monitored once all new dwellings are occupied.
- A clause is to be included within the Section 38 Agreement requiring that additional speed reducing measures are to be implemented if judged necessary by the Highway Authority in the event that excessive vehicle speeds become evident prior to adoption of the works.

DRAINAGE NOTES

- All private drainage shall be in accordance with BS8301 and relevant sections of Approved Document H of the Building Regulations.
- The contractor is to check the level of existing sewers being used as outfalls or crossing proposed drainage runs PRIOR to laying any pipes. Any discrepancies are to be reported to QuadConsult Ltd.
- Position of soil pipes, subsoil pipes, WC outlets, rainwater downpipes, etc., positions are to be checked against all relevant Architects Drawings.
- For private drains where cover to pipes is less than 900mm in vehicular areas or 600mm in other areas protection in the form of a 100mm thick concrete pad shall be provided over the pipe granular surround.
- Where pipes pass through screen walls, footings or retaining walls, limits are to be provided over. Under buildings pipes shall be surrounded with 150mm thickness of granular material. Where drains pass within 1m of buildings the wall foundation shall be taken down below the invert of the pipe.
- Where drains do not exceed 600mm deep, plastic or clay access fittings minimum diameter 225mm shall be used. Elsewhere proprietary plastic or precast concrete inspection chambers shall be used.
- All gullies and rainwater downpipes connected directly to drains are to be roadable.
- All drainage shall be laid upstream and each run between manholes shall be laid complete prior to backfilling. Where this is not practical trial holes or other means of identifying the line and level of services shall be carried out prior to works commencing.
- All branch drains, or connections, are to discharge to the collectors obliquely, and in the direction of the main flow.

LEGEND



Storm Water Manhole Schedule

Manhole	Co-ordinates	Cover Level to Invert (mm)	Overall Depth to Invert (mm)	Manhole Diameter (mm)	Incoming Pipes	Outgoing Pipes	Cover Type	Manhole Type
S1	E 321148.917 N 175987.261	11.250 10.095	1.095	600	S1.001 1500 10.270m	S1.001 2250 10.156m	D400	Type 3
S2	E 321158.943 N 175982.548	11.200 10.090	1.170	600	S1.001 2250 10.090m	S1.001 2250 10.090m	D400	Type 3
S3	E 321163.498 N 175980.952	11.400 10.950	1.360	600	S1.002 2250 10.050m	S1.003 2250 10.050m	D400	Type 3
S4	E 321164.310 N 175982.520	11.380 10.030/9.995	1.425	600	S1.003 2250 10.030m S2.001 2250 10.030m	S1.004 3000 9.950m	D400	Type 3
S5	E 32117.785 N 175985.174	11.250 9.940	1.410	1200	S1.005 3000 9.940m	S1.006 3000 9.940m	D400	Type C/E
S6	E 321186.681 N 175973.626	11.400 9.840	1.560	1200	S1.006 3000 9.840m	S1.007 3000 9.840m	D400	Type C/E
S7	E 321215.007 N 175984.748	11.350 9.840/9.939	1.860	1350	S1.007 3000 9.850m S3.001 2250 9.840m	S1.008 3750 9.860m	D400	Type C/E
S8	E 321206.369 N 175984.196	11.800 9.230	2.370	1800	S1.008 3750 9.650m	S1.010 7500 9.230m	D400	Type 2
S9 (H)	E 321183.399 N 175977.830	11.800 9.150	2.740	1800	S1.010 7500 9.150m	S1.011 3000 9.150m	B125	-
S10	E 321181.332 N 175984.989	11.800 9.332	2.758	600	S1.011 3000 9.150m	S1.012 3000 9.150m	B125	Type 3
S11	E 321159.919 N 175984.302	11.330 8.948/8.640	1.694	1200	S1.012 3000 9.340m	S1.013 3000 8.640m	D400	Type C/E
S12	E 321177.414 N 176016.817	11.320 10.340/10.268	1.255	600	S2.000 1500 10.340m	S2.001 2250 10.268m	D400	Type 3
S13	E 321220.529 N 176016.307	11.400 10.115	1.285	1200	GULLY CONNECTION	S3.000 2250 10.115m	D400	Type C/E
S14	E 321225.483 N 175982.628	11.710 9.945	1.765	1200	S3.000 2250 9.945m	S3.001 2250 9.945m	D400	Type 2

* DENOTES 300mm SLUMP

Foul Water Manhole Schedule

Manhole	Co-ordinates	Cover Level to Invert (mm)	Overall Depth to Invert (mm)	Manhole Diameter (mm)	Incoming Pipes	Outgoing Pipes	Cover Type	Manhole Type
F1	E 321132.096 N 176008.375	11.400 10.740	0.700	450		F1.001 1500 10.740m	B125	Type 3
F2	E 321148.159 N 175982.642	11.400 10.910	0.790	450	F1.001 1500 10.610m	F1.001 1500 10.610m	B125	Type 3
F3	E 321142.502 N 175991.799	11.400 10.450	0.950	450	F1.001 1500 10.450m	F1.002 1500 10.450m	D400	Type 3
F4	E 321160.470 N 175980.054	11.250 10.430	0.830	450	F1.002 1500 10.430m	F1.001 1500 10.430m	D400	Type 3
F5	E 321184.395 N 175974.730	11.380 10.090	1.290	450	F1.003 1500 10.090m	F1.004 1500 10.090m	D400	Type 3
F6	E 321210.730 N 175982.100	11.500 9.740	1.760	450	F1.004 1500 9.740m	F1.005 1500 9.740m	D400	Type 3
F7	E 321180.740 N 175906.112	11.800 9.328	2.560	450	F1.005 1500 9.328m	F1.006 1500 9.328m	B125	Type 3
F8	E 321158.478 N 175982.171	10.430 9.058	1.404	1200	F1.006 1500 9.028m	F1.007 1500 9.028m	D400	Type C/E
F9	E 321172.488 N 176010.357	11.530 10.600	0.930	450	F2.000 1500 10.600m	F2.001 1500 10.600m	D400	Type 3
F10	E 321188.312 N 176022.980	11.470 10.540	0.930	450	F2.001 1500 10.540m	F2.002 1500 10.540m	D400	Type 3
F11	E 321146.092 N 175989.027	11.250 10.520	0.730	450	F3.000 1500 10.520m	F3.001 1500 10.520m	D400	Type 3
F12	E 321158.004 N 175984.555	11.200 10.450	0.800	450	F3.001 1500 10.450m	F3.002 1500 10.450m	D400	Type 3

PROPOSED STORM DRAINAGE DESIGN
BASED ON A DISCHARGE RATE OF 19 l/s
SUBJECT TO DCWW SECTION 104 APPROVAL

PROPOSED FOUL DRAINAGE SUBJECT TO
DCWW TRADE EFFLUENT CONSENT AND
SECTION 104 APPROVAL

NO TECHNICAL APPROVALS HAVE BEEN
GRANTED AND ANY CONSTRUCTION WORKS
UNDERTAKEN BY CLIENT / CONTRACTOR ARE
ENTIRELY AT THEIR OWN RISK

CONSTRUCTION

Rev	Date	Description	By
01	11.02.2016	Drawings for construction	SH
02	08.03.2016	Drawings for construction	ACV
03	08.03.2016	Final design and construction details	ACV
04	24.10.2016	Revised construction details and coordinates amended to suit	ACV
05	18.12.2016	Rainwater Harvesting Details and Manhole Schedule added	ACV
06	14.12.2016	Building details amended and drawings revised to suit	ACV
07	20.03.2017	REVISED FOR CONSTRUCTION	ACV

Dimensions to be verified on site.
This drawing should not be used for construction. Use approved dimensions only.
Any discrepancies should be referred to the Engineer prior to work being put in hand.
This drawing is copyright.

QuadConsult Limited
Consulting Engineers

ENCON
Construction

TREMORFA WASTE BUILDING

PROPOSED ENGINEERING LAYOUT

CONSTRUCTION

Designed By	Drawn By	Checked By	Date	Scale	Rev
ACV	ACV	SPM	JULY 2015	1:250	
Project No	13175	Drawing No	105	Revision	07