PN	MH REF	COVER LEVEL (m)	INVERT LEVEL (m)	EASTING (m)	NORTHING (m)	LENGTH (m)	PIPE DIA (mm)	GRADIENT (1 IN X)	MH TYPE	MH DIA (mm)	MH DEPTH (m)	COVER CLASS	BED AND SURROUND
1.000	S10/1	53.850	53.150	256621.619	370765.271	12.355	100	494.2	8	315	0.700	B125	F
1.001	S10/2	54.045	53.125	256628.275	370775.679	4.804	100	150.1	8	315	0.920	B125	Z
1.002	S10/3	53.925	53.093	256632.422	370773.254	5.797	100	6.9	9	315	0.832	B125	Z
1.003	S101	53.550	52.200	256638.218	370773.337	2.114	150	15.2	2	1200	1.350	D400	S
2.000	S1/2	54.000	52.901	256637.799	370781.192	5.674	100	515.8	8	315	1.099	B125	F
2.001	S1/2	53.590	52.890	256642.494	370778.006	5.968	100	7.7	9	315	0.700	B125	Z
1.004	SJ1	53.430	52.061	256640.164	370772.511	2.459	150	15.2	-		1.369	-	S
3.000	S9/1	53.775	52.801	256634.015	370757.344	13.019	100	500.7	8	315	0.974	B125	F
3.001	S9/2	53.475	52.775	256641.049	370768.299	3.533	100	4.3	9	315	0.700	B125	Z
1.005	SJ2	53.270	51.899	256642.429	370771.551	5.299	150	15.2	-		1.371	-	S
4.000	S2/1	53.540	52.379	256643.161	370777.717	7.033	100	502.4	8	315	1.161	B125	F
4.001	S2/2	53.065	52.365	256649.635	370774.970	5.960	100	7.8	9	315	0.700	B125	Z
1.006	SJ3	52.920	51.550	256647.308	370769.482	2.076	150	15.2	-		1.370	-	S
5.000	S8/1	52.925	52.225	256636.820	370750.979	17.590	100	502.6	8	315	0.700	B125	F
5.001	S8/2	53.225	52.190	256643.692	370767.172	4.503	100	150.1	8	315	1.035	B125	Z
5.002	S8/3	52.925	52.160	256647.844	370765.428	3.533	100	5.1	9	315	0.765	B125	Z
1.007	SJ4	52.780	51.413	256649.223	370768.681	7.103	150	15.2	-		1.367	-	S
6.000	S3/1	52.400	51.700	256660.701	370789.206	17.428	100	497.9	8	315	0.700	B125	F
6.001	S3/2	52.740	51.665	256653.892	370773.163	4.554	100	151.8	8	315	1.075	B125	Z
6.002	S3/3	52.340	51.635	256658.085	370771.384	5.960	100	9.3	9	315	0.705	B125	Z
1.008	SJ5	52.195	50.945	256655.758	370765.896	1.200	150	15.2	-		1.250	-	S
7.000	S7/1	52.745	51.621	256650.095	370764.454	5.300	100	481.8	8	315	1.124	B125	F
7.001	S7/2	52.310	51.610	256654.974	370762.384	3.585	100	5.2	9	315	0.700	B125	Z
1.009	SJ6	52.145	50.866	256656.863	370765.430	7.640	150	15.2	-		1.279	-	S
8.000	S6/1	52.175	51.475	256655.643	370742.995	17.333	100	495.2	8	315	0.700	B125	F
8.001	S6/2	52.865	51.440	256662.414	370758.951	3.798	100	3.7	9	315	1.425	B125	Z
1.010	SJ7	51.720	50.362	256663.897	370762.448	1.500	150	15.2	-		1.358	-	S
9.000	S4/1	52.235	51.178	256660.381	370770.572	6.256	100	481.2	8	315	1.057	B125	F
9.001	S4/2	51.865	51.165	256666.140	370768.128	6.326	100	7.4	9	315	0.700	B125	Z
1.011	SJ8	51.620	50.263	256665.278	370761.862	7.218	150	15.2	-		1.357	-	S
10.000	S5/1	51.580	50.615	256681.060	370780.580	17.290	100	494.0	8	315	0.965	B125	F
10.001	S5/2	51.300	50.580	256674.306	370764.664	6.104	100	8.2	9	315	0.720	B125	Z
1.012	SJ9	51.140	49.788	256671.923	370759.044	9.118	150	15.2	-		1.352	-	S
11.000	S201	50.350	49.227	256678.167	370750.414	5.507	150	148.8	4	315	1.123	D400	F
1.013	S102	50.350	49.190	256680.317	370755.484	10.463	150	498.2	2	1200	1.162	D400	F
1.014	S103	50.350	49.170	256684.414	370765.144	9.695	150	10.6	4	315	1.181	D400	S
1.015	S104	50.500	48.253	256683.422	370774.780	7.507	150	500.5	8	315	2.247	D400	F
12.000	S301	50.500	48.241	256685.177	370782.188	1.264	150	421.3	8	315	2.259	D400	F
1.016	SJ10	50.500	48.238	256686.345	370781.705	6.239	150	519.9	-	150	2.262	G	F
1.017	S105(FC)	50.500	48.226	256692.095	370779.281	3.826	150	147.2	10	1200	2.274	D400	S
1.018	S106	49.500	48.200	256695.097	370776.910				2	1200	1.300	D400	

SURFACE WATER DRAINAGE SCHEDULE

MH REF	CONTROL TYPE	CONTROL DIA (m)	INVERT LEVEL (m)	DESIGN HEAD (m)	DESIGN FLOW (l/s)	UNIT REFERENCE
S10/3(O)	ORIFICE	0.025	53.093			
S1/2(O)	ORIFICE	0.025	52.890			
S9/2(O)	ORIFICE	0.025	52.775			
S2/2(O)	ORIFICE	0.025	52.365			
S8/3(O)	ORIFICE	0.025	52.160			
S3/3(O)	ORIFICE	0.025	51.635			
S7/2(O)	ORIFICE	0.025	51.610			
S6/2(O)	ORIFICE	0.025	51.440			
S4/2(O)	ORIFICE	0.025	51.165			
S5/2(O)	ORIFICE	0.025	50.580			
S105(FC)	HYDRO-BRAKE	0.093	48.226	1.900	5.0	MD-SHE-0093-5000-1900-5000

SURFACE WATER FLOW CONTROL SCHEDULE

PN	MH REF	COVER LEVEL (m)	INVERT LEVEL (m)	EASTING (m)	NORTHING (m)	LENGTH (m)	PIPE DIA (mm)	GRADIENT (1 IN X)	MH TYPE	MH DIA (mm)	MH DEPTH (m)	COVER CLASS	BED AND SURROUND
1.000	F1/1	53.500	52.850	256644.254	370792.132	4.599	100	40.0	4	315	0.650	B125	Z
1.001	F1/2	53.500	52.735	256641.777	370788.257	8.072	100	40.0	4	450	0.765	B125	Z
1.002	F1/3	54.000	52.533	256637.428	370781.457	5.350	100	25.2	4	315	1.467	B125	S
2.000	F10/1	53.850	53.200	256627.889	370772.941	3.595	100	39.9	4	450	0.650	B125	Z
2.001	F10/2	54.100	53.110	256629.826	370775.970	8.038	100	10.2	4	315	0.990	B125	Z
1.003	F101	53.645	52.271	256637.862	370776.124	2.767	150	10.0	2	1200	1.374	D400	S
3.000	F9/1	53.850	53.200	256636.642	370767.343	2.756	100	4.8	4	450	0.650	B125	Z
3.001	F9/2	53.630	52.628	256638.127	370769.665	5.842	100	10.0	4	315	1.002	B125	Z
1.004	FJ1	53.485	51.994	256640.409	370775.043	8.921	150	10.0	-	-	1.491	-	S
4.000	F2/1	53.400	52.750	256655.224	370785.117	4.599	100	9.3	4	315	0.650	B125	Z
4.001	F2/2	53.300	52.255	256652.746	370781.242	7.090	100	9.3	4	450	1.045	B125	Z
4.002	F2/3	53.020	51.496	256649.965	370774.721	3.440	100	10.0	4	315	1.524	B125	S
1.005	FJ2	52.890	51.102	256648.620	370771.555	3.498	150	10.0	-	-	1.788	-	S
5.000	F8/1	52.925	52.275	256647.595	370760.192	5.000	100	5.5	4	450	0.650	B125	Z
5.001	F8/2	52.810	51.362	256649.549	370764.795	5.859	100	10.5	4	315	1.448	B125	S
1.006	FJ3	52.660	50.752	256651.840	370770.188	7.011	150	10.0	-	-	1.908	-	S
6.000	F7/1	52.550	51.900	256654.049	370757.453	5.000	100	4.1	4	450	0.650	B125	Z
6.001	F7/2	52.270	50.687	256656.003	370762.056	5.857	100	10.0	4	315	1.583	B125	S
1.007	FJ4	52.120	50.051	256658.293	370767.447	1.000	150	10.0	-	-	2.069	-	S
7.000	F3/1	52.400	51.750	256661.625	370775.205	5.000	100	3.6	4	450	0.650	B125	Z
7.001	F3/2	52.260	50.359	256659.672	370770.602	3.575	100	10.0	4	315	1.901	B125	S
1.008	FJ5	52.080	49.951	256659.213	370767.056	4.730	150	10.0	-	-	2.129	-	S
8.000	F6/1	52.175	51.525	256659.324	370755.214	5.000	100	3.5	4	450	0.650	B125	Z
8.001	F6/2	51.950	50.114	256661.278	370759.817	5.855	100	10.0	4	315	1.836	B125	S
1.009	FJ6	51.810	49.478	256663.567	370765.207	1.000	150	10.8	-	-	2.332	-	S
9.000	F4/1	52.025	51.375	256666.523	370773.126	1.300	100	3.9	4	315	0.650	B125	Z
9.001	F4/2	52.025	51.042	256667.719	370772.619	5.000	100	4.0	4	450	0.983	B125	S
9.002	F4/3	51.350	49.780	256665.766	370768.015	3.445	100	10.0	4	315	1.570	B125	S
1.010	FJ7	51.750	49.385	256664.488	370764.815	4.034	150	9.8	-	-	2.365	-	S
1.011	F102	51.475	48.975	256668.201	370763.238	2.531	150	79.1	2	1200	2.500	D400	S
10.000	F5/1	51.650	51.000	256673.367	370770.222	5.015	100	3.0	4	450	0.650	B125	Z
10.001	F5/2	51.440	49.329	256671.769	370765.469	3.361	100	10.0	4	315	2.111	B125	S
1.012	FJ8	51.320	48.943	256670.563	370762.331	1.839	150	80.0	-	-	2.377	-	S
-	EX	51.180	48.920	256672.280	370761.672	-	150	-	2	1200	2.260	D400	

FOUL WATER DRAINAGE SCHEDULE

DRAINAGE NOTES & SPECIFICATION

1. THE TENDER STAGE DRAINAGE LAYOUT HAS OBTAINED SAB PRE-APPROVAL. THE CONTRACTOR SHALL DEVELOP THE DESIGN AND OBTAIN FULL SAB APPROVAL PRIOR TO COMMENCEMENT.
2. ALL LEVELS RELATE TO ORDNANCE DATUM FROM SITE SURVEY INFORMATION PROVIDED BY CLIENT.
3. THE POSITION AND LEVELS OF ALL DRAINS ARE TO BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF THE WORKS AND ANY DISCREPANCIES REPORTED IMMEDIATELY TO THE ENGINEER.
4. ALL PRIVATE DRAINAGE WITHIN THE SITE IS TO COMPLY WITH THE REQUIREMENTS OF BS EN 752:2017 AND BUILDING REGULATIONS PART H.
5. CONCRETE PROTECTION PIPEWORK IS TO BE PROVIDED AS FOLLOWS:
   a. ALL PIPEWORK WITHIN PEDESTRIAN/ SOFT AREAS WITH LESS THAN 450mm COVER
   b. ALL PIPEWORK SUBJECT TO VEHICULAR OVERRUN WITH LESS THAN 0.9m COVER. REINFORCED PROTECTIVE SLAB WHERE COVER IS LESS THAN 0.6m. ALSO REFER TO DETAIL WHERE IN CLOSE PROXIMITY TO FOUNDATIONS. ELSEWHERE PIPES TO HAVE CLASS S AND Z SURROUND.
4. ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (UNLESS NOTED OTHERWISE). ALL CHAMBER INVERT LEVELS ARE FOR THE OUTGOING PIPE LEVELS. BACKDROP PIPEWORK SHALL BE CONNECTED AT SOFFIT TO SOFFIT WITH THE RODDING ACCESS LEVEL SPECIFIED.
5. ANY GRADIENTS OF DRAINS ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL THE DRAINS TO THE SPECIFIED LEVELS SHOWN FOR EACH MANHOLE (UNLESS NOTED OTHERWISE).
6. CO-ORDINATE SETTING OUT INFORMATION FOR MANHOLES IS TO THE INTERSECTION OF THE DRAINS AND NOT THE CENTRE OF THE MANHOLE.
7. COVER LEVELS OF THE MANHOLES ARE PROVISIONAL AND SUBJECT TO ADJUSTMENT ON SITE TO SUIT THE FINISHED GROUND LEVELS.
8. MANHOLE COVERS AND FRAMES ARE TO BE IN ACCORDANCE WITH BS EN 124 AND THE FOLLOWING:
   a. HIGHWAY AREAS: CLASS D400, DOUBLE TRIANGULAR, 150mm DEEP DUCTILE IRON COVER AND FRAME WITH THREE POINT COVER SEATING, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
   b. DRIVES AND OTHER LIGHT VEHICLE AREAS: CLASS B125.
   c. PEDESTRIAN ONLY AREAS: CLASS A15, 100mmDEEP BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
9. HEAVY DUTY COVER SLABS ARE TO BE USED WITHIN VEHICULAR TRAFFICKED AREAS.
10. GULLY GRATINGS AND STEEL CHANNEL COVERS ARE TO BE IN ACCORDANCE WITH BS EN 124 AS FOLLOWS:
    a. AREAS SUBJECT TO GENERAL HIGHWAY VEHICLE OVERRUN CLASS D400 MINIMUM.
    b. AREAS NOT SUBJECT TO REGULAR VEHICLE OVERRUN CLASS C250.
    c. GULLY GRATES ADJACENT TO KERBS SHALL BE HINGED ON THE SIDE OF THE TRAFFIC DIRECTION (LEFT HAND SIDE).
11. PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS-EN 13598-1 AND BS-EN13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL.
12. TESTING OF THE DRAINAGE SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE BRITISH STANDARDS AND CURRENT BUILDING REGULATIONS. A SIGNED RECORD BY AN AUTHORISED PERSON OF THE TESTING SHALL BE KEPT AND MADE AVAILABLE TO THE ENGINEER IF REQUESTED.
13. UPON COMPLETION OF THE WORKS, ALL THE DRAINS SHALL BE CLEANED BY JETTING, REMOVING ALL DEBRIS FROM THE SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE OFF SITE PIPEWORK OR ENVIRONMENT.
14. THE CONTRACTOR SHALL ALLOW FOR A COLOUR CCTV SURVEY OF ALL THE DRAINAGE SYSTEM AND PROVIDE THE ENGINEER WITH TWO COPIES OF THE CCTV ON DVD IN WINDOWS MEDIA FORMAT (MPEG) AND REPORTS.
15. THE CONTRACTOR SHALL ALLOW FOR DEALING WITH GROUNDWATER IN ALL EXCAVATIONS AND OBTAIN ALL RELEVANT PERMITS FOR TEMPORARY DISPOSAL.
16. ALL SEWER WILL BE CONSTRUCTED IN ACCORDANCE WITH SECTION E OF SEWERS FOR ADOPTION 7TH EDITION.
17. THE CONTRACTOR MUST SELF-VET AND CERTIFY THAT THE DESIGN CRITERIA, MATERIAL STANDARDS AND WORKMANSHIP SPECIFICATIONS FOR THE PROPOSED ADOPTABLE SEWERS ARE IN ACCORDANCE WITH THOSE SET OUT IN "SEWERS FOR ADOPTION" 7TH EDITION, THE MINISTERS STANDARDS AND THE REQUIREMENTS OF THE STATUTORY SEWERAGE UNDERTAKER.
18. ALL MANHOLE COVERS SHALL BE THE NON-VENTILATING TYPE AND SHALL HAVE CLOSED KEYWAYS.
19. ALL PIPES DESIGNED TO BE PVC-U IN ACCORDANCE WITH SEWERS FOR ADOPTION 7TH EDITION. APPROVAL FROM DWR CYMRU (DCWW) PRIOR TO CONSTRUCTION.
20. THERMOPLASTICS STRUCTURED WALL PIPES SHALL COMPLY WITH THE REQUIREMENTS OF CLAUSE E2.22 OF SEWERS FOR ADOPTION 7TH EDITION AND THE RELEVANT PROVISIONS OF BS EN13476-1 AND WIS 4-35-01 AND BS EN 13476-2 OR BS EN 13476-3. PIPES SHALL BE BSI KITEMARKED OR HAVE EQUIVALENT THIRD PARTY CERTIFICATION.
21. PIPES LESS THAN OR EQUAL TO 500MM IN DIAMETER SHALL HAVE NOMINAL SHORT-TERM RING STIFFNESS NOT LESS THAN 8KN PER M2 (SN8) OR BE SUBJECT TO A QUALITY SYSTEM FOR STORAGE AND EMBEDMENT.
22. TRANSPORTATION, HANDLING, STORAGE AND LAYING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
23. WHERE A FITTING IS INSTALLED ON A SEWER LENGTH, IT SHALL HAVE THE SAME INTERNAL BORE AS THE SEWER. MAXIMUM LENGTH OF PIPE FOR LAYING IS 3M OR 10 X DN, WHICHEVER IS THE GREATER, UNLESS WELDED JOINTS ARE USED.
24. THE CONTRACTOR SHALL VERIFY INVERT LEVELS OF THE PROPOSED CONNECTION POINT PRIOR TO COMMENCEMENT OF DRAINAGE WORKS AND REPORT LEVELS TO THE ENGINEER FOR APPROVAL.
25. UNLESS NOTED OTHERWISE ALL PIPES TO HAVE 150MM GRANULAR BED AND SURROUND 20MM CLEAN STONE OR APPROVED ALTERNATIVE.
26. PIPES WITH COVER LOWER THAN 500MM WILL REQUIRE REINFORCED CONCRETE SLAB PROTECTION AS PER FIGURE B.25 SFA 7TH EDITION. SLAB TO HAVE MINIMUM 300MM BEARING EACH SIDE OF PIPE AND SHALL CONSIST OF 150MM DEPTH OF GEN3 SULPHATE RESISTING CONCRETE COMPLYING TO CLAUSE E4.1 OF SEWERS FOR ADOPTION 7TH EDITION. REINFORCEMENT TO BE TWO LAYERS OF A393 REINFORCEMENT LAID WITH 40MM COVER TO THE UNDERSIDE OF THE SLAB.
27. WHERE SURFACE NETWORK CROSSES FOUL NETWORK USE WELL COMPACTED FILL IN BETWEEN PIPE CROSSINGS.

NOTE

1. DO NOT SCALE FROM THIS DRAWING, WORK FROM FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN METRES AND ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM U.N.O.
2. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING WILL BE ALLOWED WITHOUT THE PRIOR PERMISSION IN WRITING.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST DRAWINGS AND SPECIFICATIONS.
4. ALL DRAINAGE WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH SEWERS FOR ADOPTION 7th EDITION, THE BUILDING REGULATIONS AND GWYNEDD COUNTY COUNCIL'S STANDARD REQUIREMENTS.

REV	MODIFICATIONS	BY	RE	AP	DATE
P02	SAB PRE-APP SUBMISSION	NWO	NWO	-	01/03/24
P01	ISSUED FOR COMMENT	NWO	NWO	-	28/02/24

PURPOSE OF ISSUE: DRAFT
STATUS: S0

CLIENT: CYNGOR GWYNEDD COUNCIL

PROJECT:
FORMER YSGOL BABANOD COED MAWR
BRON Y DE
BANGOR

TITLE:
DRAINAGE
SCHEDULES AND NOTES

DRAWN BY	REVIEWED BY	AUTHORISED BY	SCALE @ A1
NWO	NWO		AS SHOWN

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