

DRAINAGE NOTES:-

1. EXISTING SEWER LAYOUT TAKEN FROM TOPOGRAPHICAL AND/OR GPR SURVEY PROVIDED BY CLIENT. ALL SEWER, MH/C POSITIONS, SIZES, LEVELS AND MATERIALS TO BE CONFIRMED ON BY CONTRACTOR SITE. WITH ANY DISCREPANCIES IMMEDIATELY REPORTED TO THE ENGINEER (JUBB). THIS IS TO BE COMPLETED PRIOR TO THE COMMENCEMENT OF WORKS AND/OR ORDERING OF MATERIALS

2. ALL EXISTING MANHOLE INVERTS TO BE CHECKED AND REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF DRAINAGE WORKS. EXISTING PIPE CONNECTIONS ARE TO BE CCTV SURVEYED AND INSPECTED BY THE ENGINEER AND LOCAL AUTHORITY. IF THE PIPE CONNECTION IS FOUND TO BE DAMAGED OR IN DISTRESS, THE CONTRACTOR IS TO CARRY OUT REMEDIAL WORKS OR PROVIDE A NEW CONNECTION TO THE EXISTING SEWER (PIPE SIZE AND GRADIENT TO BE DETERMINED BY THE ENGINEER

3. MH COVERS AND FRAMES TO CONFORM TO BS EN 124
3.1. GROUP 4 - HIGHWAYS CLASS D400
3.2. GROUP 2 - CAR PARKING AREAS CLASS B125
3.3. GROUP 1 - SOFT LANDSCAPING & PRIVATE FOOTWAYS CLASS A15

4. PIPE WORK BEDDING, TYPE S BEDDING AND SURROUND TO ALL PIPES EXCEPT IN THE FOLLOWING CIRCUMSTANCES, IN WHICH TYPE Z BEDDING AND SURROUND ARE TO BE USED:-
4.1. IN REAR GARDENS OF HOUSES WHERE DEPTH TO CROWN OF PIPE IS LESS THAN 0.35m
4.2. IN AREAS OF ROAD WHERE DEPTH IS LESS THAN 1.2m

5. THE GRADIENTS INDICATED AGAINST THE DRAIN RUNS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL INSTALL DRAINS TO THE INVERT LEVELS SHOWN FOR EACH MANHOLE OR OTHER INDICATED POSITION. ALL PIPES TO BE LAID WITH SOFFIT TO SOFFIT CONNECTIONS

6. PROPOSED PIPE WORK TO BE MANUFACTURED FROM CONCRETE AND BE KITE MARKED TO SHOW THE RELEVANT BRITISH STANDARD.

7. ALL ADAPTABLE DRAINAGE (150mm-600mm) TO BE TWIN WALL PIPEWORK IN ACCORDANCE WITH BS-EN:13476-1:2007 AND TO ACHIEVE THE HAPAS SPECIFICATION ISSUED BY THE BSA. ALL JOINTING IN ACCORDANCE WITH MANUFACTURERS TECHNICAL ADVICE & SPECIFICATION. ALL NON ADAPTABLE DRAINAGE TO BE THE STANDARD UPVC 110mm, 160mm DRAINAGE AND MANUFACTURED TO BS-EN 1401 AND BS 4660 UNLESS NOTED OTHERWISE

8. SOIL & VENT PIPE LOCATION AND NUMBER TO BE CONFIRMED WITH ARCHITECT

9. ALL RWP's TO BE FITTED WITH RODDABLE QUIKIES AT JUNCTURE WITH GROUND (REFER TO ARCHITECT'S SPECIFICATION)

10. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEER'S & ARCHITECT'S DRAWINGS, TOGETHER WITH THEIR LATEST SPECIFICATIONS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER (JUBB) AS SOON AS POSSIBLE

11. ONLY FIGURED DIMENSIONS ARE TO BE USED. ANY QUERIES OR DISCREPANCIES TO BE REFERRED TO THE ENGINEER (JUBB) IMMEDIATELY

12. FOUL WATER CONNECTIONS IN SOME INSTANCES ARE GREATER THAN THE 12M LENGTH RECOMMENDED WITHIN PART H OF THE BUILDING REGULATIONS. THIS WILL BE DISCUSSED WITH THE BUILDING CONTROL OFFICER AT DETAILED DESIGN STAGE AS A REFERENCE TO BRINGING A FOUL SEWER UNDER THE BUILDING

13. ALL PROPOSED DRAINAGE TO BE INSTALLED TO SEWERS FOR ADOPTION 7th EDITION AND DCWW REQUIREMENTS

14. CONNECTIONS TO BE UNDERTAKEN SUBJECT TO THE PROVISION OF SECTION 106 OF THE WATER INDUSTRY ACT 1991 TO DCWW APPROVAL. THE DEVELOPER SHALL GIVE 20 DAYS NOTICE PRIOR TO CONNECTION AND THE WORKS MUST BE UNDER TAKEN BY AN SSIP ACCREDITED CONTRACTOR

ABANDONMENT OF SEWERS

15. ALL REMEDIATION WORKS TO SEWERS TO BE CONDUCTED BY AN INDUSTRY/SSIP ACCREDITED CONTRACTOR, QUALIFIED TO WORK ON LIVE EFFLUENT

16. NO SEWER SHALL BE ABANDONED UNTIL THE CONTRACTOR HAS CONFIRMED THERE ARE NO LIVE CONNECTIONS REMAINING

17. NO CONSTRUCTION WORKS SHALL COMMENCE OVER OR WITHIN 8.0m OF ANY SEWER THAT IS TO BE ABANDONED UNTIL THAT SEWER HAS BEEN FILLED AND SEALED AS SPECIFIED IN THE TABLE BELOW, AND/OR TO THE SATISFACTION OF THE STATUTORY UNDERTAKER AND ENGINEER

18. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE COST OF REMOVING ANY GROUT THAT HAS ACCIDENTALLY OR OTHERWISE AFFECTED ANY SEWER/DRAIN THAT IS NOT TO BE ABANDONED

19. ENDS OF SEWERS SHALL BE SEALED WITH 225mm THICK BRICKWORK WALLS WITH SUITABLE PIPE CONNECTIONS. FOR GROUT INJECTION, SACRIFICIAL STOPPERS MAY BE USED ON SMALL DIAMETER DRAINS

20. SEWERS/DRAINS LESS THAN 1.0m DIT MAY BE GRUBBED UP AND REMOVED

21. CEMENT GROUT FOR FILLING DRAINS WHICH ARE TO BE ABANDONED SHALL BE MIXED IN THE RELEVANT PROPORTIONS INDICATED IN THE FOLLOWING TABLE, USING THE MINIMUM QUANTITY OF WATER TO ENSURE NECESSARY FLUIDITY AND TO RENDER IT CAPABLE OF PENETRATING THE WORK

CLASS	NOMINAL MIX BY MASS		
	CEMENT	SAND	PFA
G3	1	10	-
G4	1	-	10

CEMENT GROUT SHALL BE USED WITHIN 1 HOUR OF MIXING. SULPHATE-RESISTING CEMENT SHALL NOT BE USED AS A CONSTITUENT OF GROUPS CONTAINING PFA. CEMENT GROUT FOR THE FIXING INSERTS AND BELOW PLANT BASES SHALL INCLUDE EITHER AN EXPANDING OR NON-SHRINK ADDITIVE

NOTE REGARDING GRADIENT OF FOUL SEWERS:-

AS PER SEWERS FOR ADOPTION 7th ed. RELIABILITY pt. 9

WHERE THE DESIGN FLOW IS LESS THAN 0.75m/s AT ONE THIRD DESIGN FLOW, THE SELF CLEANSING CRITERION WOULD BE CONSIDERED SATISFIED IF:

a. A 150mm NOMINAL INTERNAL DIAMETER GRAVITY SEWER IS LAID TO A GRADIENT NOT FLATTER THAN 1:150 WHERE THERE ARE AT LEAST 10no. DWELLING UNITS CONNECTED, OR

b. A SEWER OR LATERAL DRAIN WITH A NOMINAL INTERNAL DIAMETER OF 100mm (OR A LATERAL DRAIN SERVING 10 OR LESS PROPERTIES) IS LAID TO A GRADIENT NOT FLATTER THAN 1:80 WHERE THERE IS AT LEAST ONE WC CONNECTED AND 140 WHERE THERE IS NO WC CONNECTED.

LEGEND

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SITE BOUNDARY

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PROPOSED COMBINED SEWER

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PROPOSED FOUL SEWER / LATERAL DRAIN (ADOPTED)

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PROPOSED SW SEWER / LATERAL DRAIN (ADOPTED)

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EXISTING DCWW ADOPTED COMBINED SEWER

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PROPOSED PRIVATE FOUL DRAIN

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PROPOSED PRIVATE SW DRAIN

TYPE 2, 1200Ø PCC CHAMBER (WITH VORTEX FLOW CONTROL)

TYPE 3, 600Ø uPVC/HDP FLEXIBLE CHAMBER (CATCH PIT WITH MIN 0.4m SUMP)

TYPE 4, uPVC/HDP FLEXIBLE CHAMBER

RAINWATER DOWN PIPE

SOIL VENT PIPE

ATTENUATION TANK AIR VENT (REFER TO MANUFACTURERS SPECIFICATION)

PRIVATE GEOCELLULAR ATTENUATION (WAVIN AQUACELL O.S.A.) SIZED TO 1in100yr + 40%

LINEAR DRAINAGE CHANNEL (ACO M1500 O.S.A.) w/ SLOPED INVERT TO OUTFALL (MIN FALL 1:100)

OR THRESHOLD DRAINAGE TO ARCHITECT'S SPECIFICATION

DRAINAGE LAYOUT

(SCALE 1: 100 @ A1)

The drawing is a detailed drainage layout for a residential building. It shows the building's footprint with internal room divisions (Bedroom 1, Bedroom 2, Kitchen, Living room, etc.). External features include a rear garden, a driveway, and a car park. The drainage system is indicated by various line styles: solid red for proposed combined sewers, dashed blue for proposed foul sewers, and dashed black for proposed private foul drains. Key features include:

- Manholes:** SWIC01 (CL 179.60, IL 178.30), FWIC01 (CL 179.00, IL 176.90), FWIC02 (CL 178.50, IL 176.58), and SWIC02 (CL 179.60, IL 178.10).
- Attenuation Tank:** A proposed geocellular attenuation tank (Wavin Aquacell Core-R O.S.A.) is shown with a size of 2.5x6.5x1.5m, a 24.4m³ storage volume, and a 95% void ratio.
- Flow Control:** A SWMH04 with vortex flow control is shown on the outlet limiting discharge to 2.0l/s.
- Grouting:** Notes specify grouting for gully and manhole connections, and for the abandonment of existing sewers.
- Gradients:** Numerous spot levels and gradients are provided for all drains and manholes.
- Site Boundary:** The site boundary is assumed and shown as a dashed line.
- Additional Land:** A note indicates additional land purchased by MHA from MTOBC.
- Tramroadside North:** The layout is adjacent to Tramroadside North, with a car park and a proposed geocellular attenuation tank.

MH SCHEDULE									
MH ref	CL	IL	DTS	DTI	MH DIA	TYPE	MATERIAL	ADOPTION	
SWIC01	179.60	178.30	1.20	1.30	450mmØ	TYPE 4	PVC-u / HDPE	PRIVATE	
SWIC02	179.60	178.10	1.40	1.50	450mmØ	TYPE 4	PVC-u / HDPE	PRIVATE	
SWCP03	179.55	177.50	1.95	2.05	600mmØ	TYPE 3	PVC-u / HDPE	PRIVATE	
SWMH04	178.00	175.80	2.10	2.20	1200mmØ	TYPE 2	PCC	PRIVATE	
FWIC01	179.00	176.90	2.00	2.10	450mmØ	TYPE 3	PVC-u / HDPE	PRIVATE	
FWIC02	178.50	176.58	1.82	1.92	450mmØ	TYPE 4	PVC-u / HDPE	PRIVATE	
DEMARC-ATION CHAMBER	177.80	175.75	1.95	2.05	600mmØ	TYPE 3	PCC	TO BE ADOPTED	

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Rev	Date	Description	By	Apvd

PROJECT:

CITIZENS ADVICE BUREAU,
TRAMROADSIDE NORTH
MERTHYR TYDFIL

TITLE:

DRAINAGE LAYOUT

CLIENT:

MERTHYR HOUSING

SCALE@A1:

AS SHOWN

PROJECT REF:

18221

REVISION No:

18221-CAB-JUBB-V1-ZZ-DR-C-0500

REV:

P01

Revision Referencing

P = Preliminary A = Approval T = Tender C = Construction

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