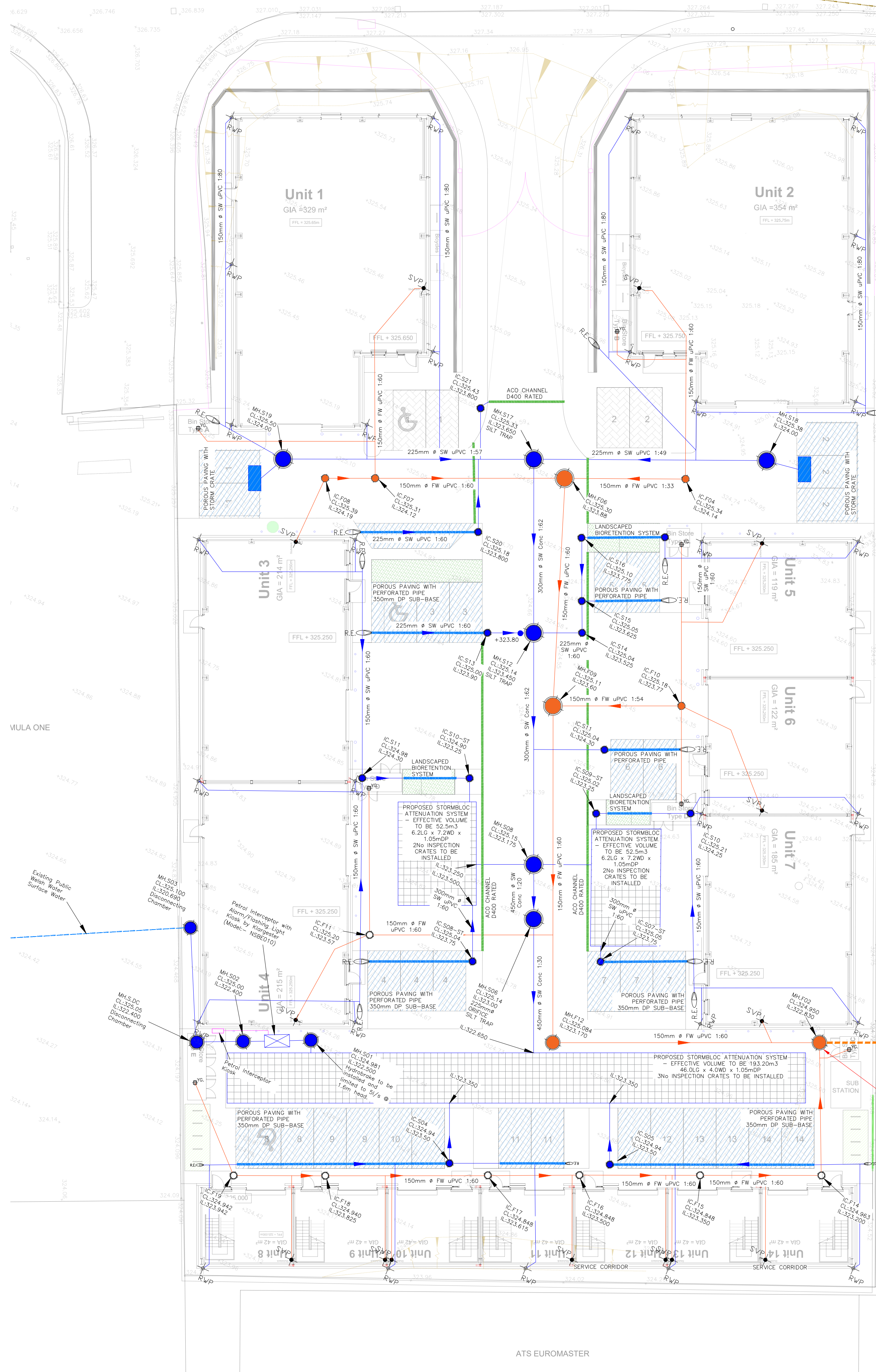




LEGEND

- DENOTES EXTENT OF CONSTRUCTION BOUNDARY
- DENOTES PROPOSED SURFACE WATER SEWER
- DENOTES PROPOSED FOUL WATER SEWER
- DENOTES PROPOSED PRIVATE INSPECTION CHAMBER (SW DEPTH = 0.9m / FW DEPTH = 1.2m)
- DENOTES PROPOSED ADOPTED SURFACE WATER MANHOLE
- DENOTES PROPOSED ADOPTED FOUL WATER MANHOLE
- DENOTES PROPOSED RODDING EYE
- DENOTES PROPOSED BACKDROP
- DENOTES PROPOSED RAINWATER DOWNPIPE
- DENOTES PROPOSED SOIL VENT PIPE DOWNPIPE
- DENOTES PROPOSED ROAD GULLY (YG DENOTES YARD GULLY)
- DENOTES AREA OF POROUS PAVING - GRANULAR STORAGE LAYER TO BE MINIMUM 600mm DEEP.
- DENOTES PROPOSED BELOW GROUND ATTENUATION CRATE SYSTEM - REFER TO LAYOUT FOR SIZE AND DIMENSIONS.
- AREA OF SOFT LANDSCAPE TO BE CONSTRUCTED AS BIO-RETENTION AREAS TO ACT AS SUSTAINABILITY TREATMENT FOR SURFACE WATER DRAINAGE.

GENERAL NOTES

- THIS DRAWING IS THE COPYRIGHT OF THE CONSULTANTS AND MUST NOT BE REPRODUCED OR USED WITHOUT THEIR PERMISSION.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST SUBCONTRACTORS DRAWINGS, AND THE SPECIFICATION.
- ANY DISCREPANCIES IN DIMENSIONS, OR DETAILS, ON OR BETWEEN THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER IN WRITING FOR CLARIFICATION.
- ALL SWITCHED OFF, FROZEN, OR NOT SCHEDULED TO PRINT LAYERS WITHIN ELECTRONIC ISSUES OF THIS DRAWING SHOULD BE DISREGARDED.
- ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE. ALL LEVELS ARE IN METRES.

DRAINAGE NOTES

- ALL DRAINAGE WHICH IS TO BE ADOPTED BY "WELSH WATER" IS TO BE CONSTRUCTED IN ACCORDANCE WITH "SEWERS FOR ADOPTION" AND ALL SUPPLEMENTARY WELSH WATER DETAILS.

DRAINAGE ALSO TO COMPLY WITH ANY "BUILDING STANDARDS" REQUIREMENTS.

- ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH BS EN 12056, BS EN 752, AND RELEVANT SECTIONS OF APPROVED DOCUMENT 'H' OF THE BUILDING REGULATIONS. WHERE THERE ARE ANY CONCERNS REGARDING DRAINAGE NOT BEING ABLE TO MEET THESE REQUIREMENTS (E.G. INVERTS AND LEVELS), THE ENGINEER SHOULD BE INFORMED IMMEDIATELY.

DRAINAGE ALSO TO COMPLY WITH ANY "BUILDING STANDARDS" REQUIREMENTS.

- EXISTING DRAINAGE INFORMATION HAS BEEN COLLECTED USING ALL AVAILABLE INFORMATION, AND IN SOME CASES CONDUCTED USING THIRD PARTY INFORMATION. WHILE EVERY CARE HAS BEEN TAKEN IN THE ACCURACY OF ALL ROUTING AND LEVELS, IT SHOULD BE TREATED AS INDICATIVE UNTIL CHECKED & CONFIRMED ON SITE.

THE CONTRACTOR IS TO CHECK THE EXISTING DRAINAGE LEVELS, GEOMETRY, CONNECTION & VARIABILITY, AND CONFIRM THAT THE NETWORK IS RUNNING FREELY WITH NO DEFECTS PRIOR TO ANY DRAINAGE WORKS COMMENCING.

- ANY EXISTING SERVICES DISCOVERED DURING EXCAVATIONS TO BE REPORTED TO THE RELEVANT BODY IMMEDIATELY.

THE CONTRACTOR IS TO ENSURE THAT PROTECTIVE MEASURES ARE TAKEN TO ENSURE THAT ALL DRAINAGE PIPES, AND FITTINGS, ARE NOT DAMAGED BY THE SITE TRAFFIC PRIOR TO OVER SITE FILLING OPERATIONS BEING COMPLETED AROUND BUILDINGS.

- ALL CHAMBERS SHOULD BE LOCATED FULLY ON EITHER SOFT OR HARD LANDSCAPING. THE CONTRACTOR SHOULD STRING OUT HARD LANDSCAPING AND DRAINAGE PRIOR TO CONSTRUCTION IN ORDER TO ENSURE NO OVERLAPPING OF SURFACES AND/OR KERB INTERFERING OCCURS. WHERE UNAVOIDABLE OVERLAPPING OCCURS, CHAMBERS SHOULD, WHERE POSSIBLE, BE CONSTRUCTED IN SUCH A MANNER THAT CHAMBERS DO NOT OVERLAP DIFFERING SURFACES OR INTERSECT KERBS. PARTICULAR ATTENTION SHOULD BE GIVEN WHERE RECESSED COVERS ARE PROPOSED.

- CHAMBER COVERS WITHIN AREAS OF BLOCK PAVING (BOTH STANDARD NON-FERREOUS AND FERREOUS) SHOULD BE LAD SQUARE TO THE LAYING PATTERN OF THE BLOCK PAVING.

- CHAMBER PIPE CONNECTIONS ARE TO BE MADE SUFFICIENT TO SOFT WHERE DOWNSTREAM PIPE IS LARGER THAN THE UPSTREAM PIPE, UNLESS NOTED OTHERWISE.

- NO PRIVATE AREAS ARE TO DRAIN ONTO AREAS FOR ADOPTION.

- PIPE TYPES
PIPE DIA. UP TO AND INCLUDING 300mm ARE TO BE UPVC
PIPES TO BS 4660:2000 AND BS EN 1401-1, PIPE DIA. GREATER THAN 300mm ARE TO BE CONCRETE TO BS 5911 OR VITRIFIED CLAY TO BS EN 295, AND BS 65 (STORM WATER SEWERS ONLY).

- PIPE PROTECTION
ALL ADAPTABLE PERFORATED PIPE WITH LESS THAN 1200mm OF EFFECTIVE COVER IN BOTH VEHICULAR/HARD AREAS AND LANDSCAPED/SOFT AREAS, TO INCORPORATE CONCRETE PROTECTION TO THE PIPE (REFER TO RELEVANT DETAIL). FLEXIBLE JOINTS ARE TO BE PROVIDED AT ALL PIPE CONNECTIONS.

- ALL PRIVATE PIPEWORK WITH LESS THAN 900mm OF EFFECTIVE COVER TO VEHICULAR/HARD AREAS, AND LESS THAN 600mm COVER TO LANDSCAPED/SOFT AREAS, TO INCORPORATE CONCRETE PROTECTION TO THE PIPE (REFER TO RELEVANT DETAIL). FLEXIBLE JOINTS ARE TO BE PROVIDED AT ALL PIPE CONNECTIONS.

- WHERE PIPELINES CROSS WITHIN 300mm OF EACH OTHER, BOTH PIPES TO INCORPORATE CONCRETE PROTECTION (REFER TO RELEVANT DETAIL).

- DISCONNECTING CHAMBER TAILS
DISCONNECTING CHAMBER TAILS ARE PROPOSED FOR ADOPTION THEREFORE SHOULD ADHERE TO ADOPTABLE PIPE CRITERIA (E.G. MINIMUM DIA. OF 150mm). CONCRETE PROTECTION REQUIRED WHERE COVER DEPTH < 1.2m.

- DISCONNECTING CHAMBER TAILS TO BE LAD AT A MINIMUM INVERT OF 1.80 AND 1.10 PRESTRESSED MAXIMUM WHERE TAIL FALL STEEPER THAN 1:10 THE ENGINEER SHOULD BE NOTIFIED AS SPECIFIC BEDDING WILL BE REQUIRED.

- GULLY TAILS
ALL GULLY TAILS TO BE 150mm DIA., SUFFICIENTLY ENCASED IN CONCRETE.

- ALL DRAINAGE DESIGN SHOWN IS ONLY RELEVANT TO AREAS FALLING UNDER HARLEY HADDON REMIT. FOR ALL OTHER AREAS REFER TO THE RELEVANT PARTY.

DRAINAGE LAYOUT SUBJECT TO MERTHYR TYDFIL SAB APPROVAL PROCESS

C05	Hydrobrake Head Updated	CC	CC	GA	05.09.23
C04	Updated Attenuation and Invert of Surface Water Network	CC	CC	GA	05.09.23
C03	Updated Foul Arrangements and Cover Levels	CC	CC	GA	25.08.23
C02	Drawing Amended to suit Architects Layout	RF	CC	CC	05.07.23
C01	Drawing Issue for Construction	RF	CC	CC	03.05.23
REV	DESCRIPTION	BY	CHK	APP	DATE

CONSTRUCTION

The Multi-disciplinary Engineering Consultancy
h HARLEY HADDON
Suite 4/3, The Skypark, 8 Elliot Place,
Glasgow G3 8EP
T 44 (0) 141 332 3031
glas@harleyhaddon.com
harleyhaddon.com
Edinburgh | London | Glasgow
Association for Consulting and Engineering Member Firm

Project:-

Proposed Industrial Units
Pant Industrial Estate
Mertthyr Tydfil, Wales

Drawing Title:

Proposed Underground Drainage
Layout

-

Scale @ A1 1:200	Date February 2020	Engineer C.Connor
Drawing No. 305056-032	Revision C05	