



**NOTES CONTINUED**

- 23. BACKFILLING TO PIPE TRENCHES BENEATH LANDSCAPED AREAS TO BE SELECTED EXCAVATE MATERIAL FREE FROM LARGE STONES GREATER THAN 0mm, LUMPS OF CLAY OVER 100mm, ANY TIMBER, FROZEN MATERIAL OR VEGETATION MATTER UP TO FROMATION / GROUND LEVEL FROM THE TOP OF THE SPECIFIED PIPE SURROUND (WELL COMPACTED IN 150mm LAYERS)
- 24. GRANULAR MATERIAL NOMINAL SIZE 20mm SINGLE SIZED OR SURROUND UNTIL THE CONCRETE COMPRESSIVE STRENGTH HAS REACHED 15N/mm<sup>2</sup>.
- 25. BACKFILL MUST NOT BE PLACED ON CONCRETE BEDDING OR SURROUND UNTIL THE CONCRETE COMPRESSIVE STRENGTH HAS REACHED 15N/mm<sup>2</sup>.
- 26. BRICKS OR BLOCKS MUST NOT BE PLACED IN THE BEDDING MORTAR FOR SETTING THE PIPES TO LEVEL.
- 27. ALL ROCKER PIPE LENGTHS TO BE MIN 600mm.
- 28. PROVIDE ROCKER PIPES AT TRANSITION FROM CONCRETE SURROUND TO GRANULAR SURROUND.
- 29. MAX DISTANCE FROM FACE OF CONCRETE SURROUND TO FIRST FLEXIBLE JOINT TO BE 150mm.
- 30. MANHOLE COVERS AND FRAMES MANHOLE COVERS AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF THE BS EN 124M BS 7903 AND HIGHWAYS AGENCY GUIDANCE DOCUMENT HA 104/99. THEY SHALL BE OF NON ROCKING DESIGN WHICH DOES NOT RELAY TO THE CUSHION INSERTS. MANHOLE COVER ON FOUL ONLY SEWERS SHALL BE OF LOW LEAKAGE TYPES IN ORDER TO PREVENT EXCESSIVE SURFACE WATER INGRESS AS A MINIMUM, CLASS D400 SHALL BE USED IN CARRIAGEWAYS OR ROADS (INCLUDING PEDESTRIAN STREETS, HARD SHOULDERS AND PARKING AREAS USED BY ALL TYPES OF VEHICLES.
- 31. CONSTRUCTION OF SEWER TO BE IN ACCORDANCE WITH WELSH MINISTERS STANDARDS AND SFA 7TH EDITION.

**KEY**

- DENOTES PROPOSED FOUL CHAMBER & PIPE RUN.
- DENOTES EXISTING COMBINED FOUL SEWER.
- DENOTES PROPOSED SURFACE WATER CHAMBER & PIPE RUN.
- DENOTES PROPOSED HIGHWAY GULLY AND Ø 150mm CONNECTION TO SURFACE WATER NETWORK TO BE ADOPTED BY THE HIGHWAY AUTHORITY UNDER SECTION 38 OF THE HIGHWAYS ACT 1980.
- DENOTES PROPOSED GRANULAR TRENCH SOAKAWAY.
- DENOTES LINEAR DRAINAGE CHANNEL.
- DENOTES PROPOSED SITE BOUNDARY.

**FFL 51.650**  
AREA: 2.086.482 m<sup>2</sup>

MANHOLE NO.	COVER DIAMETER	COVER TYPE	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
S1	1200mm	Type 2	51.248m	1.500	4581.589	6621.773
S2	1200mm	Type 2	51.232m	1.500	4563.151	6552.172
S3	1200mm	Type 2	51.215m	1.500	4543.838	6479.265
S4	1200mm	Type 2	51.199m	1.234	4524.633	6406.766
S5	1200mm	Type 2	51.046m	1.234	4502.406	6412.653
S6	1200mm	Type 2	51.059m	1.234	4517.776	6470.651
S7	1200mm	Type 2	51.074m	1.239	4535.720	6538.312
S8	1200mm	Type 2	51.089m	1.239	4552.678	6602.342
S9	1200mm	Type 2	50.826m	1.241	4471.110	6423.679
S10	1200mm	Type 2	50.843m	1.283	4491.613	6501.017
S11	1200mm	Type 2	50.868m	1.283	4512.100	6578.358
S12	1200mm	Type 2	50.843m	1.283	4544.816	6605.187
S13	1200mm	Type 2	50.937m	1.033	4599.834	6542.456
S14	1200mm	Type 2	51.089m	1.033	4621.253	6623.312
S15	1200mm	Type 2	50.846m	1.379	4608.006	6626.821
S16	1200mm	Type 2	50.778m	1.033	4598.109	6629.443
S17	1200mm	Type 2	50.224m	0.674	4611.192	6638.848
S18	2400mm	Type 2	47.419m	1.200	4595.139	6652.690

**NOTES**

- 1. ALL LEVELS IN METERS UNLESS NOTED OTHERWISE ON DRAWING.
- 2. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO UNDERTAKING ANY WORKS. ORDERING MATERIALS OR FABRICATING ANY COMPONENTS.
- 3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS AND ARCHITECTS DRAWINGS AND RELEVANT SPECIFICATION CLAUSES.
- 4. PLEASE REFER TO ARCHITECTS DRAWINGS FOR FINAL BUILDING LOCATION.
- 5. THE LOCAL AUTHORITY AND SERVICE COMPANIES ARE TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK ON SITE.
- 6. ALL DRAINAGE COMPONENTS ARE TO COMPLY WITH CURRENT BRITISH STANDARDS AND BUILDING REGULATIONS REQUIREMENTS.
- 7. ALL WORKS TO BE IN ACCORDANCE WITH THE LOCAL AUTHORITY'S ROADS FOR ADOPTION SPECIFICATION.
- 8. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS (SHW SERIES 500).
- 9. DRAIN PIPE THROUGH WALLS OR BENEATH FOUNDATIONS (SPREAD ONLY) TO HAVE R.C BRIDGE LINDELS OVER AND PIPE SURROUNDED IN FLEXIBLE MATERIAL (50mm).
- 10. FINAL LOCATIONS AND DETAILS OF SOIL VEGET. STUD. STACKS, RAINWATER DOWNPIPES, GULLIES ETC. TO BE CONFIRMED BY REFERENCE TO ARCHITECT DRAWINGS.
- 11. ALL THRESHOLD DRAIN DETAILS TO BE TO ARCHITECT DETAILS.
- 12. ALL PIPES INTO CHAMBERS TO SOFFIT TO SOFFIT U.O.
- 13. AT ALL OUTFALL POINTS TO AN EXISTING NETWORK, THE POSITION AND INVERT LEVEL OF EXISTING DRAINS MUST BE CONFIRMED WELL IN ADVANCE OF THE PROGRAMMED DATE FOR INSTALLING ANY OF THE UPSTREAM DRAINAGE, OR ORDERING OF ANY MATERIALS IN ORDER TO ALLOW TIME FOR ANY NECESSARY REVISIONS TO THE HYDRAULIC DESIGN.
- 14. ALL GRAVITY UPVC PIPEWORK TO BE TO BS 4660 OR BS 5481 WHERE RELEVANT UNLESS NOTED OTHERWISE.
- 15. ALL NON ADOPTABLE DOMESTIC FOUL AND SURFACE WATER PIPE RUNS SHALL CONSIST OF 100mm DIA. PIPES LAID AT NO FLATTER THAN 1:80 FALLS U.N.O. A SEWER OR LATERAL DRAIN WITH A NOMINAL INTERNAL DIAMETER OF 100mm, OR A LATERAL DRAIN SERVING TEN OR LESS PROPERTIES IS LAID TO A GRADIENT NOT FLATTER THAN 1:80, WHERE THERE IS AT LEAST ONE WC CONNECTED AND 1:40 IF THERE IS NO WC CONNECTED.
- 16. ALL CONNECTIONS FROM HIGHWAY GULLIES TO BE 150mm DIA. LAID AT FALLS OF BETWEEN 1:20 AND 1:100 WITH TYPE S BED AND SURROUND TO ALL CONNECTIONS WITH MIN. 1.20m COVER, TYPE Z BED AND SURROUND TO ALL OTHER CONNECTIONS.
- 17. THERMOPLASTIC PIPES & FITTINGS: THERMOPLASTIC PIPES, JOINTS & FITTINGS FOR GRAVITY SEWERS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1401-1, BS EN 1852 & BS EN 12666-1.
- 18. THERMOPLASTIC STRUCTURED WALL PIPE: THERMOPLASTIC STRUCTURED WALL SEWER PIPE SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 13476-1 & WIS 4-35-01 AND BS EN 13476-2 OR BS EN 13476-3. PIPES SHALL BE BSI KITEMARKED OR HAVE EQUIVALENT THIRD PART CERTIFICATION. PIPES LESS THAN OR EQUAL TO 500mm IN DIAMETER SHALL HAVE NOMINAL SHORT-TERM RING STIFFNESS NOT LESS THAN 8kN/m<sup>2</sup> (SN8) OR BE SUBJECT TO A QUALITY SYSTEM FOR STORAGE & EMBEDMENT. Nom. SHORT TERM RING STIFFNESS OF 2kN/m<sup>2</sup> (SN2) IS ACCEPTABLE FOR PIPES GREATER THAN Ø500mm, SUBJECT TO SUPPORTING STRUCTURAL DESIGN LOAD CALCULATIONS BEING PROVIDED.
- 19. CONNECTION TO THE PUBLIC SEWER A SECTION 106 APPLICATION TO CONNECT MUST BE MADE TO DCWW. THE DEVELOPER SHALL GIVE 21 DAYS NOTICE PRIOR TO CONNECTION. THE WORKS MAY ONLY BE UNDERTAKEN BY A DCWW HEALTH AND SAFETY APPROVED CONTRACTOR.
- 20. OPTIMUM TRENCH WIDTH OPTIMUM TRENCH WIDTH = PIPE + 300mm. CONTRACTOR TO ENSURE TRENCH WALLS ARE SUITABLY PROPPED.
- 21. TRANSPORTATION, HANDLING, STORAGE AND LAYING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. WHERE A FITTING IS INSTALLED ON A SEWER LENGTH, IT SHALL HAVE THE SAME INTERNAL BORE AS THE SEWER. Max. LENGTH OF PIPE FOR LAYING IS 3.0m OR Ø x 10, WHICHEVER IS THE GREATER, UNLESS WELDED JOINTS ARE USED.
- 22. BACKFILLING TO PIPE TRENCHES BENEATH ROADS, CAR PARKING AND STRUCTURES TO BE M.O.T. TYPE 1 GRANULAR MATERIAL UP TO FORMATION LEVEL FROM THE TOP OF THE SPECIFIED PIPE SURROUND (WELL COMPACTED IN 150mm LAYERS).

**NOT FOR CONSTRUCTION**

S1	PO2	26.07.22		AMENDED LAYOUT			
S1	PO1	11.07.22		FIRST ISSUE			
SUITABILITY	REV	DATE		DESCRIPTION	Qd	CHKd	APPRd

DRAWING STATUS: PROJECT TITLE: **HUWS GRAY, BRYN CEGIN INDUSTRIAL ESTATE, LLANDYGAI**

DRAWING TITLE: **PROPOSED DRAINAGE LAYOUT**

DRAWING No: PROJECT ORIGINATOR VOL. LOC. TYPE ROLE **017321 CCE V1 XX 40:40:01 C**

CLASSIFICATION No. SUITABILITY REVISION **50:30 0009 S1 PO2**

ORIGINATOR: DATE: SCALE: ORIGINAL SIZE: **M.Jones 11.07.2022 1:500 A1**

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