



**NOTES CONTINUED**

21. OPTIMUM TRENCH WIDTH  
OPTIMUM TRENCH WIDTH = PIPE + 300mm. CONTRACTOR TO ENSURE TRENCH WALLS ARE SUITABLY PROPPED.
22. BACKFILLING TO PIPE TRENCHES BENEATH ROADS, CAR PARKING AND STRUCTURES TO BE M.O.T. TYPE 1 GRANULAR MATERIAL UP TO FORMATION / GROUND LEVEL FROM THE TOP OF THE SPECIFIED PIPE SURROUND (WELL COMPACTED IN 150mm LAYERS).
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 FORMATION / GROUND LEVEL FROM THE TOP OF THE SPECIFIED PIPE SURROUND (WELL COMPACTED IN 150mm LAYERS).
24. GRANULAR MATERIAL NOMINAL SIZE 20mm SINGLE SIZED OR 14mm TO 5mm GRADED.
25. BACKFILL MUST NOT BE PLACED ON CONCRETE BEDDING OR SURROUND UNTIL THE CONCRETE COMPRESSIVE STRENGTH HAS REACHED 15N/mm².
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 104/09. 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 5TH EDITION.
32. REPRODUCED FROM THE ORDNANCE SURVEY'S MAPS WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONARY OFFICE. CROWN COPYRIGHT. LICENCE NO. AC0000855691

**KEY**

- DENOTES PROPOSED FOUL CHAMBER & PIPE RUN, TO BE ADOPTED BY DCWW.
- DENOTES EXISTING COMBINED FOUL SEWER.
- DENOTES EXISTING CULVERTED LAND DRAINAGE DITCH.
- DENOTES PROPOSED SURFACE WATER CHAMBER & PIPE RUN, TO BE ADOPTED BY THE SuDS APPROVAL BODY (SAB)
- DENOTES PROPOSED RODDING EYE.
- 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 OWNERSHIP BOUNDARY.
- DENOTES PROPOSED RAIN GARDEN WITH PERFORATED PIPE TO INTERCEPT SURFACE WATER THROUGH INFILTRATION.
- DENOTES ABOVE GROUND WATER BUTT AT BASE OF RAIN WATER DOWN PIPE.
- DENOTES PROPOSED DETENTION BASIN.
- DENOTES PROPOSED WAVIN AQUACELL BELOW GROUND ATTENUATION.
- DENOTES PROPOSED FOUL RISING MAIN SEWER TO BE ADOPTED BY DCWW.
- DENOTES PROPOSED POROUS PAVING TO BE LOCATED MIN 3m FROM ANY FOUL SEWER.

**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 ENGINEER'S AND ARCHITECT'S 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 LINTELS OVER AND PIPE SURROUNDED IN FLEXIBLE MATERIAL (50mm).
10. FINAL LOCATIONS AND DETAILS OF SOIL VENT PIPES, STUB STACKS, RAINWATER DOWN PIPES, GUSTERS 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/m² (SN8) OR BE SUBJECT TO A QUALITY SYSTEM FOR STORAGE & EMBEDMENT.  
Nom. SHORT TERM RING STIFFNESS OF 2kN/m² (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.

NOT FOR CONSTRUCTION

HYDROBRAKE FLOW CONTROL CHAMBER (S140), BY HYDRO INTERNATIONAL DISCHARGING AT VARYING RATE BASED ON DESIGN HEAD.  
HYDROBRAKE REFERENCE: SHE-0115-5400-0600-5400.  
TEL: (01275) 337937;  
WEB: www.hydro-int.com.

	DISCHARGE RATE	FLOOD LEVEL
1:1 YEAR RETURN PERIOD	5.4 L/S	31.322m
1:30 YEAR RETURN PERIOD	5.6 L/S	31.539m
1:100 YEAR RETURN PERIOD	6.1 L/S	31.656m

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DRAWING TITLE: **PROPOSED SuDS APPROVAL BODY (SAB) LAYOUT PHASE 1**

DRAWING NO: **08722-CCE-XX-XX-DR-C-0008**

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