

MANHOLE COVER TO SUIT BS EN 12401
LOADING 300mm X 300mm CLEAR
OPENING, ACCESS OPENING
RESTRICTED TO 300mm (DIAM)
OR 300mm X 300mm IF DEPTH OF
CHAMBER TO INVERT IS >1.0m

PRECAST CONCRETE SLAB OR
IN-SITU CONCRETE SLAB TO
SUPPORT COVER AND FRAME

FLEXIBLE SEAL

TEMPORARILY CAP
MANHOLE SHAFT DURING
CONSTRUCTION

JOINTS BETWEEN BASE AND
SHAFT AND BETWEEN SHAFT
COMPONENTS TO BE FITTED
WITH WATERTIGHT SEALS

JOINT TO BE AS CLOSE AS
POSSIBLE TO FACE OF
CHAMBER TO PERMIT
SATISFACTORY JOINT AND
SUBSEQUENT MOVEMENT

CLASS B ENGINEERING
BRICKWORK, CONCRETE BLOCK
OR PRECAST CONCRETE COVER
FRAME SEATING RINGS

MINIMUM INTERNAL
DIMENSIONS 450mm DIAMETER
OR 450mm X 450mm

TRAFFICKED AREAS
IN-SITU CONCRETE TO BE
DESIGNED TO BRE
SPECIAL DIGEST (CONCRETE
IN AGGRESSIVE GROUND),
THICKNESS Varies, BUT
MINIMUM OF 150mm

BASE UNIT TO HAVE ALL
CONNECTIONS WITH SOFFIT
LEVELS SET NO LOWER THAN
THAT OF THE MAIN PIPE

GRANULAR BEDDING
MATERIAL OR CONCRETE

Diagram illustrating the construction details of a manhole assembly, showing various components and their specifications:

- WOMART BEDDING MULCHING TO COVER AND FRAME TO CLAUSE E6.7
- PRECAST CONCRETE SLAB OR IN-SITU CONCRETE SLAB TO SUPPORT COVER AND FRAME
- FLEXIBLE SEAL
- TEMPORARILY CAP MANHOLE SHAFT DURING CONSTRUCTION
- JOINTS BETWEEN BASE AND SHAFT AND BETWEEN SHAFT COMPONENTS TO BE FITTED WITH WATERTIGHT SEALS
- JOINT TO BE AS CLOSE AS POSSIBLE TO FACE OF CHAMBER TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT
- EN 124 LOADING 300mm X 300mm CLEAR OPENING. ACCESS OPENING RESTRICTED TO 350mm DIAMETER OR 300mm X 300mm IF DEPTH OF CHAMBER TO INVERT IS >1.0m
- CLASS B ENGINEERING BRICKWORK, CONCRETE BLOCK OR PRECAST CONCRETE COVER FRAME SEATING RINGS
- MINIMUM INTERNAL DIMENSIONS 450mm DIAMETER OR 450mm x 450mm
- NON-TRAFFICKED AREAS
DOT TYPE 1 SUB-BASE (THICKNESS VARIES).
- PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL
- BASE UNIT TO HAVE ALL CONNECTIONS WITH SOFFIT LEVELS SET NO LOWER THAN THAT OF THE MAIN PIPE
- GRANULAR BEDDING MATERIAL OR CONCRETE SURROUND, SEE LAYOUT
- NON-TRAFFICKED AREAS

1. FLEXIBLE INLETS / OUTLET AND / OR BEND (MAXIMUM ANGLE 45°) TO FACILITATE CONNECTION
 2. UNUSED INLETS TO BE SEALED AND WATERTIGHT
 3. JOINT TO BE AS CLOSE AS POSSIBLE TO FACE OF CHAMBER TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT

ALL PIPES WITH SOFFITS AT OR BELOW 450mm DEEP TO BE HIGH STRENGTH CONCRETE ALONG WITH ALL SEWERS LOCATED BELOW THE BUILDING FOOTPRINT OR LESS THAN 1.2m DEEP WITHIN ACCESS ROAD	- WHERE CONNECTIONS TO PIPE RUNS ARE TO EXIST SHALL UTILISE REPLACEMENT JUNCTION PIPES AND SLIP RINGS ARE NOT PERMITTED - BACK FILL TO SEWER TRENCHES TO BE IN ACCORDANCE WITH THE SEWERAGE BYELAWS
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BACKFILL:
 TYPE 'B' MATERIAL (AS DUG) TO IGN
 4-8-0; TO BE USED ONLY IN NON
 TRAFFICKED AREAS. OTHERWISE,
 TO ALL REMAINING AREAS, USE-
 COMPACTED FILL MATERIAL IN
 ACCORDANCE WITH TABLE 5-1
 CLASS #6L GENERAL GRANULAR
 FILL IN ADOPTED HIGHWAYS IN
 ACCORDANCE WITH THE
 SPECIFICATION OF HIGHWAYS
 WORKS

CONCRETE SURROUND:
 150mm CONCRETE GRADE C20 WITH
 SULPHATE RESISTING CEMENT
 UNLESS OTHERWISE AGREED
 END SURROUND: A 25mm "EXCELLENT"
 JOINT TO BE PROVIDED AT EVERY
 PIPE JOINT, TO BE IN ACCORDANCE
 WITH HIGHWAY CONSTRUCTION
 DETAILS, APPENDIX B, REF. 0

100mm BASE OF GRADE
ST2 CONCRETE

TYPICALLY, VEGETATION LAYER
AND SOIL SPECIFICATION TO
LANDSCAPE ARCHITECTS DETAILS

BASIN OUTLET POSITIONED
HORIZONTALLY WITHIN THE
BASIN THE TOP FACE TO BE
FLUSH WITH THE BASIN

1:3 SLOPE TO SUIT CIRIA C897

FLOW

BASIN INLET POSITIONED
HORIZONTALLY WITHIN THE
BASIN THE TOP FACE TO BE
FLUSH WITH THE BASIN

1:3 SLOPE TO SUIT CIRIA C897

FLOW

PROPRIETARY 'ACO' DETENTION BASIN INLET / OUTLET DETAIL
(FOR 150mm DIAMETER INLET / OUTLETS ONLY)

PROPRIETARY 'ACO' DETENTION BASIN INLET / OUTLET DETAIL
(FOR 150mm DIAMETER INLET / OUTLETS ONLY)

EN 124 LOADING 300mm X 300mm CLEAR OPENING.
ACCESS OPENING RESTRICTED TO 300mm DIAMETER OR 300mm X 300mm IF DEPTH OF CHAMBER TO INVERT IS >10m.

CLASS B ENGINEERING BRICKWORK, CONCRETE BLOCK OR PRECAST CONCRETE COVER FRAME SEATING RINGS

GALVANIZED STEEL MANHOLES WITH IRONS AT CENTRES SPACED 1000mm ST.

DOT TYPE 1 SUB BASE OR CONCRETE SURROUND

PROVIDE "SILTBLOK" OR SIMILAR APPROVED, BY TURTLE ENVIRONMENTAL, TO PREVENT INGRESS OF DEBRIS AND ROOTS INTO CHAMBER.

GRANULAR BEDDING MATERIAL OR CONCRETE BEDDING SURROUND. SEE LAYOUT

PRECAST CONCRETE SLAB OR IN-SITU CONCRETE SLAB TO SUPPORT COVER AND FRAME

FLEXIBLE SEAL

TEMPORARILY CAP MANHOLE SHAFT DURING CONSTRUCTION

JOINTS BETWEEN BASE AND SHAFT AND BETWEEN SHAFT COMPONENTS TO BE FITTED WITH WATERTIGHT SEALS

JOINT TO BE AS CLOSE AS POSSIBLE TO FACE OF CHAMBER TO PERMIT SATISFACTORY JOINT AND SUBSEQUENT MOVEMENT

FILTER MEMBRANE

NON ENTRY INSPECTION CHAMBER WITH SILT TRAP (STMH)

BACKFILL:
COMPACTED FILL MATERIAL IN
ACCORDANCE WITH TABLE 611 C1
6FL GENERAL GRANULAR FILL IN
ADOPTED HIGHWAYS IN ACCORD
WITH THE SPECIFICATION OF
HIGHWAYS WORKS 1986.

26mm WIDE COMPRESSIBLE FILL
BOARD (FLEXCELL OR SIMILAR
APPROVED) AT PIPE JOINT.

150mm CONCRETE SURROUND.

CONCRETE ENCASEMENT JOINT DETAIL

Technical drawing of a gully installation. The drawing shows a cross-section of the gully and its surrounding materials. The gully is labeled 'GULLY GRATING CLASS D400 TO BS EN 124'. The surrounding materials are labeled '24 COURSE OF CLASS B ENGINEERING BRICKWORK (3 RECOMMENDED)' and '150mm THICK CONCRETE SURROUND GRADE GEN3'. The gully is labeled '3750 x 750 PG PG ROAD GULLY WITH 1000 OULET A RISING FACILITY TO BS5911 PART 2'. The drawing also shows the gully being used for 'WATER' and 'SEWAGE'.

ROAD SURROUND ROAD GULLY DETAIL

PIPE ROCKER LENGTHS

150mm CONCRETE SURROUND
GRADE GEN. IN-SITU CONCRETE
DESIGNED TO BRE SPECIAL DIGEST 1
CONCRETE IN AGGRESSIVE GROUND

JOINTS
POSSIBLE
MANHOLES
SATISFIED
SUBSE
FIGURE
FOR RO

PRECAST
CHAMBER
COVER
WITH
BITUMASTIC
SEAL

[illegible]

NON-ADOPTABLE HYDROBRAKE SINGLE CHAMBER CONTROL DE
(FINAL DETAIL SUBJECT TO SUB-CONTRACTOR / SUPPLIER)

Diagram illustrating the installation of a drainage channel within an existing highway construction. The diagram shows a cross-section of the road structure, including the existing highway construction and the drainage channel. The drainage channel is shown with a minimum of 150mm reinforced concrete surrounding it. The channel is labeled "HAURATON'S FASERFIX KS200 DRAINAGE CHANNEL & MIN. D400 GRATING". The existing highway construction is labeled "EXISTING HIGHWAY CONSTRUCTION". The diagram also shows the drainage channel and grating, and the existing highway construction.

HAURATION FASERFIX KS200 DRAINAGE CHANNEL

NB-THE DEPTH OF THE GULLY CAN BE INCREASED BY UP TO 300 mm BY FITTING A 225 mm COUPLING CODE SC1/5 AND A 300 mm HIGH RISING PIECE CODE SP030/5 BETWEEN THE FRAME AND THE GULLY BODY.

YARD GULLY WITH LIGHT DUTY (1 tonne) GRID - CODE RGP/5 WITH MEDIUM DUTY (5 tonne) GRID - CODE RGP/6 AND FILTER /SILT BUCKET - CODE 1BP/3
 CONCRETE BED AND SURROUND

YARD GULLY DETAIL

[illegible]

DETENTION BASIN FEATURE AND BELOW GROUND ATTENUATION TANK

SUITABLE PERMEABLE GEOTEXTILE TO SECTION 11.9 OF DOCUMENT TITLED "DESIGN & CONSTRUCTION OF CONCRETE BLOCK PERMEABLE PAVEMENTS" EDITION 7 (DECEMBER 2018).

MIN. 300mm (VARIES AS SHOWN) LAYER OF COURSE GRADED AGGREGATE TYPE 4/20 TO TABLES 12.2 & 13 OF DOCUMENT TITLED "DESIGN & CONSTRUCTION OF CONCRETE BLOCK PERMEABLE PAVEMENTS" EDITION 7 (DECEMBER 2018). MATERIAL TO BE LAID IN A MINIMUM OF TWO 150mm LAYERS IN STRICT ACCORDANCE WITH SECTION 11.5 OF DOCUMENT TITLED "DESIGN & CONSTRUCTION OF CONCRETE BLOCK PERMEABLE PAVEMENTS" EDITION 7 (DECEMBER 2018).

VARIES

350

FALL 1:20

150mm ID PERFORATED PIPE

100mm THICK GRANULAR BEDDING

600

VARIES

2%

IMPERMEABLE MEMBRANE: DENOTED BY RED DASHED LINE TO RESTRICT INGRESS OF SHALLOW GROUND WATER TABLE

PERFORATED PIPE WITHIN PERMEABLE PAVING SUB-BASE FRONTING UNITS

P05	AD	09/01/25	DETENTION BASIN DETAIL AMENDED
P04	LRJ	03/01/25	RWP TO FILTER DRAIN DETAIL ADDED; DETENTION BASIN DETAIL UPDATED.
P03	AD	01/11/24	FILTER DRAIN DETAIL ADDED
P02	LRJ	13/09/24	ISSUE FOR FULL SAB APPLICATION
P01	RC	05/07/24	INITIAL ISSUE TO SUPPORT SAB PRE APPLICATION
Rev	Bv	Date	Revision

Bingham Hall PARTNERSHIP LTD					
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Project Title GLYNCORRWG INDUSTRIAL UNITS					
Drawing Title PROPOSED DRAINAGE DETAILS					
Drawing Status S2 - SUITABLE FOR INFORMATION					
Architect EPT PARTNERSHIP					
Client ANDREW SCOTT CONSTRUCTION LTD.					
Scale 1:20	Drawn RC	Drawing Size A1	Date JULY '24	Checked DTH	Rev
Project No. Originator Volume Level Type Role Number ISU - BHP - 02 - XX - DR - C - 50205					P05