

EXISTING 1200Ø BRICK SURFACE WATER CULVERT

FACILITATE EXISTING BRICK CULVERT

HANDRAILS

MIN BENCHING 325

MANHOLE TO BE BOXED OUT TO 150mm ABOVE MAIN CHANNEL INVERT LEVEL

SAFETY CHAINS

INVERT ACCESS STEPS

MIN BENCHING 450

Ø7000

PROPOSED SURFACE WATER TO
CONNECT TO EXISTING SURFACE
WATER CULVERT SUBJECT TO
APPROVAL BY LLFA

Technical drawing of a manhole structure. The drawing shows a circular manhole with a thick, stippled wall. Inside, there is a rectangular structure labeled "MANHOLE TO BE BOXED OUT TO 150mm ABOVE MAIN CHANNEL INVERT LEVEL". To the left of this structure, a dimension line indicates "Min. Batching 450". Below the main structure, there are "INVERT ACCESS STEPS". A diagonal dimension line across the manhole indicates a depth of "400". At the bottom right, there are "HANDRAILS" with a dimension line indicating "Min. Batching 300". A horizontal line at the bottom is labeled "SAFETY CHAINS".

PLEASE NOTE THAT THIS DRAWING IS ISSUED FOR INFORMATION/TENDER PURPOSES ONLY UNTIL TECHNICAL APPROVAL HAS BEEN GRANTED.
ANY WORK UNDERTAKEN PRIOR TO TECHNICAL APPROVAL BEING GRANTED IS AT THE CLIENTS RISK

Diagram illustrating the internal structure and dimensions of a manhole:

- MANHOLE TO BE BOXED OUT TO 150mm² ABOVE MAIN CHANNEZ INVERT LEVEL**: Central text indicating the required height of the manhole structure.
- MIN. BENCHING 325**: Dimension indicating the minimum benching height on the left side.
- MIN. BENCHING 450**: Dimension indicating the minimum benching height on the right side.
- INVERT ACCESS STEPS**: Label for the steps leading down to the invert level.
- SAFETY CHAINS**: Label for the chains used for safety.
- HANDRAILS**: Label for the handrails on the left and right sides.
- Ø1200**: Dimension indicating the diameter of the manhole structure.

1500Ø

MANHOLE TO BE BOXED OUT TO 150mm ABOVE MAIN CHANNEL INVERT LEVEL

MIN. BENCHING 1:25

HANDRAILS

SAFETY CHAINS

INVERT ACCESS STEPS

Ø2700

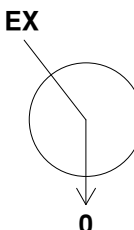
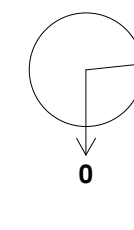
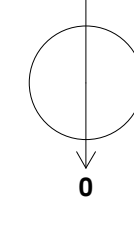
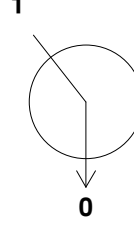
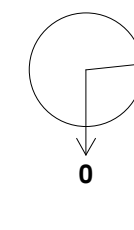
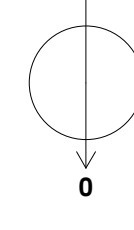
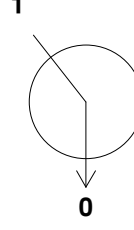
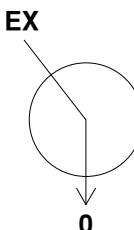
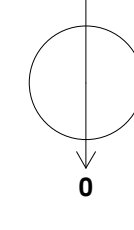
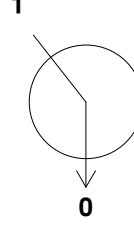
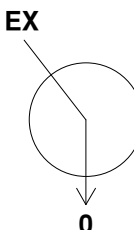
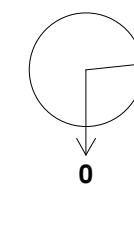
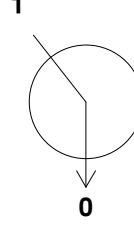
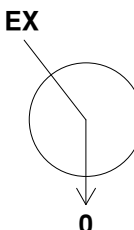
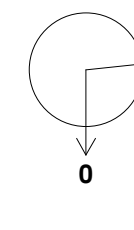
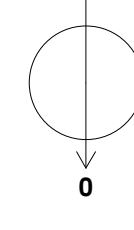
MIN. BENCHING 1:50

MANHOLES TO BE CONSTRUCTED IN ACCORDANCE
WITH THE DESIGN AND CONSTRUCTION GUIDANCE
- MAY 2021

MANHOLE LADDER TO BE CONSTRUCTED IN LINE
WITH DESIGN AND CONSTRUCTION GUIDE CLAUSE
DCG CLAUSE E2.37

ROCKER PIPES WILL BE USED IN LINE WITH DESIGN
AND CONSTRUCTION GUIDANCE
FOR PIPES 225-600 DIA - ROCKER PIPE EFFECTIVE
LENGTH:600
FOR PIPES 825 DIA AND ABOVE - ROCKER PIPE
EFFECTIVE LENGTH SHALL BE 1250, ROCKER PIPES
TO BE USED UNTIL THE PIPE OUTSIDE DIAMETER
EXCEEDS THE EFFECTIVE LENGTH OF THE ROCKER
PIPE

NOTE ALL CONNECTIONS TO BE MADE SOFFIT
LEVEL UNLESS INDICATED OTHERWISE

Manhole Number	Cover Level	Connections	Pipe				Manhole Size	Types		Other Detail				
	Depth To Soffit		Code	Inverts	Diams	Manhole		Cover	Depth & Size (mm)	Means of Access	Safety Chains	Handrails	Invert Access Steps	
S100	46.550					2700	SHALLOW ACCESS MH	D400	150 600 x 600 750 x 600 COVER SLAB OPENING	Ladder	Yes	Yes	Yes	
E= 386236.741 N= 397141.980	2.335													0
S101	46.167					3000	SHALLOW ACCESS MH	D400	150 600 x 600 750 x 600 COVER SLAB OPENING	Ladder	Yes	Yes	Yes	
E= 386197.453 N= 397132.775	2.199													0
S102	45.827					2700	SHALLOW ACCESS MH	D400	150 600 x 600 750 x 600 COVER SLAB OPENING	Ladder	Yes	Yes	Yes	
E= 386199.688 N= 397115.599	1.959													0
S103	45.903					2700	SHALLOW ACCESS MH	D400	150 600 x 600 750 x 600 COVER SLAB OPENING	Ladder	Yes	Yes	Yes	
E= 386205.772 N= 397068.842	2.308													0

1. **GENERAL**
2. All adoptable sewers and associated works are to comply fully with 'Design and Construction Guidance' & Local Practices
3. All highway works are to be adoptable standards and to comply fully with the Local Authority specification.
4. All private drainage works are to comply fully with part H of the Building Regulations
5. All existing invert levels to be checked by the Contractor at the start of works and any discrepancies notified to the Highways Dept. All levels are based on topographical survey information provided by others.
6. All materials to bear the relevant B.S.Kitemark and comply fully with the specifications.
7. All concrete & concrete products must use Sulphate resistant cement (unless the site investigation report proves that sulphate attack from soils and groundwater will not occur)
8. All opening notices etc. as required under highways acts etc. are to be obtained prior to commencement of work.
9. All works are to be inspected by LA, NHBC or Relevant Water Authority as applicable.

CDM REGULATIONS 2015

In line with the above regulations we are obliged to inform the Client of their responsibilities under section CDM 15/1, and residual risks that may be encountered in the construction of these works.

All design work has been carried out with Health and Safety aspects given full consideration. Wherever possible risks have been eliminated from the design, however due to the very nature of this type of work it is not possible to remove all the risks from the design.

We would also respectfully remind the Client of his obligations to take all reasonable steps in ensuring that only competent contractors who have a valid safety policy are employed.

They should also provide satisfactory responses at tender stage so to the manner in which they will deal with the elements of risk involved in this type of work and in particular those highlighted by REFA below:-

1. Support / treatment for ALL excavation work.
2. Guarding to edges of excavations to prevent loose materials or vehicles falling into excavation.
3. Guarding of excavations outside working hours to prevent unauthorised access.
4. Undermining to adjacent roads or structures.
5. Confined space operations.
6. Dealing with existing services.
7. Traffic management on existing highways.
8. Procedure to be followed in event of accident or emergency.
9. Method of working where contaminated ground is present on site.
10. Confirmation will be required that all operatives are adequately trained, copies of relevant training certificates to be supplied.

The above list is by no means exhaustive but it does highlight operations that present a risk to contractors and the general public.

For clarification on any item please contact REFA.

F	S103 REVISED					AS		03.04.23	
E	MH CD QRDS REVISED					AS		30.03.23	
D	REVISED TO LATEST DESIGN					AS		27.03.23	
C	MH CD QRDS ADDED					AS		23.01.23	
B	REVISED TO LATEST DESIGN					AS		18.01.23	
A	REVISED TO LATEST DESIGN					AS		23.12.22	
rev	Revision details						Rev.By	Date	



worksafe
designer

www.smasltd.com

as recognised by



SAFETY
SCHEMES IN
PROCUREMENT

Drawing Stage		Drawing Status	
	Draft	Comments	● Tender
●	Issued	Information	Construction
		● Approval	As Built

Client
KELLEN HOMES

Job title

**BENNETT STREET
MANCHESTER**

Drawing title

SW MANHOLE

SCHEMATICS DRG 1

	45 Bridgeman Terrace Wren, Lancs WN1 1TF Tel: (01942) 826200 Fax: (01942) 230816	
	<u>CONSULTING ENGINEERS</u>	
	CIVIL • STRUCTURAL	
	GEOTECHNICAL • ENVIRONMENTAL	
Date 18.11.22	Scale 1:20	Drawn AS
DRAWING No	22122/104/3	Rev F
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