

TABLE 2

Embedment Dimensions for Rigid Pipes

TABLE 2 Embedment Dimensions for Rigid Pipes					
NOMINAL INT PIPE DIA	DIMENSION Y1 EVEN TRENCH BOTTOM (MIN)	DIMENSION Y2 ROCK OR UNEVEN TRENCH BOTTOM (MIN)	PROCESSED GRANULAR MATERIAL	DIMENSION Z (MIN)	MAX PERMITTED TRENCH WIDTH
150	100	200	100mm single sized or 14mm to 5mm graded	100	750
225	100	200		100	825
300	100	200		100	925
375	100	200	100mm single sized or 14mm to 5mm graded	100	1050
450	150	200		150	1150
525	150	250		150	1200
600	150	250	100mm single sized or 14mm to 5mm graded	150	1350
675	150	250		225	1450
750	225	300		225	1500
825	225	300	20mm single sized or 20mm to 5mm graded	225	1600
900	225	300		225	1900
975	225	300		300	2000
1050	225	300	20mm single sized or 20mm to 5mm graded	300	2100
1125	225	300		300	2200
1200	250	350		300	2300
1350	375	450	40mm single sized or 40mm to 5mm graded	375	2500
1500	375	450		375	2700
1650	375	450		450	2800
1800	375	500	40mm single sized or 40mm to 5mm graded	450	3100
1950	400	500		525	3200
2100	425	650		525	3400
2400	450	675		600	3700

GENERAL NOTES

- | | |
|---|----------------------------|
| <p>1. All dimensions in millimetres</p> <p>2. The pipe embedments indicate the minimum trench dimensions which should be assumed for initial design purposes; the minimum trench widths shown will usually be sufficient to allow adequate compaction of the embedment material</p> <p>3. For narrow trenching techniques the minimum trench width may be reduced, providing that the design indicates that the reduced embedment width is sufficient to support the pipework</p> <p>4. Where selected excavated material may migrate into the native soil or vice versa, geotextile membrane shall be provided around the embedment material</p> <p>5. Bedding factors are derived from 'A' guide to design loadings for buried rigid pipes' and EN 41-4-02 'Reinforced bedding for vitrified clay drains and sewers'</p> <p>6. Embedment dimensions shall be in accordance with Table 2</p> <p>PROCESSED GRANULAR MATERIAL:</p> <p>7. Processed granular material shall comply with WIS 440-02. The grading of processed granular material shall be as specified</p> <p>8. Limestone material shall not be used where the native ground around water is acidic, ie pH of 6 or less</p> | <p>1295-1</p> <p>BS EN</p> |
|---|----------------------------|

PROCESSED GRANULAR MATERIAL:

7. Processed granular material shall comply with WIS 4-08-02. The grading of processed granular material shall be as specified

8. Limestone material shall not be used where the native groundwater or ground water is acidic, ie pH of 6 or less

CONCRETE EMBEDMENTS & SURROUND:

9. Gen 3 concrete shall be used in non aggressive ground. Elsewhere the cement type and mix design should be selected to suit the sulphate content and pH of the ground and groundwater

10. Concrete surround details shall be adopted where cover to pipework is less than 1.2M and where it is necessary to protect the pipework from traffic loading

11. Pipes to be bedded/surrounded with concrete shall be supported on precast concrete setting blocks, the top face of each block being covered with two layers of compressible packing

- 12. PVC and PE pipes shall be wrapped with a layer of plastic sheeting complying with UU CESWI 6 class 2.95**

13. GRP pipes shall be wrapped with compressible filler material 100mm wide at the end of the concrete surround

- 14. Compressible filler shall comply with UU CESWI 6 class 2.19**

TABLE 3
Thickness of
Compressible Fill (L)

TABLE 3 Thickness of Compressible Fill (L)		
Nominal Internal Pipe Dia	Dim. X mm	Compressible Filler L mm
<400	160	18
400-700	200	36
725-1200	300	36
>1200	300	54

GENERAL

1. All double shares and associated works are to comply with the relevant BS standards.
2. All highway works to be designed in accordance with the relevant Design and Construction Guidance.
3. All highway works to be to the adoptable standards and to comply with the Local Authority specification.
4. All works to be carried out in accordance with the current Part H of the Building Regulations (July 2015).
5. All existing invert levels to be checked by the Contractor at the start of works and any discrepancies related to EICR/epcographic survey information provided by others.
6. All materials to be the relevant BS/EN/standard and comply fully with the specifications.
7. All works to be carried out in accordance with the Supplier's recommendations (unless the site investigation report proves that sulphate attack from salts and groundwater will not occur).
8. All opening notices etc. as required under the Highways Act etc. are to be obtained prior to the start of works.
9. All works to be inspected by LA, NHBC or Relevant Water Authority as appropriate.

C.D.M. 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.

As 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.

Only those who take an effective steps in ensuring that only competent Contractors who have a valid safety policy are employed.

They should also provide satisfactory responses at tender stage as 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 people, materials and vehicles falling into excavation.
3. Guarding of excavations outside working hours to prevent unauthorised access.
4. Underpinning 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.

10. Confirmation will be required that all operatives are adequately trained, copies of relevant training certificates to be supplied.

does highlight operations that present a risk to contractors and the general public.
For clarification on any item please contact REFA.

	Rev	Revision	Detail(s)	RF	Date
A.			CONCRETE BED AND SURROUND DETAIL.		
B.			REMOVED AS SHOWN COMMENTS		
C.					
D.					
E.					
F.					
G.					
H.					
I.					
J.					
K.					
L.					
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U.					
V.					
W.					
X.					
Y.					
Z.					

Drawing Stage		Drawing Status	
☐	Draft	☒	Tender
☒	Issued	☐	Construction
☐		☒	Approval
☐		☐	As Built

Client

**KELLEN HOMES
LIMITED**

Job title

**BENNETT STREET
MANCHESTER**

Drawing title

PIPE BEDDING DETAILS



45 Bridgeman Terrace
Wigan, Lancs
WN1 1TT
Tel: - (01942) 826020
Fax: - (01942) 230816

CONSULTING ENGINEERS
CIVIL • STRUCTURAL

GEO/TECHNICAL • ENVIRONMENTAL		
Date 21.04.23	Scale N.T.S.	Drawn AS
DRAWING NO	22122/117/3	Rev A

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