

**DO NOT SCALE FROM THIS DRAWING**

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**DRAINAGE NOTES**

- Invert of foul and surface water inspection chambers to be min 600mm below FFL.
- Covers HD in road, MD in paths and landscaped areas.
- All branches from stacks 100mm Ø.
- All inspection chambers 450mm Ø with 450mm covers.
- Manholes generally to be 1200x750 or 1050 Ø with 600x600 or 600 Ø covers except manholes between 1.5 & 2.7m deep which are to be minimum 1200mm Ø.
- Ground floor ensuite shower and bath connections made below floor into nearest run min. 2000mm downstream using 135 branch pipe. Trap to be demountable for rodding.
- RWP to discharge into roddable access gullies compatible.
- Gullies in hardstanding to be Hepworth semi-universal-square top (200m² capacity).
- Ensure trap is fitted on laundry installation (separate connection).
- Drain runs in the car park area to be surrounded in minimum 150mm pea gravel giving class 5 bedding factor 2.5.
- All soil stacks to be vented - those marked SVP are taken through the roof and vented to air, all other to be fitted with Agreement Certified Air Admittance Valves.
- Invert levels, pipe diameters, gradients, and connection points associated with petrol interceptors, storage and infiltration areas to be specified by Subcontractor.
- Rocker pipes are to be fitted at each side of any pipes penetrating walls or relieving intels are to be provided.
- See project specification for further information.
- 1500 drains assume 1:150 unless stated.
- 1000 drains assume 1:80 unless stated.
- Kitchen wastes connected to above floor grease trap and then into soil stack.
- Where manhole/inspection chamber covers are located in paved or block paved areas, then covers need to be recessed to accept paving type.

**DRAWING REVISIONS**

REV	DESCRIPTION	DATE	BY	CHK
A	Updated to suit comments	09-05-2023	GB	SS



Ward Associates (Consulting Engineers) Ltd  
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 R and W Robinson

**PROJECT**  
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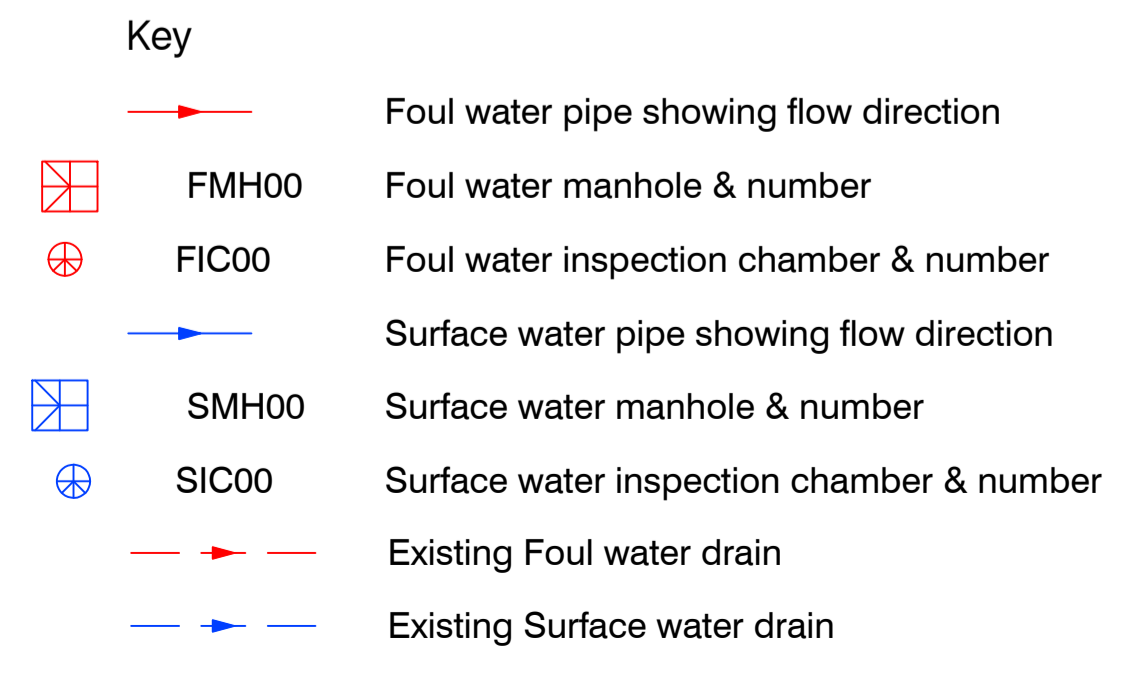
**DRAWING TITLE**  
 Drainage Layout

**DRAWING STATUS**  
**FOR COMMENT**

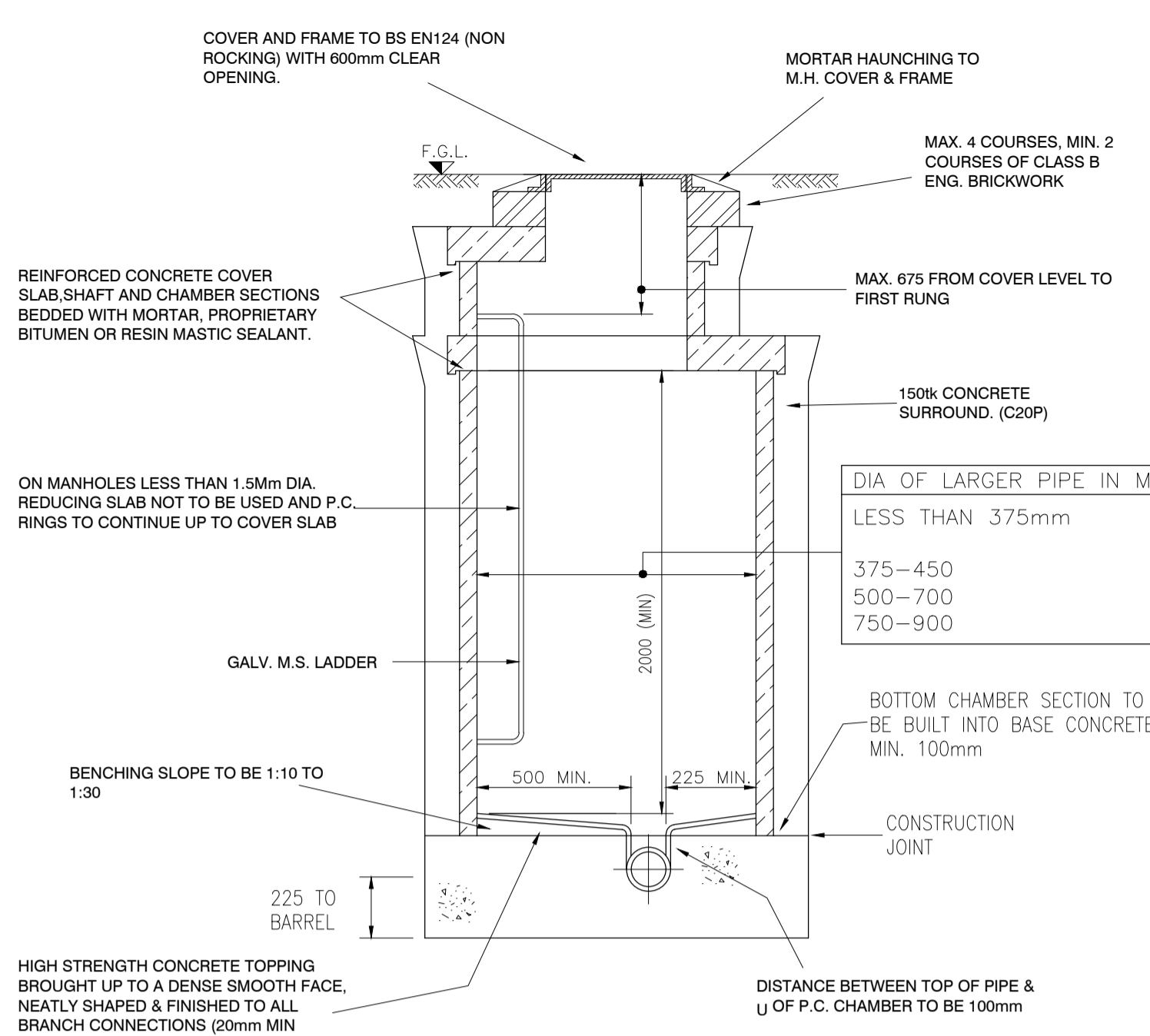
SCALE	DATE	
1:150 @ A1	May 2023	
DRAWN BY	CHECKED BY	
GB	SS	
JOB NO.	DWG NO.	REV
3536	SL(5)500	A

**Maintenance Schedule**

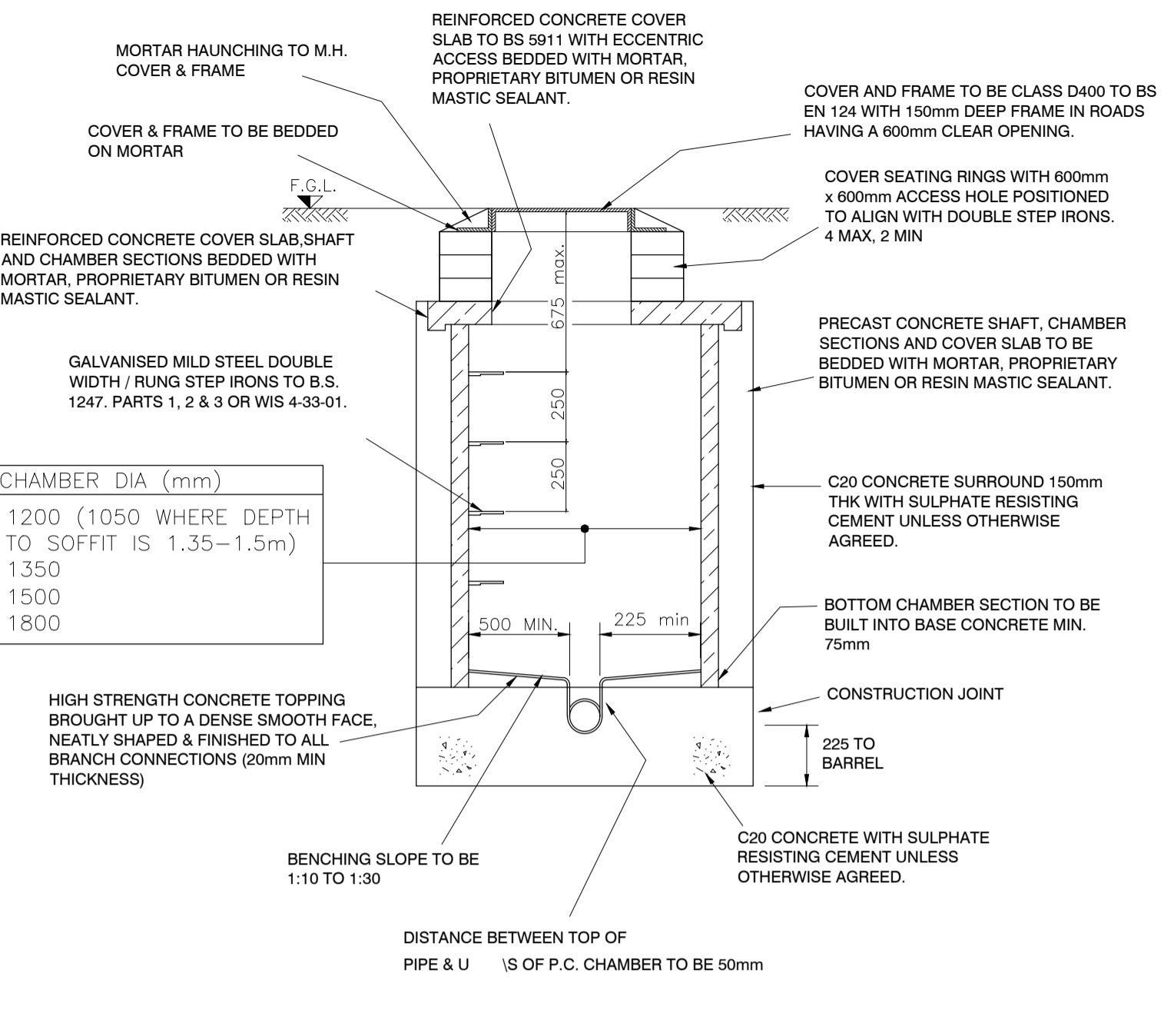
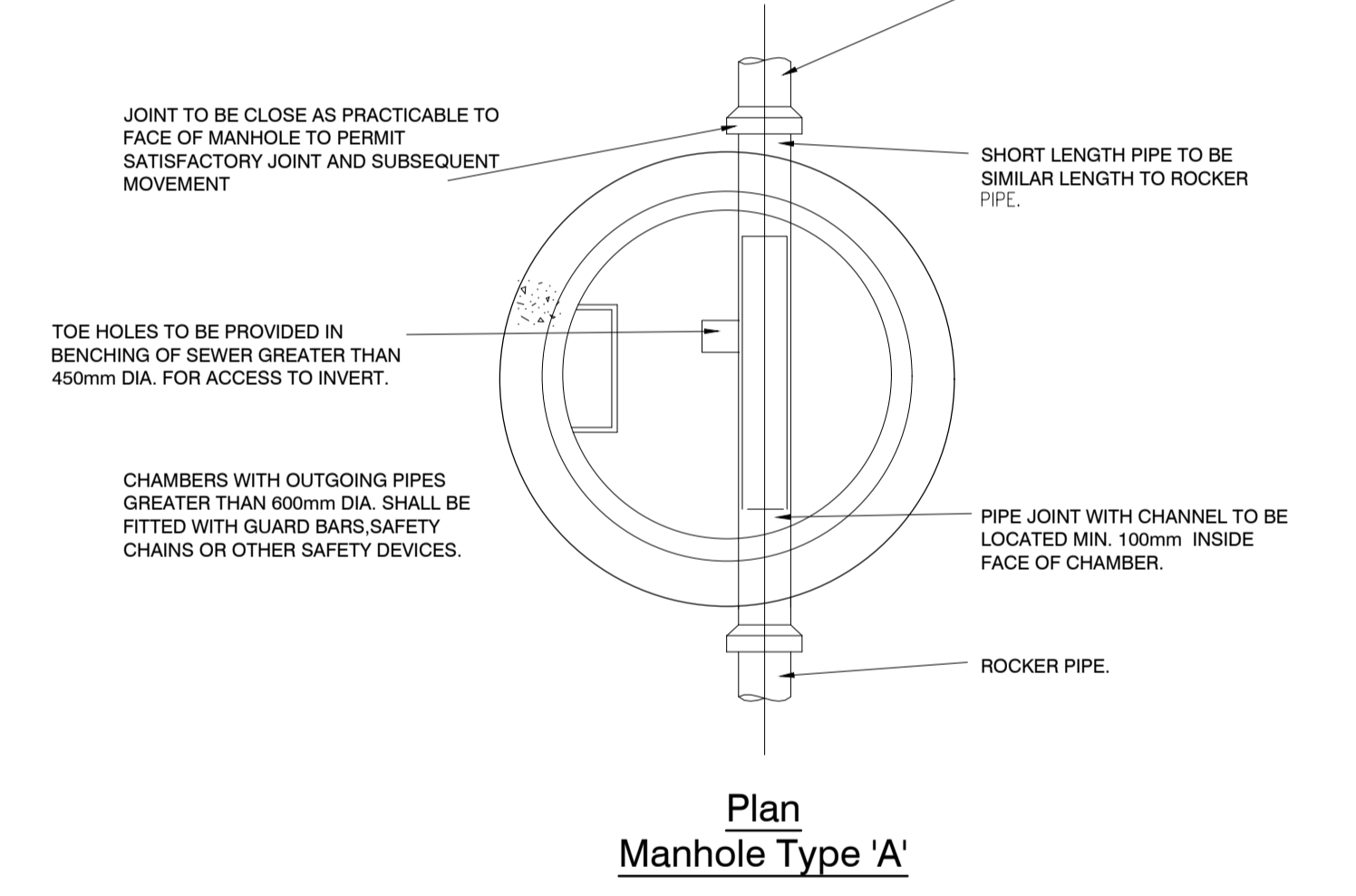
Item	Visual Inspection	Cleanse / De-sludge	CCTV Survey	Responsibility	Comments
Surface Water Drainage System (pipework, chambers etc.)	1 years	10 years	10 years	Building Owner	Cleansing to be carried as necessary
Gullies / Channels / Rainwater Stacks	Monthly	1 years	N/A	Building Owner	Cleansing to be carried as necessary
Attenuation Unit	Yearly	Yearly	5 years	Building Owner	Cleansing to be carried as necessary in lie with manufacturers recommendations
Hydrobrake	Monthly	1 years	N/A	Building Owner	Cleansing to be carried as necessary
Permeable Tarmac Paving	1 years	Swept' clean of debris every 2 years	N/A	Building Owner	Jetwash or suction roadswep permeable tarmac as performance levels reduce
Permeable Block Paving	1 years	Swept' clean of debris every 2 years	N/A	Building Owner	Lift blocks/sand removed sand bedding and replace and re-bed paving- refer to individual manufacturers recommendations.
Foul Drainage System (pipework, chambers etc.)	1 year	10 years	10 years	Building Owner	Cleansing to be carried as necessary



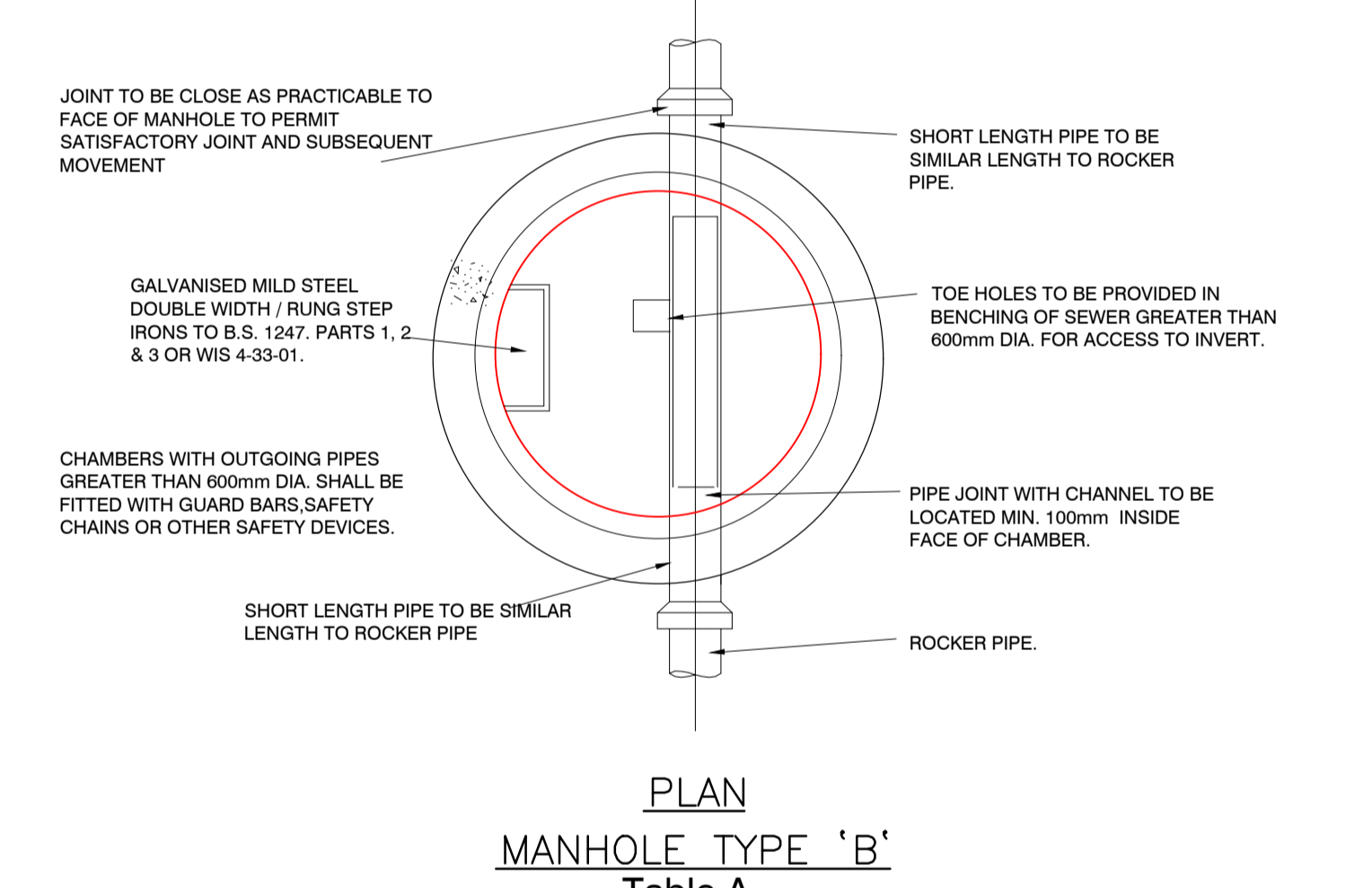




**Type 'A' Manhole Detail  
Depth From Ground Level  
To Soffit Of Pipe 3m to 6m**



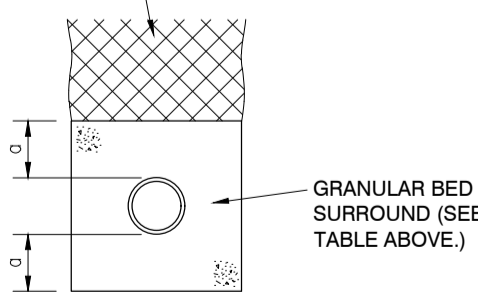
**Type 'B' Manhole Detail  
Max Depth From Ground  
Level To Soffit Of Pipe 3m**



PIPE DIA.	ROCKER PIPE LENGTH
150-600	0.6
675-750	1.0
> 750	1.25

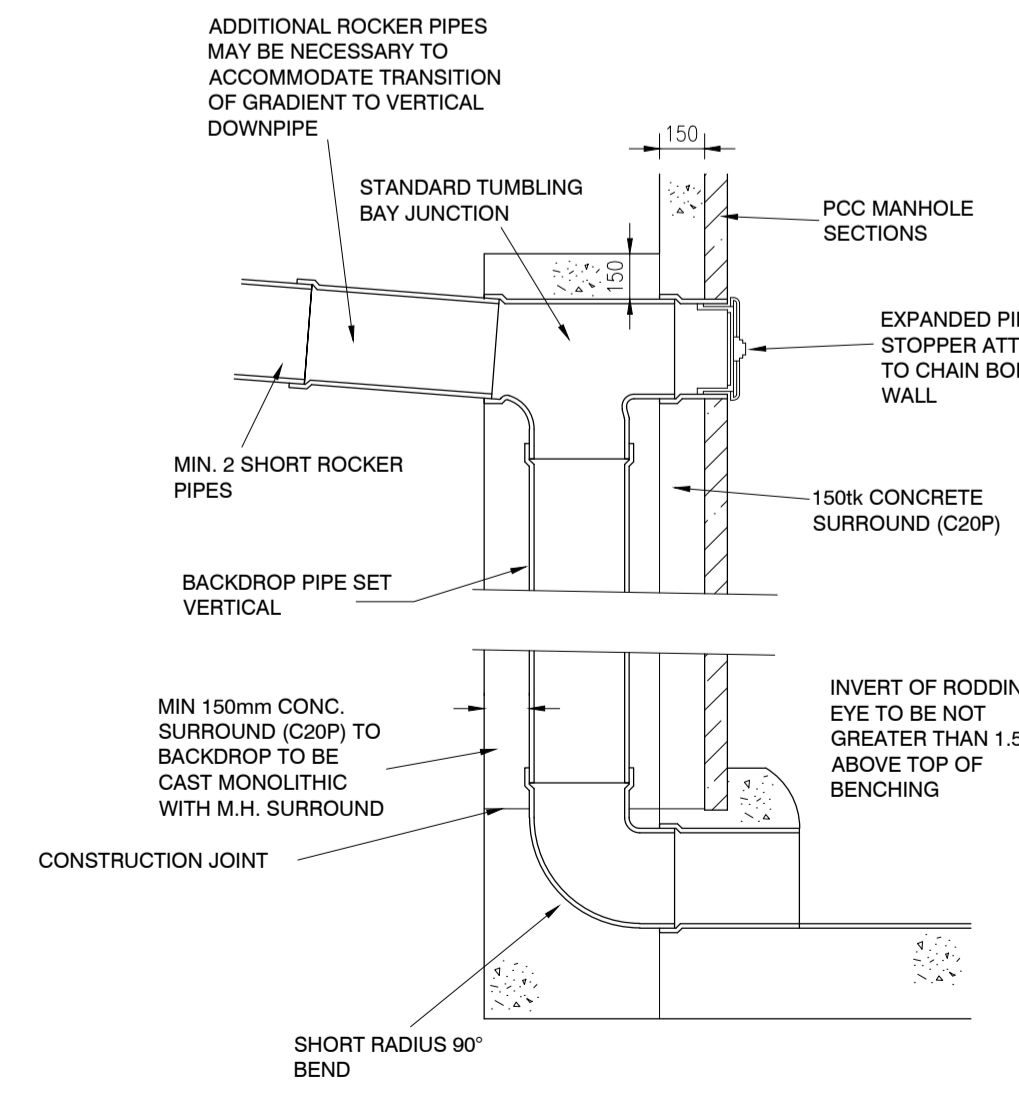
PIPE NOMINAL BORE (DN)	MAX. PARTICLE SIZE (mm)	CLASS OF BEDDING	SUITABLE IMPORTED GRANULAR MATERIALS
OVER 100 TO 150 dia	15	S	10mm OR 14mm NOMINAL SINGLE-SIZED OR 14mm TO 5mm GRADED.
OVER 150 TO 500dia	20	S	10, 14 OR 20mm NOMINAL SINGLE-SIZED OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED.
OVER 500	40	S	10, 14, 20 OR 40mm NOMINAL SINGLE-SIZED CRUSHED ROCK OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED OR 40mm TO 5mm GRADED.

UNDER ALL HARDSTANDING AREAS BACKFILL WITH 40mm DOWN GRADED STONE, HARD-CORE ELSEWHERE (IN SOFT LANDSCAPED AREAS) BACKFILL WITH APPROVED SELECTED MATERIAL.

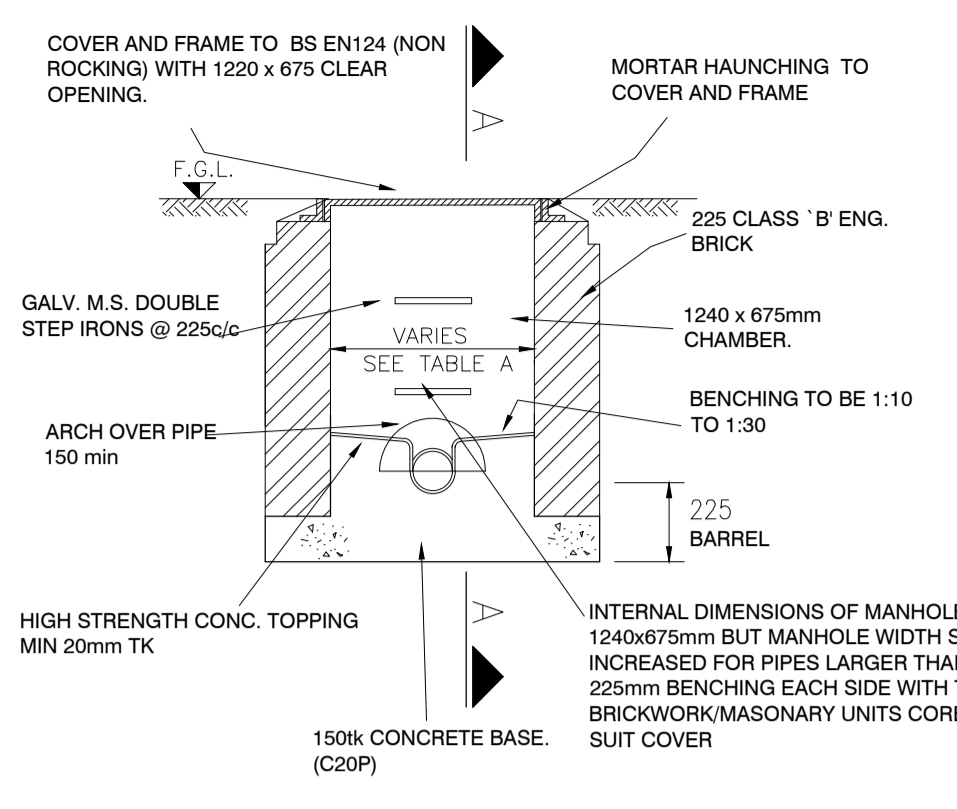


**DIMENSION a :-**  
IN ROCK OR MATERIAL CONTAINING HARD SPOTS  
SLEEVED JOINTED PIPES - 150mm MIN.  
SOCKETED PIPES - 200mm MIN.  
ELSEWHERE  
SLEEVED JOINTED PIPES - 100mm MIN  
SOCKETED PIPES - 100mm MIN.

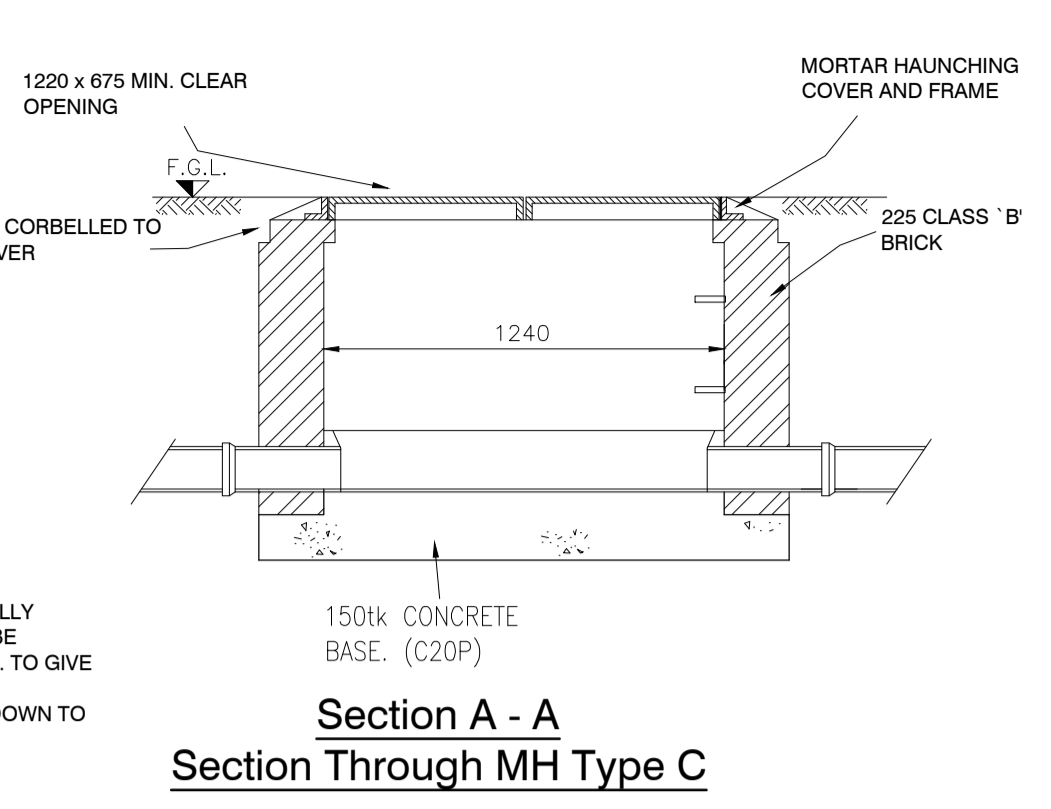
**Class 'S' Pipe Bedding Detail**



**Vertical Backdrop Detail**



**Type 'C' Manhole Detail  
Max Depth From Ground  
Level To Soffit Of Pipe 1.45m**



PIPE DIA.	INTERNAL MANHOLE SIZE	CORBELL DETAILS
UP TO 225	1240x675	NOT REQUIRED
300	1240x750	2 BRICK CORBELL
375	1240x825	3 BRICK CORBELL
450	1240x900	3 BRICK CORBELL

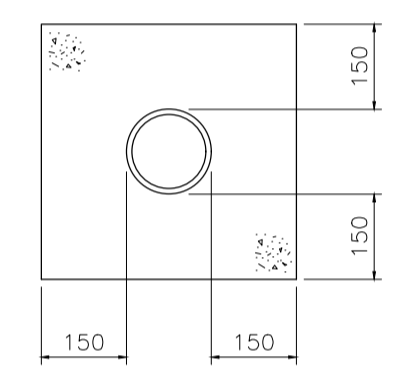
MAX. BRICK CORBELL PER COURSE TO BE 38mm

**Table A**

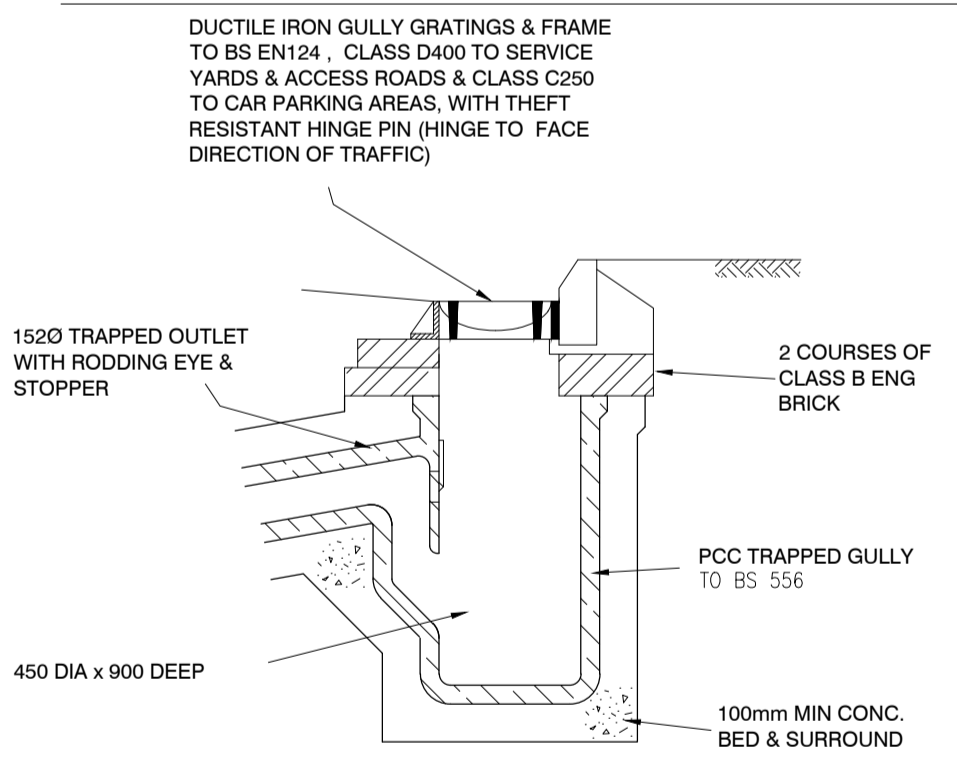
NOMINAL DIA OF PIPE (mm)	THICKNESS OF COMPRESSIBLE FILLER (mm)
LESS THAN 450	18
450-1200	36
EXCEEDING 1200	54

**MOVEMENT JOINT TO CONCRETE PIPE SURROUND**

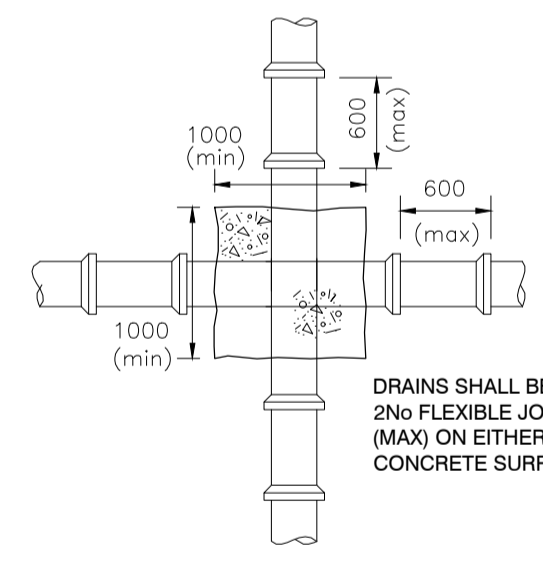
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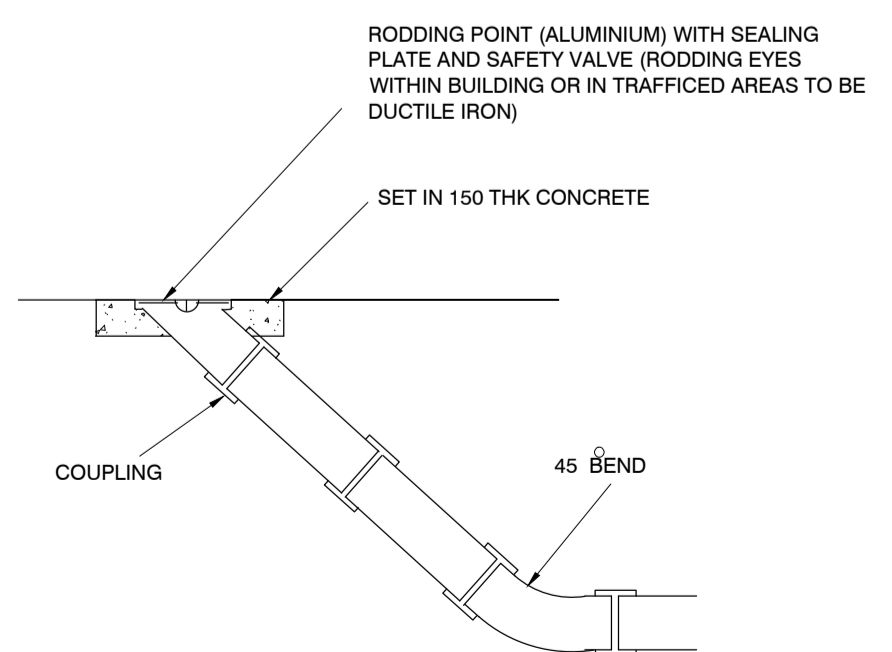
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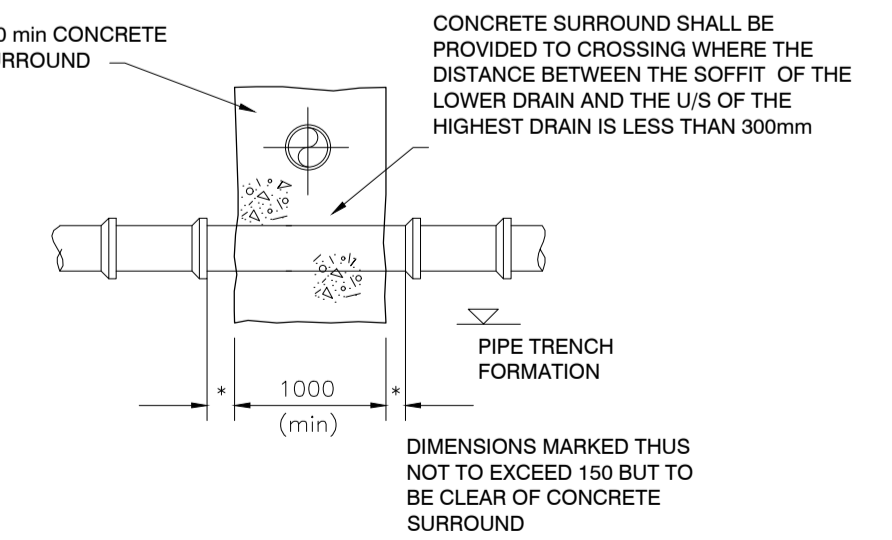
**Typical Road Gully Detail**



**Plan On Pipe Crossover**



**Rodding Eye Detail  
(NOT TO SCALE)**



**Section**

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**GENERAL**

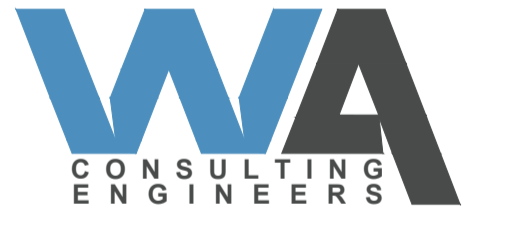
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Ward Associates (Consulting Engineers) Ltd  
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Cyclops House  
Link Business Park  
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YO10 3JB  
01904 544 401  
www.wardsc.co.uk

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**R and W Robinson**

PROJECT  
**Millfield House, Linley Ave, Haxby, York, YO32 3NF**

DRAWING TITLE  
**Drainage Details**

DRAWING STATUS  
**FOR COMMENT**

SCALE  
**1:50 @ A1**

DATE  
**May 2023**

DRAWN BY  
**GB**

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**SS**

JOB NO.  
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**-**