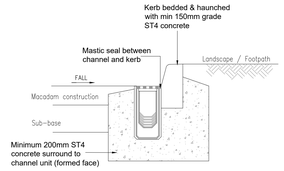
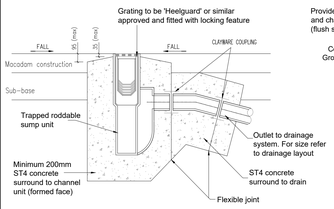


TYPICAL CHANNEL DRAIN DETAIL **
Channel located within Road or area of Vehicular Hardstanding
(1:25)

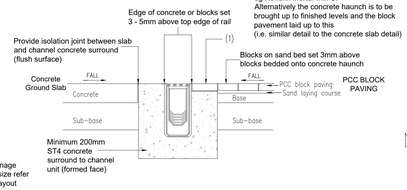


TYPICAL CHANNEL DRAIN DETAIL **
Channel located at Kerb
(1:25)

** MINIMUM REQUIREMENTS. CHANNEL INSTALLATION TO BE PROVIDED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS FOR LOAD CLASS D400 UNLESS NOTED OTHERWISE

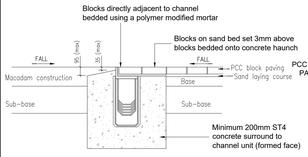


TYPICAL CHANNEL DRAIN SUMP UNIT **
Channel located within Road or area of Vehicular Hardstanding
(1:25)

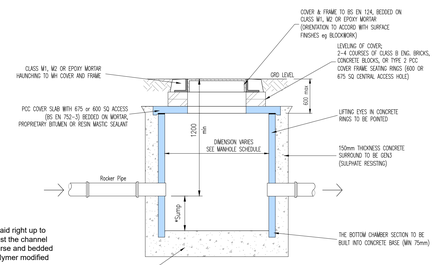


TYPICAL CHANNEL DRAIN DETAIL **
Alternate deatail for channel located within Concrete / Block Paved Hardstanding (1:25)

(1) Where blocks are required to be laid right up to the channel, the blocks laid against the channel wall are to be laid in a soldier course and bedded onto the concrete haunch with polymer modified mortar (all joints)
eg Ronafix Mortar mix C.
Alternatively the concrete haunch is to be brought up to finished levels and the block pavement laid up to this
(i.e. similar detail to the concrete slab detail)

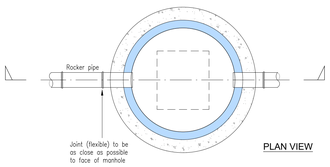


TYPICAL CHANNEL DRAIN DETAIL **
Alternate detail with 'Brickslot' Type Drain located within Macadam / Block Paved Hardstanding (1:25)



SECTION VIEW

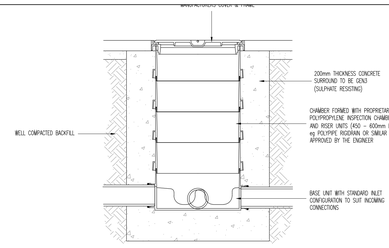
* Sump depth : see manhole schedule (600mm min unless noted otherwise)



PLAN VIEW

TYPICAL CATCHPIT CHAMBER
(1:25)

Proprietary PCC 'cast in base' Catchpit units can be used with Engineer's approval (alternate detail to be submitted for approval)

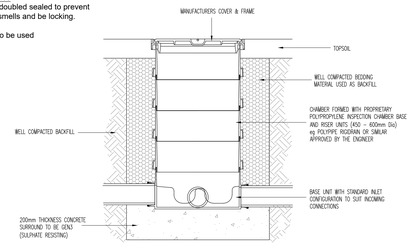


1. Chamber construction is to be watertight.
2. Maximum pipe diameter 150mm unless noted otherwise

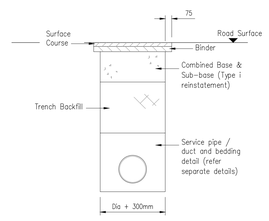
Internal Manholes

3. Cover is to be doubled sealed to prevent the escape of smells and be locking.
4. Square cover to be used

PPIC CHAMBER IN ROAD / HARD LANDSCAPED AREAS
Chamber Depth 0.8 to 1.5m (1:25)



PPIC CHAMBER IN SOFT LANDSCAPED AREAS
Chamber Depth 0.8 to 1.5m (1:25)



TYPICAL SECTION
(Type i Shown)

Layer**	Layer Thickness / Material	
	Type i Reinstatement	Type ii Reinstatement
* Surface Course	45mm HRA	45mm HRA
Binder	55mm AC20	55mm AC20
Base	350mm ST1 concrete	100mm AC32
Sub Base		150mm Type 1
Trench Backfill	(depth varies) Type 1	(depth varies) Type 1 or 2

* If the existing S.C. is not HRA, a substitute material to match existing is to be used. The combined thickness of S.C. and Binder to be 100mm
(eg for an existing SMA S.C. use 40mm thickness SMA 10 surf on 60mm AC20 dense Binder)

** Relevant materials clause numbers SHW;
HRA 35/14F surf (910) with 14mm coated chippings (PSV 60), SMA 10 surf (937),
AC20 dense Binder (906), AC32 dense Base (903), Concrete ST1 or (1038), Type 1 (803),
Type 2 (804)

NOTES;

1. Reinstatement to be Type i unless noted otherwise in the works information.
2. Edges of retained trench face to be cut back to a sound vertical face (any loose material to be removed).
3. A binder tack coat 1mm thick is to be applied to vertical and horizontal faces of the stagger joint prior to reinstating the flexible surfacing.
4. The finished surface of the reinstatement is to be flush with the adjacent carriageway (reinstated surface to shed surface water in the direction of the pavement cross fall).
5. Refer to the specification series 700 for general requirements.
6. TEMPORARY REINSTATEMENT - where a temporary reinstatement of the pavement is required (as agreed with the Engineer), the trench may be reinstated with a single 100mm thickness AC20 dense base material on 150mm of Type 1 sub-base on selected granular fill.
7. Where the works include for a permanent full width carriageway Surface Course overlay onto the existing road surface, all trench reinstatements must be completed first to the above specification, excepting the S.C. and Binder layers which can be replaced with a single layer of Binder material.

CARRIAGEWAY SERVICE TRENCH REINSTATEMENT (1:25)

1. All dimensions are in millimeters unless stated otherwise.
2. All below ground concrete and concrete products will satisfy sulphate classification 2 of the 'bre digest 363' and consist of o.p.c. minimum cement content 330kg/m³ or s.r.p.c. minimum cement content of 280kg/m³.
3. All insitu concrete to comply with BS 8500.
4. All precast concrete items to comply with BS 5911:Pt 200 (and be kite marked).
5. Where Class A bedding is used for protection to pipe work, each flexible joint in the concrete surround shall be interrupted over its full cross-section with a shaped compressible filler.
6. Where pipes are surrounded in concrete, pipe joints are to be protected from the ingress of concrete fats by wrapping them in polythene sheet.
7. Manholes to be constructed with precast cylindrical concrete rings.
8. All precast concrete slabs and rings shall be bedded or jointed using a mortar, proprietary bitumen, or resin mastic sealant.
9. Manhole construction to be watertight.
10. High strength (granolithic) concrete topping to be brought up to a dense smooth face, neatly shaped and finished to all branch connections (min thickness 20mm). Benching slope to be 1:10 to 1:30.
11. "Step irons' to be Plastic encapsulated Double Step Rungs of Type D Class 1 in accordance with BS EN 13101. Rungs to be at 250mm centers. Depth to first Rung below manhole cover not to exceed 675mm.
12. Where pipes enter a manhole at an angle, a slow radius bend is to be used. The bend should be built inside the manhole
13. Manhole invert to be formed using a channel pipe.
14. All pipes entering or leaving a manhole or structure shall have a flexible joint 150mm from the outside face of the manhole (or structure). The next pipe shall be a 'Rocker Pipe' of length;

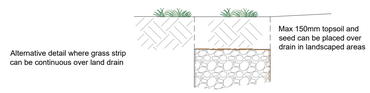
Pipe Ø (mm)	Length of Rocker Pipe (mm)
150 - 600	600
675 - 750	1000
825 and over	1250

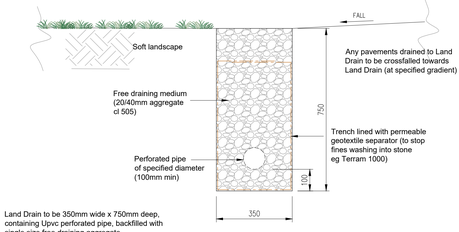
The Rocker Pipe shall have a flexible joint at both ends.

15. Manhole covers and frames to comply to BS EN124 for the specified load class (to be class D400 unless shown otherwise);

Loading	BSEN97	BS EN 124	BS EN 124
	Grade / load test	Class	Test Load
Group 6		F900	900kN
Group 5		E600	600kN
Group 4	D / 400kN A / 350 kN	D400	400kN
Group 3		C250	250kN
Group 2	B / 150kN	B125	125kN
Group 1	C / 10 kN	A15	15kN

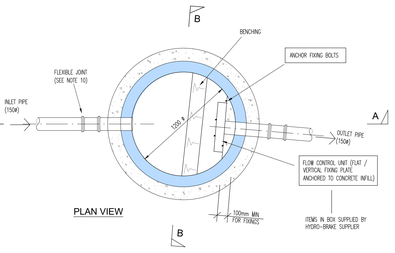
16. Manhole cover types are specified in the Manhole Schedule (eg solid, recessed or vented etc).
17. Unless stated otherwise, all internal manhole covers are to be double sealed, locking and recessed to take floor finishes.
18. Levelling of manhole covers to be achieved using engineering brickwork (4 courses max. 2 courses min), or pcc cover frame seating rings.





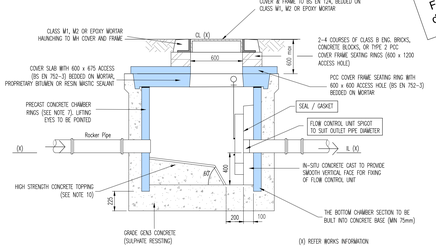
Land Drain to be 350mm wide x 750mm deep, containing Upvc perforated pipe, backfilled with single size free draining aggregate

TYPICAL LAND DRAIN
(1:10)

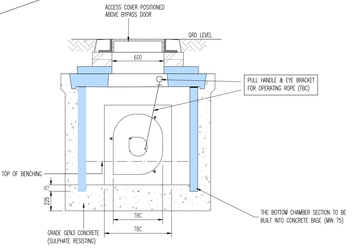


PLAN VIEW

EXAMPLE Flow Control Chamber detail.
Full details To Be Confirmed with final drainage design and Confirmation of Hydrobrake Supplier



SECTION A-A



SECTION B-B

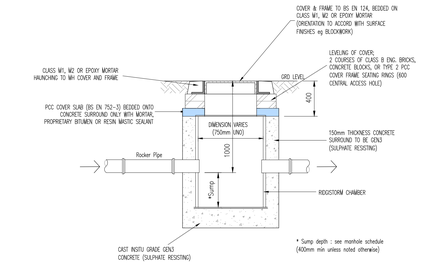
FLOW CONTROL CHAMBER
Depth To Pipe Soffit 1.0 to 1.5m (1:25)

Protective geotextile layer (refer to Tank manufacturers recommendations)

Impermeable geotextile barrier (refer to Tank manufacturers recommendations)

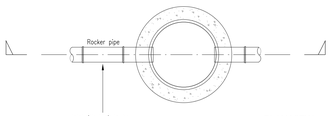
Note:
The storage tank must be vented, and it is recommended that one vent pipe, 110mm in diameter is provided per 7,500m² of impermeable catchment area of site. Refer to manufacturers design installation instructions (eg vented cover / access point or pipe taken to above ground location)

ATTENUATION TANK
(Indicative and Subject to Supplier Design / Installation Requirements - TBC)
(1:25)



SECTION VIEW

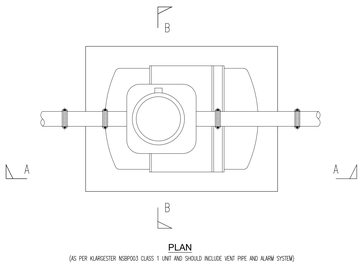
* Sump depth : see manhole schedule (400mm min unless noted otherwise)



PLAN VIEW

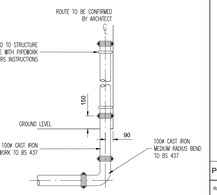
TYPICAL LAND DRAIN CATCHPIT
(1:25)

Proprietary POLYPIPE "RIDGISTORM" Separate Catchpit or similar with Engineer's approval (alternate detail to be submitted for approval)



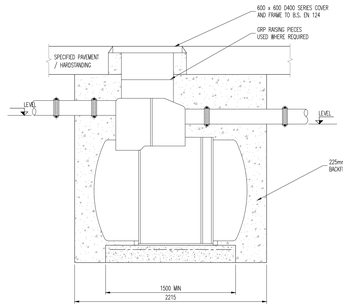
PLAN
(AS PER KLARGESTER NSBP003 CLASS 1 UNIT AND SHOULD INCLUDE VENT PIPE AND ALARM SYSTEM)

THE ROUTE / SET-OUT OF THE VENT PIPE AND SERVICE DUCT IS TO BE DISCUSSED AND AGREED WITH THE ARCHITECT & BUILDING SERVICES ENGINEER

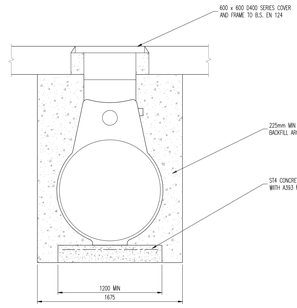


VENT PIPE

* TYPE / MODEL TBC BY THE ENGINEER. ALTERNATE / EQUIVALENT SEPARATOR SUPPLIER ONLY TO BE USED WITH APPROVAL OF THE ENGINEER (TO EN 858-1)



SECTION A-A



SECTION B-B

TYPICAL DETAIL BYPASS INTERCEPTOR
(Klargester NSB model*) 1:25

Rev	Date	Description	By	Ch'k
P01	13.01.23	PLANNING ISSUE	KHS	NF

Amendments

Project
ROCHDALE ROAD

Title
DRAINAGE STANDARD DETAILS

Client
MCGOFF CONSTRUCTION LTD

waterman
mail@watermangroup.com www.watermangroup.com

Suitability
PRELIMINARY

Designed By	NF	Director	AD	Waterman Ref	WIE
Drawn By	NF	Date	January 2023	Scales @ A3	NTS

Project - Originator - Volume - Level - Type - Role - Number
23C002-WSL-SI-ZZ-DR-D-92004

Revision
P01

File Path