TYPICAL DETAILS FOR A CAR PAR RAIN GARDEN

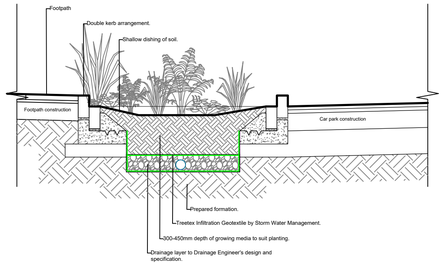


Table of aggregat sizes for pipe bedding
For rigid pipe materials only

Pipe diameter	Alternative aggregate sizes		Aggregate material
	Single size	Graded	
100Ø	10mm	Not suitable	Natural aggregate
150Ø	10mm or 14mm	14mm - 5	To BS 882
225Ø - 450Ø	10mm or 14mm or 20mm	14mm - 5 or 20mm - 5	Either crushed or as dug
500Ø and above	14mm or 20mm	14mm - 5 or 20mm - 5 or 40 - 5	Must be crushed stone

Table 1

Capping layer & sub base thickness

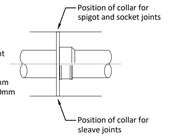
Granular sub base type 1
Thickness to depend on in-situ CBR

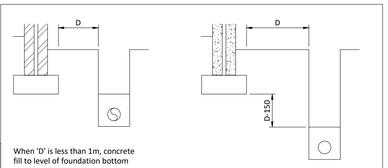
CBR (%)	Sub-base thickness
< 2%	610mm
2%	420mm
2.5%	370mm
3%	310mm
4%	300mm (Minimum)

Pipe bedding details
Class A bedding shall be used on all pipelines with less than 1.2m depth to soffit in adoptable highways and other vehicular areas, and all other areas where depth to soffit is less than 0.9m

Flexible joint to pipe bedding

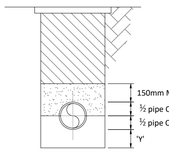
Flexibility maintained in pipeline at every joint by break in bed formed by collar of bitumen impregnated insulating board.
1 No 18mm thick for pipes DN100mm - 400mm
2 No 18mm thick for pipes DN 450mm - 1200mm

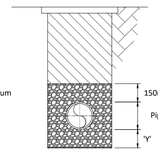


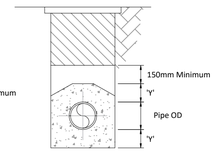


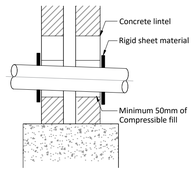
Pipes near buildings
Trenches within 1m of load bearing walls should be filled with concrete at least to the level of the underside of the foundation. Where the distance is more than 1m from the wall, the concrete fill should be to a level below the underside of the foundation equal to the distance from the wall to the nearside of the trench, less 150mm.

Structural concrete C20P

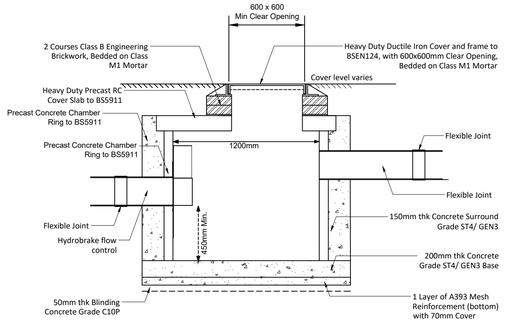




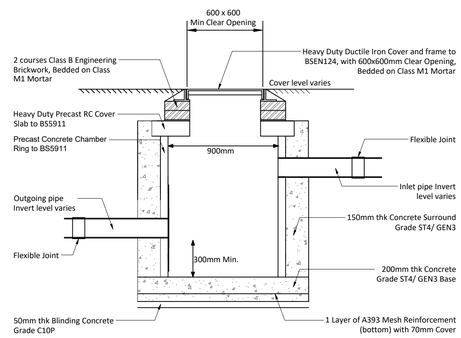




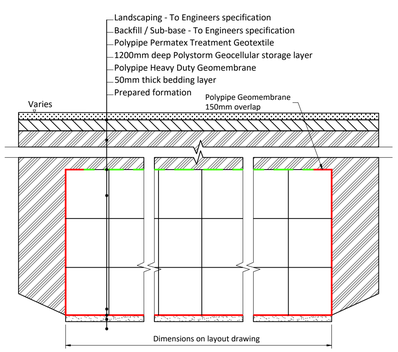
DRAIN PENETRATING THROUGH WALLS



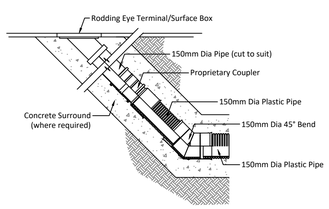
TYPICAL 1200mm FLOW CONTROL CATCHPIT



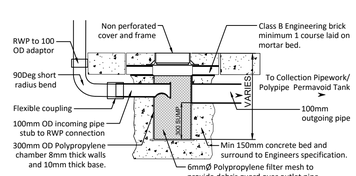
900Ø CATCHPIT INSPECTION CHAMBER (750Ø Similar)
SUMP REQUIRED ON SURFACE WATER NETWORK ONLY



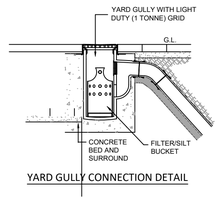
TYPICAL SECTION THROUGH 1200MM
DEEP PSM1 ATTENUATION TANK



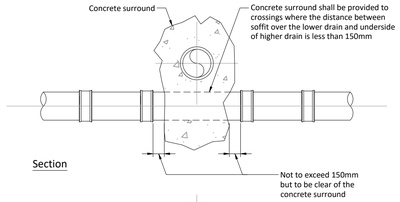
TYPICAL RODDING EYE DETAIL



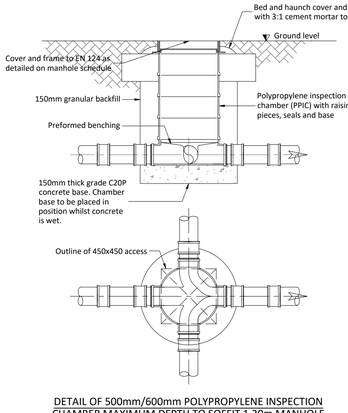
TYPICAL 300mmØ RWP BACK INLET GULLY



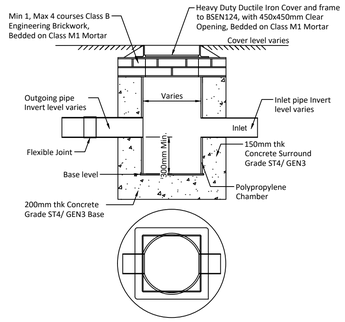
YARD GULLY CONNECTION DETAIL



TYPICAL DETAIL OF PIPE CROSSOVER

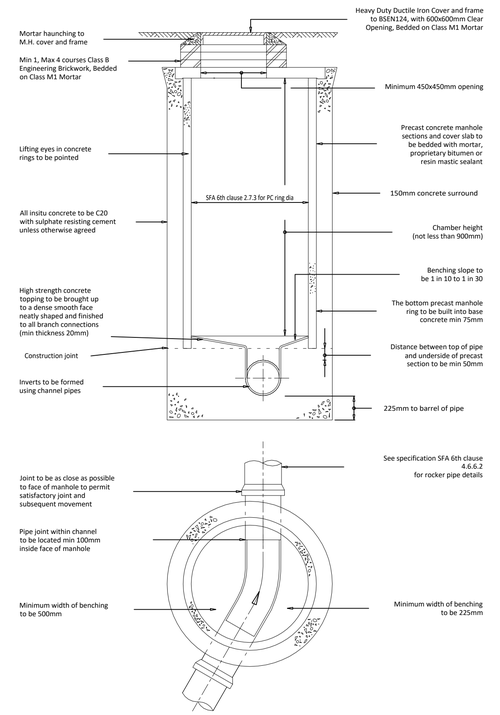


DETAIL OF 500mm/600mm POLYPROPYLENE INSPECTION
CHAMBER MAXIMUM DEPTH TO SOFFIT 1.20m MANHOLE
TYPE A



POLYPROPYLENE CATCHPIT
INSPECTION CHAMBER

TYPICAL MANHOLE DETAIL - TYPE B
Max depth from cover level to soffit of pipe 3.0m
Steps or otherwise to be fitted as required by Undertaker's policy



Notes.
1. DO NOT SCALE THIS DRAWING. WORK TO FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS NOTED OTHERWISE.

2. This drawing is to be read in conjunction with all relevant Architect's, Engineer's and Specialist's drawings and their respective specification.

3. All work to comply with relevant British Standards, Codes of practice and the Building Regulations.

4. Any discrepancies between all working drawings, specifications and schedules of all disciplines to be immediately notified to main contractor for clarification/correction prior to construction of relevant structure.

5. All cover levels are indicative only and shall match Architects proposed levels. Invert levels to be confirmed on site prior to work commencing.

6. All areas of excavation are to be scanned and marked for existing services prior to any excavation.

7. Branch connections to PPIC's have been assumed 50mm higher than the main channel.

8. All connections from RWP to be 160mmØ unless noted otherwise.

9. For the location of all RWP's and SVP's refer to Architects drawings.

10. Stormwater attenuation system shall be Polypipe-Polystorm pre-formed modular geocellular units with minimum 94% volumetric void ratio and minimum 52% effective perforated surface area. Units shall be installed using locking ties to maintain rigidity and minimise deflection. Geocellular units to be fully encapsulated with Heavy duty geotextile protection fleece and impermeable membrane.

11. Heavy duty geotextile fleece to be non-woven needle-punched polypropylene as per Specification. Geotextile to be laid with minimum 300mm overlaps and to be applied to all external surfaces of Polypipe-Permavoid drainage units. To be installed in accordance with the manufacturer's recommendations.

12. Waterproof geomembrane to be single layer cold applied robust welded flexible membrane as per Specification suitable for waterproofing to structure and for water containment. Membrane to be nominal 1mm thick laid with minimum 150mm laps and welded seams. To be installed in accordance with the manufacturer's recommendations under and approved CQA protocol that includes testing of the welds.

13. Linear drainage channel to be ACO MD range with sump assemblies.

14. Foul connection to be 100mm Ø unless noted otherwise.

15. Oil bypass separators to be Kingspan Klargester as noted on drawing.

16.All dimensions are in millimeters unless noted otherwise.

17. Pre-cast concrete products shall comply with the relevant provisions of BS 5911 and be 'Kite Marked'.

18. All pipes and pipe fittings shall be HDPE twinwall and have current British Board of Agreement Certification.

19. Manhole covers and frames, grids and frames shall comply with the relevant provisions of BS EN 124.

20. Do not scale from this drawing. If in doubt ask.

21. This drawing to be read in conjunction with all relevant PEL, Architects & Engineers drawings.

22. Should there be any conflict between the details indicated on this drawing and those on other drawings the Engineer should be informed PRIOR to construction on site.

23. At all times the works are to be executed in accordance with the requirements of the Health And Safety at Work Act 1974 and CDM Regulations 2015.

24. Until technical approval has been obtained from the relevant Authority, It should be understood that all drawings are **PRELIMINARY** and **NOT FOR CONSTRUCTION**.

STATUS	REV	DATE	REVISION HISTORY	DSG | DRW | CHK | APP
S3	P01	23.10.23	First issue	JR | JR | RG | RG

ALL REVISIONS

CLIENT

JAMES HALL & CO LTD

KEY PLAN

ORIGINATOR

PLUVIAM ENVIRONMENTAL

DRAWING TITLE

Alston Dairy
Alston
Drainage Details

	Name	Signature	Date
Designed by	JR		18/10/2023
Drawn by	JR		18/10/2023
Checked	RG		18/10/2023
Approved	RG		18/10/2023

PEL REF	SCALE @ A1	BIM FILE NAME - REVISION
PN0107	1:25	-
	S3 - Suitable for Internal Review & Comment	

PROJECT	ISSUER	VOLUME	LEVEL	TYPE	ROLE	NUMBER	REV
PN0107	PEL	XX	XX	DR	Y	0002	P01