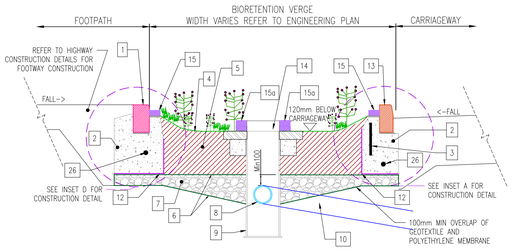
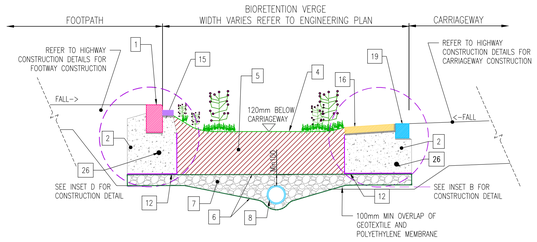
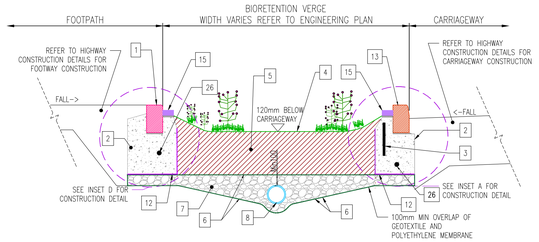


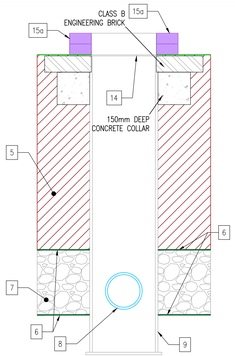
TYPICAL BIORETENTION VERGE SECTION
'GULLY LOCATED CENTRALLY'
Section A–A



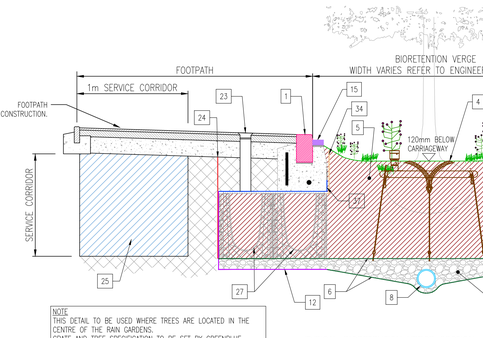
TYPICAL BIORETENTION VERGE SECTION
'PIPE LOCATED CENTRALLY'
Section B–B



TYPICAL BIORETENTION VERGE SECTION
'PIPE LOCATED CENTRALLY'
Section C–C

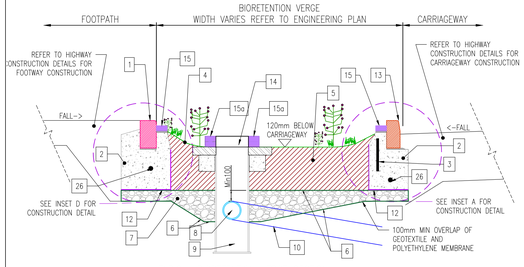


TYPICAL SEL ENVIRONMENTAL (OSA) OVERFLOW GULLY AND CATCHPIT

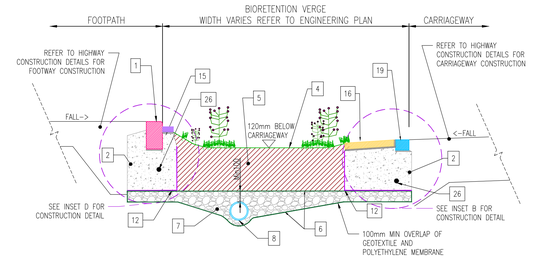


NOTE
THIS DETAIL TO BE USED WHERE TREES ARE LOCATED IN THE CENTRE OF THE RAIN GARDENS.
CRATE AND TREE SPECIFICATION TO BE SET BY GREENBLUE URBAN AND EDP. NUMBER OF CRATES AND LOCATIONS TO BE CONFIRMED BY SPECIALIST. LANDSCAPE ARCHITECT TO CONFIRM SUITABILITY OF THE DETAIL.

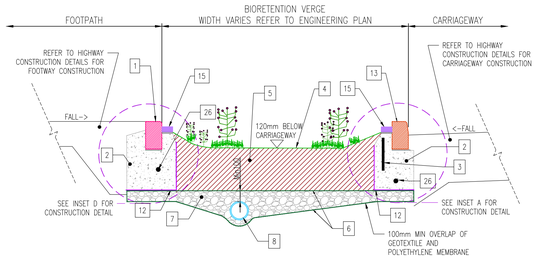
TYPICAL BIORETENTION VERGE SECTION
WITH ROOTSPACE CRATES
SUBJECT TO LANDSCAPE ARCHITECT SPECIFICATIONS AND DETAILS



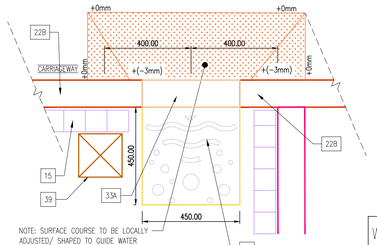
TYPICAL BIORETENTION VERGE SECTION
'OFFSET GULLY CHAMBER'
Section A–A



TYPICAL BIORETENTION VERGE SECTION
'PIPE OFFSET'
Section B–B



TYPICAL BIORETENTION VERGE SECTION
'PIPE OFFSET'
Section C–C



NOTE: SURFACE COURSE TO BE LOCALLY ADJUSTED/ SHAPED TO GUIDE WATER INTO THE RAIN GARDEN. TARMAC FINISH ALONG THE INLET KERB TO BE LOWER THAN SURROUNDING AREAS

(INSET F) WATER BREAK INLET PLAN
RAISED TABLE/ SHARED SURFACE

GENERAL NOTES

- DO NOT SCALE
- THE CONTRACTOR IS TO CHECK AND VERIFY ALL BUILDINGS AND SITE DIMENSIONS AND LEVELS, INCLUDING SEWER INVERT LEVELS, BEFORE WORKS START ON SITE. THE CONTRACTOR IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BUILDING LEGISLATION, BRITISH STANDARDS, BUILDING REGULATIONS ETC.
- POSITIONS OF EXISTING SERVICES/STATUTORY UNDERTAKERS APPARATUS ADJACENT TO OR CROSSING PROPOSED EXCAVATIONS ARE TO BE CHECKED BY THE CONTRACTOR PRIOR TO STARTING WORK
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH AND CHECKED AGAINST ALL OTHER DRAWINGS, ENGINEERING DETAILS, SPECIFICATION AND ANY STRUCTURAL, GEOTECHNICAL OR OTHER SPECIALIST DOCUMENT PROVIDED.
- ANY ANOMALY OR CONTRADICTION BETWEEN ANY OF THE ABOVE IS TO BE REPORTED TO THE DEVELOPER.
- ALL TREES LOCATED WITHIN THE BIORETENTION VERGE ARE TO BE SPECIFIED BY LANDSCAPE ARCHITECT AND TO BE OF SUITABLE SPECIES FOR BIORETENTION VERGE MAKE UP AND CHARACTERISTICS. LANDSCAPE ARCHITECT TO ENSURE SUFFICIENT SPACE AND ROOT PROTECTION TO BOTH PIPEWORK AND SERVICES.
- NO FOUL DRAINAGE TO PASS BENEATH/ THROUGH BIORETENTION VERGE
- BIORETENTION SURFACE TO BE 120mm BELOW HIGHWAY CHANNEL LINE
- SEE ENGINEERING DRAWING FOR BIORETENTION VERGE INLET LOCATIONS

BIORETENTION VERGE NOTES

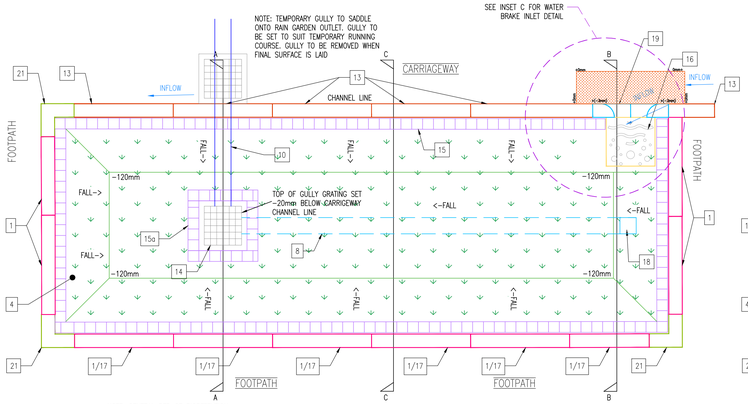
1. BN2 KERB WITH 100mm UPSTAND INTERNAL TO BIORETENTION VERGE SET FLUSH WITH FOOTPATH
2. GEN3 CONCRETE KERB RACE TAKEN TO TOP OF DRAINAGE LAYER (REF 7)
3. 300mm x 20mm MILD STEEL DOWEL BAR TO BS 4449 SHALL BE SET 200mm MIN INTO KERB RACE AND SPACED AT 300mm CENTRES.
4. MULCH LAYER MAY BE REQUIRED, DEPENDING ON LANDSCAPE ARCHITECT PLANTING STRATEGY.
5. MINIMUM 400mm DEEP BIO–RETENTION SOIL WITH SATURATED HYDRAULIC CONDUCTIVITY TO BE BETWEEN 200–300mm/hr (OSA) TO BE INCREASED TO 900mm WHERE TREES ARE SPECIFIED.
6. TERRAM 1000 GEOTEXTILE OR SIMILAR APPROVED. #
7. 'DRAINAGE LAYER' – MINIMUM 100mm (AT EDGES) OF COMPACTED 4–20mm CLEAN STONE. NOTE STONE DEPTH TO INCREASE TO SUIT DESIGNED INVERT LEVEL WITH MIN 20mm STONE BENEATH PIPE.
8. 150mm – 300mm# FULLY PERFORATED PIPE. REFER TO ENGINEERING DRAWING FOR EXACT PIPE SIZE.
9. "SEL ENVIRONMENTAL ENVIRONMENTAL" BIORETENTION VERGE CHAMBER (OSA) (SEE DRAINAGE DETAILS DRAWING FOR SIZING AND MODEL REFERENCE).
10. 150mm – 300mm# PIPE TO STORM CARRIER DRAIN. REFER TO ENGINEERING DRAWING FOR EXACT PIPE SIZE.
11. WATER BREAK INLET – 100mm STONE CORBELS EMBEDDED 50mm INTO 100mm THICK CONCRETE (1:3 CEMENT SAND MORTAR BED).
12. 2000 GAUGE POLYETHYLENE MEMBRANE WITH. MIN 300mm OVERLAPS. #
13. HB2 KERB WITH 125mm UPSTAND TO CARRIAGEWAY AND TO BIORETENTION VERGE.
14. 300x300x75mm WREKIN GULLY GRATE (CAST IRON), SET 70mm BELOW CARRIAGEWAY LEVEL. GULLY TO BE LOCATED AT BIORETENTION VERGE LOW SPOT.
15. 100 x 100 x 50mm SETTS. SET ON 1:3 CEMENT SAND MORTAR BED. ALTERNATIVE OPTIONS ARE FINISHED CONCRETE OR ENGINEERING BRICK. TO BE SET 50mm BELOW TOP OF KERB
15a. 100 x 100 x 50mm SETTS. SET ON 1:3 CEMENT SAND MORTAR BED. ALTERNATIVE OPTIONS ARE FINISHED CONCRETE OR ENGINEERING BRICK. TO BE SET 100mm ABOVE TOP OF BIORETENTION VERGE.
16. MARSHALLS 'EDENKERB' DIFFUSER FLAG 450X450X60.
17. 250mm EF KERB WITH 30mm UPSTAND INTERNAL TO BIORETENTION VERGE, 300mm IN LENGTH SET FLUSH WITH FOOTPATH WHEN USED IN PLACE OF HB KERB (ITEM 1)
18. RODDING EYE – HEAD OF RUN (SEE DETAILS).
19. MARSHALLS EDEN KERB WITH PRECUT INLET
20. RODDING EYE – MID POINT ACCESS (SEE DETAILS)
21. BN4 125mm INTERNAL ANGLE KERB.
22. BN2 KERB WITH 25mm UPSTAND AT VEHICLE CROSS OVER.
22A BN2 KERB WITH 0–6mm UPSTAND AT PEDESTRIAN CROSSING
22B BN2 KERB WITH 50mm UPSTAND ALONG RAISED PLATEAU
23. ROOTRAIN ARBOVENT OR SIMILAR APPROVED.
24. GREEN BLUE FLAT ROOT BARRIER OR SIMILAR APPROVED
25. SERVICE CORRIDOR – NO BUILD ZONE.
26. H16 BAR WITH 700mm LAPS
27. ROOTSPACE Ø600 DEPTH (1 UNIT DEEP) OR SIMILAR APPROVED.
28. 125m HB WEIR KERB
29. STEEL PLATE LAID ON CS KERBING TO ALLOW SURFACE COURSE TO BE LAID DIRECTLY ABOVE.
30. HIGH STRENGTH CONCRETE TOPPING TO BE BROUGHT UP TO A DENSE, SMOOTH FACE, NEATLY SHAPED AND FINISHED (MINIMUM THICKNESS 20mm TAPERING TO 0mm AT INLET)
31. BN1 KERB WITH 144mm UPSTAND. TO BE CORED AT OUTLET (300x125mm CORED OPENING).
32. BN2 KERB LAID 140mm BELOW TOP OF BN1 KERB (REF 31) WITH 160mm UPSTAND TO BIORETENTION VERGE
33. 150x150mm SQUARE CHANNEL BLOCK (CS)
33A 150x150mm SQUARE CHANNEL BLOCK (CS) LAID FLUSH WITH CHANNEL LINE
34. REROOT 600 ROOT BARRIER 600mm DEEP WITH ROOT DEFLECTING RIBS OR SIMILAR APPROVED.
35. 300mm PRESSURE TREATED TIMBER CHECK DAM SET AT 150mm UPSTAND. 3 No. TIMBER PEG SUPPORTS DRIVEN MINIMUM OF 300mm INTO GROUND. PEGS TO BE FIXED TO CHECK DAM FACE. 300mm WIDE V–NOTCH, 45mm DEEP AT CENTER OF TIMBER TO ALLOW WATER TO RUN OVER.
36. GEN1 CONCRETE TO BE TAKEN DOWN TO TOP OF STONE LAYER
37. TWIN WALLED STRUCTURAL GEONET OR SIMILAR APPROVED.
38. INTERLOCKING 100–150mm STONES TO BE PLACED AT BASE OF WEIR TO PREVENT EROSION.

\# KERB RACE TO BE LAID UPON WELL COMPACTED GROUND IN ADVANCE OF KERBS TO ENSURE STRUCTURAL STABILITY ALONG RAIN GARDENS.

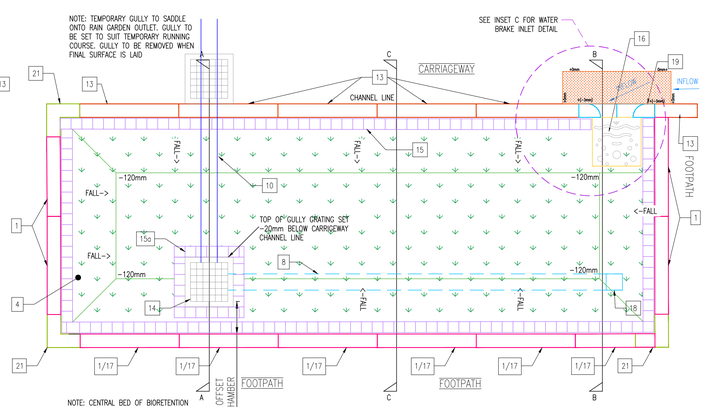
\# WHERE BIO–RETENTION REQUIRE CHECK DAMS, THESE ARE THE LENGTHS REQUIRED FOR EACH POSITION OF CHECK DAM;

- 1:15 GRADIENT CHECK DAM IS REQUIRED EVERY 3.675m
- 1:14 GRADIENT CHECK DAM IS REQUIRED EVERY 3.430m
- 1:13 GRADIENT CHECK DAM IS REQUIRED EVERY 3.184m
- 1:12 GRADIENT CHECK DAM IS REQUIRED EVERY 2.940m

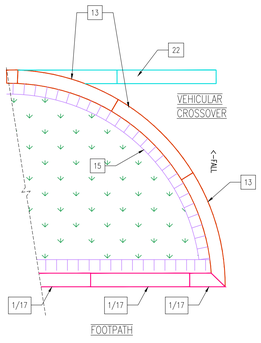
WHERE GROUND WATER IS ENCOUNTERED, NON WOVEN / POLYETHYLENE MEMBRANE IS TO BE REPLACED WITH A POLYPROPYLENE MEMBRANE WITH ALL JOINTS FULLY WELDED.



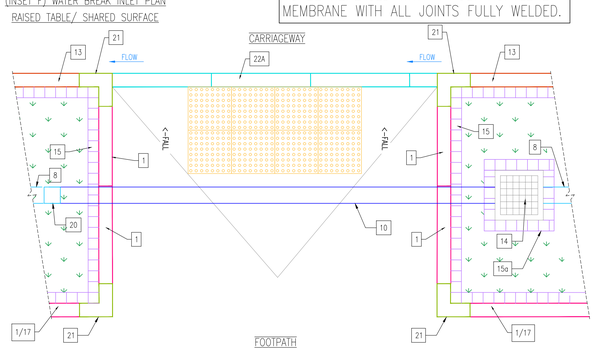
TYPICAL BIORETENTION VERGE
(GULLY LOCATED CENTRALLY)
PLAN



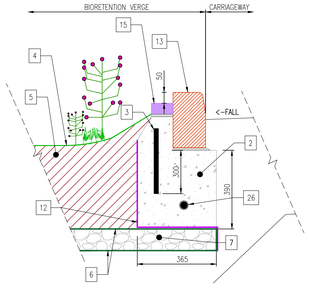
TYPICAL BIORETENTION VERGE
'OFFSET GULLY CHAMBER' PLAN
DETAIL TO BE USED WHERE TREE IS PLANTED WITHIN BIORETENTION VERGE



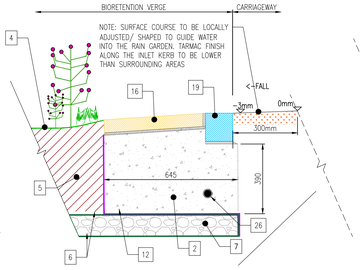
TYPICAL RAIN GARDEN
ABUTTING VEHICLE CROSSOVER
NOTE: REFER TO ENGINEERING PLAN FOR CROSSOVER RADIUS



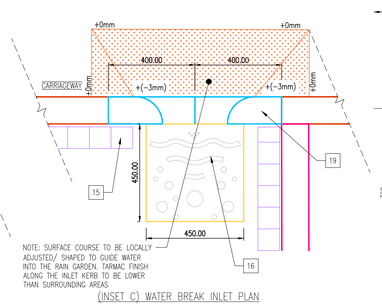
TYPICAL BIORETENTION VERGE
AT PEDESTRIAN CROSSING
TRANSITION BETWEEN PERFORATED AND SOLID PIPE



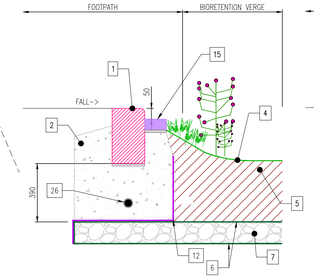
(INSET A) HIGHWAY CHANNEL KERB



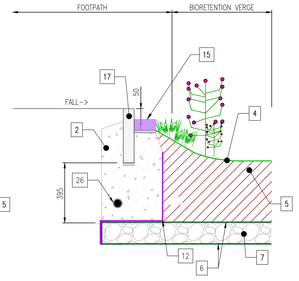
(INSET B) WATER BREAK INLET PLAN



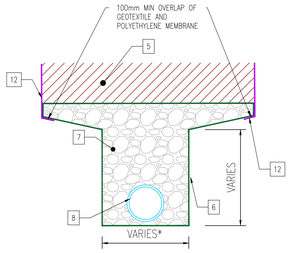
(INSET C) WATER BREAK INLET PLAN



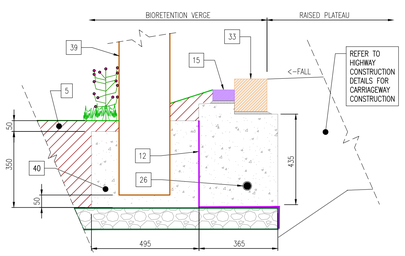
(INSET D) FOOTPATH KERB



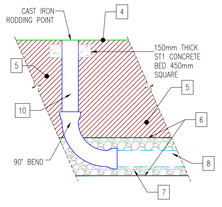
(INSET D) FOOTPATH KERB
NOTE: ALTERNATIVE BACK EDGING AT FOOTPATH



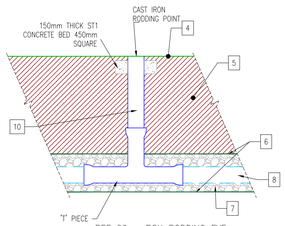
PIPE TRENCH
WHERE PIPE DEPTH EXCEEDS TYPICAL BIORETENTION VERGE DEPTH
*PIPE DIAMETER + 400mm



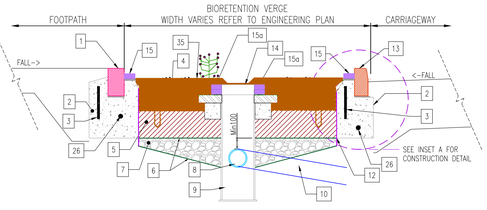
(INSET E) BIORETENTION INLET
WHEN ALONG RAISED PLATEAU/
SHARED SURFACE



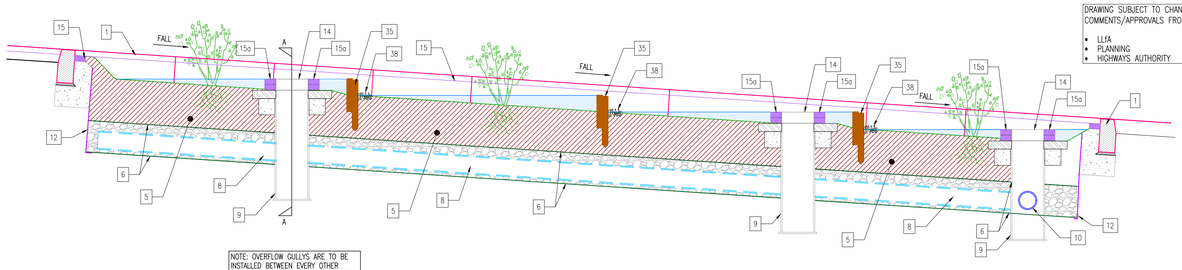
REF 18 – BOX RODDING EYE
DETAIL
HEAD OF RUN



REF 20 – BOX RODDING EYE
DETAIL
'T JUNCTION'



TYPICAL BIORETENTION VERGE SECTION
'CHECK DAM'
Section A–A



NOTE: OVERFLOW GULLYS ARE TO BE INSTALLED BETWEEN EVERY OTHER WEIR. OUTLET GULLY TO BE INSTALLED AT THE LOWEST POINT IRRESPECTIVE OF GULLY PLACEMENTS UPSTREAM

BIORETENTION VERGE SLOPE SECTION
(FOR GRADIENTS OF 1 IN 15 OR STEEPER)

DRAWING SUBJECT TO CHANGE FOLLOWING COMMENTS/APPROVALS FROM:

- LLfA
- PLANNING
- HIGHWAYS AUTHORITY

Revision:

Project: Blackmore Farm
Melksham

Client: DAVID WILSON HOMES

Drawing: Bioretention Verge Details

Scale: NTS @ A0 | Date: June 2026 | Drawn by: NIL

Drawing No: 10466 - 112 - 01 | Rev: -

PHOENIX DESIGN Partnership Ltd.
Unit 9, Westway Garage, Marlborough, Bath, BA2 9HN
tel. 01761 476950
Suite 7, Unit Three, Melin Corneg Business Parc, Upper Boat, Pontypridd, CF37 5BE. tel. 029 2049 0773
email: enquiries@phoenixdp.co.uk www.phoenixdp.co.uk

This drawing is the copyright of Phoenix Design Partnership Ltd. No liability will be accepted for amendments by others to either the printed or digital format.

Drg.Status: FOR APPROVAL