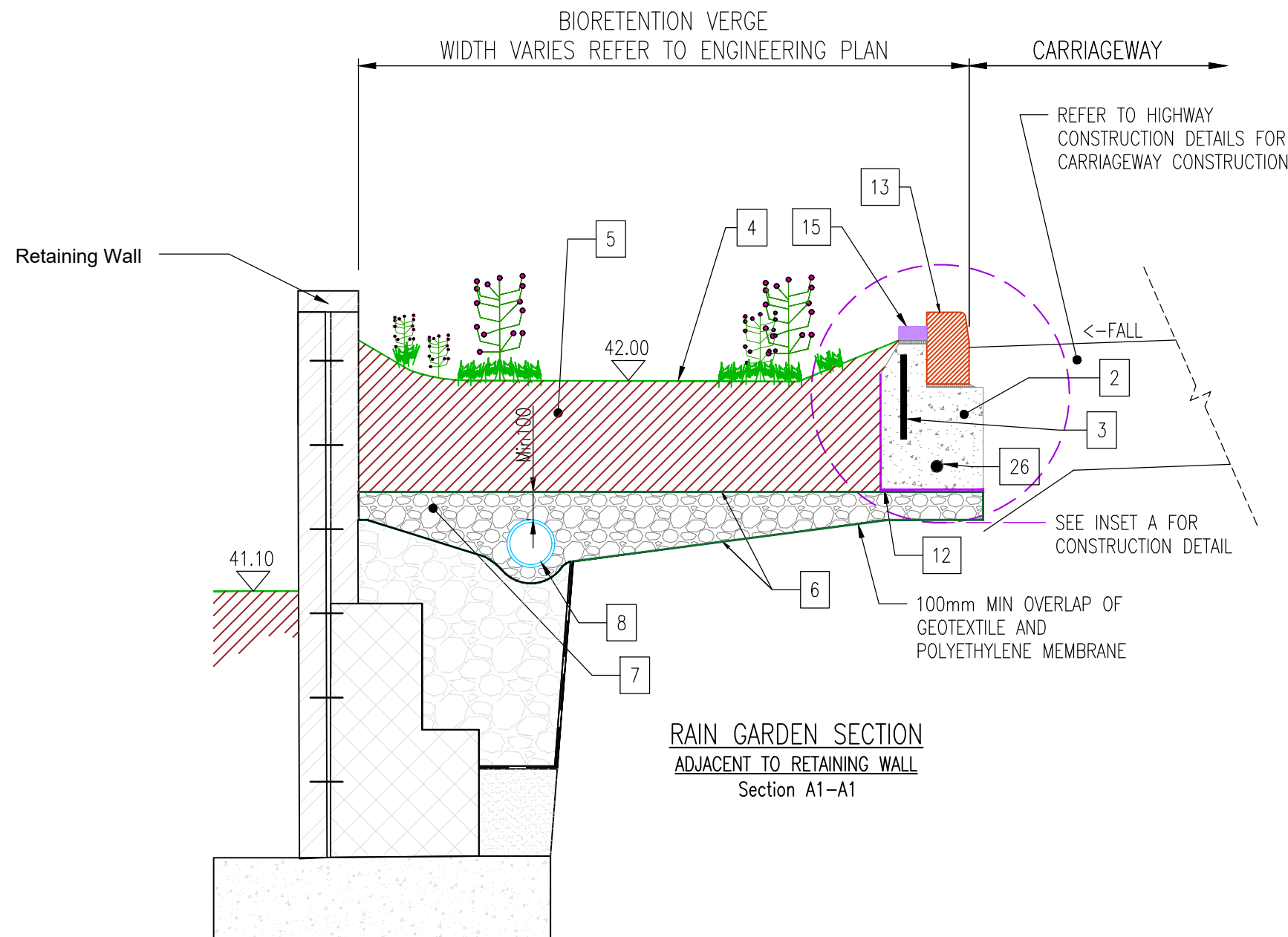
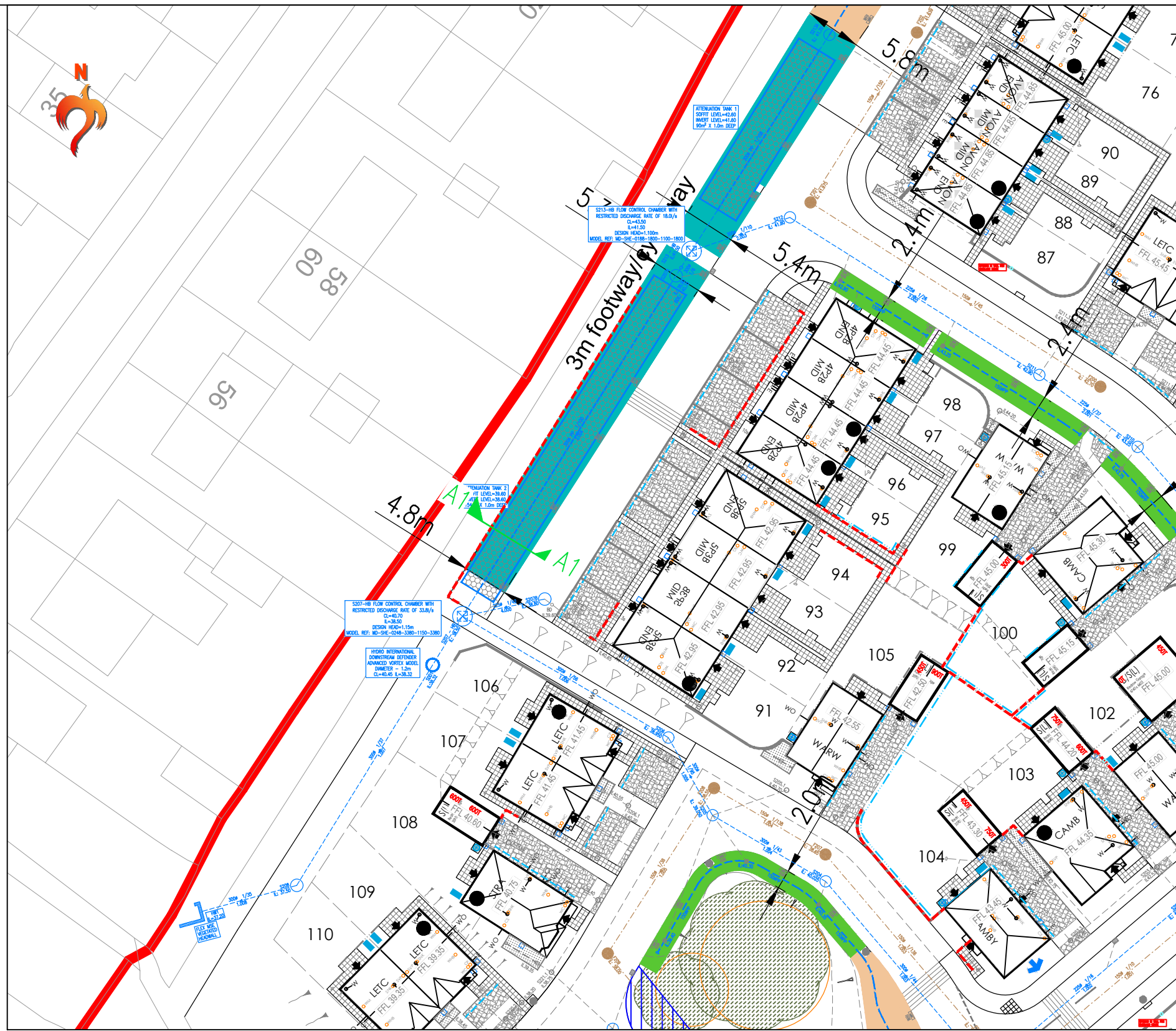




RAIN GARDEN SECTION
ADJACENT TO RETAINING WALL
Section A1-A1

BIORETENTION VERGE NOTES

- BN2 KERB WITH 100mm UPSTAND INTERNAL TO BIORETENTION VERGE SET FLUSH WITH FOOTPATH
- GEN3 CONCRETE KERB RACE TAKEN TO TOP OF DRAINAGE LAYER (REF 7)
- 300mm x 20mm MILD STEEL DOWEL BAR TO BS 4449 SHALL BE SET 200mm MIN INTO KERB RACE AND SPACED AT 300mm CENTRES.
- MULCH LAYER MAY BE REQUIRED, DEPENDING ON LANDSCAPE ARCHITECT PLANTING STRATEGY.
- MINIMUM 400mm DEEP BIO-RETENTION SOIL SUCH AS BOURNE AMENITY BIO-RETENTION SOIL. SATURATED HYDRAULIC CONDUCTIVITY TO BE BETWEEN 200-300mm/hr (OSA). TO BE INCREASED TO 900mm WHERE TREES ARE SPECIFIED.
- TERRAM 1000 GEOTEXTILE OR SIMILAR APPROVED. #
- '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.
- 150mm - 300mmØ FULLY PERFORATED PIPE. REFER TO ENGINEERING DRAWING FOR EXACT PIPE SIZE.
- "SEL ENVIRONMENTAL ENVIRONMENTAL" BIORETENTION VERGE CHAMBER (OSA) (SEE DRAINAGE DETAILS DRAWING FOR SIZING AND MODEL REFERENCE).
- 150mm - 300mmØ PIPE TO STORM CARRIER DRAIN. REFER TO ENGINEERING DRAWING FOR EXACT PIPE SIZE.
- WATER BREAK INLET - 100mm STONE COBBLES EMBEDDED 50mm INTO 100mm THICK CONCRETE (1:3 CEMENT SAND MORTAR BED).
- 2000 GAUGE POLYETHYLENE MEMBRANE WITH. MIN 300mm OVERLAPS. #
- HB2 KERB WITH 125mm UPSTAND TO CARRIAGEWAY AND TO BIORETENTION VERGE.
- 300x300x75mm WREKIN GULLY GRATE (CAST IRON), SET 20mm BELOW CARRIAGEWAY LEVEL. GULLY TO BE LOCATED AT BIORETENTION VERGE LOW SPOT.
- 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
- 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
- MARSHALLS 'EDENKERB' DIFFUSER FLAG 450x450x60.
- 250mm EF KERB WITH 30mm UPSTAND INTERNAL TO BIORETENTION VERGE, 300mm IN LENGTH SET FLUSH WITH FOOTPATH WHEN USED IN PLACE OF HB HERB (ITEM 1)
- RODDING EYE - HEAD OF RUN (SEE DETAILS).
- MARSHALLS EDEN KERB WITH PRECUT INLET
- RODDING EYE - MID POINT ACCESS (SEE DETAILS)
- BNIA 125mm INTERNAL ANGLE KERB.
- BN2 KERB WITH 25mm UPSTAND AT VEHICLE CROSS OVER.
- 22A BN2 KERB WITH 0-6mm UPSTAND AT PEDESTRIAN CROSSING
- ROOTRAIN ARBOVENT OR SIMILAR APPROVED.
- GREEN BLUE FLAT ROOT BARRIER OR SIMILAR APPROVED
- SERVICE CORRIDOR - NO BUILD ZONE.
- H16 BAR WITH 700mm LAPS
- ROOTSPACE @600 DEPTH (1 UNIT DEEP) OR SIMILAR APPROVED
- 125m HB WEIR KERB
- STEEL PLATE LAID ON CS KERBING TO ALLOW SURFACE COURSE TO BE LAID DIRECTLY ABOVE.
- 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).
- BN1 KERB WITH 144mm UPSTAND. TO BE CORED AT OUTLET (300x125mm CORED OPENING).
- BN2 KERB LAID 140mm BELOW TOP OF BN1 KERB (REF 31) WITH 160mm UPSTAND TO BIORETENTION VERGE
- 150x150mm SQUARE CHANNEL BLOCK (CS)
- REROOT 600 ROOT BARRIER 600mm DEEP WITH ROOT DEFLECTING RIBS OR SIMILAR APPROVED.
- 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.
- GEN1 CONCRETE TO BE TAKEN DOWN TO TOP OF STONE LAYER
- TWIN WALLED STRUCTURAL GEONET OR SIMILAR APPROVED.
- 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.

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 REDROW HOMES
- 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.

DRAWING SUBJECT TO CHANGE FOLLOWING COMMENTS/APPROVALS FROM:

- SAB
- PLANNING
- HIGHWAYS AUTHORITY

Revision:

Project: **Caerleon Campus Newport**

Client:



Drawing: **Bioretention Verge Details Sheet 4**

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Drawn by: **SBR**

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Org Status:

FOR APPROVAL