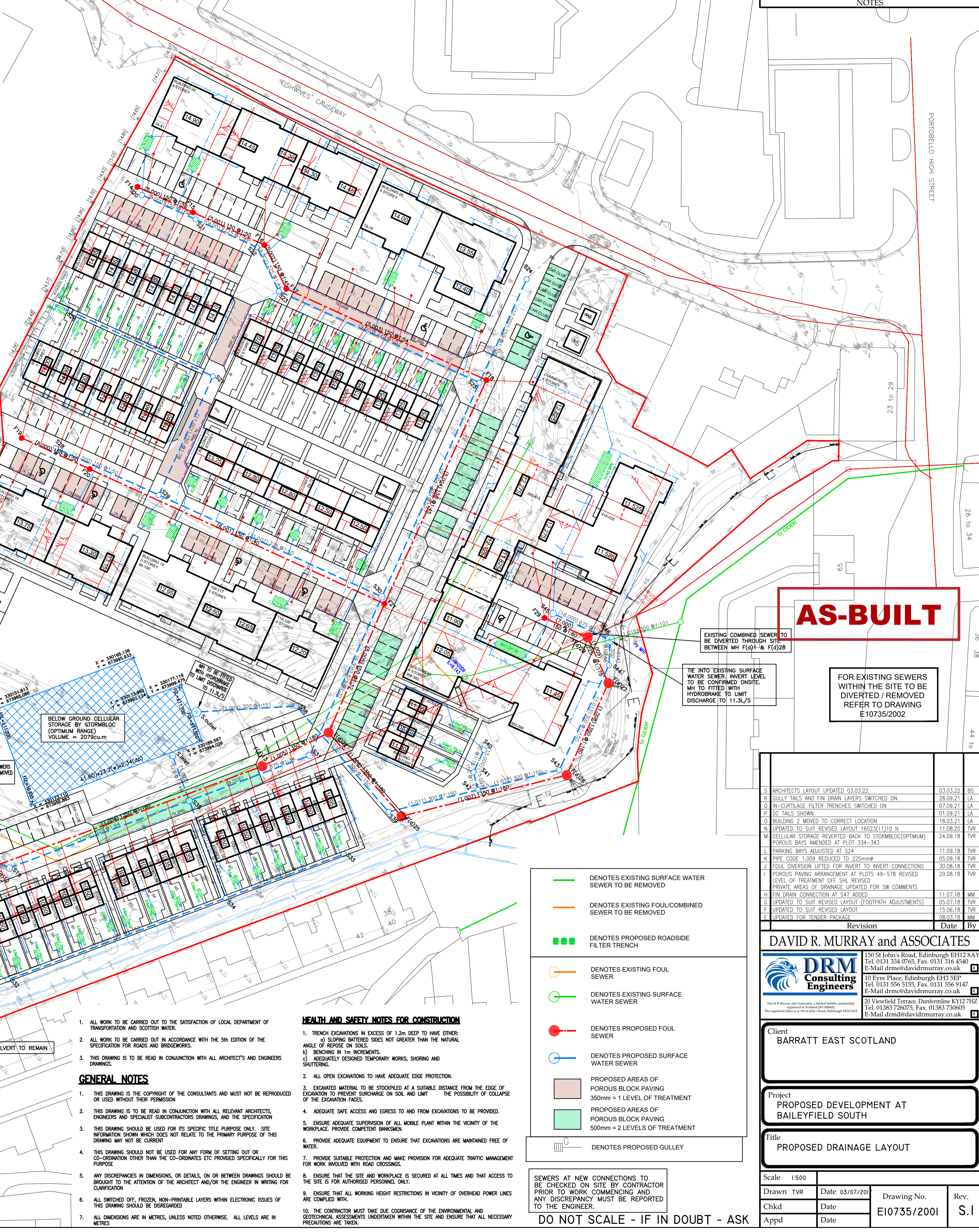


**DRAINAGE NOTES**

1. ALL DRAINAGE WHICH IS TO BE ADOPTED BY "SCOTTISH WATER" IS TO BE CONSTRUCTED IN ACCORDANCE WITH "SEWERS FOR SCOTLAND 3rd EDITION" AND ALL SUPPLEMENTARY SCOTTISH WATER REQUIREMENTS TO COMPLY WITH ANY "BUILDING STANDARDS" REQUIREMENTS
2. ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH BS EN 12205, BS EN 752, AND RELEVANT SECTIONS OF "APPROVED DOCUMENT" 4 OF THE BUILDING REGULATIONS. WHERE THERE ARE ANY CONCERNS REGARDING DRAINAGE NOT BEING ABLE TO MEET THESE REQUIREMENTS LE GRADIENTS AND LEVELS, THE ENGINEER SHOULD BE INFORMED IMMEDIATELY. DRAINAGE ALSO TO COMPLY WITH ANY "BUILDING STANDARDS" REQUIREMENTS
3. EXISTING DRAINAGE INFORMATION HAS BEEN COLLATED USING ALL AVAILABLE INFORMATION, AND IN SOME CASES CONDUCTED USING THIRD PARTY INFORMATION. WHILE EVERY CARE HAS BEEN TAKEN IN THE ACCURACY OF ALL ROUTING AND LEVELS, IT SHOULD BE TREATED AS INDICATIVE UNTIL CHECKED & CONFIRMED ON SITE. THE CONTRACTOR IS TO CHECK THE EXISTING DRAINAGE LEVELS, GEOMETRY, CONNECTION, WATER TYPE, AND GENERAL AVAILABILITY. CONSTRUCTION SHOULD BE GIVEN THAT THE NETWORK IS RUNNING FREELY WITH NO DEFECTS PRIOR TO ANY WORKS COMMENCING.
4. ALL DRAINAGE PROPOSED FOR REMOVAL/CLOSURE SHOULD BE "RUBBED UP" OR FILLED WITH GROUT AND SEALED. UPVC PIPES UP TO 300mm DIA. TO BE SEALED USING END CAPS FROM "MANN" OR EQUAL APPROVED. CLAY PIPES AND PIPES OVER 300mm DIA. TO BE SEALED USING CONCRETE OVER THE LAST 500mm OF THE PIPE LENGTH. ALL DRAINAGE PROPOSED FOR REMOVAL/CLOSURE SHOULD BE SURVEYED BY CCTV (INCLUDING PRIVATE DRAINAGE CONNECTIONS) TO ENSURE NO 'LIVE' CONNECTIONS ARE PRESENT THAT REQUIRE

5. TO REMAIN
6. ANY EXISTING SERVICES DISCOVERED DURING EXCAVATIONS TO BE REPORTED TO THE RELEVANT BODY IMMEDIATELY
7. THE CONTRACTOR IS TO ENSURE THE DRAINAGE SYSTEMS ARE FREE FROM DEBRIS, AND FLOWING FREELY, ON COMPLETION OF WORK
8. THE CONTRACTOR IS TO ENSURE THAT PROTECTIVE MEASURES ARE TAKEN TO ENSURE THAT ALL DRAINAGE PIPEWORK AND FITTINGS, ARE NOT DAMAGED BY THE SITE TRAFFIC PRIOR TO OVER SITE FILLING OPERATIONS BEING COMPLETED AROUND BUILDINGS
9. ALL PLAN CHAMBER LEVELS SHOWN ARE FOR QUICK REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED FOR CARRYING OUT WORKS. CHAMBER INVERT LEVELS GIVEN ARE THE PIPE INVERT LEVELS, THEREFORE NOT NECESSARILY THE CHAMBER RISE LEVEL. THE ASSOCIATED DRAINAGE SCHEDULES/SECTIONS SHOULD BE USED TO DETERMINE ALL CHAMBER LEVELS. COVER LEVELS SHOWN IN PRIVATE AREAS OUTWITH DAVID R MURRAY REMIT, SUCH AS DISCONNECTING CHAMBERS, SHOULD BE CONFIRMED BY THE ARCHITECT
10. ALL CHAMBERS SHOULD BE LOCATED FULLY ON EITHER SOFT OR HARD LANDSCAPING. THE CONTRACTOR SHOULD STRING OUT HARD LANDSCAPING AND DRAINAGE PRIOR TO CONSTRUCTION IN ORDER TO ENSURE NO OVERLAPPING OF SURFACES AND/OR KERB INTERSECTING OCCURS. WHERE UNAVOIDABLE OVERLAPPING OCCURS, CHAMBERS SHOULD, WHERE POSSIBLE, BE CONSTRUCTED IN SUCH A WAY THAT COVERS DO NOT OVERLAP DIFFERING SURFACES OR INTERSECT KERBS. PARTICULAR ATTENTION SHOULD BE GIVEN IF RECESSED COVERS ARE PROPOSED
11. CHAMBER COVERS WITHIN AREAS OF BLOCK PAVING (BOTH STANDARD NON-PERMEABLE AND PERMEABLE) SHOULD BE Laid SQUARE TO THE Laying PATTERN OF THE BLOCK PAVING
12. CHAMBER PIPE CONNECTIONS ARE TO BE MADE SOFFIT TO SOFFIT WHERE DOWNSTREAM PIPE IS

13. LARGER THAN THE UPSTREAM PIPE, UNLESS NOTED OTHERWISE
14. NO PRIVATE AREAS ARE TO DRAIN ONTO AREAS FOR ADOPTION
15. FOR BUILDING DRAINAGE REFER TO ARCHITECT'S DRAWINGS
16. ALLOW FOR THE PROVISION OF LOCALISED STORM WATER DRAINAGE WHERE GRADIENTS FALL TOWARDS BUILDINGS LE LAND DRAINAGE TO GARDENS AND/OR BUILDING THRESHOLD LINEAR CHANNEL DRAINS
17. PIPE TYPES  
PIPE DIA UP TO AND INCLUDING 300mm ARE TO BE UPVC PIPES TO BS 4660:2000 AND BS EN 1401-1. PIPE DIA GREATER THAN 300mm ARE TO BE CONCRETE TO BS 5911 OR VITRIFIED CLAY TO BS EN 252, AND 63 (STORM WATER SEWERS ONLY). REFER TO DRAINAGE LONG SECTIONS FOR PROPOSED PIPE MATERIAL TYPES
18. PIPE PROTECTION  
ALL ADAPTABLE PIPEWORK WITH LESS THAN 1200mm OF EFFECTIVE COVER IN BOTH VEHICULAR/HARD AREAS AND LANDSCAPED/SOFT AREAS, TO INCORPORATE CONCRETE PROTECTION TO THE PIPE (REFER TO RELEVANT DETAIL). FLEXIBLE JOINTS ARE TO BE PROVIDED AT ALL PIPE CONNECTIONS  
ALL PRIVATE PIPEWORK WITH LESS THAN 800mm OF EFFECTIVE COVER TO VEHICULAR/HARD AREAS, AND LESS THAN 600mm COVER TO LANDSCAPED/SOFT AREAS, TO INCORPORATE CONCRETE PROTECTION TO THE PIPE (REFER TO RELEVANT DETAIL). FLEXIBLE JOINTS ARE TO BE PROVIDED AT ALL PIPE CONNECTIONS  
WHERE PIPELINES CROSS WITHIN 300mm OF EACH OTHER, BOTH PIPES TO INCORPORATE CONCRETE PROTECTION (REFER TO RELEVANT DETAIL)
19. DISCONNECTING CHAMBER TAILS  
DISCONNECTING CHAMBER TAILS ARE PROPOSED FOR ADOPTION THEREFORE SHOULD ADHERE TO ADAPTABLE PIPE CRITERIA I.E. MINIMUM DIA. OF 150mm, CONCRETE PROTECTION REQUIRED WHERE COVER DEPTH < 1.0m  
DISCONNECTING CHAMBER TAILS TO BE LAID AT A MINIMUM GRADIENT OF 1:60 AND 1:10 PREFERRED MAXIMUM (1:5 ABSOLUTE MINIMUM). WHERE TAILS FALL STEEPER THAN 1:10, THE DRAINAGE DETAILS DRAWING SHOULD BE REFERRED TO FOR BEDDING REQUIREMENTS. WHERE DISCONNECTING CHAMBER DEPTHS ARE CRITICAL, TAIL GRADIENTS OF UP TO 1:2 MAY BE ACCEPTABLE SUBJECT TO CONTRACTOR AGREING ON-SITE WITH SCOTTISH WATER'S DRAINAGE INSPECTOR
20. GULLY TAILS  
ALL GULLY TAILS TO BE 150mm DIA, SUITABLY ENCASED IN CONCRETE
21. ALL DRAINAGE DESIGN SHOWN IS ONLY RELEVANT TO AREAS FALLING UNDER DAVID R MURRAY REMIT. FOR ALL OTHER AREAS REFER TO THE RELEVANT PARTY



**AS-BUILT**

EXISTING COMBINED SEWER TO BE DIVERTED THROUGH SITE BETWEEN MH F(4)1 & F(4)28

TIE INTO EXISTING SURFACE WATER SEWER. INVERT LEVEL TO BE CONFIRMED ON-SITE. MH TO BE FITTED WITH HYDROBRANE TO LIMIT DISCHARGE TO 11.3L/S

FOR EXISTING SEWERS WITHIN THE SITE TO BE DIVERTED / REMOVED REFER TO DRAWING E10735/2002

BELOW GROUND CELLULAR STORAGE BY STORMBLOC (OPTIMUM RANGE) VOLUME = 2078cu.m

EXISTING FW & SW SEWERS WITHIN SITE TO BE REMOVED OR GRADED OUT

- DENOTES EXISTING SURFACE WATER SEWER TO BE REMOVED
- DENOTES EXISTING FOUL/COMBINED SEWER TO BE REMOVED
- DENOTES PROPOSED ROADSIDE FILTER TRENCH
- DENOTES EXISTING FOUL SEWER
- DENOTES EXISTING SURFACE WATER SEWER
- DENOTES PROPOSED FOUL SEWER
- DENOTES PROPOSED SURFACE WATER SEWER
- PROPOSED AREAS OF POROUS BLOCK PAVING 350mm = 1 LEVEL OF TREATMENT
- PROPOSED AREAS OF POROUS BLOCK PAVING 500mm = 2 LEVELS OF TREATMENT
- DENOTES PROPOSED GULLY

SEWERS AT NEW CONNECTIONS TO BE CHECKED ON SITE BY CONTRACTOR PRIOR TO WORK COMMENCING AND ANY DISCREPANCY MUST BE REPORTED TO THE ENGINEER.

**DO NOT SCALE - IF IN DOUBT - ASK**

- HEALTH AND SAFETY NOTES FOR CONSTRUCTION**
1. TRENCH EXCAVATIONS IN EXCESS OF 1.2m DEEP TO HAVE EITHER: a) SLOPING BATTERED SIDES NOT GREATER THAN THE NATURAL ANGLE OF REPOSE ON SOILS. b) BENCHING IN 1m INCREMENTS. c) ADEQUATELY DESIGNED TEMPORARY WORKS, SHORING AND SHUTTERING.
  2. ALL OPEN EXCAVATIONS TO HAVE ADEQUATE EDGE PROTECTION.
  3. EXCAVATED MATERIAL TO BE STOCKPILED AT A SUITABLE DISTANCE FROM THE EDGE OF EXCAVATION TO PREVENT SURCHARGE ON SOIL AND LIMIT THE POSSIBILITY OF COLLAPSE OF THE EXCAVATION FACES.
  4. ADEQUATE SAFE ACCESS AND EGRESS TO AND FROM EXCAVATIONS TO BE PROVIDED.
  5. ENSURE ADEQUATE SUPERVISION OF ALL MOBILE PLANT WITHIN THE VICINITY OF THE WORKPLACE. PROVIDE COMPETENT BANKSMEN.
  6. PROVIDE ADEQUATE EQUIPMENT TO ENSURE THAT EXCAVATIONS ARE MAINTAINED FREE OF WATER.
  7. PROVIDE SUITABLE PROTECTION AND MAKE PROVISION FOR ADEQUATE TRAFFIC MANAGEMENT FOR WORK INVOLVED WITH ROAD CROSSINGS.
  8. ENSURE THAT THE SITE AND WORKPLACE IS SECURED AT ALL TIMES AND THAT ACCESS TO THE SITE IS FOR AUTHORISED PERSONNEL ONLY.
  9. ENSURE THAT ALL WORKING HEIGHT RESTRICTIONS IN VICINITY OF OVERHEAD POWER LINES ARE COMPLIED WITH.
  10. THE CONTRACTOR MUST TAKE DUE COGNISANCE OF THE ENVIRONMENTAL AND GEOTECHNICAL ASSESSMENTS UNDERTAKEN WITHIN THE SITE AND ENSURE THAT ALL NECESSARY PRECAUTIONS ARE TAKEN.
- GENERAL NOTES**
1. THIS DRAWING IS THE COPYRIGHT OF THE CONSULTANTS AND MUST NOT BE REPRODUCED OR USED WITHOUT THEIR PERMISSION
  2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST SUBCONTRACTORS DRAWINGS, AND THE SPECIFICATION
  3. THIS DRAWING SHOULD BE USED FOR ITS SPECIFIC TITLE PURPOSE ONLY. SITE INFORMATION SHOWN WHICH DOES NOT RELATE TO THE PRIMARY PURPOSE OF THIS DRAWING MAY NOT BE CURRENT
  4. THIS DRAWING SHOULD NOT BE USED FOR ANY FORM OF SETTING OUT OR CO-ORDINATION OTHER THAN THE CO-ORDINATES ETC PROVIDED SPECIFICALLY FOR THIS PURPOSE
  5. ANY DISCREPANCIES IN DIMENSIONS, OR DETAILS, ON OR BETWEEN DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER IN WRITING FOR CLARIFICATION
  6. ALL SWITCHED OFF, FROZEN, NON-PRINTABLE LAYERS WITHIN ELECTRONIC ISSUES OF THIS DRAWING SHOULD BE DISREGARDED
  7. ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE. ALL LEVELS ARE IN METRES

Revision	Date	By
S ARCHITECTS LAYOUT UPDATED 03.03.22	03.03.22	BS
R GULLY TAILS AND FIN DRAIN LAYERS SWITCHED ON	28.09.21	LA
D IN-CURTLAGE FILTER TRENCHES SWITCHED ON	07.09.21	LA
P DC TAILS SHOWN	01.09.21	LA
O BUILDING 2 MOVED TO CORRECT LOCATION	18.03.21	LA
N UPDATED TO SUIT REVISED LAYOUT 16023(1)1110 N	11.08.20	TVR
M CELLULAR STORAGE REVERTED BACK TO STORMBLOC(OPTIMUM) POROUS BAYS AMENDED AT PLOT 334-343	24.09.18	TVR
L PARKING BAYS ADJUSTED AT S24	11.09.18	TVR
K PIPE CODE 1.009 REVISUED TO 2.25mm/d	05.09.18	TVR
J FOUL DIVERSION LIFTED FOR INVERT TO INVERT CONNECTIONS	30.08.18	TVR
I POROUS PAVING ARRANGEMENT AT PLOTS 49-578 REVISED LEVEL OF TREATMENT OFF SWH REVISED PRIVATE AREAS OF DRAINAGE UPDATED FOR SW COMMENTS	29.08.18	TVR
H FIN DRAIN CONNECTION AT S47 ADDED	11.07.18	MM
G UPDATED TO SUIT REVISED LAYOUT (FOOTPATH ADJUSTMENTS)	05.07.18	TVR
F UPDATED TO SUIT REVISED LAYOUT	15.06.18	TVR
E UPDATED FOR TENDER PACKAGE	08.03.18	MM

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Client: **BARRATT EAST SCOTLAND**

Project: **PROPOSED DEVELOPMENT AT BAILEYFIELD SOUTH**

Title: **PROPOSED DRAINAGE LAYOUT**

Scale: 1:500

Drawn: TVR Date: 03/07/2011

Chkd: Date: E10735/2001

Appd: Date: S.I