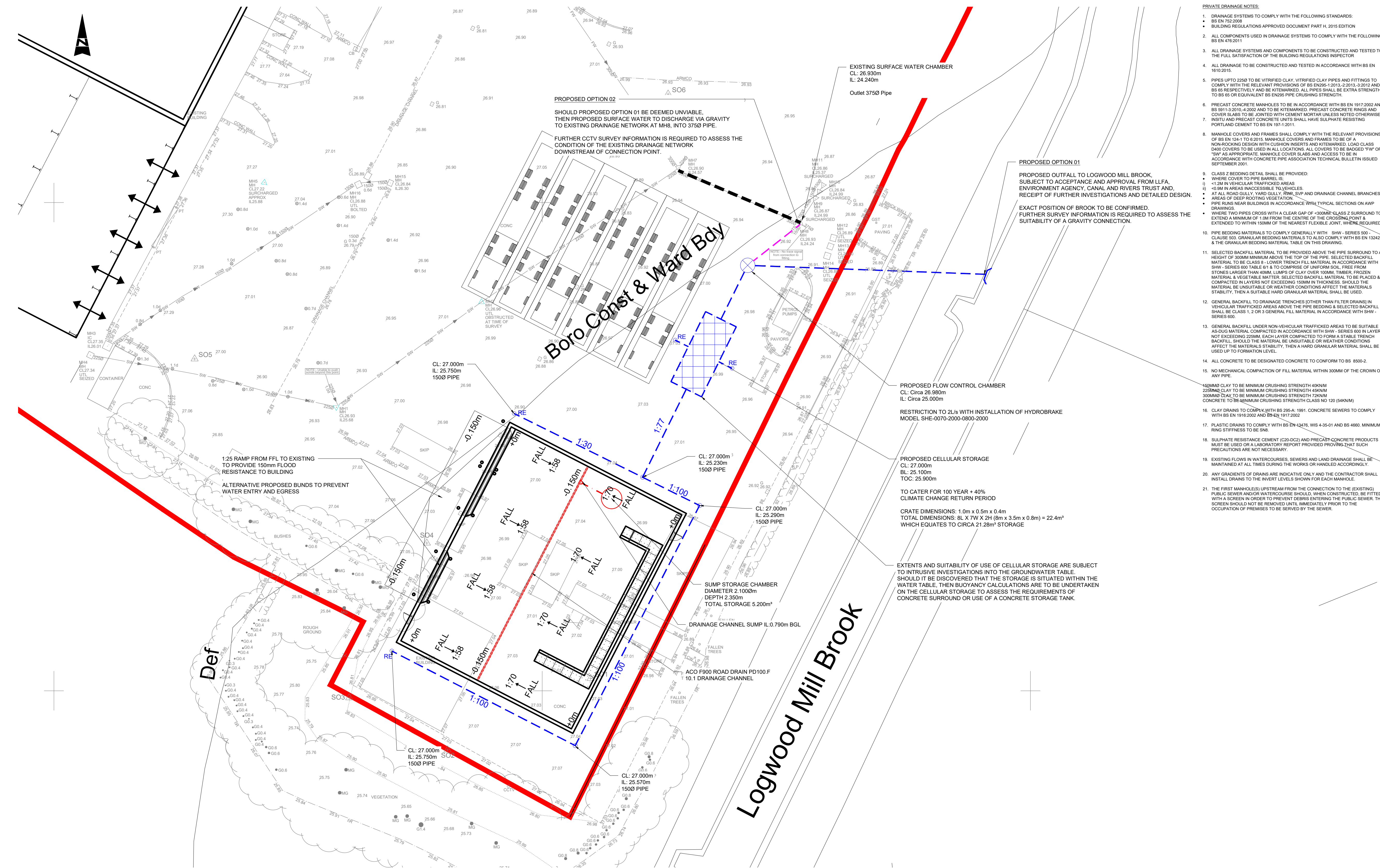




- PRIVATE DRAINAGE NOTES:**
1. DRAINAGE SYSTEMS TO COMPLY WITH THE FOLLOWING STANDARDS:  
BS EN 1252008  
BUILDING REGULATIONS APPROVED DOCUMENT PART H, 2015 EDITION
  2. ALL COMPONENTS USED IN DRAINAGE SYSTEMS TO COMPLY WITH THE FOLLOWING:  
BS EN 476:2011
  3. ALL DRAINAGE SYSTEMS AND COMPONENTS TO BE CONSTRUCTED AND TESTED TO THE FULL SATISFACTION OF THE BUILDING REGULATIONS INSPECTOR
  4. ALL DRAINAGE TO BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH BS EN 1610:2015.
  5. PIPES UP TO 2250 TO BE VITRIFIED CLAY, VITRIFIED CLAY PIPES AND FITTINGS TO COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 504:2013-2013-2012 AND BS 65 RESPECTIVELY AND BE KITEMARKED. ALL PIPES SHALL BE EXTRA STRENGTH TO BS 65 OR EQUIVALENT BS EN 504:2013-2013-2012 CRUSHING STRENGTH.
  6. PRECAST CONCRETE MANHOLES TO BE IN ACCORDANCE WITH BS EN 1917:2002 AND BS 5911:2010-4:2002 AND TO BE KITEMARKED. PRECAST CONCRETE RINGS AND COVER SLABS TO BE JOINED WITH CEMENT MORTAR UNLESS NOTED OTHERWISE. PORTLAND CEMENT TO BS EN 197:2011
  7. MANHOLE COVERS AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1241:2010 TO 6:2015. MANHOLE COVERS AND FRAMES TO BE OF A NON-SKID DESIGN WITH CUSHION INSERTS AND KITEMARKED. LOAD CLASS D400 COVERS TO BE USED IN ALL LOCATIONS. ALL COVERS TO BE BADGED 'FW' OR 'SW' AS APPROPRIATE. MANHOLE COVER SLABS AND ACCESS TO BE IN ACCORDANCE WITH CONCRETE PIPE ASSOCIATION TECHNICAL BULLETIN ISSUED SEPTEMBER 2001.
  8. CLASS 2 BEDDING DETAIL SHALL BE PROVIDED:
    - WHERE COVER TO PIPE BARRIERS IS
    - <1.3M IN VEHICULAR TRAFFICKED AREAS
    - <1.9M IN AREAS INACCESSIBLE TO VEHICLES
    - AT ALL ROAD GULLY, YARD GULLY, TOWN SWP AND DRAINAGE CHANNEL BRANCHES.
    - AREAS OF DEEP ROOTING VEGETATION
    - PIPE RUNS NEAR BUILDINGS IN ACCORDANCE WITH TYPICAL SECTIONS ON AWP DRAWINGS
    - WHERE TWO PIPES CROSS WITH A CLEAR GAP OF <300MM CLASS 2 SURROUND TO EXTEND A MINIMUM OF 1.0M FROM THE CENTRE OF THE CROSSING POINT & EXTENDED TO WITHIN 150MM OF THE NEAREST FLEXIBLE JOINT, WHERE REQUIRED.
  9. PIPE BEDDING MATERIALS TO COMPLY GENERALLY WITH SHW - SERIES 500 - CLAUSE 503. GRANULAR BEDDING MATERIALS TO ALSO COMPLY WITH BS EN 12342 & THE GRANULAR BEDDING MATERIAL TABLE ON THIS DRAWING.
  10. SELECTED BACKFILL MATERIAL TO BE PROVIDED ABOVE THE PIPE SURROUND TO A HEIGHT OF 300MM MINIMUM ABOVE THE TOP OF THE PIPE. SELECTED BACKFILL MATERIAL TO BE CLASS 8 - LOWER TRENCH FILL MATERIAL IN ACCORDANCE WITH SHW - SERIES 500 TABLE 51 & 1 TO COMPOSE OF UNIFORM SOIL, FREE FROM STONES LARGER THAN 40MM, LUMPS OF CLAY OVER 100MM, TIMBER, FROZEN MATERIAL & VEGETABLE MATTER. SELECTED BACKFILL MATERIAL TO BE PLACED & COMPACTED IN LAYERS NOT EXCEEDING 150MM IN THICKNESS. SHOULD THE MATERIAL BE UNSUITABLE OR WEATHER CONDITIONS AFFECT THE MATERIALS STABILITY, THEN A SUITABLE HARD GRANULAR MATERIAL SHALL BE USED UP TO FORMATION LEVEL.
  11. GENERAL BACKFILL TO DRAINAGE TRENCHES (OTHER THAN FILTER DRAINS) IN VEHICULAR TRAFFICKED AREAS ABOVE THE PIPE BEDDING & SELECTED BACKFILL SHALL BE CLASS 1, 2 OR 3 GENERAL FILL MATERIAL IN ACCORDANCE WITH SHW - SERIES 500.
  12. ALL CONCRETE TO BE DESIGNATED CONCRETE TO CONFORM TO BS 8500-2.
  13. NO MECHANICAL COMPACTION OF FILL MATERIAL WITHIN 300MM OF THE CROWN OF ANY PIPE.
  14. 150MM CLAY TO BE MINIMUM CRUSHING STRENGTH 40KNM
  - 225MM CLAY TO BE MINIMUM CRUSHING STRENGTH 49KNM
  - 300MM CLAY TO BE MINIMUM CRUSHING STRENGTH 72KNM
  - CONCRETE TO BE MINIMUM CRUSHING STRENGTH CLASS NO 120 (54KNM)
  15. CLAY DRAINS TO COMPLY WITH BS 2954:1991. CONCRETE SEWERS TO COMPLY WITH BS EN 12916:2002 AND BS EN 12917:2002
  16. PLASTIC DRAINS TO COMPLY WITH BS EN 13476: WIS 4-35-01 AND BS 4860. MINIMUM RING STIFFNESS TO BE SNE
  17. SULPHATE RESISTANCE CEMENT (C20-D32) AND PRECAST CONCRETE PRODUCTS MUST BE USED OR A LABORATORY REPORT PROVIDED PROVING THAT SUCH PRECAUTIONS ARE NOT NECESSARY
  18. EXISTING FLOWS IN WATERCOURSES, SEWERS AND LAND DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING THE WORKS OR HANDLED ACCORDINGLY.
  19. ANY GRADIENTS OF DRAINS ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL DRAINS TO THE INVERT LEVELS SHOWN FOR EACH MANHOLE.
  20. THE FIRST MANHOLE(S) UPSTREAM FROM THE CONNECTION TO THE (EXISTING) PUBLIC SEWER AND/OR WATERCOURSE SHOULD, WHEN CONSTRUCTED, BE FITTED WITH A SCREEN IN ORDER TO PREVENT DEBRIS ENTERING THE PUBLIC SEWER. THE SCREEN SHOULD NOT BE REMOVED UNTIL IMMEDIATELY PRIOR TO THE OCCUPATION OF PREMISES TO BE SERVED BY THE SEWER.

### HEALTH & SAFETY RISKS

IN ADDITION TO THE STANDARD HAZARDS AND RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORK DETAILED ON THIS DRAWING, PLEASE NOTE THE FOLLOWING RESIDUAL HEALTH AND SAFETY RISKS

| CONSTRUCTION RISKS            |                                                                                                                                                                                                                                                          |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CR 01                         | CONSTRUCTION IN AND AROUND EXISTING BURIED SERVICES. CONTRACTOR TO OBTAIN ACCURATE LOCATIONS OF UNDERGROUND SERVICES WITHIN THE SITE BOUNDARY PRIOR TO COMMENCEMENT OF WORKS. CONTRACTOR TO ALLOW FOR IN RISK ASSESSMENT AND PROVIDE MITIGATION TO SUIT. |
| CR 02                         | LIVE TRAFFIC ON THE SITE                                                                                                                                                                                                                                 |
| CR 03                         | LIVE DRAINAGE ON SITE                                                                                                                                                                                                                                    |
| CR 04                         | CARE TO BE TAKEN AROUND DEEP EXCAVATIONS. PLANT TO BE KEPT AT A SAFE DISTANCE                                                                                                                                                                            |
| CR 05                         | PUMPING MAY BE REQUIRED DURING EXCAVATIONS FOR DRAINAGE TO ENSURE EXCAVATIONS REMAIN DRY                                                                                                                                                                 |
| OPERATION & MAINTENANCE RISKS |                                                                                                                                                                                                                                                          |
| MR 01                         | OPERATION AND MAINTENANCE TO BE THE RESPONSIBILITY OF THE DEVELOPER AND MAINTAINED AS PART OF THEIR REGULAR ON SITE MAINTENANCE ROUTINE                                                                                                                  |
| MR 02                         | ANCILLARY COMPONENTS TO BE MAINTAINED TO MANUFACTURER'S REQUIREMENTS                                                                                                                                                                                     |
| DEMOLITION RISKS              |                                                                                                                                                                                                                                                          |
| DR 01                         | DEMOLITION AND REMOVAL OF EXISTING DRAINAGE TO AVOID EXISTING SERVICES                                                                                                                                                                                   |
| DR 02                         | ALL APPROPRIATE CONTROLS TO FLOW AND DISCHARGE IN PLACE PRIOR TO DECOMMISSION OF EXISTING DRAINAGE                                                                                                                                                       |

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING IN ACCORDANCE WITH THE REQUIREMENTS DEFINED IN THE CDM REGULATIONS.

**KEY:**

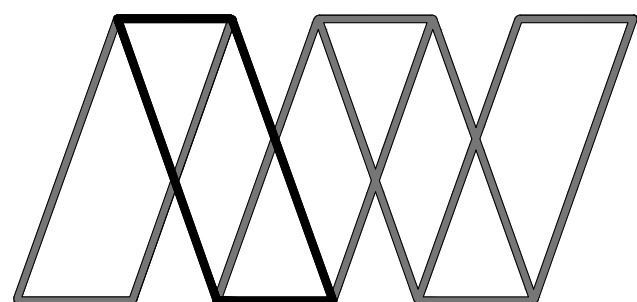
- Existing Surface Water Drainage
- Existing Surface Water Manhole
- Proposed Foul Water Drainage
- Proposed Foul Water Drainage Channel
- Proposed Surface Water Drainage
- Proposed Surface Water Manhole / Chamber
- Proposed Surface Water Flow Control Chamber
- Proposed Underground Cellular Crates
- Proposed Alternative Surface Water Outfall

SITE LAYOUT BASED ON VEOLIA DRAWING VES\_TD\_HUYTFW\_200\_001 REV B

#### NOTES:

1. THESE NOTES ARE INTENDED TO AUGMENT DRAWINGS AND SPECIFICATIONS. WHERE CONFLICT OF REQUIREMENTS EXIST THE ORDER OF PRECEDENCE SHALL BE AS SHOWN IN THE SPECIFICATION. OTHERWISE THE STRICTEST PROVISION SHALL GOVERN.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS AND ARCHITECTS DRAWINGS.
3. DRAWINGS NOT TO BE SCALED. ALL DIMENSIONS TO BE CHECKED ON SITE BY THE CONTRACTOR. ANY DISCREPANCIES TO BE NOTIFIED TO THE ENGINEER AND FURTHER INSTRUCTIONS OBTAINED BEFORE WORK IS COMMENCED.
4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURE AND SEQUENCE AND ENSURE THAT THE BUILDING AND ITS COMPONENTS ARE SAFE DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS WHICH MAY BE NECESSARY. SUCH MATERIAL REMAINING THE PROPERTY OF THE CONTRACTOR ON COMPLETION, AND FOR ENSURING THAT THE WORKS AND ANY ADJACENT PROPERTIES ARE SAFE IN THE TEMPORARY CONDITION.

100mm at A1



Alan Wood & Partners

Leeds Office  
18 Howley Park Business Village  
Pulley Way  
Morley  
Leeds  
LS27 0BZ

Consulting Civil  
& Structural Engineers  
Project Managers  
Building Surveyors

Hull  
Lincoln  
London  
Scarborough  
Sheffield  
York

T: 01482 442138  
T: 01522 300210  
T: 02071 860761  
T: 01723 865484  
T: 01142 440077  
T: 01904 611594

T. 01315 311098  
www.alanwood.co.uk

|     |             |          |    |     |     |
|-----|-------------|----------|----|-----|-----|
| T1  | FIRST ISSUE | 19.02.25 | GJ | CM  | KH  |
| Rev | Description | Date     | By | Chk | App |

Project: HUYTON FOOD WASTE PROJECT

Client: VEOLIA UK LTD.

Drawing: PROPOSED DRAINAGE STRATEGY

Role: CIVIL ENGINEER

Drawing Status: TENDER

Job no. 51615

Scale@ A1: 1:200

Suitability Code:

Rev. T01

Project Originator Volume Level Type Role Number  
HUT - AWP - 00 - ZZ - DR - C - 3000