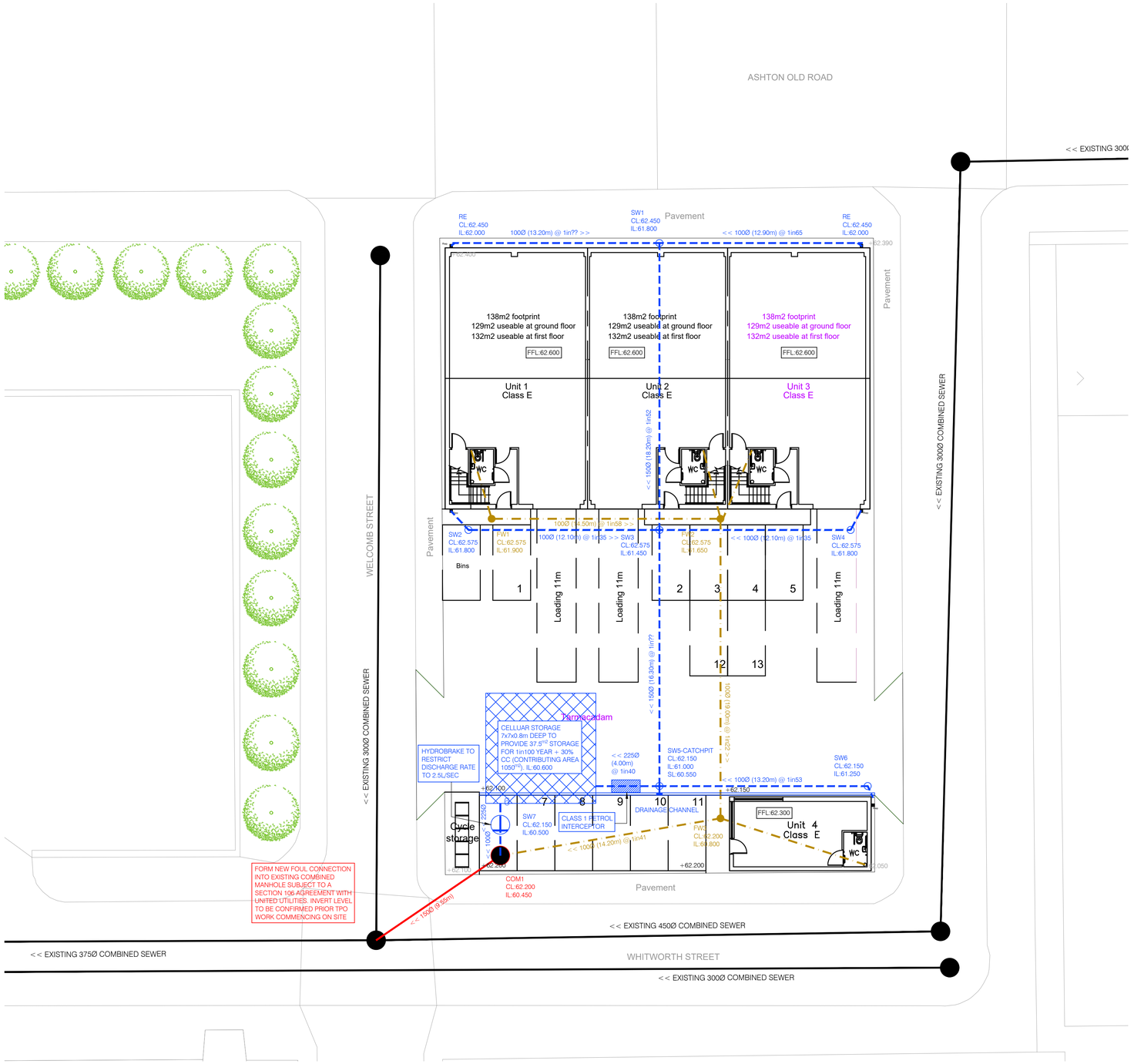
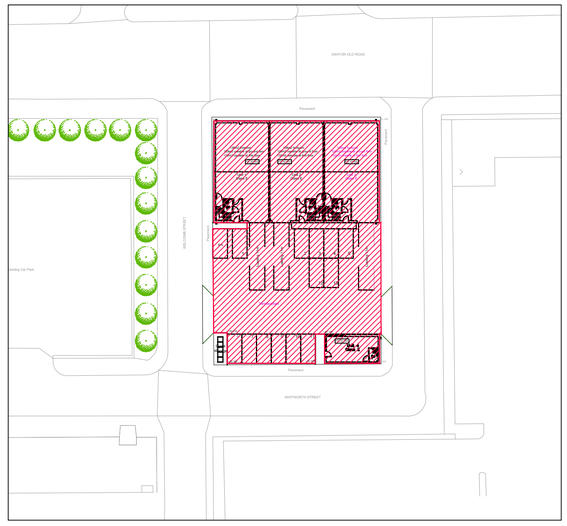


SITE GA
(SCALE 1:150)

KEY

- EXISTING CW SEWER
- EXISTING CW MH
- PROPOSED FW SEWER
- PROPOSED SW SEWER
- PROPOSED CW SEWER
- EXISTING FW SEWER
- EXISTING SW SEWER
- EXISTING CW SEWER
- PROPOSED CW MH
- PROPOSED FW MH
- PROPOSED SW MH

RWP AND SVP ARE SUBJECT TO CONFIRMATION FROM ARCHITECT



Proposed Catchment Area – (1050m2)

Drainage Strategy

The site is currently greenfield with no positive drainage

Under SuDs guidance the first point of discharge for surface water is percolation via soakaway. As the ground condition is heavy clay it is assumed infiltration is not to be viable.

Surface water flow to be restricted to 2.5L/sec for 1in100Year + 30% climate change to achieve the minimum 75mm Hydrobrake.

Surface Water:

Flow restriction 2.5l/s

The proposed impermeable area is 1050m2. Based on a flow restriction of 2.5l/s and modelling using Micro Drainage software the attenuation requirement for a peak return period of 1 in 100year plus 30% climate change is **37.5m3.**

Attenuation to be provided via **GEO-CELLULAR TANK 7x7x0.8m DEEP WITH 95% VOID RATIO.** The flows will be attenuated using a 78mm Hydrobrake ref:- MD-SHE-0078-2500-0800-2500.

Foul Water:

Foul will be connected into the existing United Utilities combined sewer running in Whitworth Street subject to a section 106 agreement with United Utilities.

DO NOT SCALE - IF IN DOUBT ASK

NOTES

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ENG SPECIFICATION FOR DRAINAGE WORKS No.17 AND ANY OTHER SUBSEQUENT ADDITIONS TO THIS LIST.
2. ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT BRITISH/EUROPEAN STANDARDS BSEN752, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL OR NHBC SPECIFICATIONS AND REQUIREMENTS.
3. FOR EXTERNAL FINISHED GROUND LEVELS REFER TO ARCHITECTS EXTERNAL WORKS DRAWING.
4. ALL COVER LEVELS TO MANHOLES ARE APPROXIMATE ONLY AND MAY BE ADJUSTED ON SITE TO TIE IN WITH ARCHITECTS PROPOSED LEVELS.
5. EXACT LOCATION OF RAINWATER DOWNPIPES AND ALL INTERNAL DRAINAGE POINTS TO BE CONFIRMED BY ARCHITECT. ALL NEW RAINWATER PIPE OUTLETS TO BE RODABLE.
6. FOR ALL SETTING OUT, DIMENSIONS AND CURRENT SITE LAYOUT REFER TO ARCHITECTS DRAWING. DO NOT SCALE FROM THIS DRAWING
7. INVERT LEVELS OF ALL OUTFALL POINTS TO BE CLARIFIED PRIOR TO COMMENCING DRAINAGE WORKS. POSITION SIZE AND DEPTH OF ALL EXISTING DRAINS AND SERVICES SHALL BE ESTABLISHED PRIOR TO COMMENCEMENT ON SITE AND ANY DISCREPANCIES REPORTED TO ENGINEER.
8. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT, AND TEMPORARY AND PERMANENT DIVERSION WORKS, AS NECESSARY TO ALL EXISTING SERVICES
9. THE CONTRACTOR SHALL ALLOW FOR ALL TRAFFIC MANAGEMENT IN CONNECTION WITH ROAD AND SEWER WORKS
10. THE CONTRACTOR SHALL ALLOW FOR KEEPING TRENCHES AND EXCAVATIONS AS DRY AS PRACTICABLE BY PUMPING FROM TEMPORARY SUMPS AND DEWATERING AS APPROPRIATE. THE POINT AND METHOD OF DISCHARGE TO BE AGREED WITH THE DRAINAGE AUTHORITY AND ENVIRONMENT AGENCY
11. ALL DRAINAGE CHANNELS ARE TO BE SIZED BY MANUFACTURER FOR AREAS DRAINED AND TO HAVE BUILT IN FALLS AND SILT TRAP OUTLETS WITH HEAVY DUTY COVERS SUITABLE TO HGV's.
12. ALL SW PIPES TO BE MIN. 150 DIA UNO. @ MIN 1:150, ALL FW PIPES TO BE 100 DIA UNO. @ MIN 1:80 UNO.
13. CCTV SURVEY TO BE COMPLETED AFTER INSTALLATION BY CONTRACTOR, ANY UNSATISFACTORY AREAS TO BE REPAIRED AS REQUIRED AT CONTRACTORS EXPENSE, AND CONTINUE PROCESS UNTIL APPROVAL FROM KRYPTON.
14. ALL GULLYS TO BE RODDABLE, ALL DOWNPIPES TO BE RODDABLE.

Rev	Date	Description	By	Chk	App
P1	04.12.2020	1st Issue	MC	???	ATH

Revision

Krypton Structure.
64 Victoria Road, Keighley BD21 1JB
Tel: 01535 509014/ 07342138129
Email: info@kryptonstructure.com
Visit: www.kryptonstructure.com

PROJECT
Land Adjacent to Bertha Street & Ashton Old Road
Manchester, M11 2NA

TITLE
Drainge Layout

SCALE	DRAWING SIZE	DRAWN
As Shwon @ A1	A1	MAC

DRAWING No. D01 REV. P1

DRAINAGE NOTES

1. All private drainage works are to be constructed in accordance with the relevant provisions of BS EN 752 including by reference BS 8301.
2. Manhole invert levels relate to the downstream pipe. Pipes at manholes to be laid soffit to soffit level.
3. Unless otherwise shown, foul pipes to be 100mm Ø laid at 1 in 40 minimum gradient unless one w.c. connected where gradient may be 1 in 80 minimum.
4. Unless otherwise shown surface water pipes to be 100mm Ø laid at 1 in 80 minimum gradient.
5. Where cover to top of pipe barrel is less than 600mm, pipe to have minimum 150mm ST4 concrete surround unless under the Highway. See note 13
7. Manhole cover levels where not shown are to be confirmed at later stage. Covers are to be fixed to a profile corresponding to the surrounding pavement surface and may be adjusted to suit actual site levels.
8. Refer to drawing no. 11290-D-02 for drainage details
9. All 150mm Ø and above pipework to be standard strength vitrified clay to BS EN 295 (min crushing strength 40KN/m) or Class 120 precast concrete to BS EN1916:2002 or plastic to BS 4660:2000 and BS EN 1401-1:1998, shall comply with the requirements of Sewers for Adoption 6th Edition.
8. 100mm Ø pipes to be standard strength vitrified clay to BSEN295 or pvc-u to BS4660
9. Bedding to all pipework to be Class S granular bed & surround in accordance with BS882 or Class Z (see manhole schedule).
10. Pipes to be protected with concrete surround (bed type Z) Grade C20 where depth of cover is less than 1.2m under proposed roads, car parks, vehicular access routes or in the vicinity of existing or proposed trees in accordance with sewers for adoption 6th edition, table 2.4.
11. All manholes and pipework to be in accordance with the requirements of Sewers for Adoption, 6th Edition.
12. Inspection chambers to be polypropylene, 475mm diameter, Hepworth range or similar & approved. Opening restricted to max 350mm where depth of chamber exceeds 1.2m.
13. Position and details of rainwater pipes, and foul connections to be confirmed by Architect.
14. All existing redundant drainage systems are to be abandoned and grubbed up including redundant manholes and pipework. The voids are to be backfilled with as dug material or suitable fill material and compacted in layers.
15. All live connections must be kept live during any diversion works.

NOTES
GENERAL
1. All dimensions are in millimetres unless noted otherwise.
2. **Do not scale this drawing - If in doubt ask.**
3. All dimensions & levels to be checked by the contractor prior to commencement of work, any discrepancy shall be reported immediately to the engineer.
4. All work shall be carried out in accordance with local authority, statutory authority, health & safety requirements and regulations.
5. The drawings shall be read in accordance with all other contract documents relevant at that time of issue and during the period of the contract.
6. The contractor must ensure the overall stability of the works is adequate at all stages of the construction.

SITE SPECIFIC
1. The contractor will be responsible for applying to local Water for a section 106 sewer connection.
2. This drawing is to be read in conjunction with all relevant details and specifications.
3. **Contractor to confirm invert levels of existing points of connection prior to commencement of drainage works.**
4. The contractor is responsible for identifying and locating all existing services and ensuring that the levels do not conflict with the proposed drainage system. If there are any such conflicts then the engineer must be made aware immediately.
5. All domestic garden soakaways must have a minimum stand-off distance of 5m from toe of foundation to external face of soakaway pit.

SAFETY, HEALTH AND ENVIRONMENTAL (SHE) INFORMATION

In addition to hazard/risk normally associated with the types of work detailed on this drawing, note the following:

Construction:-
1. Adequate shoring of trenches
2. Open trenches to be fenced off
3. Heavy and bulky items to be mechanically positioned
4. Hand protection against wet concrete/mortar

Maintenance/Cleaning:-
1. Appropriate mechanical excavation plant to be used.

Decommissioning/Demolition:-
1. Gas, Water, electric and BT pipes/cables below ground and entering building
2. Concrete and masonry could be crushed and re-used as bulk fill
3. Granular material could be re-used as bulk fill.