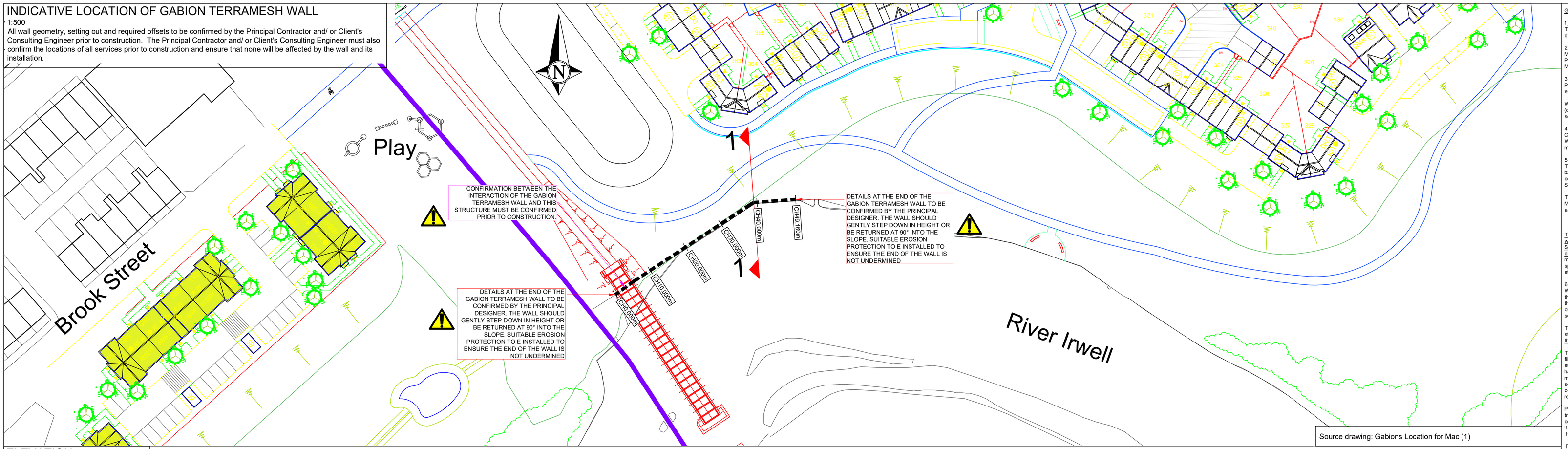
A1

INDICATIVE LOCATION OF GABION TERRAMESH WALL

1:500

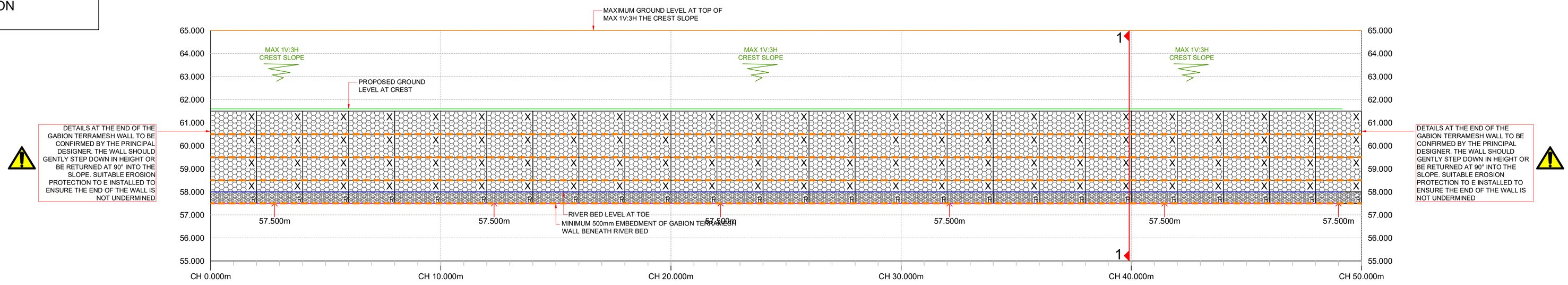
All wall geometry, setting out and required offsets to be confirmed by the Principal Contractor and/ or Client's Consulting Engineer prior to construction. The Principal Contractor and/ or Client's Consulting Engineer must also confirm the locations of all services prior to construction and ensure that none will be affected by the wall and its installation.



Source drawing: Gabions Location for Mac (1)

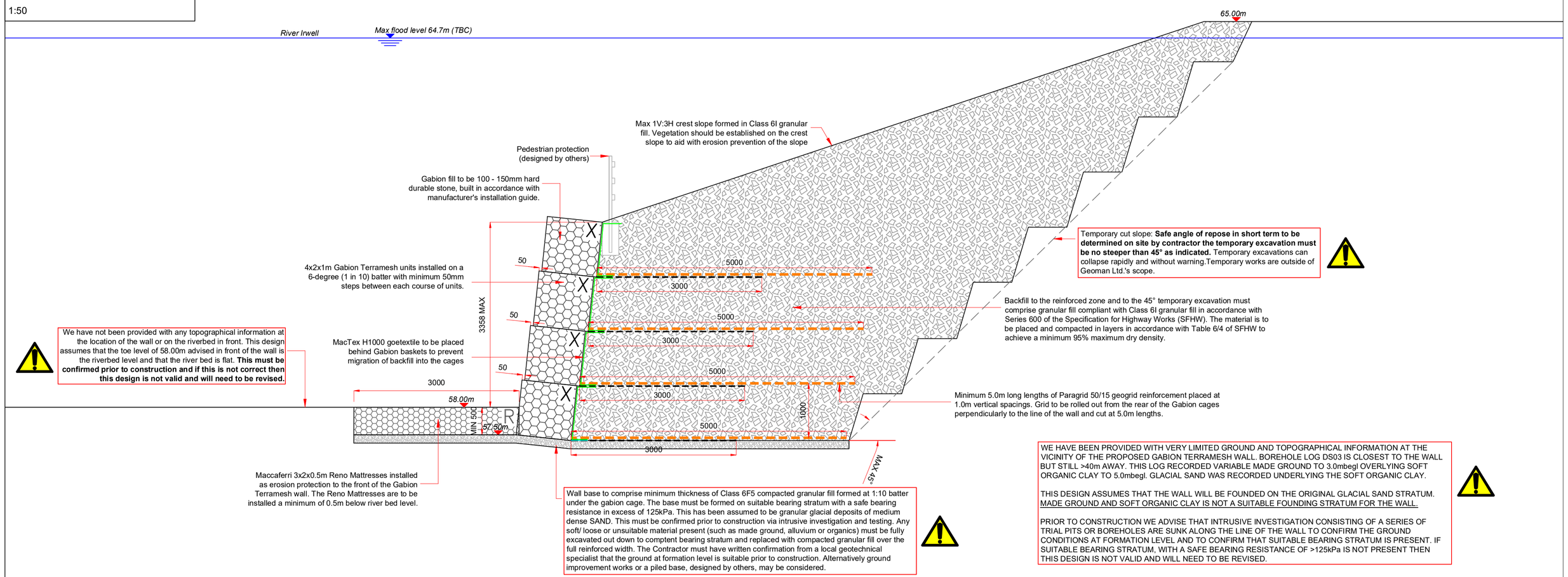
ELEVATION

1:100



SECTION 1-1

1:50



WE HAVE BEEN PROVIDED WITH VERY LIMITED GROUND AND TOPOGRAPHICAL INFORMATION AT THE VICINITY OF THE PROPOSED GABION TERRAMESH WALL. BOREHOLE LOG DS03 IS CLOSEST TO THE WALL BUT STILL >40m AWAY. THIS LOG RECORDED VARIABLE MADE GROUND TO 3.0mbegl OVERLYING SOFT ORGANIC CLAY TO 5.0mbegl. GLACIAL SAND WAS RECORDED UNDERLYING THE SOFT ORGANIC CLAY.

THIS DESIGN ASSUMES THAT THE WALL WILL BE FOUNDED ON THE ORIGINAL GLACIAL SAND STRATUM. MADE GROUND AND SOFT ORGANIC CLAY IS NOT A SUITABLE FOUNDING STRATUM FOR THE WALL.

PRIOR TO CONSTRUCTION WE ADVISE THAT INTRUSIVE INVESTIGATION CONSISTING OF A SERIES OF TRIAL PITS OR BOREHOLES ARE SUNK ALONG THE LINE OF THE WALL TO CONFIRM THE GROUND CONDITIONS AT FORMATION LEVEL AND TO CONFIRM THAT SUITABLE BEARING STRATUM IS PRESENT. IF SUITABLE BEARING STRATUM, WITH A SAFE BEARING RESISTANCE OF >125kPa IS NOT PRESENT THEN THIS DESIGN IS NOT VALID AND WILL NEED TO BE REVISED.

GABION LEGEND

R 3.0x2.0x0.5m GABION RENO MATTRESS UNIT

X 4.0x2.0x1.0m GABION TERRAMESH UNIT

MIN 5.0m PARAGID 50/15 GEOGRID TAIL

GABION WALL NOTES:

1) DIMENSIONS IN MMs UNLESS OTHERWISE SPECIFIED.
This drawing is based on the information shown on the supplied information and drawings.

2) GABION TERRAMESH SPECIFICATION SPECIFICATION:
Maccaferri hexagonal polimac coated woven wire mesh
Paragrid 50/15 geogrid reinforcement
MacTex 1000 to be installed behind Gabion basket up to maximum water level

3) INSTALLATION:
Please refer to standard Maccaferri installation guidelines. A specialist installer, experienced with Gabion Terramesh system, should be employed to install the wall.

Wall to be constructed in accordance with BS14475:2006(E). Some settlement (compression) of units can occur, but a high standard of installation will ensure settlement does not exceed the recommended tolerance of 5%.

4) FILL FOR GABION BASKETS:
Class 6G Gabion Stone as described in the 'Series 600', Specification for Highway Works. The stone fill should be hand placed to a high standard according to the manufacturer's instructions.

5) BACKFILL TO GABION TERRAMESH WALL:
The fill to be used in the reinforced earth zone of the Gabion Terramesh wall and back to a minimum 45° temoorary excavation must be imported granular fill which complies with Class 6I granular material as defined by Series 600 of the Specification for Highway Works (SFHW).

The material is to be placed and compacted in layers in accordance with Table 6/4 - Method 2 of SFHW to achieve a minimum 95% maximum dry density. The fil must achieve the following minimum long term design properties:

Phi' = 35° and c' = 0kPa

The Contractor is responsible for the selection of this material to ensure compliance with the geotechnical characteristics specified in 'Series 600' of the MCHW Specification for Highway Works, as shown on the relevant drawings and in the design documents/calculations. Any material outside the requirements of Class 6I must not be used in the reinforced soil zone. The use of material outside the specification of Class 6I may lead to unacceptable settlement and movement of the structure.

6) FOUNDATION FOR GABION WALL:
We have been provided with very limited ground and topographical information at the vicinity of the proposed Gabion Terramesh wall. Borehole log DS03 is closest to the wall but still >40m away. This log recorded variable made ground to 3.0mbegl overlying soft organic clay to 5.0mbegl. Glacial SAND was recorded underlying the soft organic clay.

This design assumes that the wall will be founded on the original glacial SAND stratum. Made ground and soft organic clay is not a suitable founding stratum for the wall.

The wall base is to comprise minimum thickness of Class 6F5 compacted granular fill formed at 1:10 batter under the gabion cage. The base must be formed on suitable bearing stratum with a safe bearing resistance in excess of 125kPa. This has been assumed to be granular glacial deposits of medium dense SAND. This must be confirmed prior to construction via intrusive investigation and testing. Any soft/ loose or unsuitable material present (such as made ground, alluvium or organics) must be fully excavated out down to comptent bearing stratum and replaced with compacted granular fill over the full reinforced width.

Prior to construction we advise that intrusive investigation consisting of a series of trial pits or boreholes are sunk along the line of the wall to confirm the ground conditions at formation level and to confirm that suitable bearing stratum is present. I suitable bearing stratum, with a safe bearing resistance of >125kPa is not present hen this design is not valid and will need to be revised.

Testing should be undertaken to confirm a minimum safe bearing resistance of 125kPa for the materials present at and below formation level. Plate Load Tests (PLTs) should be carried out confirm this. PLTs should comply with BS1377-9 Incremental load test to Cl4.1.6.4.2. A minimum 600mm diameter plate should be loaded to at least 300kPA. If original cohesive material is found at foundation level, hand shear vane tests should be carried out to confirm a minimum undrained shear strength (cu) of 75kPa. If any material with an undrained shear strength of <75kPa is left in place at or below formation level, excessive settlement and/ or global instability may occur.

The Contractor must have written confirmation from a local geotechnical specialist that the ground at formation level is suitable prior to construction. Alternatively ground improvement works or a piled base, designed by others, may be considered.

7) SITE / IN-SITU SOILS :
Foundation: (assumed to be original medium dense SAND); This material is assumed to have the following minimum properties:
phi' = 30°, γ = 20 kN/m³ and c' = 0 kPa.

Retained (assumed to be MADE GROUND OVERLYING SOFT CLAY): This material is assumed to have the following minimum properties:
phi' = 22°, γ = 19 kN/m³ and c' = 0 kPa.

The Principal Contractor is responsible for ensuring the in-situ soils comply with the geotechnical characteristics as shown on the relevant drawings and in the design calculations. As stated above, additional intrusive ground investigation and testing is required to confirm the actual ground conditions at the wall location prior to construction.

98The wall is to be constructed with a 6 degree face batter and 50mm face steps between each course.

9) TEMPORARY STABILITY
This retaining wall solution is for the permanent works only, and is issued on the basis that a safe system of works is provided for construction. The Principal Contractor must produce a method statement and risk assessment for the works to be approved by the Clients Consulting Engineer. Temporary excavations can fail rapidly and without warning. Temporary stability and design of any temporary works is outside our scope and should be confirmed by a Temporary Works Designer appointed by the Principal Contractor.

This design relies of the granular backfill wedge behind the wall extending to a temporary cut of no steeper than 45° as indicated on the section, therefore the temporary excavation must not be made at steeper than 45°.

Temporary propping/sheet piling may be required to support the temporary cut during construction (designed by others).

10) HEAVY CONSTRUCTION TRAFFIC OPERATING CLOSE TO THE WALL
Construction traffic/machinery should not traffic at the crest/toe area of the walls, as this can cause movement of the Gabions. If construction plant is to traffic at the rear of the wall, a suitable haul road design must be undertaken. All plant should also be set back an adequate distance from the rear of the Gabion wall.

11) PEDESTRIAN PROTECTION
It has been assumed that any fence placed at the crest of the Gabion wall will be a maximum of 1.2m high and be placed in minimum 0.7m long, 0.3mØ sleeves behind the Gabion units. Please advise us of any additional wind/ impact loads to be considered and we will revise the design. Pedestian requirements at the crest of the wall are to be determined by the Client's Consulting Engineer.

12) BUILDING/ STRUCTURE FOUNDATIONS
Any proposed building/ structure foundations (designed by others) at the rear of the wall must be placed to such a level so as to ensure that no loads are transferred to the Gabion Terramesh wall. **The structure's foundations must not rely on the flexible Gabion Terramesh wall for support, and are outside the scope of this design.**

The flexible Gabion Terramesh wall must not be responsible for providing any support to the building if it is to be constructed at a later date.

13) SETTING OUT
Setting out to be provided by scheme designer. Wall line shown on plan is as per drawing provided. Fenceline is offset from toe of wall as shown on sections - any required correction to toe line to accommodate to be confirmed prior to construction.

14) EXISTING RIVER
The River Irwell runs along the toe of the proposed Gabions. The base course of Gabions must be embedded a minimum of 0.5m below existing riverbed level.

We have not been provided with any topographical information at the location of the wall or on the riverbed in front. This design assumes that the toe level of 58.00m advised in front of the wall is the riverbed level and that the riverbed is flat. **This must be confirmed prior to construction and if this is not correct then this design is not valid and will need to be revised.**

The maximum water level must be confirmed prior to construction. This design has assumed maximum water level to be 64.70m AOD. If the water level is to be more onerous this design is not valid and must be reviewed prior to construction.

15) EROSION PROTECTION
Maccaferri 3x2x0.5m Reno Mattresses are to be installed as erosion protection to the front of the Gabion Terramesh wall as indicated on the design section. The Reno Mattresses are to be installed a minimum of 0.5m below river bed level.

16) TECHNICAL/ GEOTECHNICAL CERTIFICATION APPROVAL
We have assumed that no statutory approvals for the Gabion Terramesh wall are required. This must be checked and confirmed by the Principal Contractor prior to construction.

17) GLOBAL STABILITY AND WALL SETTLEMENT
This design is for the sliding/ overturning and internal stability of the Gabion Terramesh wall only. Global stability analysis is entirely outside the scope of this design and must be checked by others. Global stability checks to BS EN1997-1 Design Approach 1 must be carried out and confirmed prior to construction.

Some settlement will occur during and after construction, depending on the compaction and condition of the backfill placed and the properties of the underlying in-situ soils. **A settlement analysis/ assessment of the proposed Gabion Terramesh wall is outside the scope of Geoman's design and should be checked by others.** The proposed magnitudes of settlement experienced by the wall will be governed primarily by the compressibility of the underlying subsoils.

Construction of this wall shall not commence unless and until the Client/Client's Consulting Engineer has considered the Geoman Design Submission Document (23-5777-F1) to ensure there are no errors, omissions or conflict with the scheme design.

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REV0		DC	GM	08.11.23	
Status/Rev:	Description:	Drawn:	App.:	Date:	

GABION TERRAMESH WALL PLAN, ELEVATION & SECTION

Scale @ A1: As Shown | Unit: MM | Project Number: 23-5777-F1

Drawing Number: SK23-5777-F1-01 | Revision: 0

Design: DC | Date: 08/11/23 | Approved: AMCK | Date: 08/11/23

Drawn: DC | Date: 08/11/23

Project: EAST LANCASHIRE PAPER MILL, RADCLIFFE

Client: MORRIS HOMES

Drawing Status: CONCEPT/PRELIMINARY ☒ FOR APPROVAL ☐ FOR CONSTRUCTION ☐ AS BUILT ☐

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