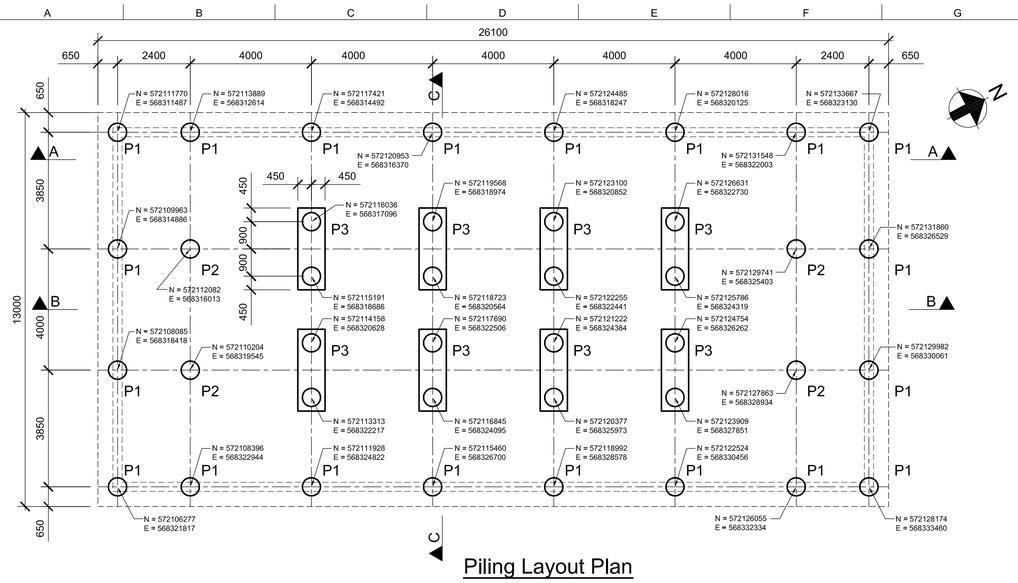
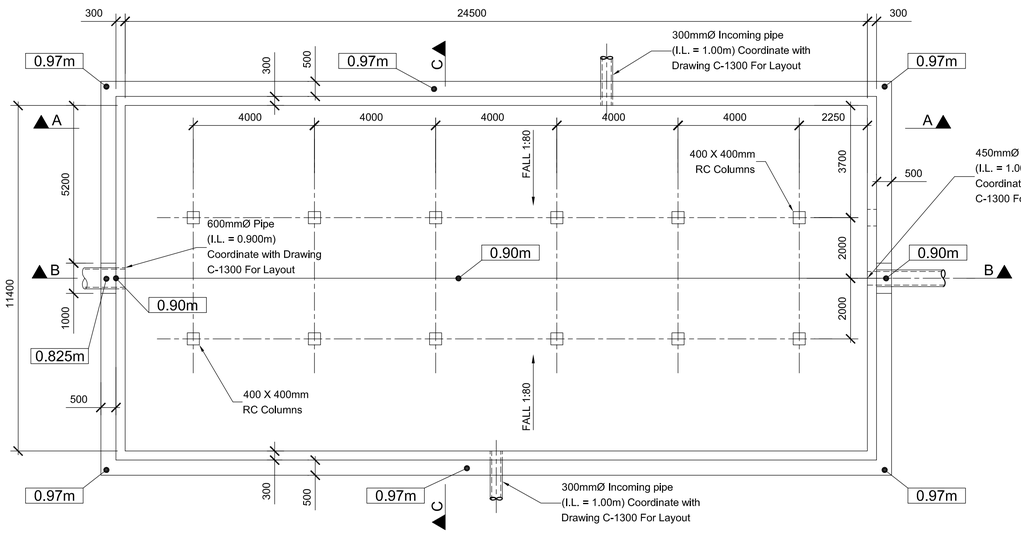


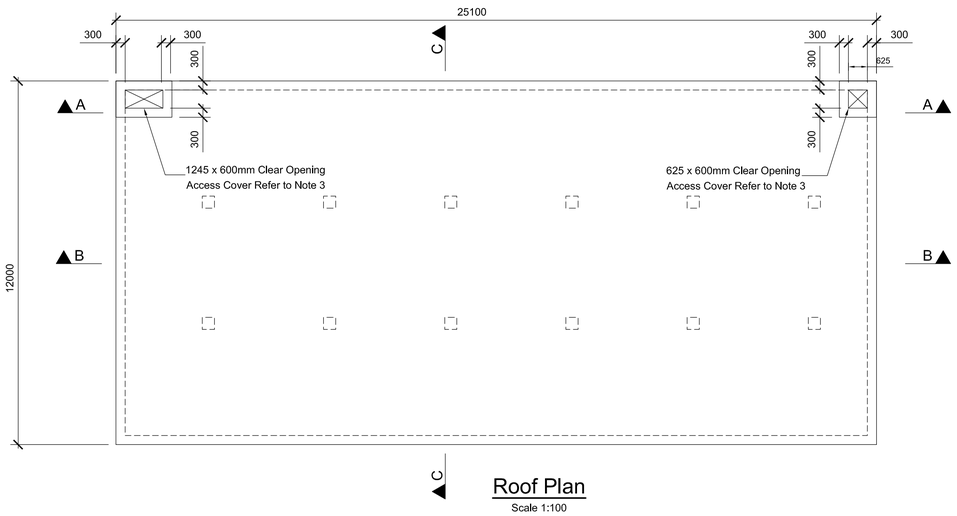
Piling Layout Plan

Scale 1:100



Foundation Plan

Scale 1:100



Roof Plan

Scale 1:100

Piling Notes:

1. This drawing is to be read in conjunction with the 'Particular Specification for Piling Works to Stormwater Storage Tank' (Piling Specification) HQDPR-ARP-ZZ-XX-SP-C-002.
2. All piles to be designed in accordance with the current versions of IS EN 1997-1 Eurocode 7 Geotechnical Design and IS EN 1992 Design of Concrete Structures and BS EN 12794.
3. The required pile design life is to be 50 years in accordance with the specification. Exposure class XS2 applies. Accordingly, the minimum anticipated concrete grade of the piles is C35/45.
4. All piles to be designed by the Contractor for the pile loads shown in the table on this drawing together with the appropriate partial factors as per IS EN 1997-1.
5. Pile testing is to be carried out in accordance with the Piling Specification.
6. The Contractor shall allow in its programme and tender price for the risk of encountering obstructions during piling. The Contractor is responsible for the removal or breaking up of any such obstructions if encountered.
7. The Contractor shall confirm in its tender return any requirements for further site investigation to be conducted.
8. The Contractor shall submit with its tender all relevant details of the method(s) proposed for dealing with man-made and natural obstructions and voids.
9. Pile breakdown to cut-off level is to be carried out in a safe, controlled and careful manner without adversely affecting the piles.
10. Refer to this drawing for pile cut-off levels.
11. The Contractor is to take note of ground conditions and the proximity of existing structures to be retained in assessing its need for and the subsequent design of piling platforms.
12. Refer to the Piling Specification for details on load testing requirements of contract piles.
13. Refer to the Piling Specification for site working restrictions including vibration limitations, contract length and working hours.
14. Reinforcement contained within the piles shall be fully anchored into pile caps / slab. Sufficent reinforcement shall project from the piles (after breaking down) to acheive full relevant anchorage.

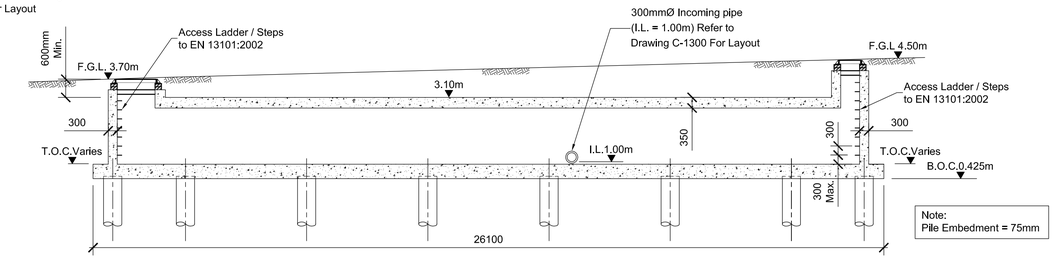
Horgan's Quay - Water Storage Tank - Actions on piles

PILE GROUP	PERMANENT Gk (kN)	VARIABLE Qk, i (kN)	LATERAL Qk,i (kN)	TOT SLS (kN)	TOT ULS (kN)	PILE DIAMETER (mm)	PILE CUT-OFF LEVEL	PILE TOE LEVEL
P1	420	260	0	680	950/-100*	To contractor design	Bottom of base slab +75mm	To contractor design
P2	490	410	0	900	1300/-200*	To contractor design	Bottom of base slab +75mm	To contractor design
P3	628	637	0	1270	1700/-250*	To contractor design	Bottom of base slab +75mm	To contractor design

Actions: Compression (+) Tension (-)

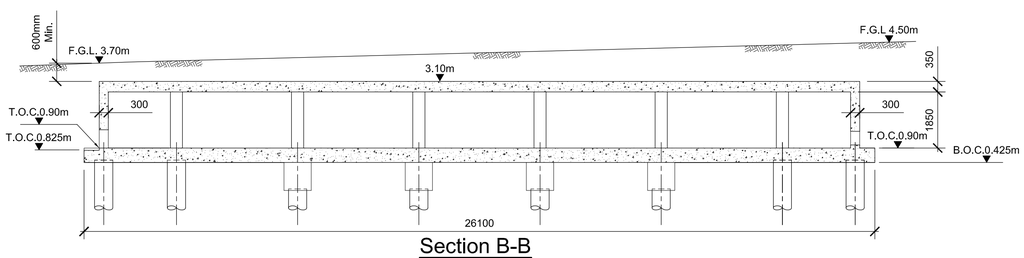
Note:

* These ULS tension loads could be experienced during the construction phase due to buoyancy if the excavation floods up to the top of the tank. To avoid the requirement to design for these tension loads, the contractor should ensure that the tank is allowed to flood until such time as the ground is reinstated up to 600mm over the tank.



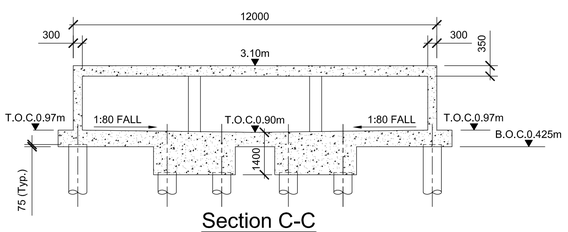
Section A-A

Scale 1:100



Section B-B

Scale 1:100



Section C-C

Scale 1:100

Notes:

1. Do not scale - Work to Figured Dimensions only.
2. This Drawing to be read in Conjunction with all Relevant Arup Drawings and Specifications.
3. Access covers for the tank shall be ductile iron recessed covers for pavior infill with machined contact surfaces and assembled components bolted together. The cover load class shall be minimum D400 to IS EN 124 and sizes selected to suit the clear openings shown.
4. Concrete mix design for the stormwater holding tank to IS EN 2016-1:
   - Grade C40/50
   - 50-year Design Life
   - Exposure classes: XC4, XS3, XA2
   - Max w/c ratio = 0.45
   - Minimum cement content = 400kg/m3
5. The base slab is to be laid on 50mm thick concrete blinding, Grade C12/15.
6. Waterproofing protection to be 'Type B' structurally integral waterproofing protection to BS 8102: 2009 using a combined water-resisting and high range water reducing (HRWR) superplasticising admixture in the concrete structure.
7. All construction joints to be provided with hydrophilic strips with compatible adhesive. The system is to be installed in full compliance with the supplier's specification. Allow 30x10mm rebates cast into the joint to locate the hydrophilic strips and to prevent displacement during placing and compaction of concrete.
8. The set out co-ordinates shown are based on the Precise Control topo survey, drawing number 17002d-9 Rev.9. These should be confirmed and checked by the contractor prior to piling.

Rev	Date	By	Chkd	Appd
C02	02/05/19	AG	MC	F.O'S.
Piling coordinates added (Status A4)				
C01	23/04/19	AG	MC	F.O'S.
Issued for Construction (Status A4)				
P07	13/03/19	AG	MC	F.O'S.
Revised as shown (Status S4)				
P06	02/11/18	JTC	F.O'S.	J.D.
Revised as shown				
P05	10/10/18	JTC	F.O'S.	J.D.
Revised as shown				
P04	27/07/18	B.M.	F.O'S.	J.D.
Revisions to Piling Requirements				
P03	23/07/18	B.M.	F.O'S.	J.D.
Issued for Tender				
P02	12/07/18	B.M.	F.O'S.	J.D.
Pile Layout Added, Roof Slab Thickness Revised				
P01	05/07/18	B.M.	F.O'S.	J.D.
Issued for Review & Comment				

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Client

HQ HORGAN'S QUAY bam property CLARENDON

Project Title

HQ
Horgan's Quay

Drawing Title

Stormwater Storage Tank
General Arrangement

Scale at A1	As Shown
Role	Civil
Suitability	A4 - Approved as Stage Complete
Arup Job No	252901-00
Rev	C02
Name	HQDPR-ARP-ZZ-XX-DR-C-4101

Do not scale

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