

INVITATION FOR OPEN TENDER FOR THE CONSTRUCTION OF RAINWATER
 HARVESTING INFRASTRUCTURE/WATER CATCHMENT IN CEELBERDE District TOWN,
 BAKOOL REGION – SOMALIA UNDER PROSPERIS PROGRAM WITH FUNDING
 SUPPORT FROM NORWAY AND SWITZERLAND GOVERNMENTS
 IN COLLABORATION WITH FEDERAL GOVERNMENT OF SOMALIA

Date: 13.01.2025.

NIS Foundation is looking for qualified contractor to undertake the construction of rainwater infrastructure/water catchment in Ceelberde town, Bakool region of Southwest State. All interested contractors/suppliers are requested to submit their applications together with the below listed support documentation and other requirements for consideration:

1. Licenses/Registrations: The bidder company should submit the following registrations/Licenses.

- ✓ Valid registration or operating license permits from the Ministry of Public works at federal level.
- ✓ Valid registration license from Ministry of Public Works Southwest State
- ✓ Tax compliance certificate: Submit evidence of Southwest State level tax compliance.
- ✓ Statement of ownership: The company shall submit a signed public notary document stating the ownership of the company (Name, position contacts and shares).

Note: Failure to submit any of the above licenses will lead to automatic disqualification.

2. Previous similar work experience bidders shall submit previous similar contracts as per below table: The company should fill in the below table with details of previous 3 relevant/similar contracts on construction works or water related infrastructure development project with monetary value worth between USD 100,000 to USD 300,000 for each contract that the company has implemented with INGOs and UN agencies for the last 5 years and physically attach the respective 3 contracts with all its annexes. ***Please note forged or fake contracts will lead to automatic disqualification.***

SN	Activity Description	Contract Amount in USD	Activity implemented location	Year of implementation	Name of the Organization worked and their
1					
2					
3					

- 3. Human and material resources:** Possess necessary resources, human and material, and ability to mobilize such a resource at short notice to undertake project works **(Please attach CVs of all relevant personnel)**.
- 4. Company Finances:** presents a dully signed statement/declaration confirming that the company is financially in a good position and able to pre-finance project works as this is necessary.
- 5. Work plan for the activity:** The bidder company shall submit a clear and detailed activity workplan.
- 6. BoQ price allocation accuracy and responsiveness):** The company shall submit a filled and stamped BoQ (Both excel and pdf versions).
- 7. Supplier ethical standard form:** Fill, stamp and submit the attached supplier ethical standard form.

All interested contractors/suppliers are requested to send electronically all the above support documents/requirements to NIS Foundation by **28th January 2025** before 11:59PM (Local time) Tuesday mid-night through this email: procurement.somalia@nis-foundation.org.

The subject of your email should be named as per advertisement title **“OPEN TENDER FOR CONSTRUCTION OF RAINWATER HARVESTING INFRASTRUCTURE/WATER CATCHMENT IN CEELBERDE District TOWN, BAKOOL REGION – SOMALIA”**.

Any enquiries or questions may be addressed to NIS Foundation through the above-mentioned email.

OFFERS WILL BE REJECTED IF ANY ILLEGAL OR CORRUPT PRACTISES HAVE TAKEN PLACE IN CONNECTION WITH THE AWARD.

NB: NIS Foundation promotes equal opportunities for all and welcomes applications from all sections and members of society regardless of their age, gender, group membership, political and/or clan affiliation. Qualified bidders/contractors owned by women are particularly encouraged to apply.

Supplier Ethical form/ declaration of honour -exclusion criteria.

Anyone doing business with NIS is required to fill the declaration of honour - exclusion criteria and shall maintain high standards on ethical issues, apply basic human and social rights, and give fair working conditions to their staff respecting ILO's core conventions.

Name of supplier/company: _____

Please answer/fill the following questions, sign, and stamp at the bottom of the document:

1. Have you ever implemented a contract financed by EU or any other donor which was terminated due to non-compliance or poor performance?

Yes: _____ No: _____

If yes please explain the remedial measures that have been taken to remedy the exclusion situation

2. Has it been established by a final judgment or final administrative decision that the person has created an entity under a different jurisdiction with the intent to circumvent fiscal, social or any other legal obligations in the jurisdiction of its registered office, central administration, or principal place of business?

Yes: _____ No: _____

If yes please explain the remedial measures that have been taken to remedy the exclusion situation

3. Has the company/organization and/or any leading personnel ever received a final conviction for participation in a criminal organization, or for corruption, fraud, money laundering, violating intellectual property rights or any other form of economic crime?

Yes: _____ No: _____

If yes please explain the remedial measures that have been taken to remedy the exclusion situation

4. Have you been declared bankrupt, subject to insolvency or winding-up procedures, where your assets were administered by a liquidator or by a court?

Yes: _____ No: _____

If yes please explain the remedial measures that have been taken to remedy the exclusion situation

5. Is there any potential conflict of interest between you and your company with any NIS staff member? A conflict of interest can be due to a relationship with staff members such as close family and/or business partnerships etc.

Yes: _____ No: _____

If yes please explain the remedial measures that have been taken to remedy the exclusion situation

6. Does the company/organisation hold necessary tax registration, and is paying taxes according to regulations?

Yes: _____ No: _____

If yes please explain the remedial measures that have been taken to remedy the exclusion situation

7. Is the company/organisation involved in money laundering or terrorist financing?

Yes: _____ No: _____

8. Is the company/organisation involved in terrorist-related offences or offences linked to terrorist activities?

Yes: _____ No: _____

9. Is the company/organisation involved in child labour or other forms of trafficking in human beings?

Yes: _____ No: _____

10. Has the company/organisation attempted to influence the decision-making process of the contracting authority during the procurement process?

Yes: _____ No: _____

If yes, please explain the remedial measures that have been taken to remedy the exclusion situation:

11. Has the company/organisation attempted to obtain confidential information that may confer upon its undue advantages in the procurement process?

Yes: _____ No: _____

If yes, please explain the remedial measures that have been taken to remedy the exclusion situation:

COMMITMENT TO STANDARDS:

1. Workers shall be treated fairly and all articles of the fundamental ILO conventions shall be adhered to. http://actrav.ilo.org/english/about/about_fundamentals.html
2. Production and extraction of raw materials for production shall not contribute to the destruction of the resources and income base for marginalized populations, such as in claiming large land areas or other natural resources on which these populations are dependent.
3. Environmental measures shall be taken into consideration throughout the production and distribution chain ranging from the production of raw material to the consumer sale. Local, regional and global environmental aspects shall be considered. The local environment at the production site shall not be exploited or degraded by pollution.
4. National and international environmental legislation and regulations shall be respected.
5. All suppliers doing business with NIS should maintain high standards on ethical issues, respect and apply basic human and social rights, ensure non-exploitation of child labour, and give fair working conditions to their staff

We, the undersigned confirm the filled information is correct and we meet the ethical standards as listed above.

Name: _____

Position: _____

Signature: _____

Date: _____

Stamp: _____

BILL NO.1. PRELIMINARIES		NIS				
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)	
1	Preliminary The contractor should provide Detailed Topographic Surveys for the water plan before the commencement of the work, the Detailed tasks for the design of Earth Dam should include the following: 1. Complete topographic survey of the site using Global Navigation Satellite System (GNSS) for surveying the area to capture the main physical features on the ground, such as rivers, lakes, reservoirs, roads, dams, dikes, drainage ditches or sources of water. 2. Contour Maps and spot elevations - the difference in height between land forms, such as valleys, plains, hills or slopes. 3. Presence of drainage ditches and dumping yards etc. 4. Presence of water springs, and swamps, etc. 5. Stream flow directions (Upstream and downstream flows) 6. Presence of vegetation and nature of the soil. 7. Study of aerial photographs of the site, layouts of present structures, geological maps. 8. Observation of deep cuts to know about the stratification of soils. 9. Gathering survey data on site, processing data, and preparing final survey output.	LSum	1.0	\$	-	
	Subtotal			\$	-	
BILL NO.2.	INTAKE WINGWALLS & APRON:					
1.01	General clearance over the width of the intake structure and canal in accordance with the specifications. To include the removal of all bushes, grass and shrubs.	m ²	1,000.0	\$	-	
1.03	Extra over excavations for breaking up/ excavating in rocks. Class A (Provisional)	m ³	3.0	\$	-	
1.04	Allow for keeping excavations free from mud and all water including springs and running water by pumping, bailing or other approved means	Sum	1.0	\$	-	
	INTAKE CANAL:					
1.07	Excavation of an open channel drain in accordance with the drawings and details. Depth of excavation not exceeding 1.5m. Rate to include trimming, ramming and compaction of side slopes to required grades.	m ²	500.0	\$	-	
1.08	Construct of Riprap as directed by the Engineer.	m ³	60.0	\$	-	
PAGE TOTAL CARRIED FORWARD TO BILL 1 COLLECTION SHEET					\$	-

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
BILL 1: COLLECTION SHEET (if any)					AMOUNT (US\$)
	Brought forward from page 1			\$	-
BILL 1 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET				\$	-

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
BILL 3 - SILT TRAP & SPILLWAY					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	SILT TRAP:				
	Site Clearance General clearance over the width of the sewerlines in accordance with the specifications. To include the removal of all bushes, grass and shrubs.	m ²	600.0	\$	-
	Excavations <i>(To include the trimming and compaction of the dam slopesides, stockpiling of reusable material, and carting away of excess excavated material as directed by the Engineer)</i>				
2.03	Excavate to remove Normal Soil material and stockpile in approved area. Depth 3.0m	m ³	1,357.3	\$	-
2.07	Extra over for items 2.03 - 2.06 for excavation in rock Class 'A'.	m ³	271.5	\$	-
	Dyke Construction Construct 1.0m high dyke around the Grit Chamber with approved selected excavated material. Material to be compacted in layers not exceeding 150mm.	m ³	100.0	\$	-
2.09	Construct grouted rip rap revetment as directed by the Engineer.	m ³	243.3	\$	-
2.10	Provide, mix, place and compact concrete class 15 (mix 1:3:6) in bed surround and haunch with filling to formation level for inlet and outlet concrete pipes	m ³	10.0	\$	-
	Canal connecting the two chambers(Siltrap & Water pan)				
2.11	Excavated on moderate soil (10°3'0.5) and level the surface. Compact to eliminate future settlement. Engineer to approve before any construction to start	m ³	40.0	\$	-
2.12	Provide and construct stone masonry foundation 3m wide x 0.4m thick x 10m long with cemented with a ratio 1:4 in Under of the concrete walls of the canal.	m ²	15.0	\$	-
2.13	provide well compacted gravel stone the base below the two inlet diversion channels of 15cm thick to receive concrete slab. The space between the walls is 10m wide	m ²	14.0	\$	-
2.14	Supply 20cm thick cemented lean concrete on top the gravel for the base floor between the diversion walls with Y12@400mm and Strip 8@8mm c/c.	m ³	8.0	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 3 COLLECTION SHEET				\$	-
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	SPILLWAY				
2.12	Excavation of an open channel drain in accordance with the drawings and details. Depth of excavation not exceeding 1.5m. Rate to include trimming, ramming and compaction of side slopes to required grades.	m ³	225.0	\$	-
2.13	Construct grouted stone-pitching / rip rap revetment as directed by the Engineer.	m ³	135.0	\$	-
	CONCRETE CHAMBER				
2.14	Provide all materials and construct 5.1m x 1.6m Grit Chamber in accordance with the drawings and specifications, including the drain chamber and locable PCC cover.	No.	1.0	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 3 COLLECTION SHEET				\$	-
BILL 3. COLLECTION SHEET					AMOUNT (US\$)
DESCRIPTION (if any)					
Brought forward from page 1					\$ -
Brought forward from page 2					\$ -

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
BILL 2 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET				\$	-

BILL 4 - WATER PAN					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
WATER PAN:					
3.01	Site Clearance General clearance over the width of the sewerlines in accordance with the specifications. To include the removal of all bushes, grass and shrubs.	m ²	3,600.0	\$	-
Excavations (To include the trimming and compaction of the dam slopes, stockpiling of reusable material, and carting away of excess excavated material as directed by the Engineer)					
3.02	Excavate to remove Normal Soil material and stockpile in approved area. Depth 0.3m - 3m	m ³	12,600.0	\$	-
3.03	Extra over for items 3.02 - 3.06 for excavation in rock Class 'A'.	m ³	2,520.0	\$	-
3.04	Subgrade Preparation and compaction: Subgrade materials shall not contain sharp, angular stones or any objects that could damage the liner or adversely affect its function. Sand required for cushion layer below the film shall be of fine quality, passing through 53 m IS Sieve. Top cover: Compacted soil. Cover soils shall not contain sharp, angular stones or any objects that could damage the liner. Liners shall be anchored to prevent uplift due to wind or slippage down the side slope, (50°/60°/0.1) including the sides	m ²	300.0	\$	-
3.04	Dyke Construction Construct 1.0m high dyke around the Grit Chamber with approved selected excavated material. Material to be compacted in layers not exceeding 150mm.	m ²	675.0	\$	-
3.05	Provided and install liner on the internal slopes of the pond with HDPE single sided textured waterroofing geomembrane of 1.0mm thickness. To include for all lapping and welding of the liner.	m ²	5,778.0	\$	-
3.06	Construction of anchor trench all around the lagoon.	m ²	300.0	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 4 COLLECTION SHEET				\$	-

BILL 4 - COLLECTION SHEET					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
PIPEWORK Provide lay, joint and test Spigot and Socket Concrete Sewer pipes as follows:					
3.09	600mm Ø Inlet & Outlet Pipes	m	24.0	\$	-
3.10	200mm Ø Steel Flanged Spigot NP6	m	24.0	\$	-
3.11	200mm Ø Steel Double Flanged Spigot with paddle flange 1.0m from on end NP6	m	24.0	\$	-
3.12	DN 200 Butterfly Valve with wheel and extension spindle.	No.	1.0	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 4 COLLECTION SHEET				\$	-

DESCRIPTION (if any)		AMOUNT (US\$)
Brought forward from page 1		\$ -
Brought forward from page 2		\$ -
BILL 4 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET		\$ -

BILL 5 - 3.0 x 3.0 m PUMP HOUSE					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
SUBSTRUCTURE All Substructure works are provisional and are subject to the direction of the Engineer.					
Excavation (Excavation including maintaining and supporting sides and keeping free from water, mud and fallen materials by bailing, pumping or otherwise.)					
4.01	Prepare site by stripping top 200 mm of soil to remove all debris including sand (if any) from site and carting away spoil	m ²	25.00	\$	-
4.02	Excavate for foundation strip commencing at reduced levels; depth not exceeding 800mm deep	m ³	7.20	\$	-
4.03	Extra-over for excavation in rock	m ³	1.44	\$	-
4.04	Remove surplus excavated material from site	m ³	4.00	\$	-
4.05	Backfill around foundation	m ³	3.00	\$	-
Filling					
4.06	300 mm thick approved hardcore filling spread, well rammed and compacted in 150mm layers to receive concrete surface.	m ²	4.20	\$	-
In situ concrete: class 15; mix 1:3:6					
4.07	50mm blinding layer on hardcore surfaces and under foundations	m ²	6.00	\$	-
4.08	Treat hardcore surface with approved insecticide	m ²	6.00	\$	-
Concrete work					
Reinforced Concrete class 25					
4.09	Strip foundation	m ³	0.90	\$	-
4.10	150mm thick floor slab with surface steel trowelled smooth	m ²	14.00	\$	-
Reinforcement					
4.11	Mesh fabric reinforcement ref. No. A142 laid in floor slab with minimum 150 mm side allowance.	m ²	14.00	\$	-
Sawn formwork					
4.12	Formwork to edges of floor slab girth over 75mm but not exceeding 150mm	m	14.00	\$	-
Walling					
4.13	400mm Thick rubble stone foundation walling in cement and sand mortar (1:3)	m ²	3.84	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 5 COLLECTION SHEET				\$	-

Waterproofing					
4.14	One layer 1000 gauge polythene sheet damp proof membrane under beds: 300mm laps	m ²	14.00	\$	-
4.15	200mm wide Bituminous felt damp-proof course	m	13.00	\$	-
Plinths					
4.16	15mm thick cement sand rendering (1:3) to plinths	m ²	6.00	\$	-
4.17	Prepare and apply three coats black bituminous paint to rendered plinths externally	m ²	6.00	\$	-
SUPERSTRUCTURES					
Walling					
4.18	200 Thick load bearing solid concrete block walling	m ²	35.00	\$	-

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	Concrete Work				\$ -
	Vibrated reinforced concrete class 25 (1:1.5:3) with 20mm maximum aggregate as described in:				\$ -
4.19	Ring Beam	m ³	0.72		\$ -
	Reinforcement				\$ -
4.20	8mm Diameter high tensile reinforcement bar	kg	20.00		\$ -
4.21	Ditto but 10mm	kg	37.00		\$ -
4.22	Sawn Formwork Formwork to sides and soffits of ring beam	m ²	8.00		\$ -
	ROOFING				\$ -
	Roof Structure				\$ -
	Sawn coloured cypress timber as described in:				\$ -
4.23	200mm x 25mm Fascia Board	m	15.00		\$ -
4.24	100 x 50 mm Rafter	m	20.00		\$ -
4.25	100 x 50 mm Wall Plate	m	23.00		\$ -
4.26	50 x 50 Purlins	m	34.00		\$ -
PAGE TOTAL CARRIED FORWARD TO BILL 5 COLLECTION SHEET					\$ -
	Roof Covering				\$ -
4.27	26 Gauge galvanized corrugated iron sheets fixed to timber Purlins	m ²	32.00		\$ -
4.28	26 Gauge flashing 450mm wide bent to shape tucked under roofing sheets and parapet wall	m	23.00		\$ -
	Painting and Decorating				\$ -
	Knot prime site and apply two undercoats and one gloss finishing coat oil paint to fascia board 200-300 mm wide	m	23.00		\$ -
	Doors and Windows				\$ -
4.29	Purpose-made steel casement double door, manufactured from standard sections, finished with pressed steel horizontal louvers and complete with all the necessary ironmongery overall size 900 x 2100mm High	No	1.00		\$ -

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
4.30	Metal grill window with wire mesh: overall size 1000 x 400mm high	No	1.00	\$	-
4.31	Prepare and apply two undercoats and one finishing coat of paint to steel door	m ²	4.00	\$	-
4.32	Ditto window	m ²	2.00	\$	-
	FINISHES			\$	-
	Floor Finishes			\$	-
4.33	Cement and sand mortar (1:3) in: 30mm thick, steel trowelled screed	m ²	14.00	\$	-
4.34	100 x 25mm Thick skirting to junction with floor and wall finish	m	12.00	\$	-
	Wall Finishes			\$	-
	13mm lime plaster: steel trowelled finish: on concrete, block work or stonework: to Walls and beams	m ²	78.00	\$	-
4.35	Prepare and apply three coats plastic emulsion paint to: Plastered surfaces	m ²	78.00	\$	-
4.36	Precast Slabs			\$	-
4.37	600 x 600 x 50 mm thick Precast concrete slabs on 50mm sand bedding around the building.	m ²	30.00	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL'S COLLECTION SHEET				\$	-
CLASS J: PIPEWORK - FITTINGS AND VALVES					
Supply, lay and joint pipe fittings & valves. All diameters are nominal.					
DI Pipe Fittings to NP10					
BENDS					
4.38	90° Double Flanged Short Radius Bend, 50mm dia.	No.	2.00	\$	-
4.39	22.5° Double Flanged Short Radius Bend, 75mm dia.	No.	4.00	\$	-
4.40	45° Double Flanged Short Radius Bend, 75mm dia.	No.	2.00	\$	-
4.41	90° Double Flanged Short Radius Bend, 75mm dia.	No.	2.00	\$	-
TEES					
4.42	75 x 50mm All Flanged Y-Branch	No.	1.00	\$	-
4.43	75 x 75mm All Flanged Special Manifold Branch	No.	1.00	\$	-
TAPERS					

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
4.44	50 x 38mm All Flanged Concentric Taper Length = 400mm	No.	2.00	\$	-
4.45	75 x 50mm All Flanged Level Invert Taper, Length = 600mm	No.	2.00	\$	-
COUPLINGS					
4.46	Flexible Coupling, 50mm dia.	No.	2.00	\$	-
4.48	Flexible Coupling, 75mm dia.	No.	3.00	\$	-
4.49	Dismantling Joint, 50mm dia.	No.	2.00	\$	-
4.50	Dismantling Joint, 75mm dia.	No.	2.00	\$	-
STRAIGHT SPECIALS					
4.51	50mm dia Flanged Spigot Pipe, 900mm length, 50mm dia.	No.	4.00	\$	-
4.52	Double Flanged, 900mm length, 50 dia	No.	2.00	\$	-
4.53	Double Flanged, 3000mm length with puddle flange 140mm for Flanged End, 50mm dia.	No.	1.00	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 5 COLLECTION SHEET				\$	-
4.54	75mm dia Flanged Spigot Pipe, 750mm length, 75mm dia.	No.	1.00	\$	-
4.55	Flanged Spigot Pipe, 1000mm length, 75mm dia.	No.	1.00	\$	-
4.56	Flanged Spigot Pipe, 1250mm length, 75mm dia.	No.	1.00	\$	-
4.57	Flanged Spigot Pipe, 1500mm length, 75mm dia.	No.	1.00	\$	-
4.58	Flanged Spigot, 900mm length with puddle flange 400mm for Flanged End, 75mm dia.	No.	2.00	\$	-
4.59	Double Flanged, 1200mm length, 75 dia	No.	2.00	\$	-
VALVES					
4.60	Double Flanged Butterfly Valve, 50mm dia. to BS5163	No.	2.00	\$	-
4.61	Double Flanged Non-Return Valve, 50mm dia. to BS5163	No.	2.00	\$	-
4.62	Double Flanged Butterfly Valve, 75mm dia. to BS5163	No.	2.00	\$	-

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
PAGE TOTAL CARRIED FORWARD TO BILL 5 COLLECTION SHEET					\$ -
BILL 5. COLLECTION SHEET DESCRIPTION (if any)				AMOUNT KShs	
Brought forward from page 1				\$	-
Brought forward from page 2				\$	-
Brought forward from page 3				\$	-
Brought forward from page 4				\$	-
Brought forward from page 5				\$	-
BILL 4 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET					\$ -

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
BILL 6 - 50 m³ REINFORCED CEMENT WATER TANK					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
1	C1- Substructure works				
1.1	General cleaning for all broken stones, trees, sharps and other material which are occupying the area where is going to be build the elevated water tank.	m ²	24	\$	-
1.2	Excavation of 6 footings of 1.9m x 1.9m and 1.60m depth. Excavated material may be used backfilling for this pits after casting of the footings upon the approval by the engineer depending on the soil properties.	m ³	34.66	\$	-
1.3	Lay 5cm thick Plain cement concrete of 1:3:6 mixing for column footings	m ³	1.08	\$	-
1.4	Construct 150x150x50 cm reinforced concrete footing of 1:2:4 mixing ratio with # 11 Y14 both ways and column neck of 40x40cm and 1.5m high with # 8 Y 16 and stirrups of 8mm @ 150mm/c/c. For 6 nos of column.	m ³	7.71	\$	-
1.5	Re-fill and compact with pre excavated soil from the footing to the surrounding area of the columns neck's till the ground floor level.	m ³	25.86	\$	-
1.6	40cm thick stone masonry foundation with mixing ratio 1:4	m ³	3.84	\$	-
1.7	Construct 40cm wide, 20cm thick of reinforced concrete ground beam of 1:2:4 mixing ratio with # 8 Y16 and staffs of 8mm @ 150mm/c/c over ground level.	m ³	1.92	\$	-
1.8	35cm thick Backfilling and well compact with pre excavated soil for floor level	m ³	7.20	\$	-
1.9	Lay 5cm thick Plain cement concrete of 1:3:6 mixing for floor level	m ³	1.20	\$	-
	Sub-total -				\$ -
2	C2 - Superstructure works				
2.1	Construct 6 R.C (1:2:4 Mixing ratio) columns of 40cm x 40cm and 5.6m height reinforced by No.8 Y16 and staffs of 8mm @ 150mm c/c	m ³	5.376	\$	-
2.2	Construct 40cm wide, 30cm thick of reinforced concrete ring beams of 1:2:4 mixing ratio for every 2.5m alternatively. The beams should be reinforced with # 4 Y14 and staffs of 8mm @ 150mm/c/c	m ³	2.88	\$	-
2.3	Construct 30cm wide, 40cm thick of reinforced concrete loaded beam of 1:2:4 mixing ratio with # 6 Y14 and staffs of 8mm @ 150mm/c/c	m ³	2.88	\$	-
2.4	Constructing of 7.4m length and 5.4m width R.C (1:2:4 Mixing ratio) slab base of 0.2m thick with Ø 12mm main bars and 10mm distribution bars both ways at top and bottom and distanced 150mm c/c N.B The slab should be mixed by machine, also it has to be kept moist and watered for a period of minimum 3 weeks, and protect from sun	m ³	7.99	\$	-
2.5	Construction RCC water retaining walls LM 20m (2x6m + 2x4m) and 2.2m high and 20cm thick to hold water (Water Barret walls)	m ³	8.8	\$	-
2.6	Constructing of 6.4m length and 4.4m width R.C (1:2:4 Mixing ratio) Cover slab with manehole and its cover. the slab should 0.15m thick with Ø 12mm main bars and 10mm distribution bars both ways at top and bottom and distanced 150mm c/c.the manehole size should be 50cmx60cm with cover N.B The slab should be mixed by machine, also it has to be kept moist and watered for a period of minimum 3 weeks, and protect from sun	m ³	4.22	\$	-
2.7	Apply two coats of Plastering internal and external walls of the water holding section of the tank with a ratio of 1:2:4	m ²	128.96	\$	-
2.8	apply White wash and dusterper on the external walls of the tank	m ²	84.96	\$	-
2.9	Provide and fix internal and external 10m and 2m height respectively 2"GI pipe ladder to top of water tank following the provided design	Item	1.00	\$	-
	Sub-Total C2				\$ -
3	C3 - Supply & install pipes and fittings for Inlet pipe, complete with gaskets, bolts, nuts, washers, etc...				
3.1	Inlet pipes and fittings				
3.1.1	DN 2" PN6, male threaded GI Nipple	No	8	\$	-
3.1.2	DN 2" PN, female threaded GI 90° deg bend	No	2	\$	-
3.1.3	DN 2" PN6, female threaded GI Union	No	6	\$	-
3.1.4	DN 2", class B GI pipe, 10.5m long, both ends male threaded, complete with female threaded couplings	m	18	\$	-
3.1.5	DN 2" PN6, DCI gate valve, female threaded	No	2	\$	-
3.2	Outlet 1 pipes and fittings to the filter tank				
3.2.1	DN 3", PN6, male threaded GI Nipple	No	8	\$	-
3.2.2	DN 3", PN6, female threaded GI 90 degrees bend	No	4	\$	-
3.2.3	DN 3", PN6, male threaded GI nipple	No	4	\$	-
3.2.4	DN 3", PN6, Female threaded GI Union	No	1	\$	-
3.2.5	DN 3", class B GI, pipe, both ends male threaded, complete with female threaded couplings	m	18	\$	-
3.3	Outlet 2 pipes and fittings to the animal troughs				
3.3.1	DN 3", PN6, male threaded GI Nipple	No	8	\$	-
3.3.2	DN 3", PN6, female threaded GI 90 degrees bend	No	4	\$	-
3.3.3	DN 3", PN6, male threaded GI nipple	No	4	\$	-
3.3.4	DN 3", PN6, Female threaded GI Union	No	1	\$	-
3.3.5	DN 3", class B GI, pipe, both ends male threaded, complete with female threaded couplings	m	18	\$	-
3.4	Overflow Pipes and Fittings				
3.4.1	DN 3", PN6, female threaded GI 90 degree bend	No	4	\$	-
3.4.2	DN 3", PN6, male threaded GI nipple	No	7	\$	-
3.4.3	DN 3", PN6, female threaded GI union	No	3	\$	-
3.4.4	DN 3", flap valve, complete with all connections to a male threaded GI pipe	No	1	\$	-
3.4.5	DN 3", class B GI pipe, both ends male threaded, complete with female threaded couplings	m	6	\$	-
3.5	Drain pipes and Fittings Washout				
3.5.1	DN 2", PN6, female threaded GI 90 degree bend	No	4	\$	-
3.5.2	DN 2", PN6, male threaded GI nipple	No	8	\$	-
3.5.3	DN 2", PN6, female threaded GI Union	No	3	\$	-
3.5.4	DN 2", PN6, DCI gate valve, female threaded	No	2	\$	-
3.5.5	DN 2", class B GI pipe, 10.5m long, both ends male threaded, complete with female threaded couplings	m	6	\$	-
3.6	Air Vent pipe				
3.6.1	DN 3", PN6, male threaded GI Nipple	No	2	\$	-
3.6.2	DN 3", PN6, female threaded GI 90 degrees bend	No	2	\$	-
3.6.3	DN 3", PN6, Female threaded GI Union	No	1	\$	-
3.6.4	DN 3", class B GI, pipe, both ends male threaded, complete with female threaded couplings	m	1	\$	-
3.7	Water trucking stand pipe				
3.7.1	DN 2", PN6, female threaded GI 90 degree bend	No	4	\$	-
3.7.2	DN 2", PN6, male threaded GI nipple	No	12	\$	-
3.7.3	DN 2", PN6, female threaded GI Union	No	6	\$	-
3.7.4	DN 2", PN6, DCI gate valve, female threaded	No	2	\$	-
3.7.5	DN 2", class B GI pipe, 18m long, both ends male threaded, complete with female threaded couplings	m	6	\$	-
	Sub-total - C3				\$ -
	Grand Total C1 + C2 + C3				\$ -
BILL 6 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET					\$ -

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
BILL 7 :- SUPPLY & INSTALLATION OF SOLAR WATER PUMPING SYSTEM FOR THE DAM					
Description		Unit	Qty	Unit Price	Total Amount
BILL NO 8.1 Solar and Electrical/Electronics Equipment					
1.1	Monocrystalline Solar PV Modules appropriate for powering the pump and controller, approved by NIS Engineers	Watts	10000		\$ -
1.2	Aluminum PV Mounting Structure with the smaller height of the structure not to be less than 1M, approved by NIS Engineers	Watts	10000		\$ -
1.3	Required RCC concrete foundation for the Aluminum PV Mounting Structure should have a dimension of length 400mm by width 400mm by depth 700mm (below G.L.) and 300mm above ground level.	Lsm	1		\$ -
1.4	Surface Pump(stains pump 5KW or equivalent) complete with motor, flanges, non-return valve and other relevant accessories with a flow rate of at least 30 cubic meters per hour at a head of 15M, approved by NIS Engineers. This pump will be installed on a floating system inside the	Unit	1		\$ -
1.5	Fabrication of Floating Rack With A Suction Pipeline Connected To The Pump House/Shade Secured With Cables At The Edge of The Dam, capable of carrying the pump, approved by NIS Engineers	Ls	1		\$ -
1.6	Pump controller complete with accessories (Hobsolar 8KW or equivalent), approved by NIS Electrical Engineers	Unit	1		\$ -
1.7	PV Disconnect Switch 1000v/40A/DC MCB	Unit	1		\$ -
1.8	Supply of lightning spike arrester in copper c/w accessories i.e., GI Pipes, Conductor c/w accessories i.e., GI Pipes, Conductor cable/copper tape etc.	Lsm	1		\$ -
1.9	Submersible drop cable 4x6mm2 flexible for the pump	m	100		\$ -
2	Solicing Kit for the submersible cable	No.	1		\$ -
2.1	DC 1x6mm DC cable for the PV panels	m	50		\$ -
2.2	Switchover switch between solar and generator	No.	1		\$ -
2.3	Electrical sundries for the installation- to include earth rod, earth lead cable and clamping device, adaptor metal box and other accessories.	Lsm	1		\$ -
Sub-total for BILL NO 8.1					\$ -
BILL NO 8.2 Pipeline works and fittings					
1.1	60mm Internal Diameter Suction Pipe	m	5		\$ -
1.2	100mm Internal Diameter 2"GI class B Delivery Pipe including all fittings and fixtures	m	100		\$ -
1.3	Provide and fix 200m 2" GI class B pipe connecting the floating pump to the elevated tank, inclusive of excavation, back filling and fitting. Following provided design	m	200		\$ -
1.4	3" rubber Pan/cachment pipes – complete with adaptors	Ring	4		\$ -
1.5	3" Gate valve	No.	2		\$ -
1.6	3" non return valve	No.	2		\$ -
1.7	Flood switch	No.	1		\$ -
1.8	4" x 6" Pan Cover	No.	1		\$ -
1.9	B Meters DN40 water meter	No.	1		\$ -
2.0	Installation labor costs, testing and commissioning.	Ls	1		\$ -
Sub-Total for BILL NO 8.2					\$ -
Grand Total for BILL NO 7					\$ -
BILL 8 - FENCING AND GATE					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
CHAINLINK FENCING Length = 600m					
Site clearance					
8.01	Clear the site of all grasses, shrubs small and big trees etc. and dispose off as directed on site.	m ²	600.0		\$ -
8.02	100 x 100 x 3.0m long precast concrete fencing posts with 600mm long crank and reinforced with 4 number 8mm diameter deformed steel bars, 6mm diameter mild steel stirrups at 200mm centres. The concrete shall be Class 20 (1:2:4 mix), finished fair faced and have 9 number holes for attaching binding wire.	No.	201.0		\$ -
8.03	Ditto struts for corner end and straining posts ditto but including hole for one number bolt and cranked to neatly support the main posts.	No.	40.0		\$ -
8.04	Dig holes in hard soil / murrum; size 300mm diameter and 500mm deep; spread the arising as directed on site.	m ²	19.3		\$ -
8.05	Mass concrete class 20 (1:2:4 mix) benching to concrete posts well vibrated.	m ²	19.3		\$ -
8.06	12 1/2 gauge (25ka) galvanised steel barbed wire or other equal and approved tied to existing precast concrete posts (MS) with and including galvanised steel binding wire.	Roll	10.0		\$ -
8.07	2000mm high 2.5mm thick plast coated galvanised steel chainlink steel mesh stretched and tightly tied to existing barbed wire (ms) with and including galvanised steel binding wire. The bottom side to have 25mm depth of benching into the soil and top side end to be properly tied up (18 metres long rolls)	Roll	34.0		\$ -
8.08	Galvanised plain wire (to use as tying wire)	Kg	15.0		\$ -
GATE					
8.09	Double leaf gate size 4000x2000mm high comprising 2 number 50x100x6mm thick ungalvanised steel rectangular hollow section (RHS) gate posts, 50x40x2mm thick RHS framing, 40x25x2mm thick RHS braces, heavy duty weld mesh (3mm diameter) facing, Purpose made padlock locking device all welded together and painted to approval.	No.	1.0		\$ -
PAGE TOTAL CARRIED FORWARD TO BILL 8 COLLECTION SHEET					\$ -
BILL 8 COLLECTION SHEET					
DESCRIPTION (if any)					AMOUNT (US\$)
Brought forward from page 1					\$ -
BILL 8 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET					\$ -

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
BILL 9 - ANIMAL WATER TROUGHS					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	WATER TROUGH FOR CAMELS				
	Excavation (Provisional) Excavation including maintaining and supporting sides and keeping free from water, mud and fallen materials by bailing, pumping or otherwise				
9.01	Prepare site by stripping top 150 mm of soil to remove all debris including sand (if any) from site and carting away spoil.	m ²	58.0	\$	-
9.02	Excavate for foundation strip commencing at stripped levels; depth not exceeding 1.50m deep	m ³	6.0	\$	-
9.03	Extra-over for excavating in rock	m ³	1.0	\$	-
9.04	Remove surplus excavated material from site	m ³	17.0	\$	-
9.05	Backfill around foundation	m ³	10.0	\$	-
9.06	Filling 200 mm thick approved hardcore filling spread, well rammed and compacted in 150mm layers to receive concrete surface bed	m ²	54.0	\$	-
9.07	Treat hardcore surface with approved insecticide	m ²	54.0	\$	-
	Concrete work Mass Concrete class 15 (1:3:6) with 20mm thick maximum aggregate size in				
9.08	50mm blinding layer under foundations	m ²	9.5	\$	-
9.09	50mm blinding layer on hardcore surfaces	m ²	54.0	\$	-
9.10	Vibrated reinforced concrete class 25 (1:1.5:3) with 20mm maximum aggregate as described in: Strip foundation	m ²	2.0	\$	-
9.11	75mm thick concrete benching laid to falls and with surface steel trowelled rough (optional)	m ²	48.0	\$	-
9.12	100 mm thick floor slab	m ²	7.0	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 9 COLLECTION SHEET					\$ -
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
9.13	Vibrated reinforced concrete class 25 (1:1.5:3) with 20mm maximum aggregate as described in: 200mm thick walls	m ³	5.2	\$	-
9.14	150mm thick wall	m ³	0.1	\$	-
	Reinforcement				
9.15	Mesh fabric reinforcement ref. No. A142 laid in floor slab with minimum 150 mm side allowance	m ²	68.0	\$	-
9.16	Reinforcement bars (All sizes) as shown on drawings	kg	280.0	\$	-
	Sawn formwork				
9.17	Formwork to sides of foundation strip 150-225mm	m	31.0	\$	-
9.18	Formwork to edges of floor slab 150-225mm	m	32.0	\$	-
9.19	Formwork to sides of walls	m ²	47.0	\$	-
	Finishes				
9.20	Cement and sand mortar (1:3) in: 25 mm Thick paving to floor with water proof cement (Optional)	m ²	6.5	\$	-
9.21	15mm thick plaster to internal side of wall with water proof cement	m ²	10.0	\$	-
9.22	12mm thick plaster to external side of wall	m ²	17.0	\$	-
9.23	25 mm Thick screed with approved hardener to floor steel trowelled rough (Optional)	m ²	6.0	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 9 COLLECTION SHEET					\$ -
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	WATER TROUGH FOR SHEEP/GOATS				
	Excavation (Provisional) Excavation including maintaining and supporting sides and keeping free from water, mud and fallen materials by bailing, pumping or otherwise				
9.24	Prepare site by stripping top 150 mm of soil to remove all debris including sand (if any) from site and carting away spoil	m ²	56.0	\$	-
9.25	Excavate for foundation strip commencing at stripped levels depth not exceeding 1.50m deep	m ³	6.0	\$	-
9.26	Extra-over for excavating in rock	m ³	1.0	\$	-
9.27	Remove surplus excavated material from site	m ³	9.0	\$	-
9.28	Backfill around foundation	m ³	3.4	\$	-
9.29	Filling 200 mm thick approved hardcore filling spread, well rammed and compacted in 150mm layers to receive concrete surface bed	m ²	38.0	\$	-
9.30	Treat hardcore surface with approved insecticide	m ²	38.0	\$	-
	Concrete work Mass Concrete class 15 (1:3:6) with 20mm thick maximum aggregate size in				
9.31	50mm blinding layer under foundations	m ²	9.3	\$	-
9.32	50mm blinding layer on hardcore surfaces	m ²	56.0	\$	-
9.33	Vibrated reinforced concrete class 25 (1:1.5:3) with 20mm maximum aggregate as described in: Strip foundation	m ²	2.0	\$	-
9.34	75mm thick concrete benching laid to falls and with surface steel trowelled rough (Optional)	m ²	47.0	\$	-
9.35	100 mm thick floor slab	m ²	6.9	\$	-
PAGE TOTAL CARRIED FORWARD TO BILL 9 COLLECTION SHEET					\$ -
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
9.36	Vibrated reinforced concrete class 25 (1:1.5:3) with 20mm maximum aggregate as described in: 150mm thick walls	m ³	1.4	\$	-
	Reinforcement				
9.37	Mesh fabric reinforcement ref. No. A142 laid in floor slab with minimum 150 mm side allowance	m ²	67.0	\$	-
9.38	Reinforcement bars (All sizes) as shown on drawings	kg	210.0	\$	-
	Sawn formwork				
9.39	Formwork to sides of foundation strip 150-225mm	m	31.0	\$	-
9.40	Formwork to edges of floor slab 150-225mm	m	31.0	\$	-
9.41	Formwork to sides of walls	m ²	39.4	\$	-

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES					NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)	
	Walling				\$	-
9.42	150 Thick solid concrete block walling	m ²	3.0		\$	-
	Finishes				\$	-
9.43	Cement and sand mortar (1:3) in: 25 mm Thick paving to floor with water proof cement (Optional)	m ²	6.9		\$	-
9.44	15mm thick plaster to internal side of wall with water proof cement	m ²	5.0		\$	-
9.45	12mm thick plaster to external side of wall (Optional)	m ²	4.7		\$	-
9.46	25 mm Thick screed with approved hardener to floor steel trowelled rough (Optional)	m ²	7.0		\$	-
	Water Supply System					
	<u>PVC pressure pipe Class C, medium thickness with and including joining fittings and fixed as described</u>					
9.47	25mm diameter inlet pipe chased through masonry wall 300 mm long with and including stop cork	No	4.0		\$	-
9.48	25mm diameter inlet pipe	No	2.0		\$	-
9.49	32mm diameter PVC draw off pipe 300mm long with and including gate valve	No	1.0		\$	-

PAGE TOTAL CARRIED FORWARD TO BILL 9 COLLECTION SHEET \$ -

BILL 9 - COLLECTION SHEET		AMOUNT (US\$)
DESCRIPTION (if any)		
Brought forward from page 1		\$ -
Brought forward from page 2		\$ -
Brought forward from page 3		\$ -
Brought forward from page 4		\$ -
BILL 9 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET		\$ -

BILL 10 - TAP STANDS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	Excavation (Provisional)				
	Excavation including maintaining and supporting sides and keeping free from water, mud and fallen materials by bailing, pumping or otherwise				
10.01	Prepare site by stripping top 200 mm of soil to remove all debris including sand (if any) from site and carting away spoil	m ²	33.1		\$ -
10.02	Excavate to reduce levels not exceeding 1.50m deep; average depth 300mm	m ²	33.1		\$ -
10.03	Filling 300 mm thick approved hardcore filling spread, well rammed and compacted in 150mm layers to receive concrete surface bed	m ³	9.9		\$ -
10.04	In situ concrete: class 15: mix 1:3:6 50mm blinding layer on hardcore surfaces	m ²	33.1		\$ -
10.05	Treat hardcore surface with approved insecticide	m ²	33.1		\$ -
	Concrete work				
	Reinforced Concrete class 25				
10.06	75mm thick floor slab with surface steel trowelled smooth	m ²	26.0		\$ -
10.07	200mm thick floor slab with surface steel trowelled smooth	m ²	7.2		\$ -
10.08	200mm walls	m ²	1.4		\$ -
	Reinforcement				
	Reinforcement bars (all sizes) as shown on drawings	kg	20.0		\$ -
10.10	Mesh fabric reinforcement ref. No. A142 laid in floor slab with minimum 150 mm side allowance	m ²	36.5		\$ -
	Sawn formwork				
10.11	Formwork to edges of floor slab girth not exceeding 75mm	m	26.0		\$ -
10.12	Formwork to sides of walls	m ²	3.2		\$ -
10.13	100 x 100mm open drain channel	m	14.7		\$ -
	Finishes				
	Floor Finishes				
10.14	Cement and sand mortar (1:3) in: 30mm thick steel trowelled screed	m ²	33.1		\$ -

PAGE TOTAL CARRIED FORWARD TO BILL 10 COLLECTION SHEET \$ -

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	GATE VALVE CHAMBER				
	Excavation				
	Excavation including maintaining and supporting sides and keeping free from water, mud and fallen materials by bailing, pumping or otherwise				
10.15	Fit excavation commencing at reduced levels; depth not exceeding 1.50m deep	m ²	1.0		\$ -
10.16	Remove surplus excavated material from site	m ³	0.5		\$ -
10.17	Backfill around foundation	m ³	0.5		\$ -
	Concrete work				
	Mass Concrete class 20 with 20mm thick maximum aggregate size in 50mm Thick	m ²	1.0		\$ -
	Walling				
10.18	150 Thick load bearing solid concrete block walling	m ²	2.0		\$ -
	Finishes				
	Cement and sand mortar (1:3) rendering in:				
10.19	15mm internal plaster to walls	m ²	1.2		\$ -
10.21	400 x 400mm precast concrete cover	No	1.0		\$ -
	Water Supply System				
	PVC pipe Class C with and including jointing, fittings and fix as described				
10.22	38mm diameter inlet pipe	m	9.0		\$ -
10.23	38mm diameter brass gate valve with wheel and head	No	2.0		\$ -

PAGE TOTAL CARRIED FORWARD TO BILL 10 COLLECTION SHEET \$ -

BILL 10 - COLLECTION SHEET		AMOUNT (US\$)
DESCRIPTION (if any)		
Brought forward from page 1		\$ -
Brought forward from page 2		\$ -
BILL 10 TOTAL CARRIED FORWARD TO GRAND SUMMARY SHEET		\$ -

CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN, BAKOOL REGION - SOMALIA

BILL NO.1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
CONSTRUCTION OF WATER SUPPLY FACILITY AT ELBERDE TOWN					
BILL OF QUANTITIES GRAND SUMMARY SHEET					
BILL NO.	DESCRIPTION	AMOUNT IN (US\$)			
BILL No.1	PRELIMINARIES	\$			-
BILL No. 2	INTAKE WORKS	\$			-
BILL No. 3	30 x 20 m SILT TRAP & SPILLWAY	\$			-
BILL No. 4	50 x 60 m WATER PAN	\$			-
BILL No. 5	3.0 x 3.0 m PUMP HOUSE	\$			-
BILL No. 6	Construction of 50m ³ Capacity R.C Elevated Water Tank	\$			-
BILL No. 7	SUPPLY & INSTALLATION OF SOLAR WATER PUMPING SYSTEM FOR THE DAM	\$			-
BILL No. 8	FENCING AND GATE	\$			-
BILL No. 9	ANIMAL WATER TROUGHS (CAMELS & SHEEPS/GOATS)	\$			-
BILL No.10	TAP STANDS	\$			-
GRAND TOTAL CARRIED TO GRAND SUMMARY SUMMARY SHEET		\$			-

CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE - BAKOL REGION - SOUTHWEST –SOMALIA.



Vol. I: BOOK OF DRAWINGS.

Client:



Client Representative:

THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

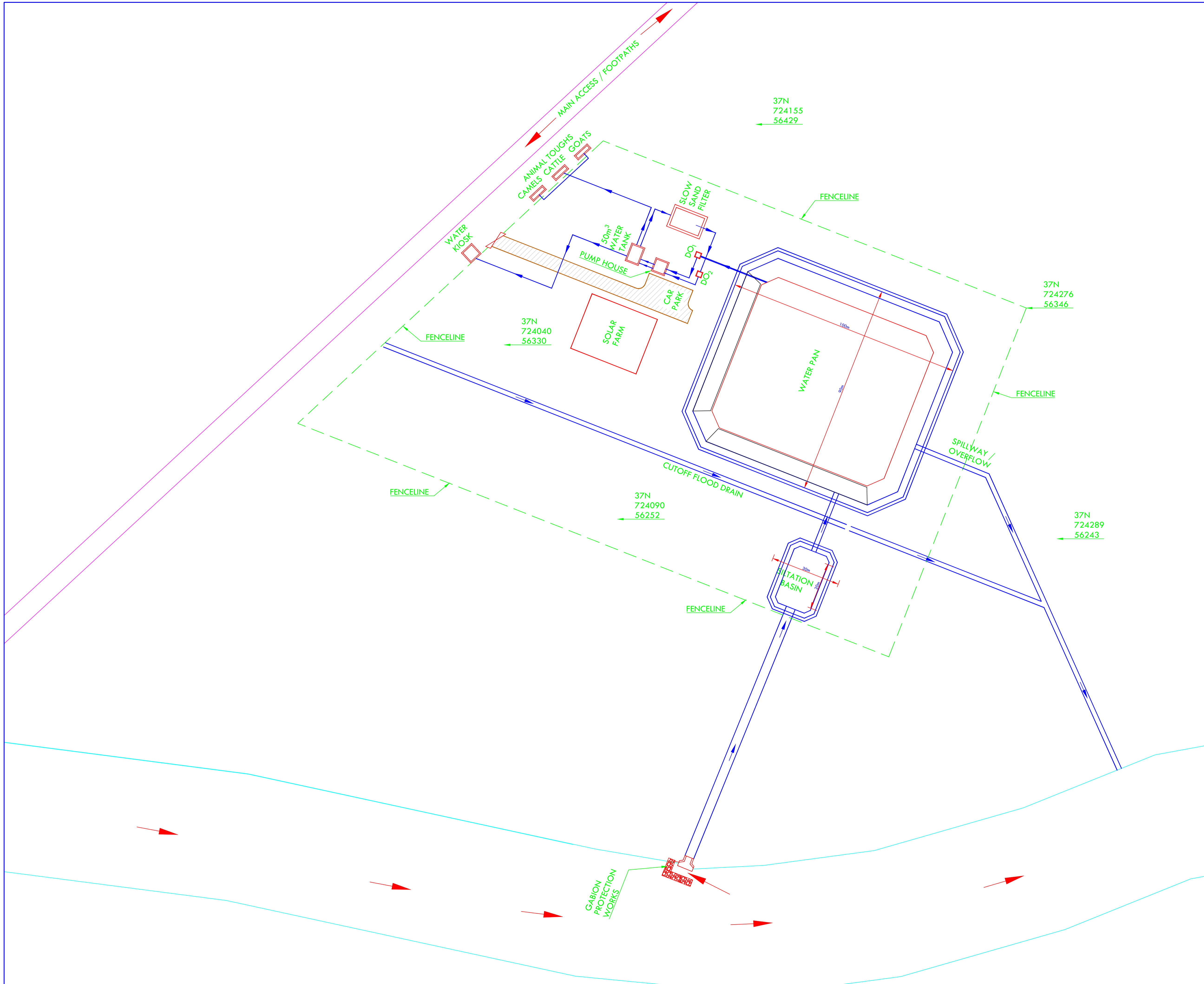
CUSTOMIZED BY NIS

JAN2025

Civil/Structural Engineer



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Off-Ojjo Road - P. O. Box 1349-
00606 Sarit Centre, NAIROBI, Kenya
Tel: +254.20.2343540/1
E-mail: info@max.co.ke



NOTES

1. HDPE geomembrane of 1.5mm thickness to be layed on well compacted water pan surface. The geomebrane shall be rough textured on the back side, and the side that is rough textured shall be laid to be in contact with the compacted earth.
2. Minimum lap lengths of the geomembrane shall be 300mm.
3. All compaction shall be carried out to a minimum of 98% MDD compaction.
4. Selection of excavated material for reuse as fill or for compaction purpose, shall be subject to the approval of the Engineer.
5. Rock fill for gabion shall be 150 - 250 mm in size. Rip-rap rock shall be 250 - 500 mm in size.
6. The Contractor shall ensure that the environment is finally reinstated to its previous condition after the works are completed.
7. All backslopes of compacted earth for the water pan and the silt trap shall be protected from erosion by grass planting as soon as possible.

GENERAL

1. All dimensions are in m unless otherwise specified
2. The contractor must check and verify all dimensions before commencement of any work.
3. Any discrepancy to be clarified with supervising engineer.

CIVIL WORKS

1. All soil on cut embankment to be stabilized unless its coral.
2. The slopes should not exceed 45°.

PROJECT TITLE:
 CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE DISTRICT-BAKOOL SOUTH WEST STATE

DRAWING TITLE:
 PROPOSED SITE LAYOUT PLAN SHEET 2 OF 2

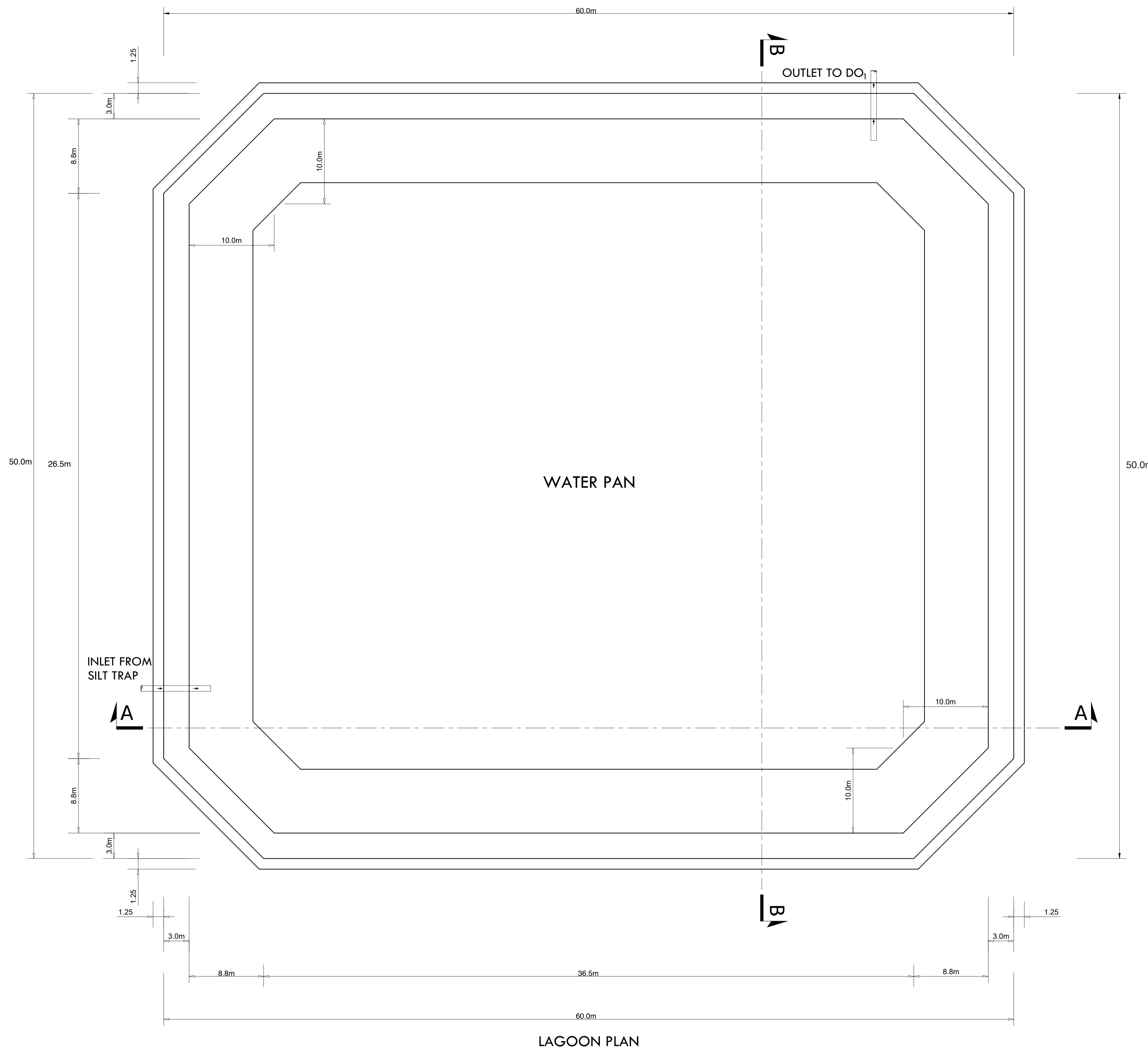
CLIENT
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CLIENT REPRESENTATIVE:-
 THE COUNTRY REPRESENTATIVE NIS SOMALIA PROGRAM

CIVIL/STRUCTURAL ENGINEER:-

 Floor 2, B5, Ojjo Plaza, Plums Lane, Off-Ojjo Road - P. O. Box 1349-00606 Sant Centre, NAIROBI, Kenya
 Tel: +254.20.2343540/1
 E-mail: info@max.co.ke

SCALE:	A1 DWG 1:750	A3 DWG 1:1500	
	NAME	SIGNATURE	DATE
Designed			
Drawn			
Checked			
DRG No.	Revision Suffix		
NIS-WI-DHO-CS-002			



WATER PAN

LAGOON PLAN

NOTES

1. HDPE geomembrane of 1.5mm thickness to be laid on well compacted water pan surface. The geomembrane shall be rough textured on the back side, and the side that is rough textured shall be laid to be in contact with the compacted earth.
2. Minimum lap lengths of the geomembrane shall be 300mm.
3. All compaction shall be carried out to a minimum of 98% MDD compaction.
4. Selection of excavated material for reuse as fill or for compaction purpose, shall be subject to the approval of the Engineer.
5. Rock fill for gabion shall be 150 - 250 mm in size. Rip-rap rock shall be 250 - 500 mm in size.
6. The Contractor shall ensure that the environment is finally reinstated to its previous condition after the works are completed.
7. All backslopes of compacted earth for the water pan and the silt trap shall be protected from erosion by grass planting as soon as possible.

GENERAL

1. All dimensions are in m unless otherwise specified
2. The contractor must check and verify all dimensions before commencement of any work.
3. Any discrepancy to be clarified with supervising engineer.

CIVIL WORKS

1. All soil on cut embankment to be stabilized unless its coral.
2. The slopes should not exceed 45°.

PROJECT TITLE:

CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN BALANBAL VILLAGE- MUDUG REGION - GALMUDUG - SOMALIA

DRAWING TITLE:

WATER PAN PLAN DETAILS.

CLIENT



CLIENT REPRESENTATIVE:-

THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

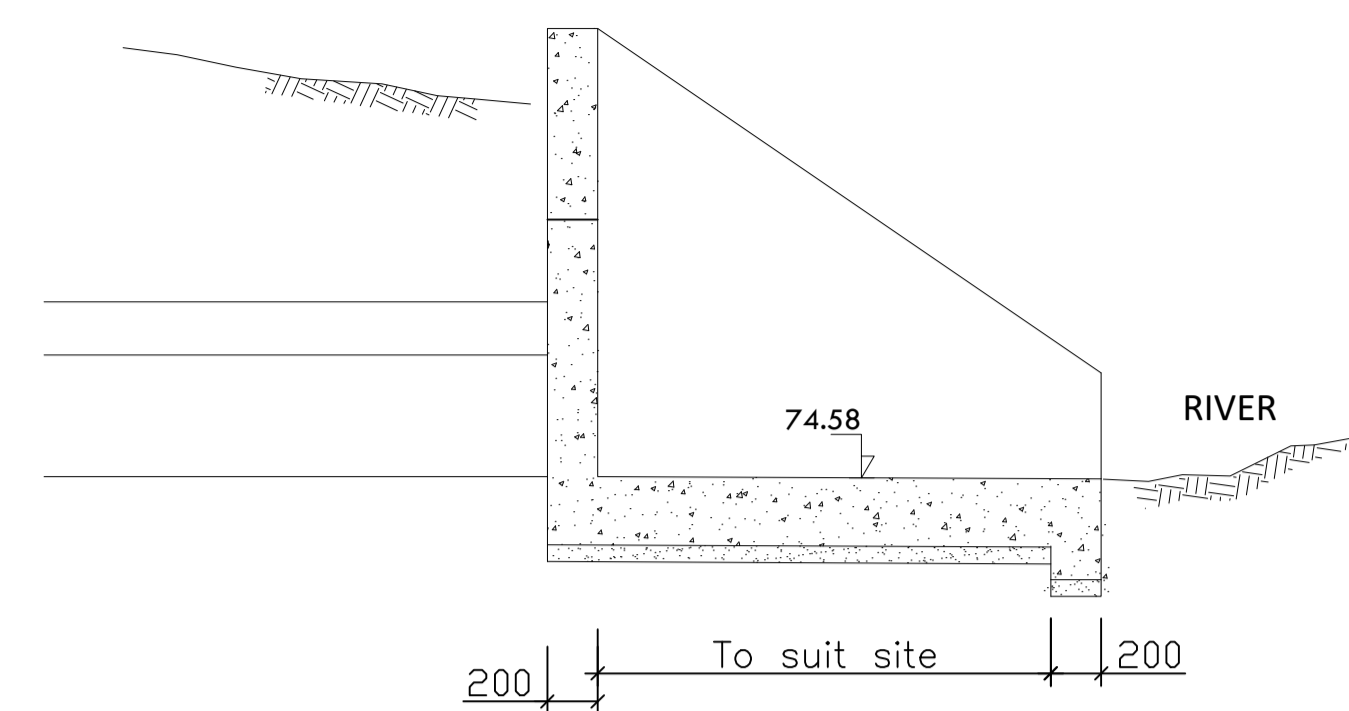
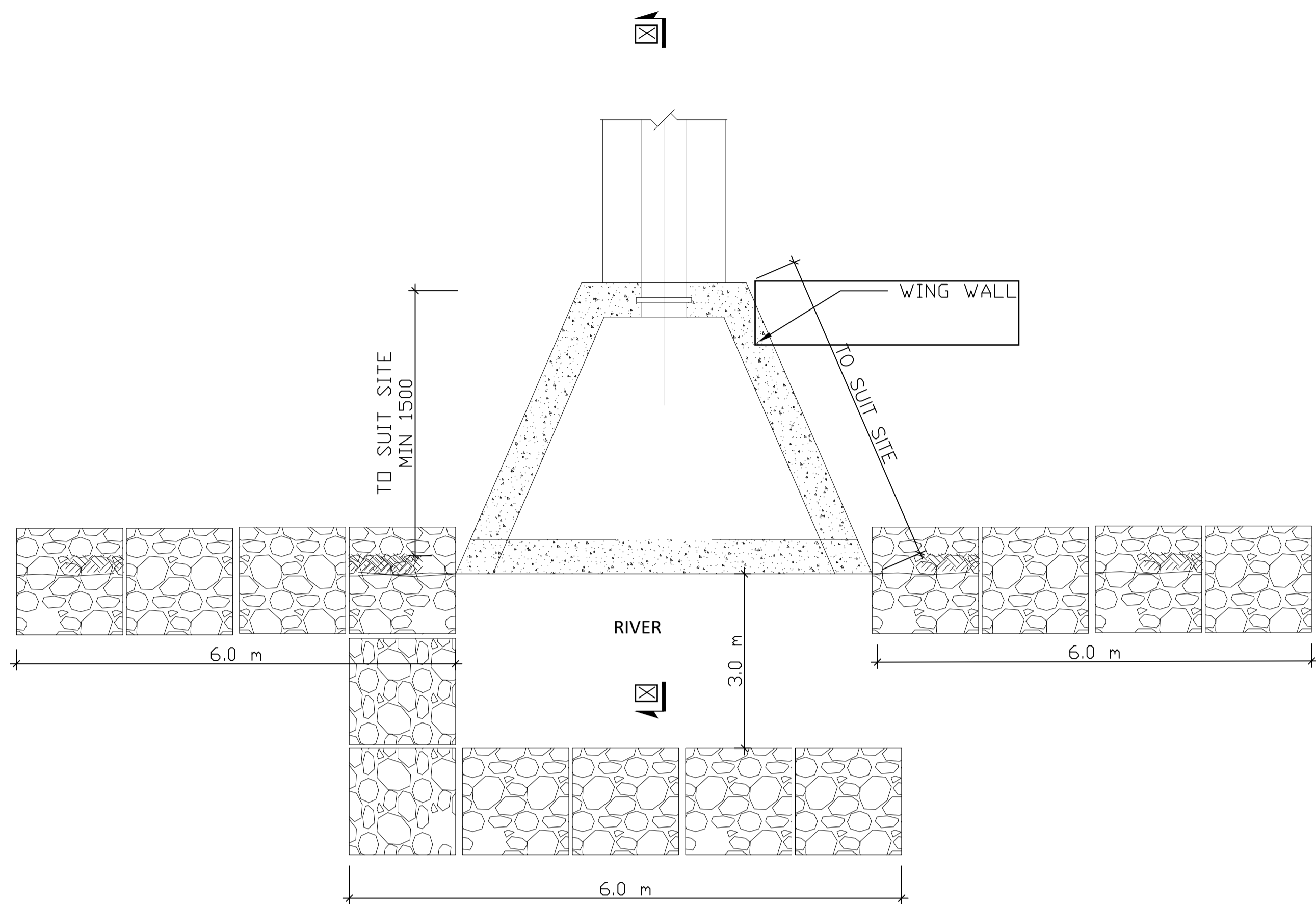
CIVIL/STRUCTURAL ENGINEER:-

 Floor 2, B5, Ojijo Plaza, Plums Lane,
Off-Ojijo Road - P. O. Box 1349-
00606 Sarit Centre, NAIROBI, Kenya
Tel: +254.20.2343540/1
E-mail: info@max.co.ke

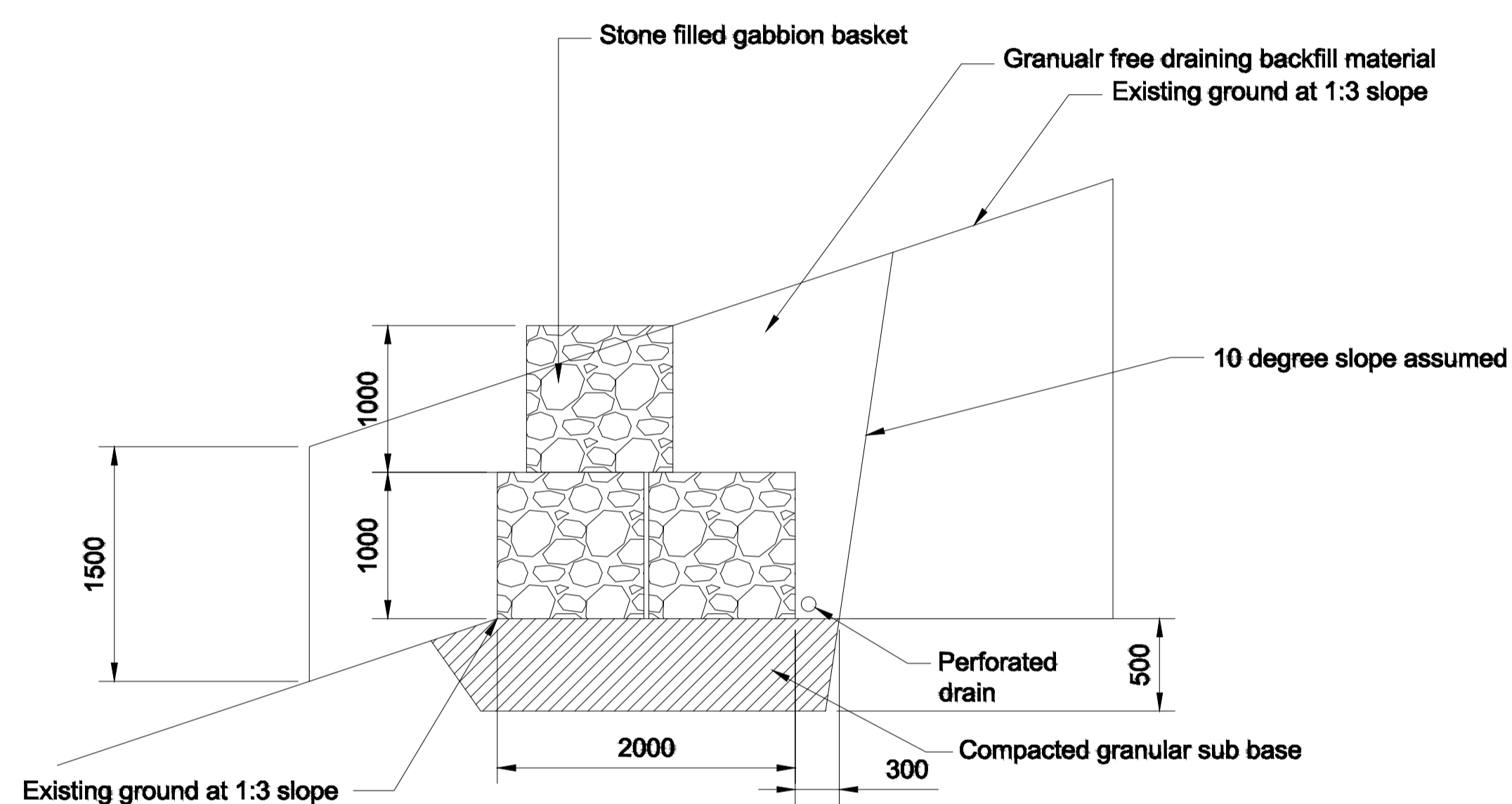
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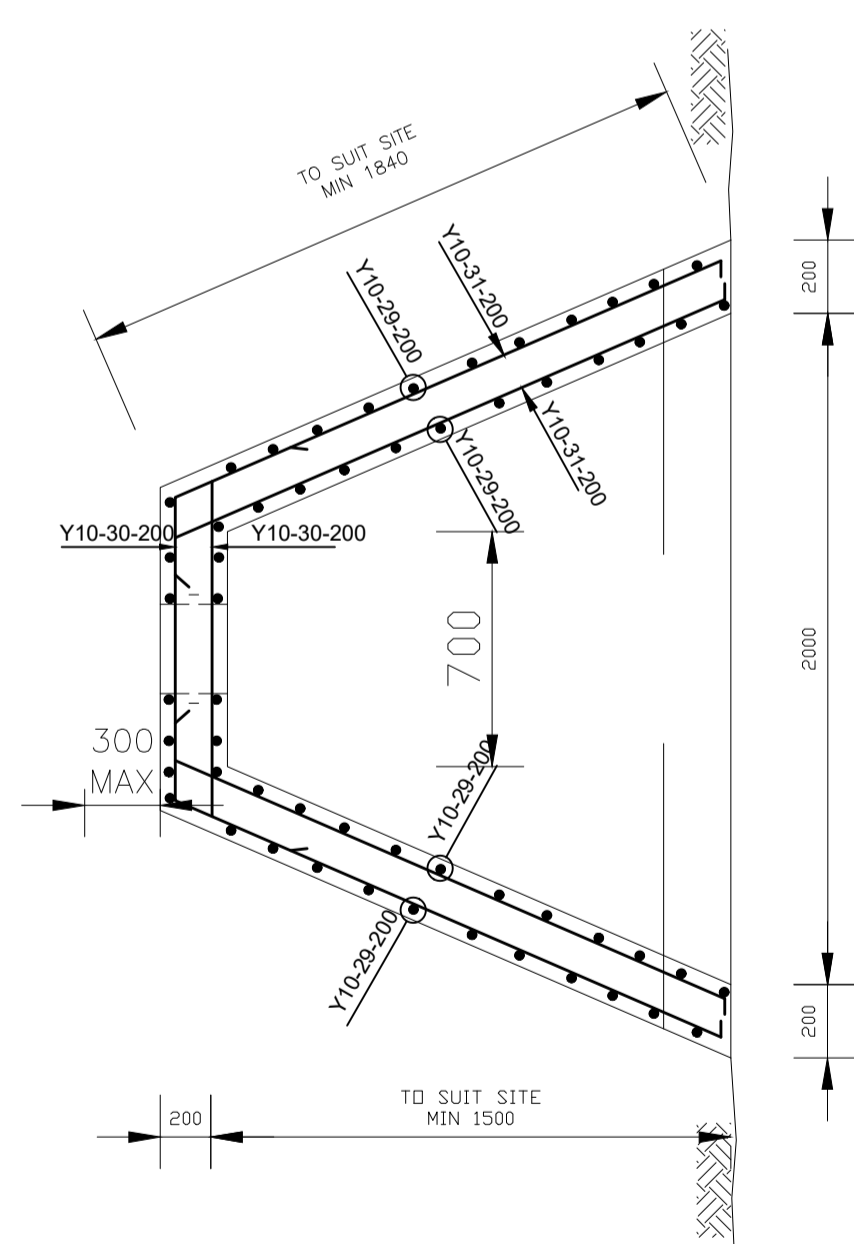
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NIS-WI-DHO-CS-003		



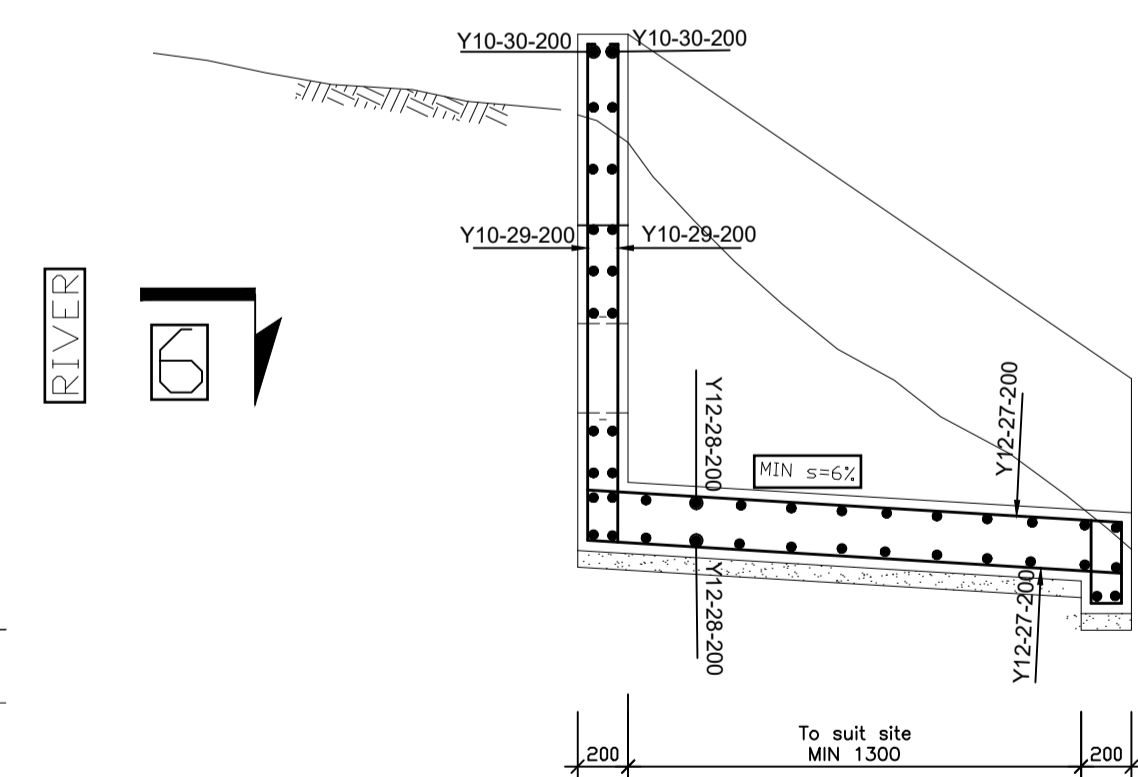
SECTION X-X



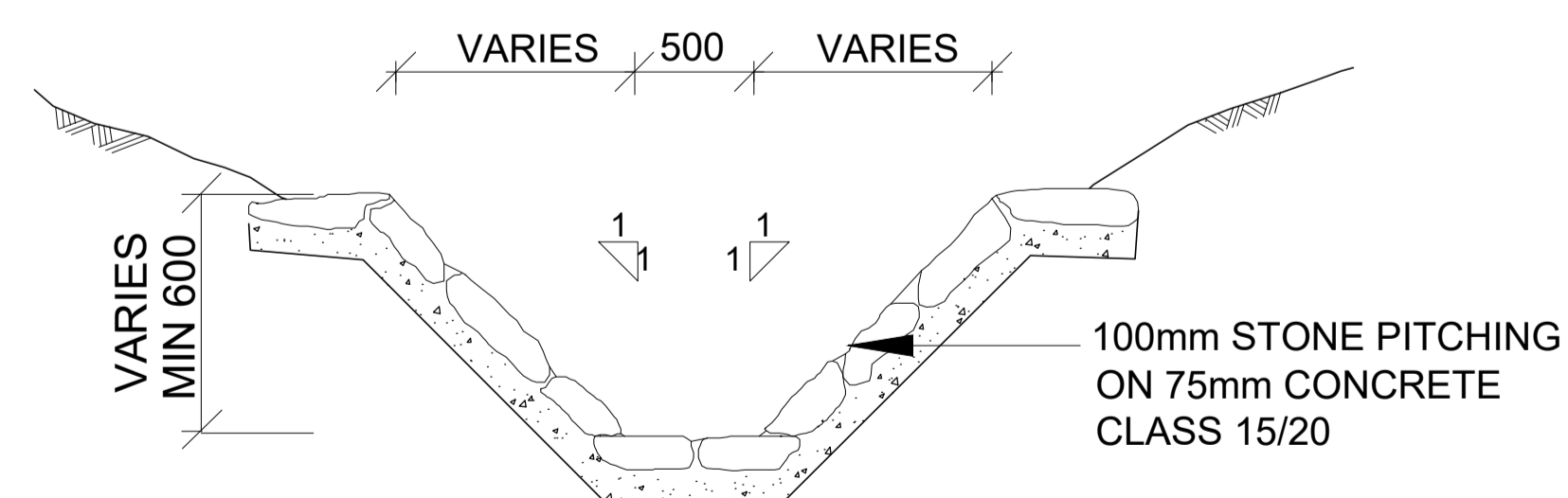
TYPICAL STONE GABION DETAIL



SPILL CHAMBER PLAN
(NEXT TO THE RIVER)
Scale 1/50



SECTION 6-6
Scale 1/50



STONE PITCHED CANAL

NOTES

1. READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
2. DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
3. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
4. MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
5. MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
6. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.

PROJECT TITLE:

CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN, BAKOL REGION SOUTH WEST STATE-SOMALIA

DRAWING TITLE:

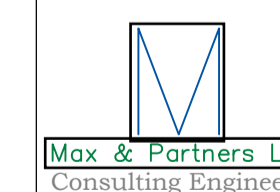
INTAKE STRUCTURE, GABIONS AND CANAL DETAILS.

CLIENT

CLIENT REPRESENTATIVE:-

THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

CIVIL/STRUCTURAL ENGINEER:-

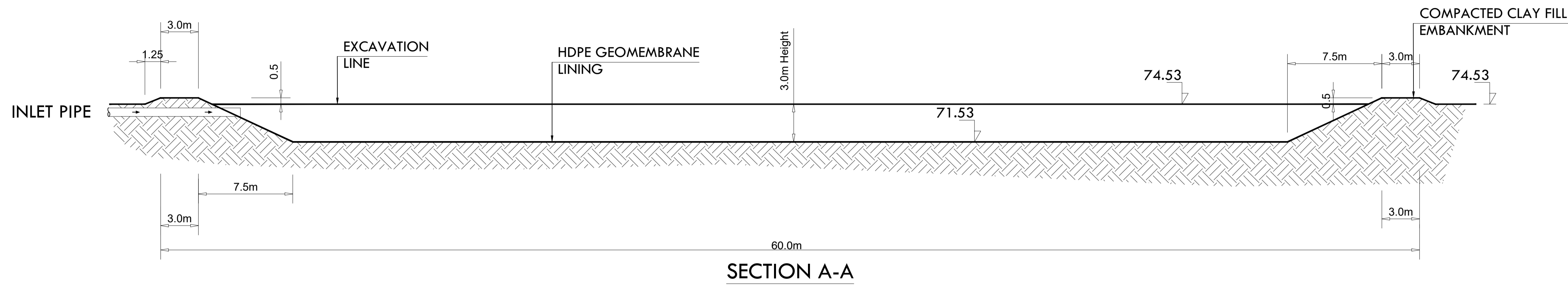


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00606 Sarit Centre, NAIROBI, Kenya
Tel: +254.20.2343540/1
E-mail: info@max.co.ke

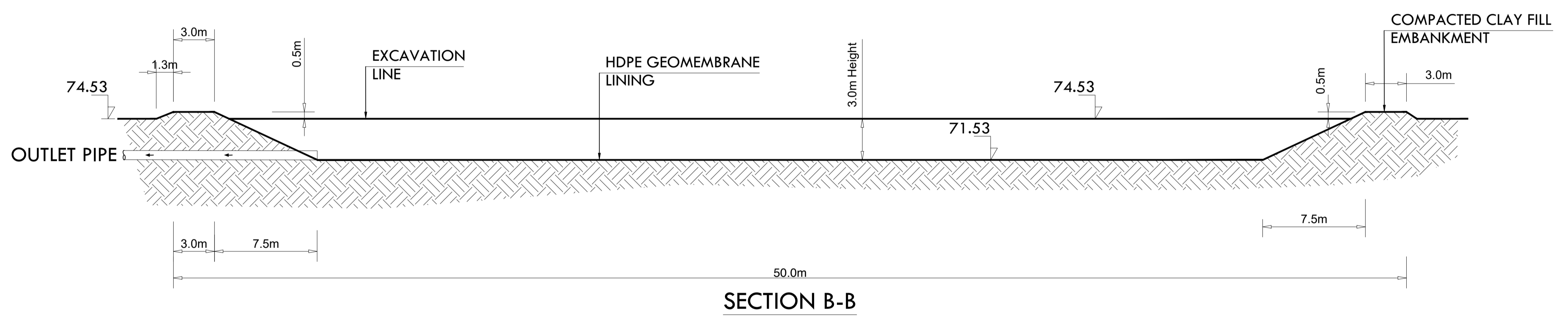
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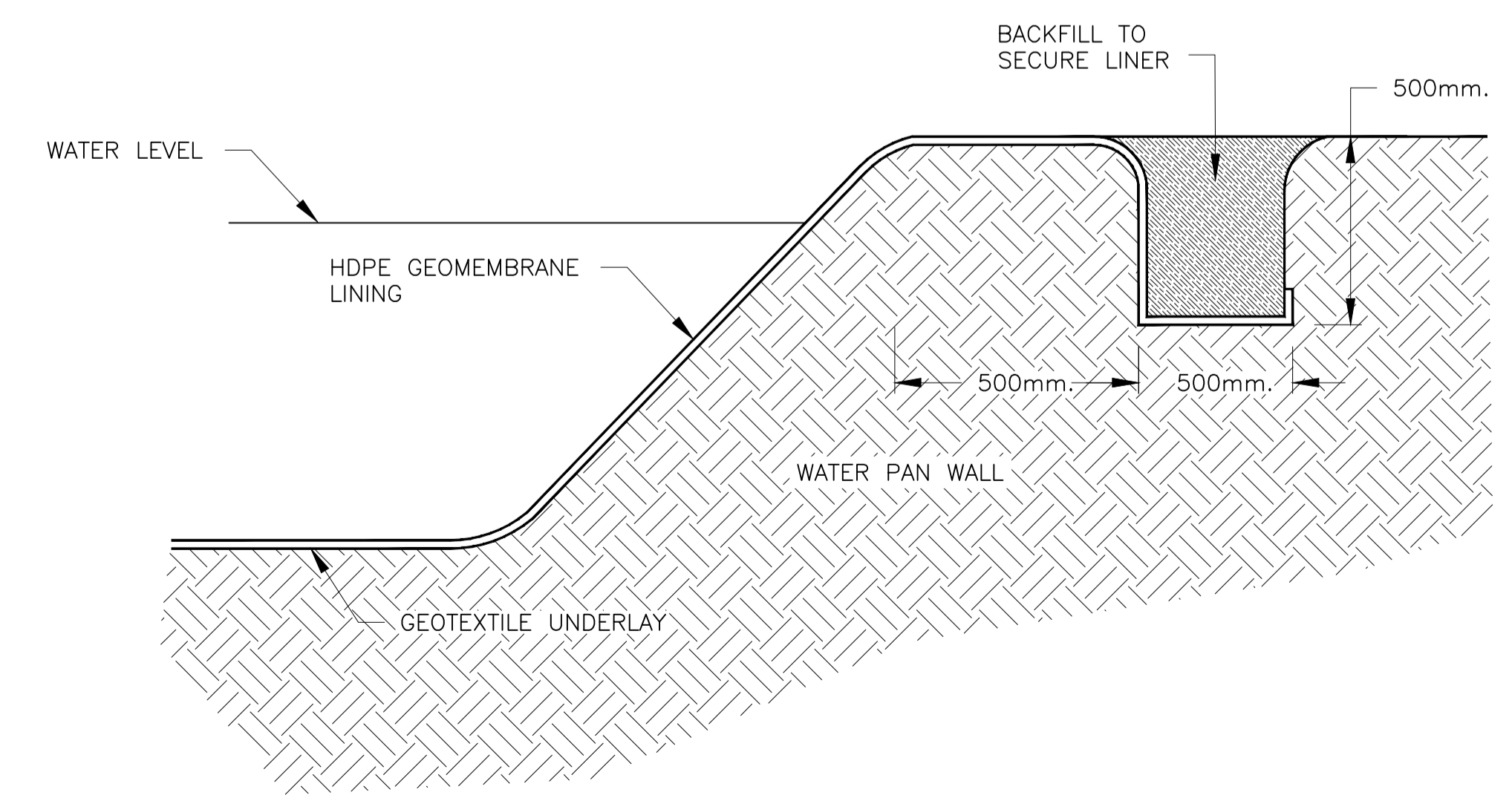
DRG No.	Revision	Suffix
NIS-WI-DHO-CS-006		



SECTION A-A



SECTION B-B



HDPE GEOMEMBRANE LINING ANCHOR DETAIL

NOTES

1. HDPE geomembrane of 1.5mm thickness to be laid on well compacted water pan surface. The geomembrane shall be rough textured on the back side, and the side that is rough textured shall be laid to be in contact with the compacted earth.
2. Minimum lap lengths of the geomembrane shall be 300mm.
3. All compaction shall be carried out to a minimum of 98% MDD compaction.
4. Selection of excavated material for reuse as fill or for compaction purpose, shall be subject to the approval of the Engineer.
5. Rock fill for gabion shall be 150 - 250 mm in size. Rip-rap rock shall be 250 - 500 mm in size.
6. The Contractor shall ensure that the environment is finally reinstated to its previous condition after the works are completed.
7. All backslopes of compacted earth for the water pan and the silt trap shall be protected from erosion by grass planting as soon as possible.

GENERAL

1. All dimensions are in m unless otherwise specified
 2. The contractor must check and verify all dimensions before commencement of any work.
 3. Any discrepancy to be clarified with supervising engineer.
- CIVIL WORKS**
1. All soil on cut embankment to be stabilized unless its coral.
 2. The slopes should not exceed 45°.

PROJECT TITLE:
 CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN - BAKOL REGION - SOUTHWEST - SOMALIA

DRAWING TITLE:
 WATER PAN SECTIONS DETAILS.

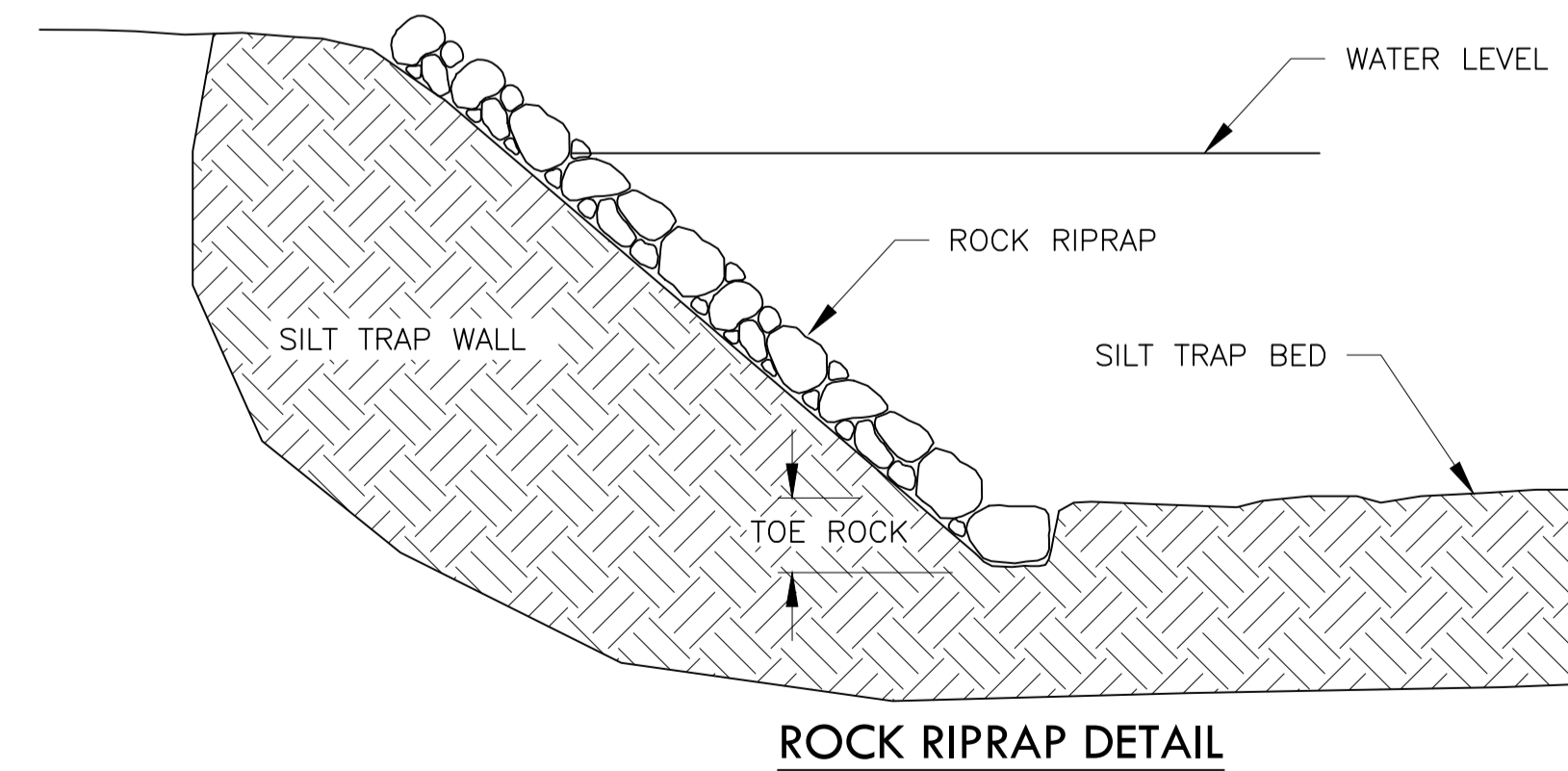
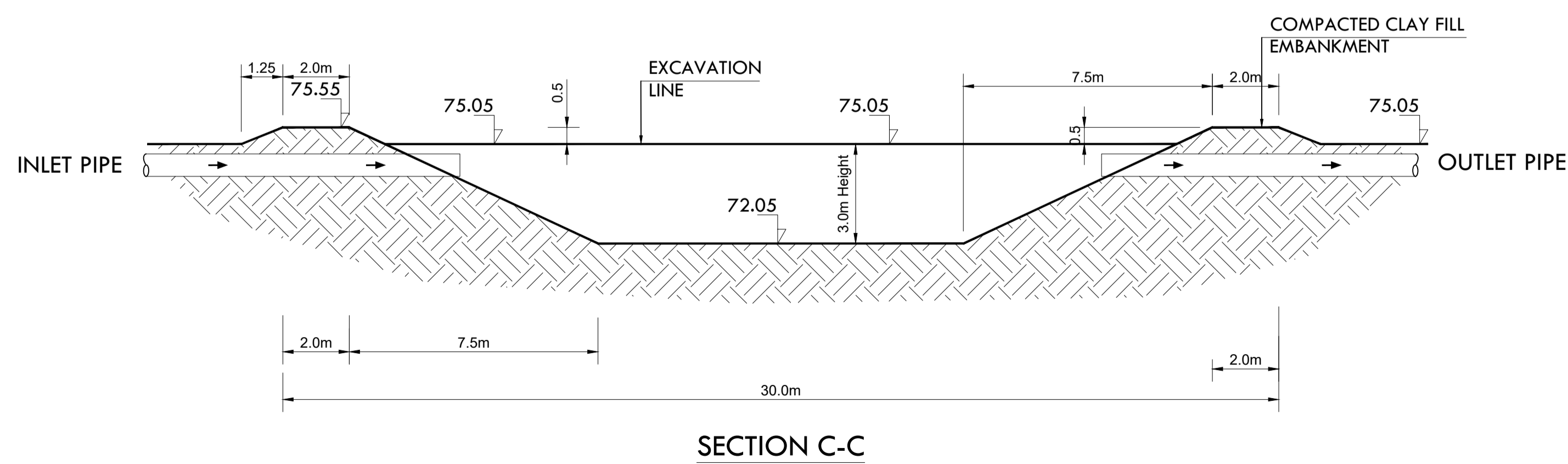
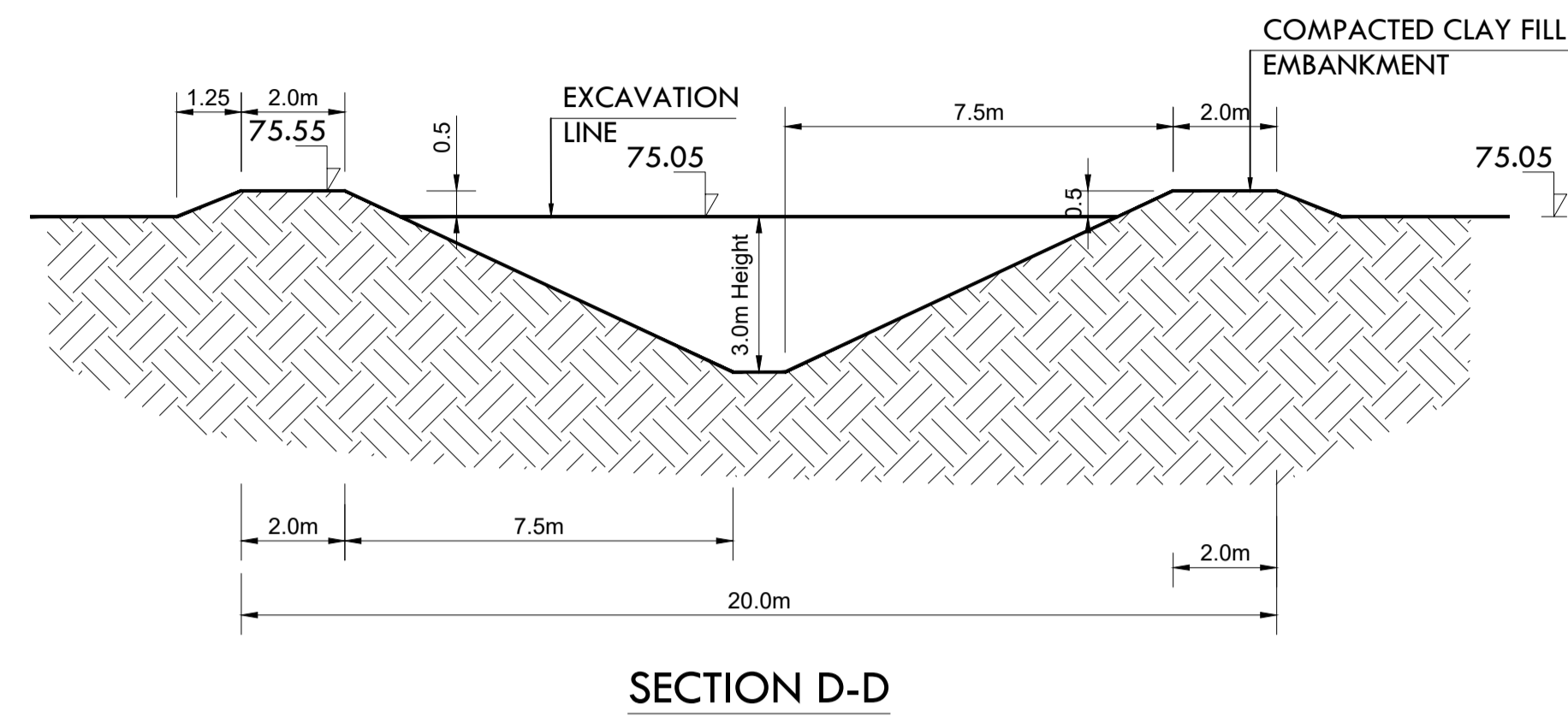
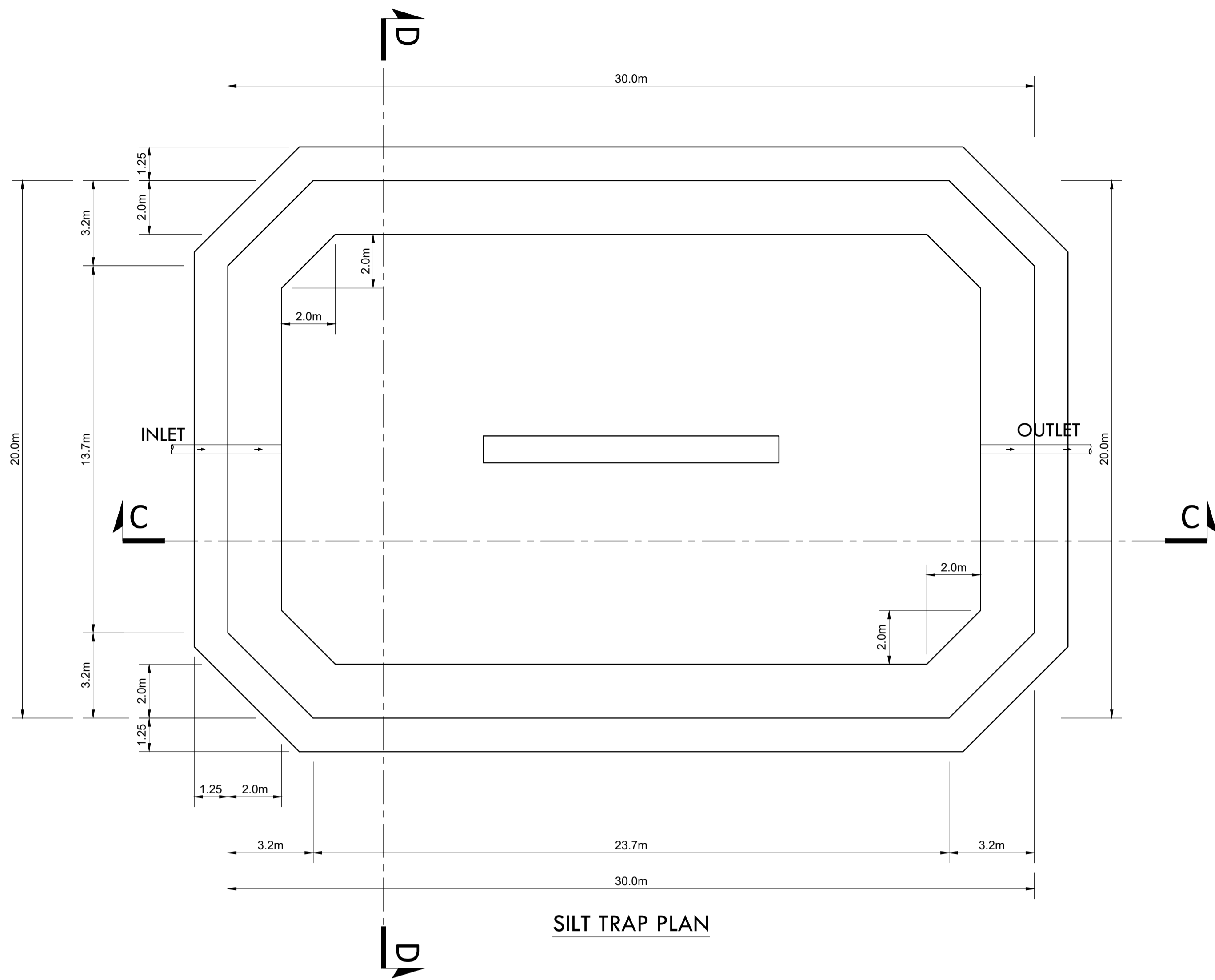


CLIENT REPRESENTATIVE:-
 THE COUNTRY REPRESENTATIVE
 NIS SOMALIA PROGRAM

CIVIL/STRUCTURAL ENGINEER:-

Floor 2, B5, Ojijo Plaza, Plums Lane,
 Off-Ojijo Road - P. O. Box 1349-
 00606 Sarit Centre, NAIROBI, Kenya
 Tel: +254.20.2343540/1
 E-mail: info@max.co.ke

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NAME SIGNATURE	DATE	
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Checked		
DRG No.	Revision Suffix	
NIS-WI-DHO-CS-004		



NOTES

1. HDPE geomembrane of 1.5mm thickness to be laid on well compacted water pan surface. The geomembrane shall be rough textured on the back side, and the side that is rough textured shall be laid to be in contact with the compacted earth.
2. Minimum lap lengths of the geomembrane shall be 300mm.
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3. Any discrepancy to be clarified with supervising engineer.

CIVIL WORKS

1. All soil on cut embankment to be stabilized unless its coral.
2. The slopes should not exceed 45°.

PROJECT TITLE:

CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN - BAKOL REGION - SOUTHWEST - SOMALIA

DRAWING TITLE:

SILT TRAP PLAN AND SECTION DETAILS.

CLIENT



CLIENT REPRESENTATIVE:-

THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

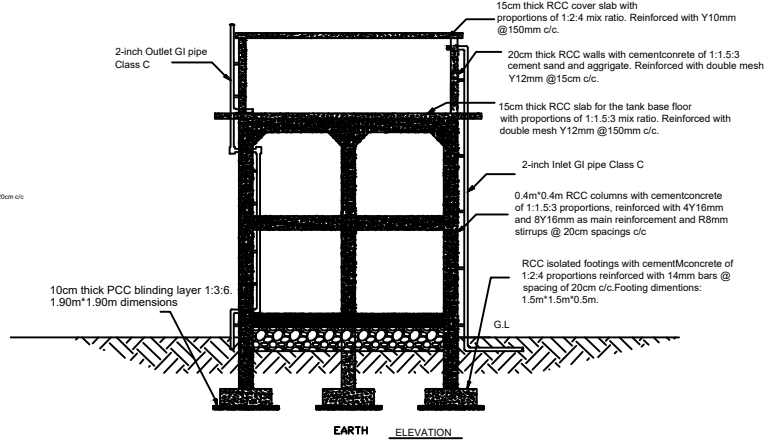
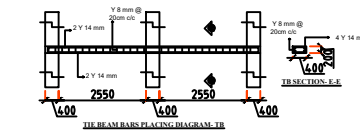
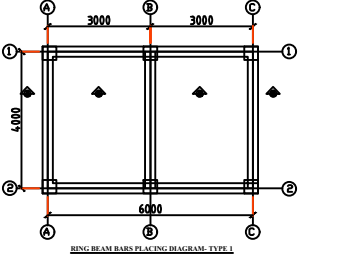
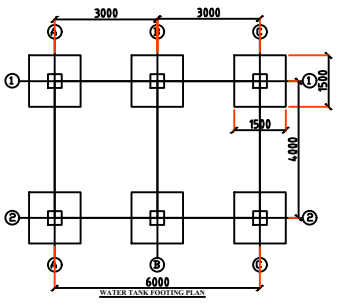
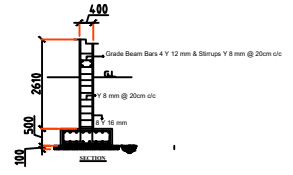
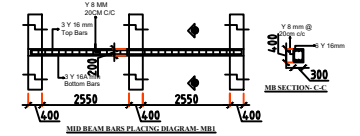
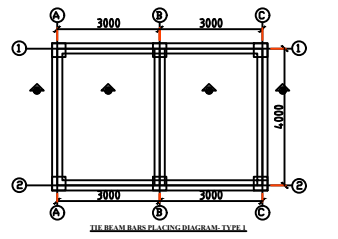
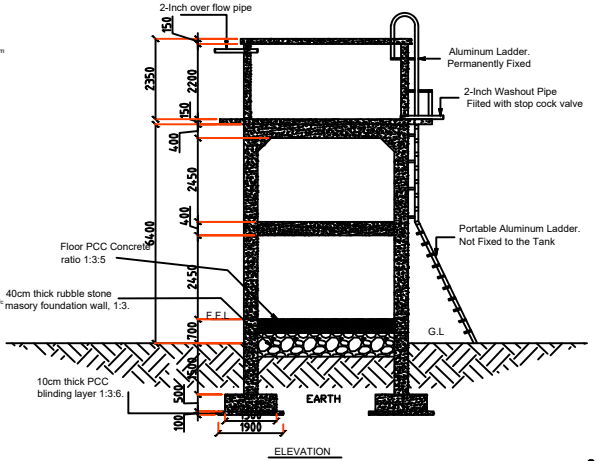
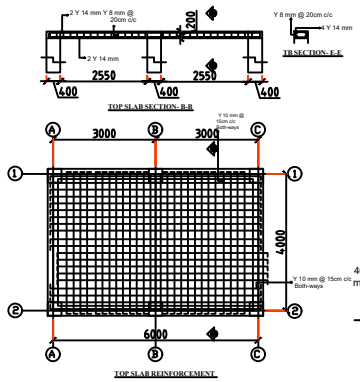
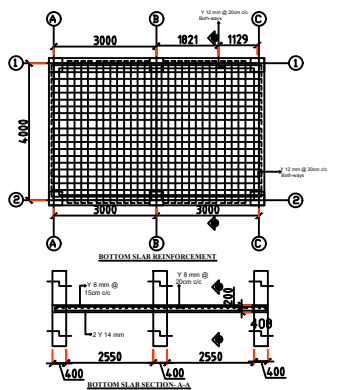
CIVIL/STRUCTURAL ENGINEER:-

Max & Partners Ltd
Consulting Engineers
Floor 2, B5, Ojijo Plaza, Plums Lane,
Off-Ojijo Road - P. O. Box 1349-
00606 Sarit Centre, NAIROBI, Kenya
Tel: +254.20.2343540/1
E-mail: info@max.co.ke

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A3 DWG 1:500

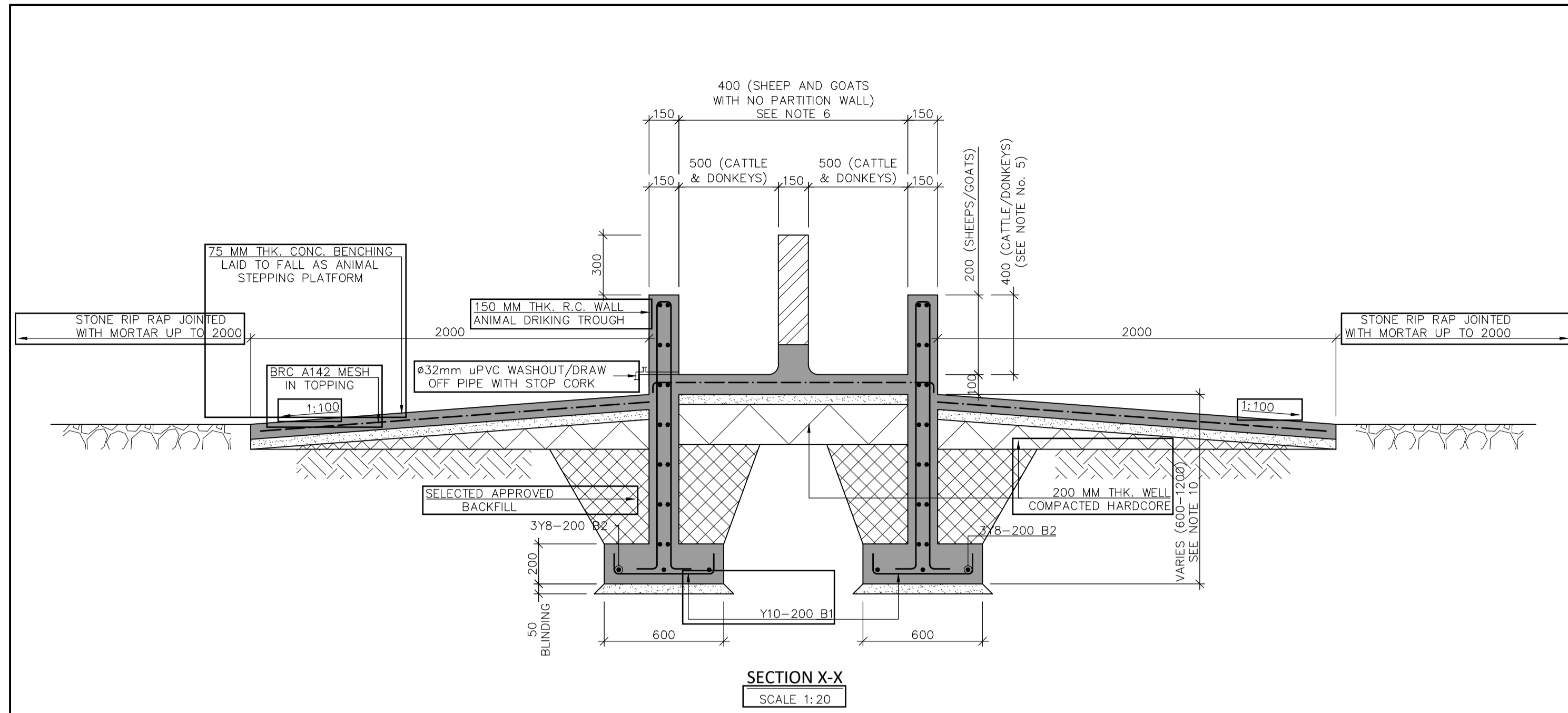
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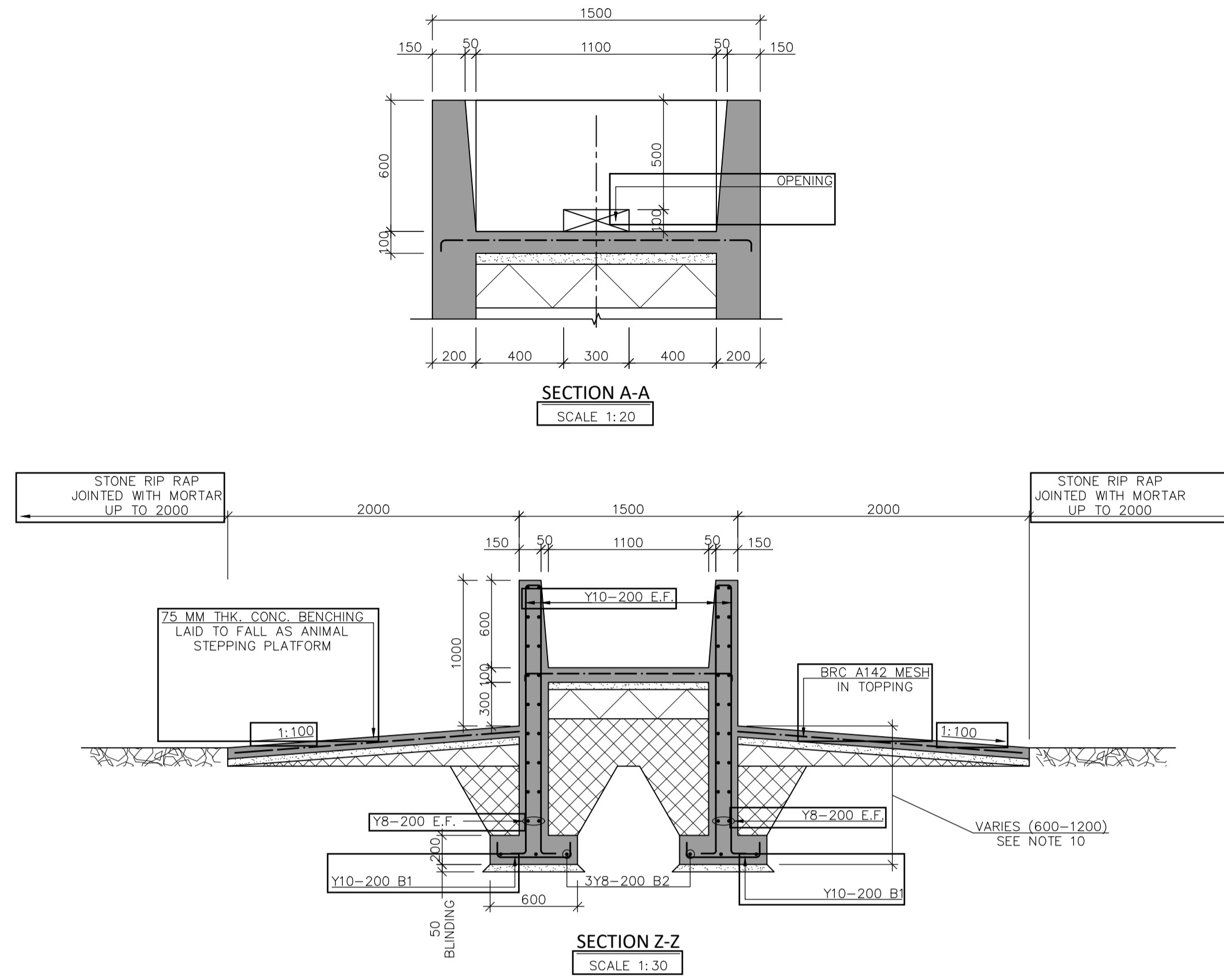


TYPICAL FOOTING DETAIL AND SCHEDULE

FUNDED BY: NIS FOUNDATION IMPLIMENTED BY:		PROJECT TITLE: Elberde Haffir dam	DRAWING NUMBER: P-6	All dimension are in mm
DESIGNED BY: S.A		SCALE: 1:100	DRAWING TITLE: E.WATER TANK	
CHECKED BY			LAST UPDATED: Jan-2025	
		GROSS FLOOR AREA MT.SQ.		

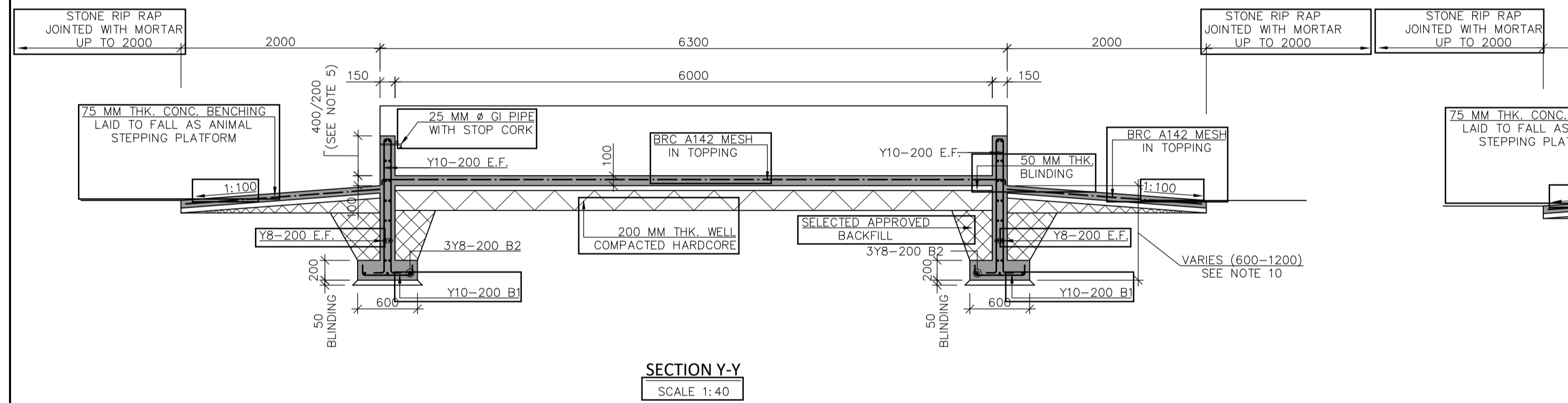


SECTION X-X
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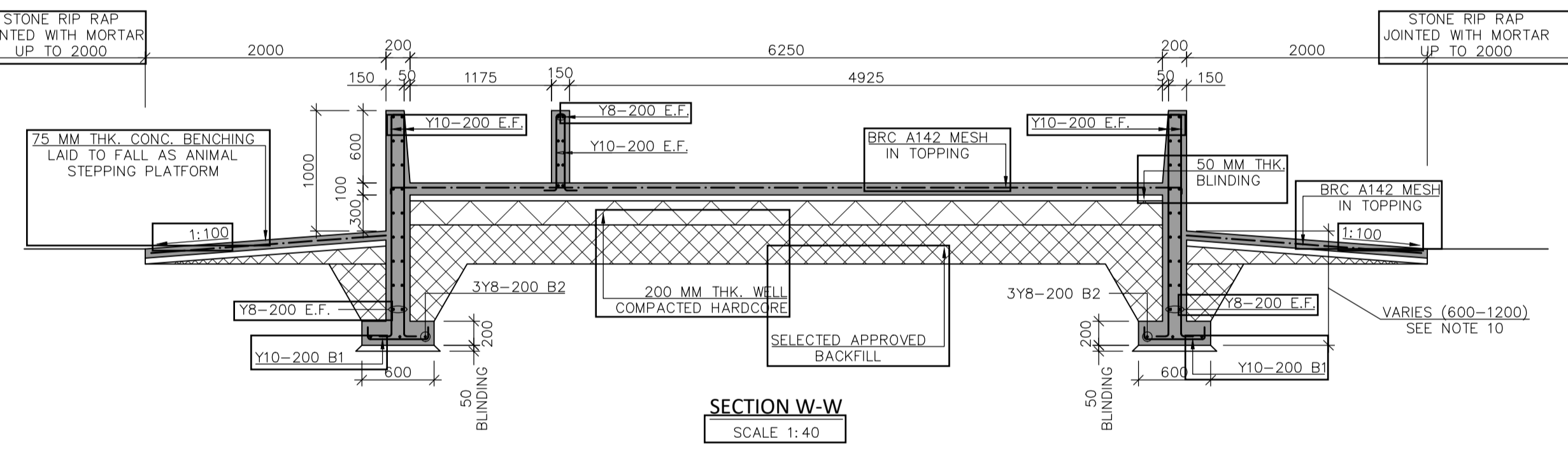


SECTION A-A
SCALE 1:20

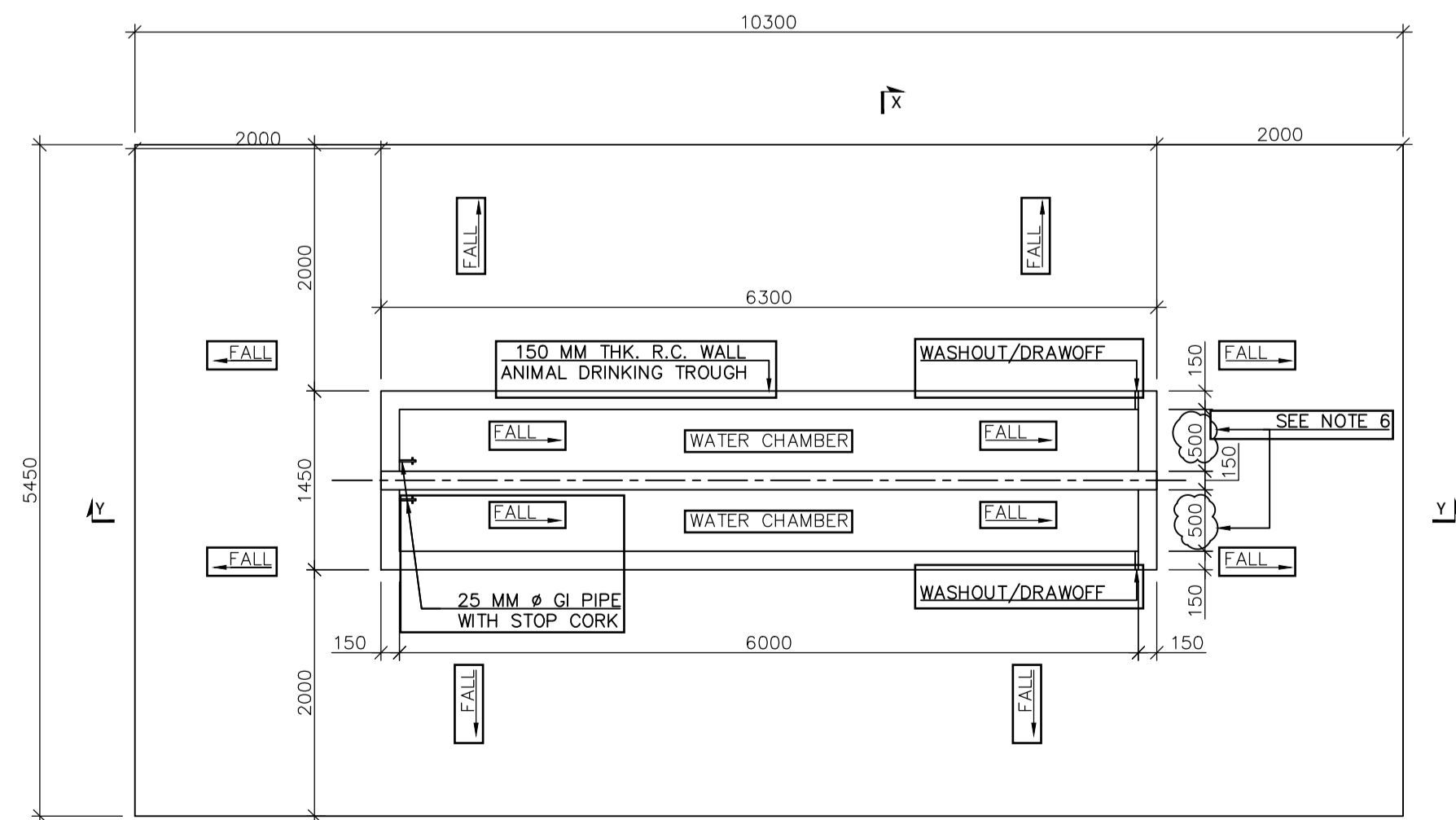
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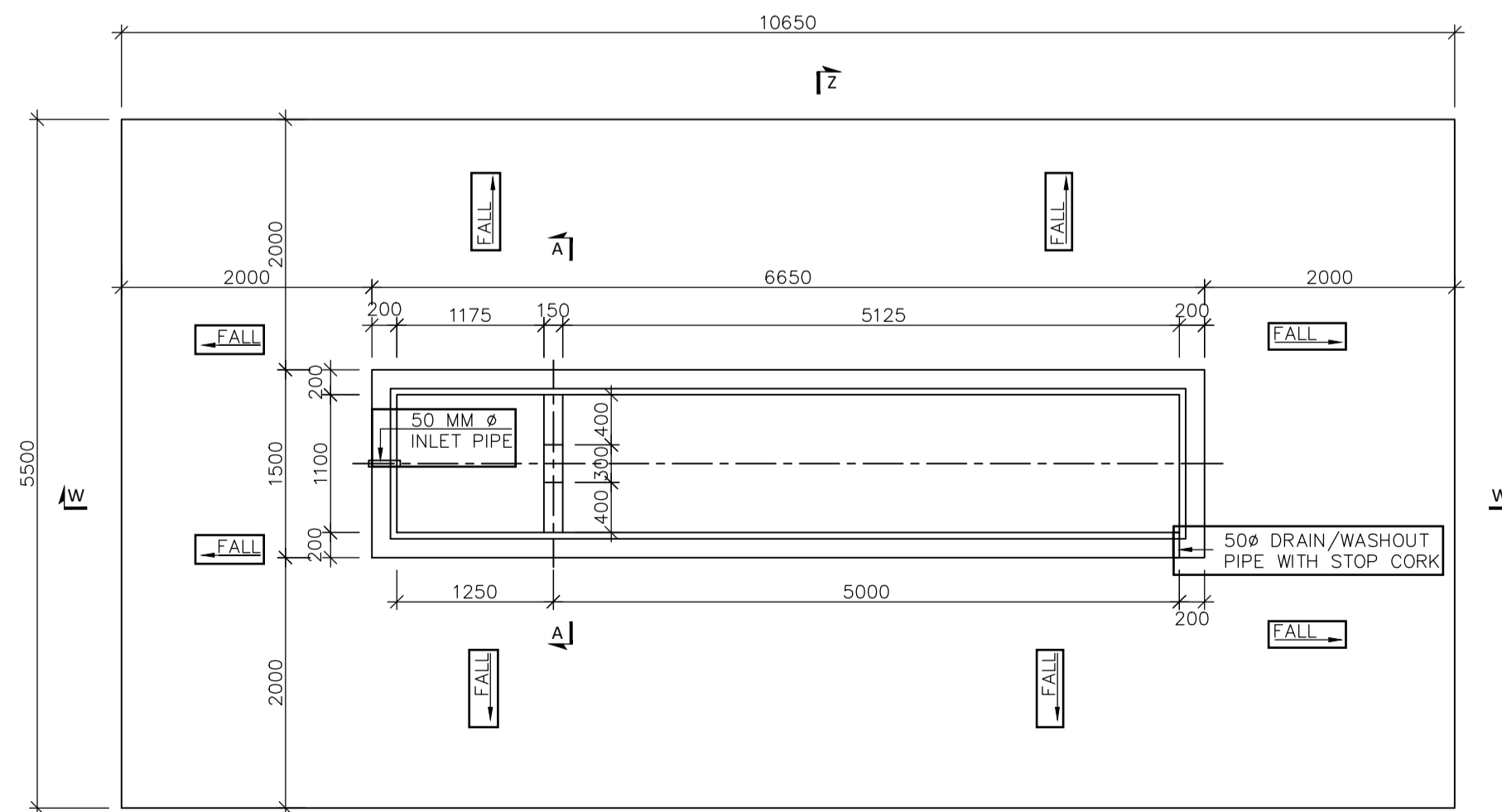
SECTION Y-Y
SCALE 1:40



SECTION W-W
SCALE 1:40



WATER TROUGH FOR CATTLE & DONKEYS
SHEEPS & GOATS SIMILAR EXCEPT HEIGHT AND WIDTH VARIES
SCALE 1:50



WATER TROUGH FOR CAMELS
SCALE 1:50

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. FOUNDATIONS TO BE TAKEN TO STABLE STRATA TO ENGINEER'S APPROVAL
3. STRUCTURAL CONCRETE SHALL BE CLASS 25/20 (1:1.5:3)
4. BLINDING CONCRETE SHALL BE CLASS 15/20 (1:3:6)
5. FROM SECTION X-X, 400mm DEPTH APPLY FOR CATTLE/DONKEYS TROUGH WHILE 200mm DEPTH APPLIES FOR SHEEP/GOATS TROUGH
6. FROM SECTION X-X, 400mm WIDE APPLY FOR GOATS/SHEEP WITH NO PARTITION WHILE 500mm APPLY FOR CATTLE/DONKEYS.
7. THE GATE VALVES DIRECTING WATER INTO THE TROUGH TO BE INSTALLED IN LOCKABLE CHAMBER (SEE COMMUNAL WATER POINT DRAWING FOR DETAILS)
8. SPILLAGE FROM THE TROUGH TO BE DIRECTED INTO A SOAK-AWAY PIT (SEE DETAILS WATER KOSK DRAWING)
9. THE STRUCTURES HAVE BEEN SIZED CONSIDERING EACH TROUGH SERVING THE FOLLOWING No. OF ANIMALS AT ONE GO
 - A. - 20 CAMELS @ 60 LITRES PER CAMEL
 - B. - 50 GOATS/SHEEP @ 8 LITRES PER ANIMAL
 - C. - 50 CATTLE/DONKEYS @ 20 LITRES PER ANIMAL
10. THE DEPTH OF THE FOUNDATION VARIES FROM 600mm IN HARD FORMATION (UNFRACTURED MURRAM AND ABOVE) UP TO 1200mm IN SOFT BUT NOT LOOSE FORMATIONS.

PROJECT TITLE:
CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN, BAKOOL SOUTH WEST STATE.

DRAWING TITLE:
ANIMAL TROUGH - PLAN & SECTIONS DETAILS.

CLIENT

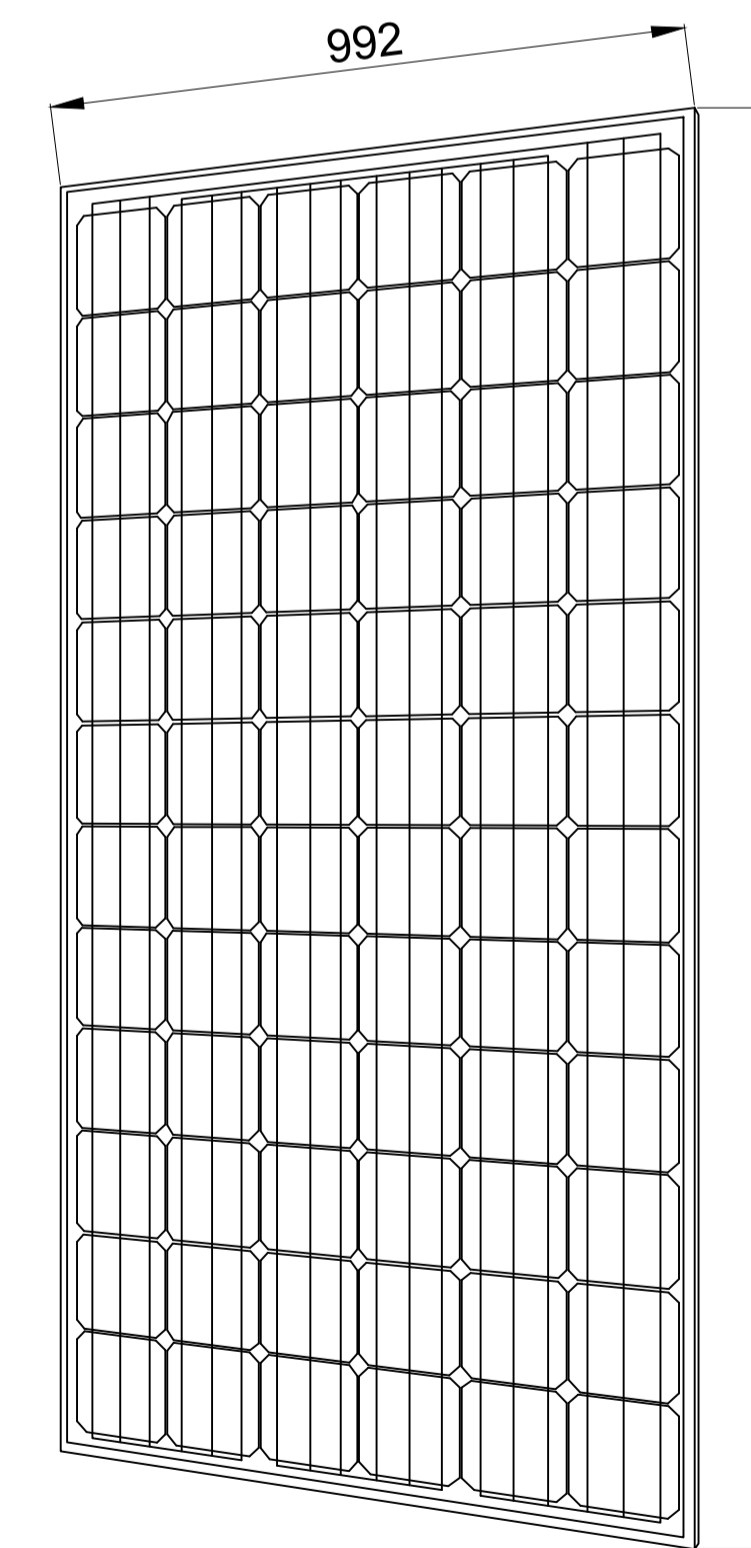
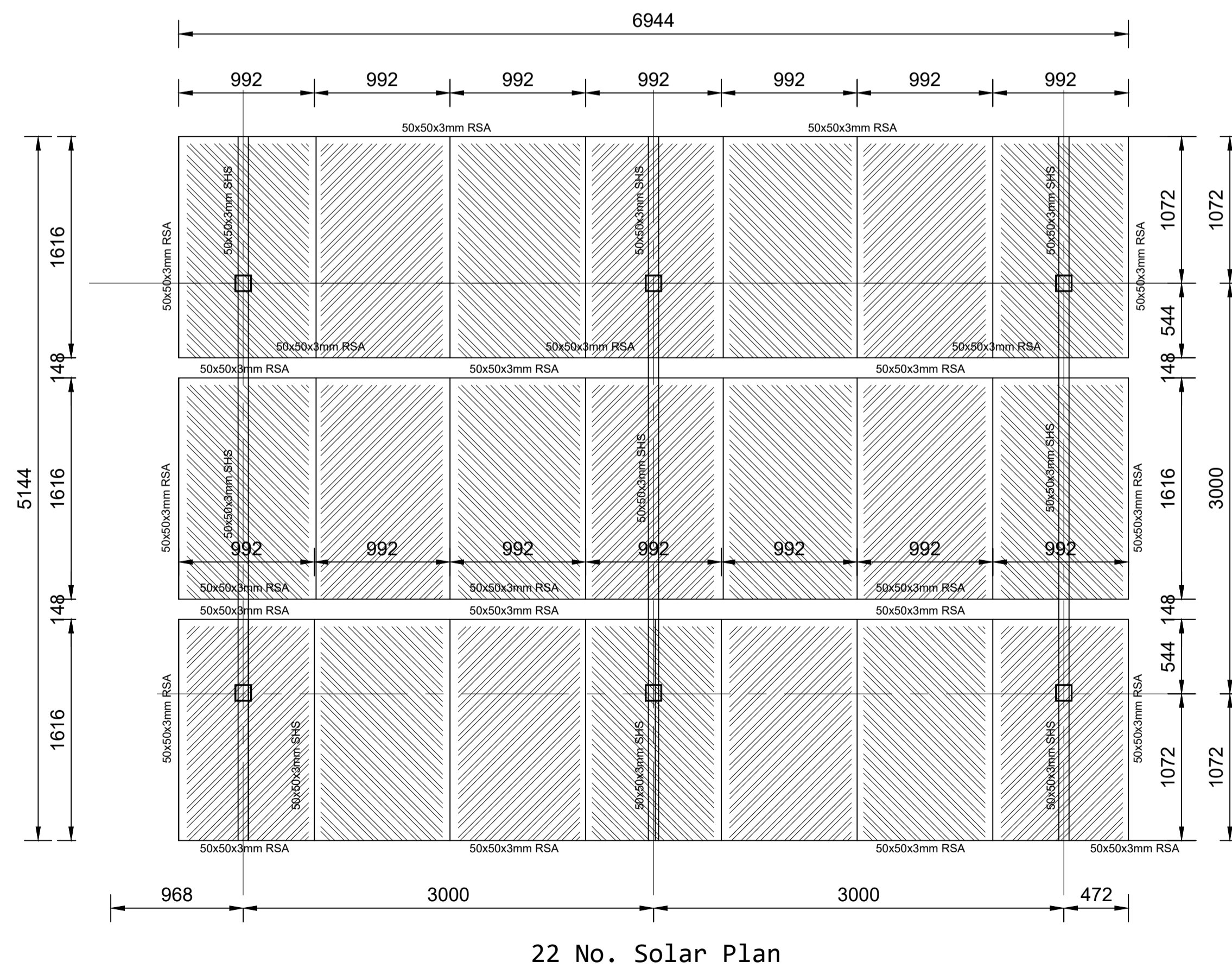
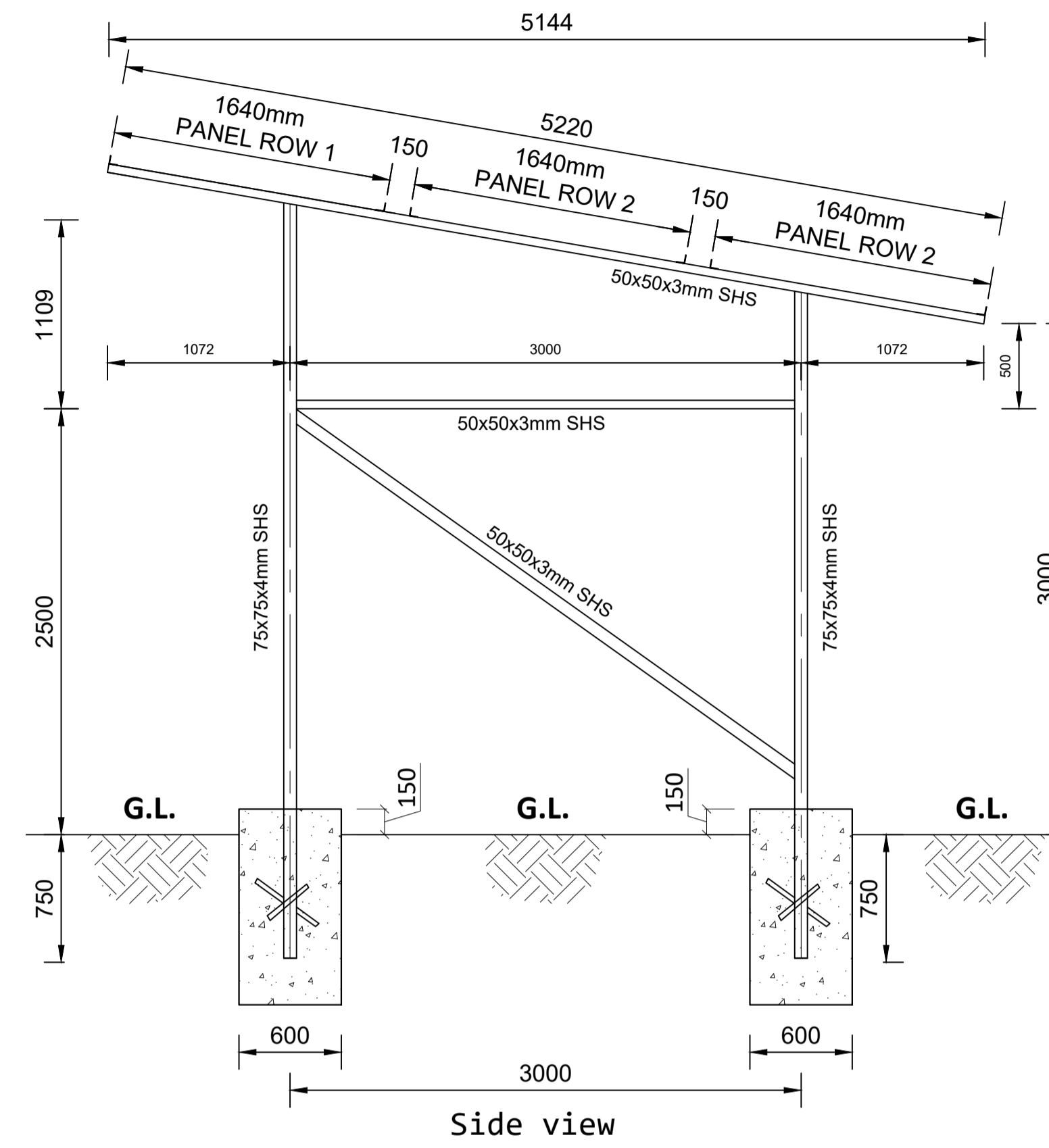
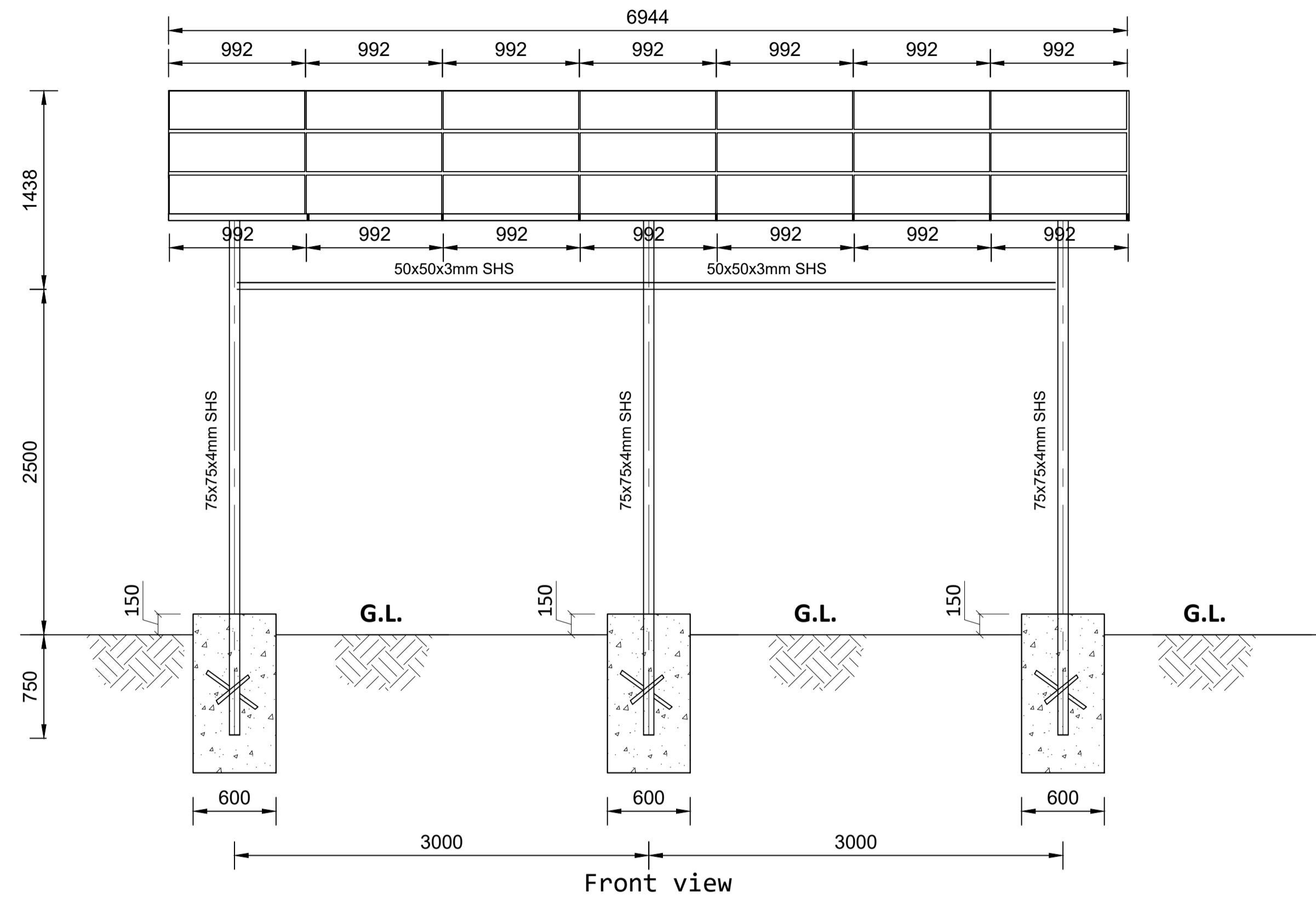
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CLIENT REPRESENTATIVE:-
THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

CIVIL/STRUCTURAL ENGINEER:-

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Off-Ojjo Road - P. O. Box 1349-
00606 Sarit Centre, NAIROBI, Kenya
Tel: +254 20 2343540/1
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	A3 DWG 1:1500		
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DRG No.	NIS-WI-DHO-CS-017		Revision Suffix



NOTES

- ALL COLUMNS ARE 75X75X3MM SHS
- THE CAP PLATE SHOULD BE 250X250X12MM
- THE STRUCTURE SHOULD BE TILTED AT MAXIMUM 15 DEGREES
- PANELS ARE SUPPORTED BY 50X50X3MM RSA BARS
- SOLAR PANELS SHOULD BE PROPERLY BOLTED
- THE STRUCTURE SHOULD BE ORIENTED TO BE EXPOSED TO SUNLIGHT THROUGHOUT THE DAY
- THE SOLAR STRUCTURES SHOULD BE ORIENTED TO FACE SOUTH, TO MAXIMIZE SUN'S RAYS AND AVOID SHADOWS.

PROJECT TITLE:
CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN, BAKOL SOUTH WEST STATE.

DRAWING TITLE:
SOLAR STRUCTURE PLAN & SECTION DETAILS.

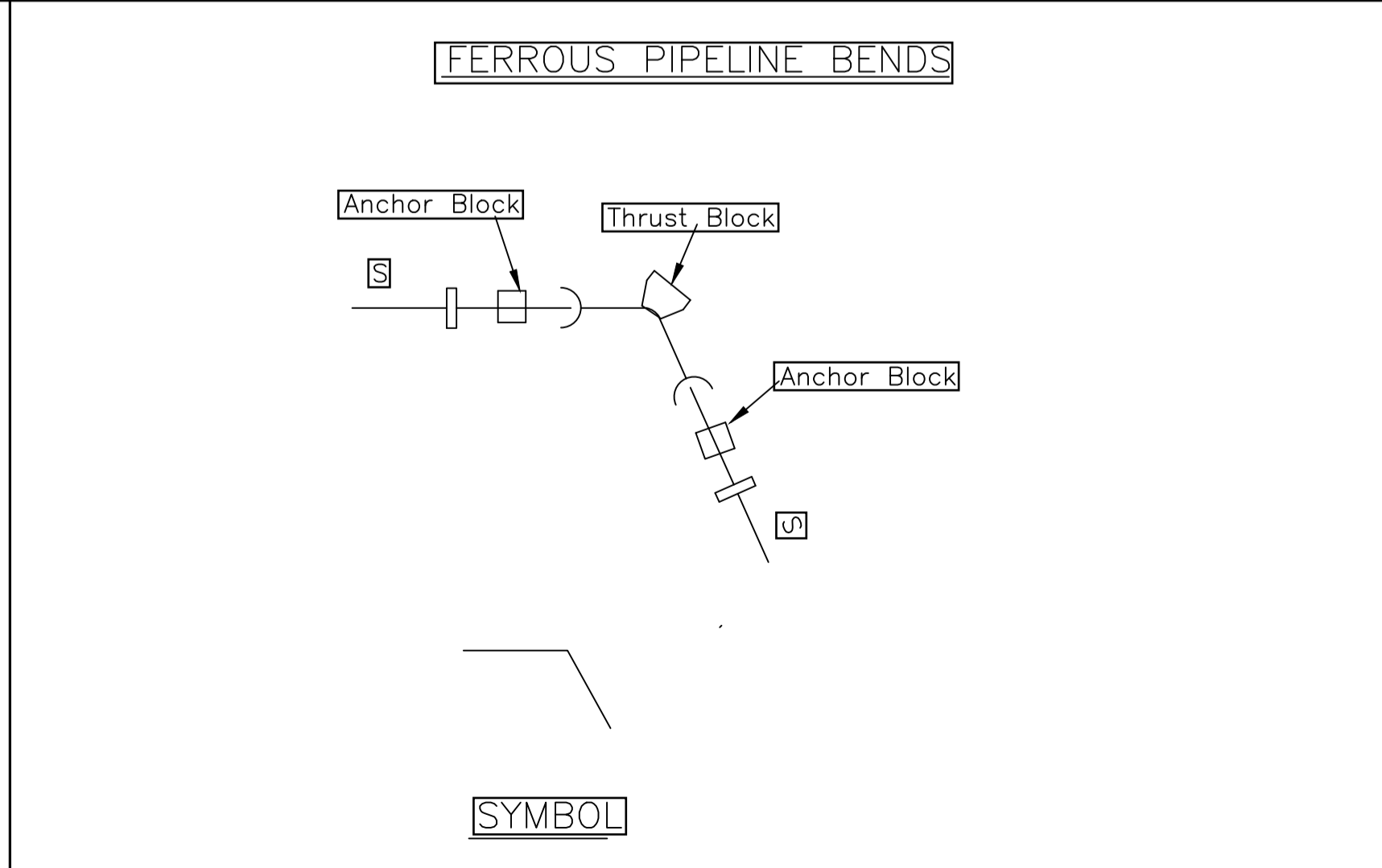
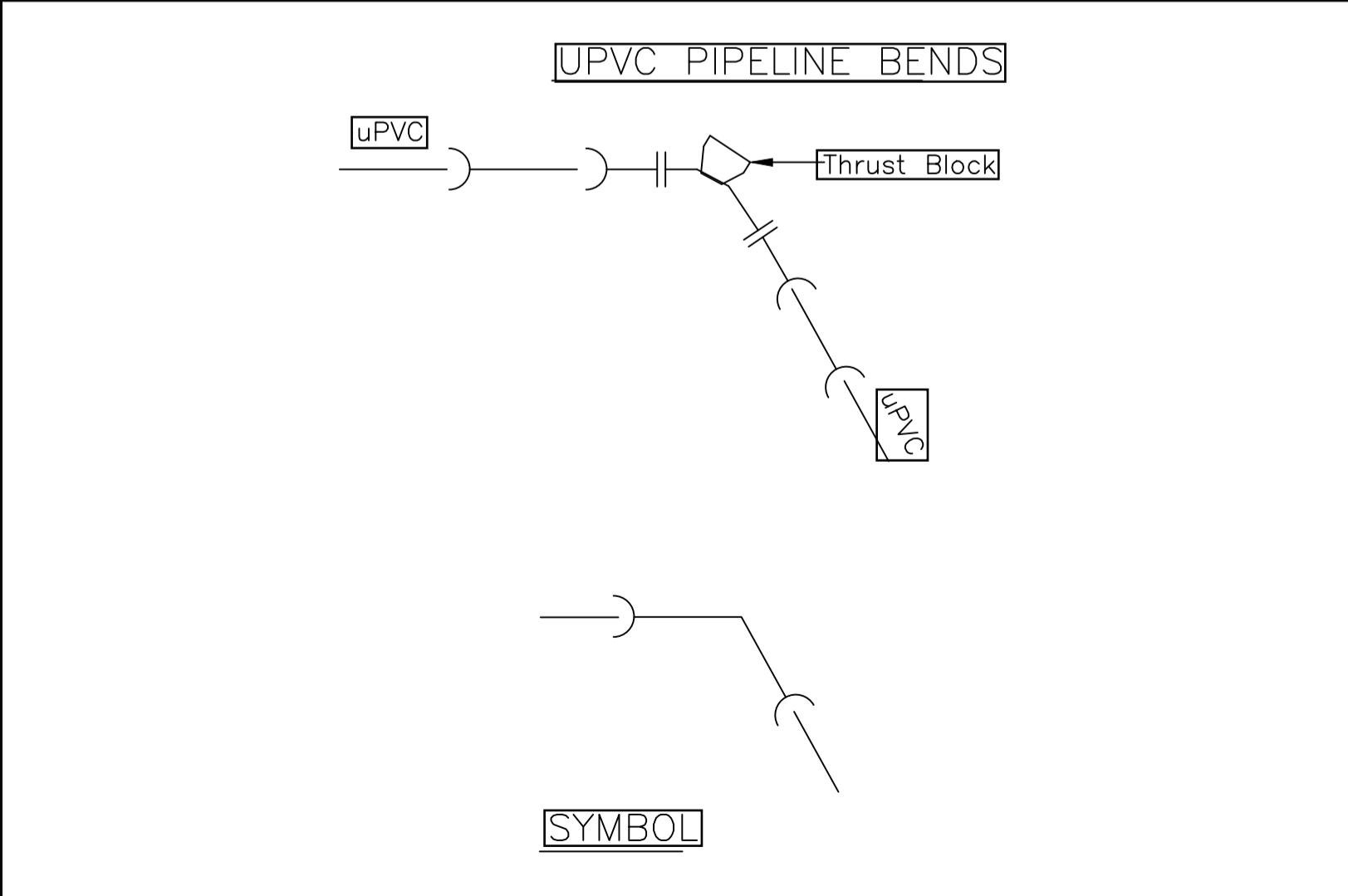
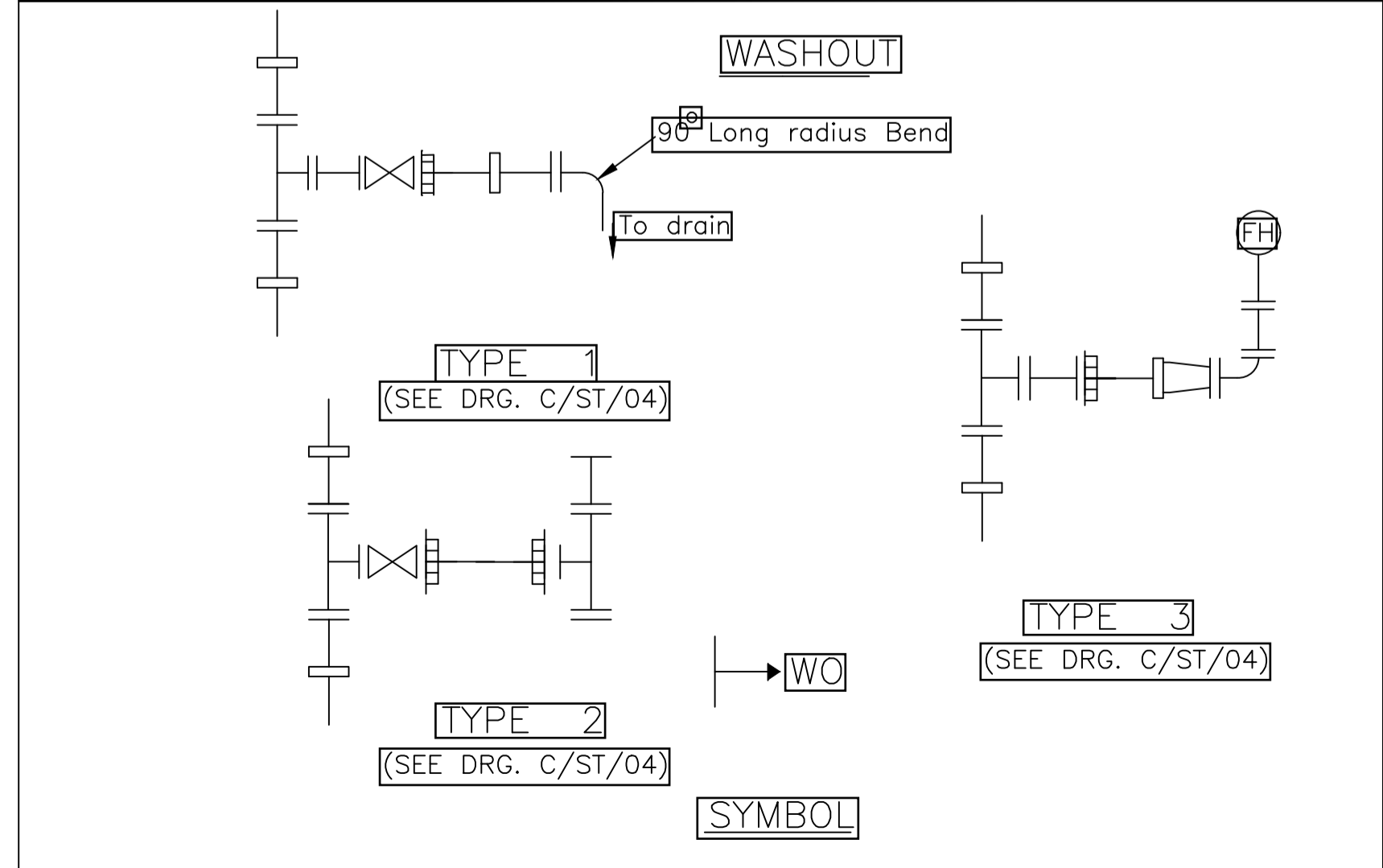
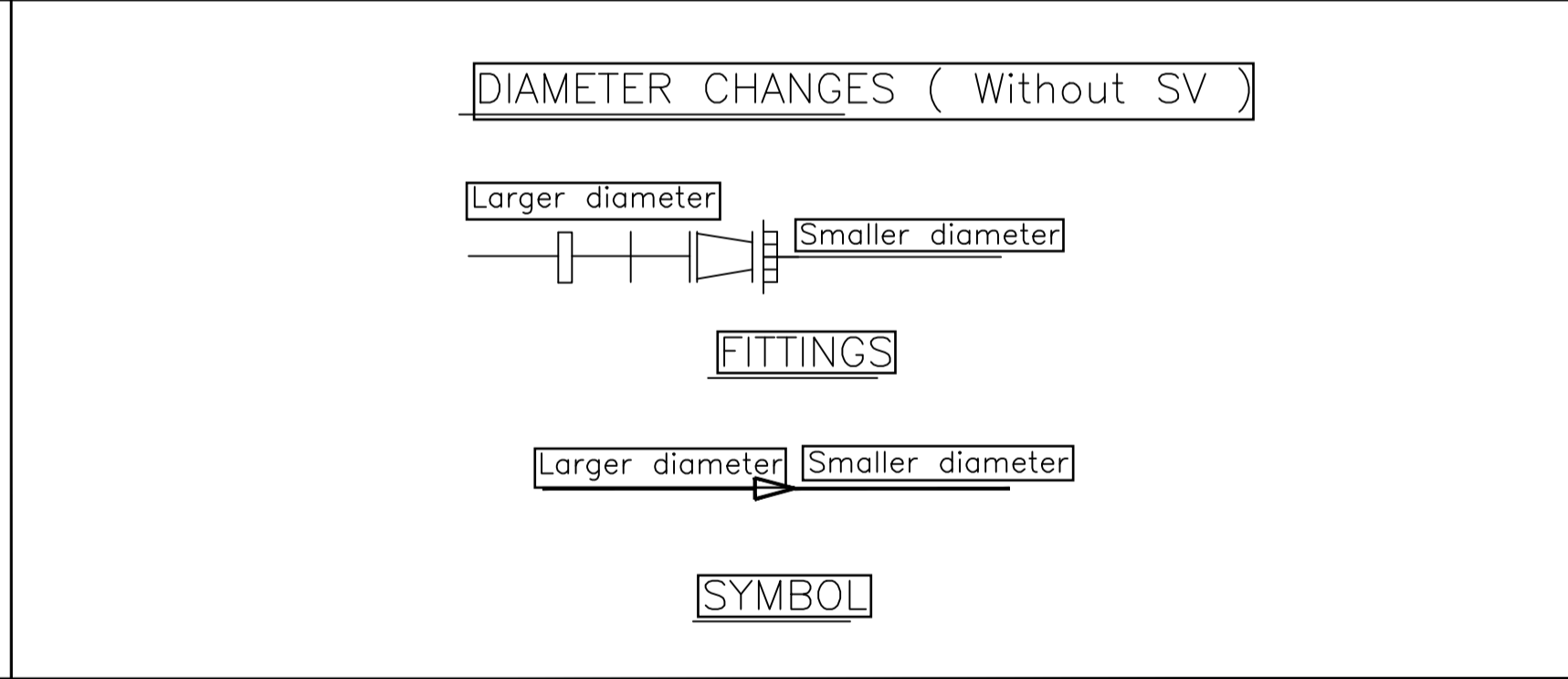
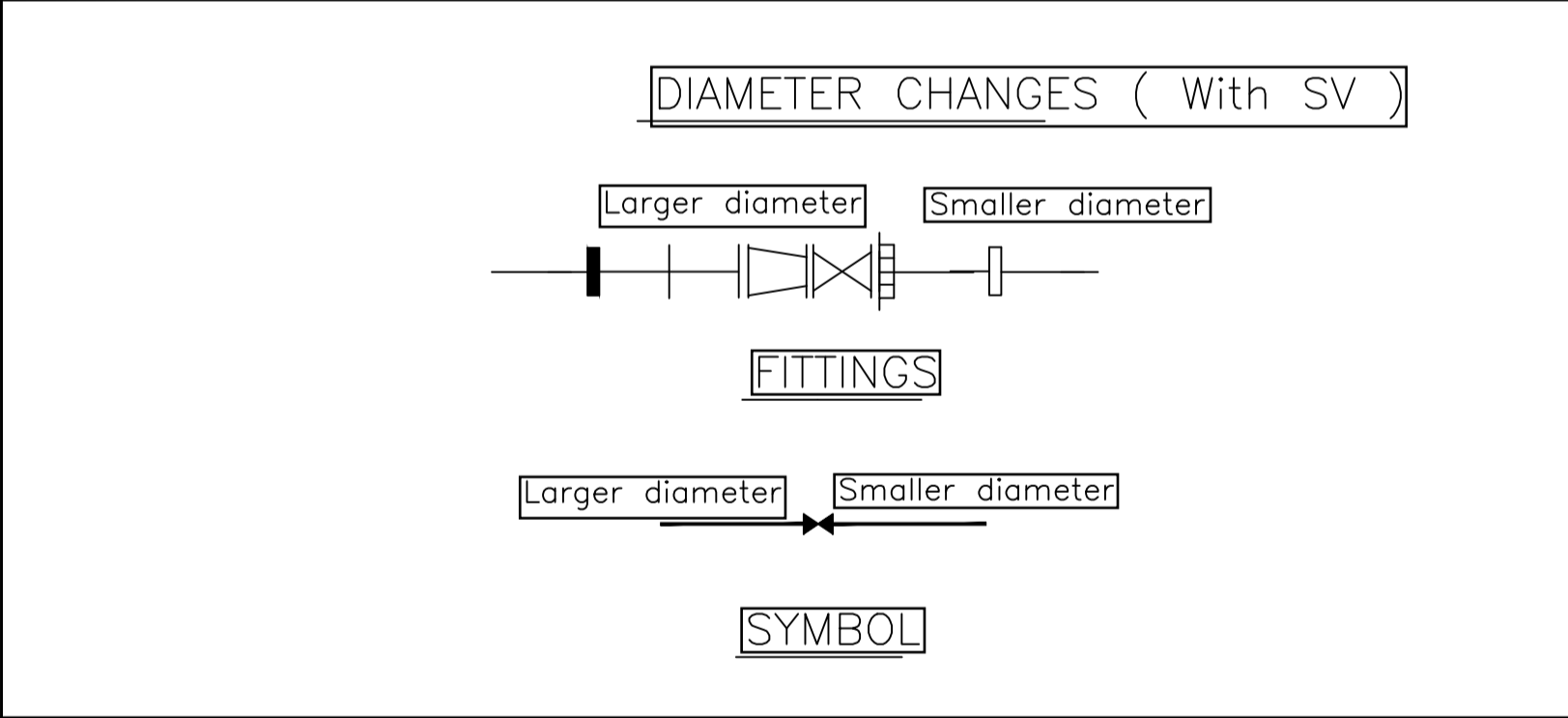
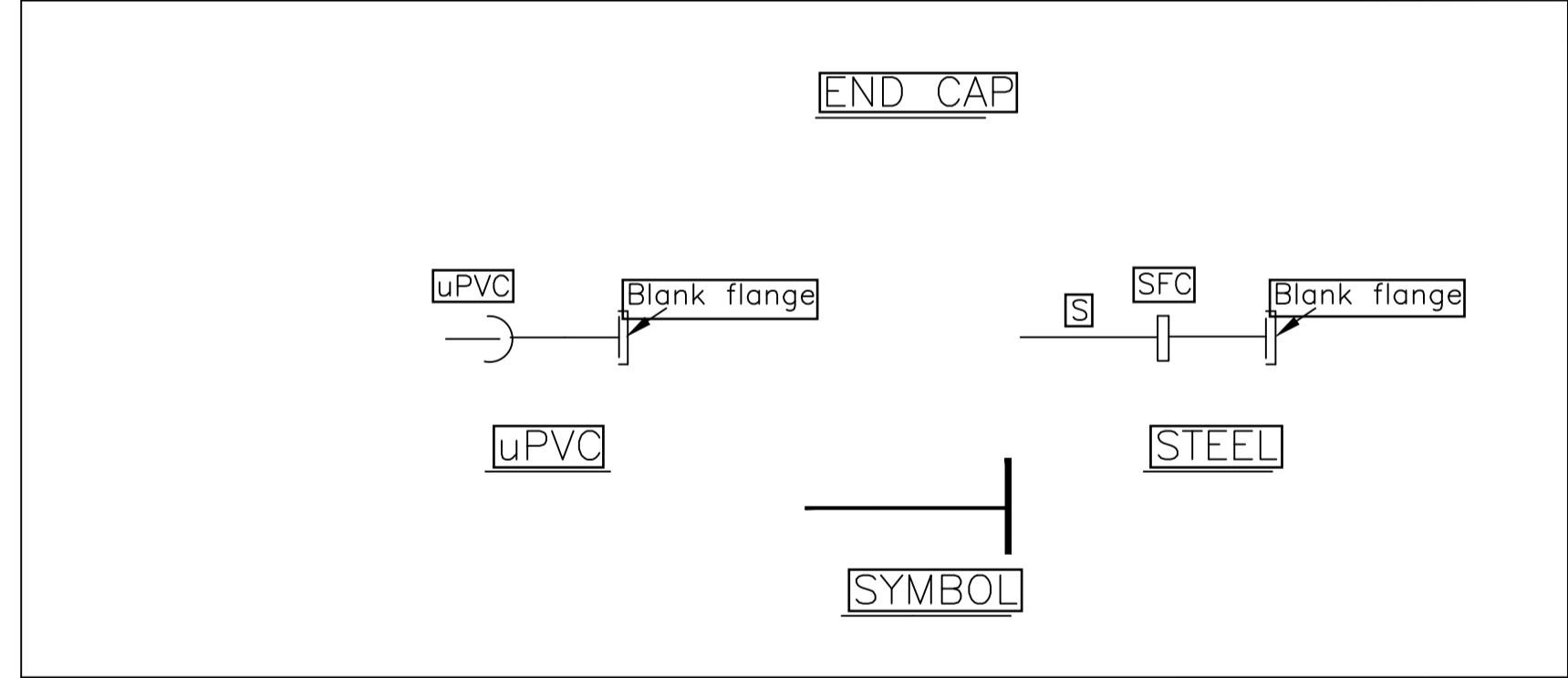
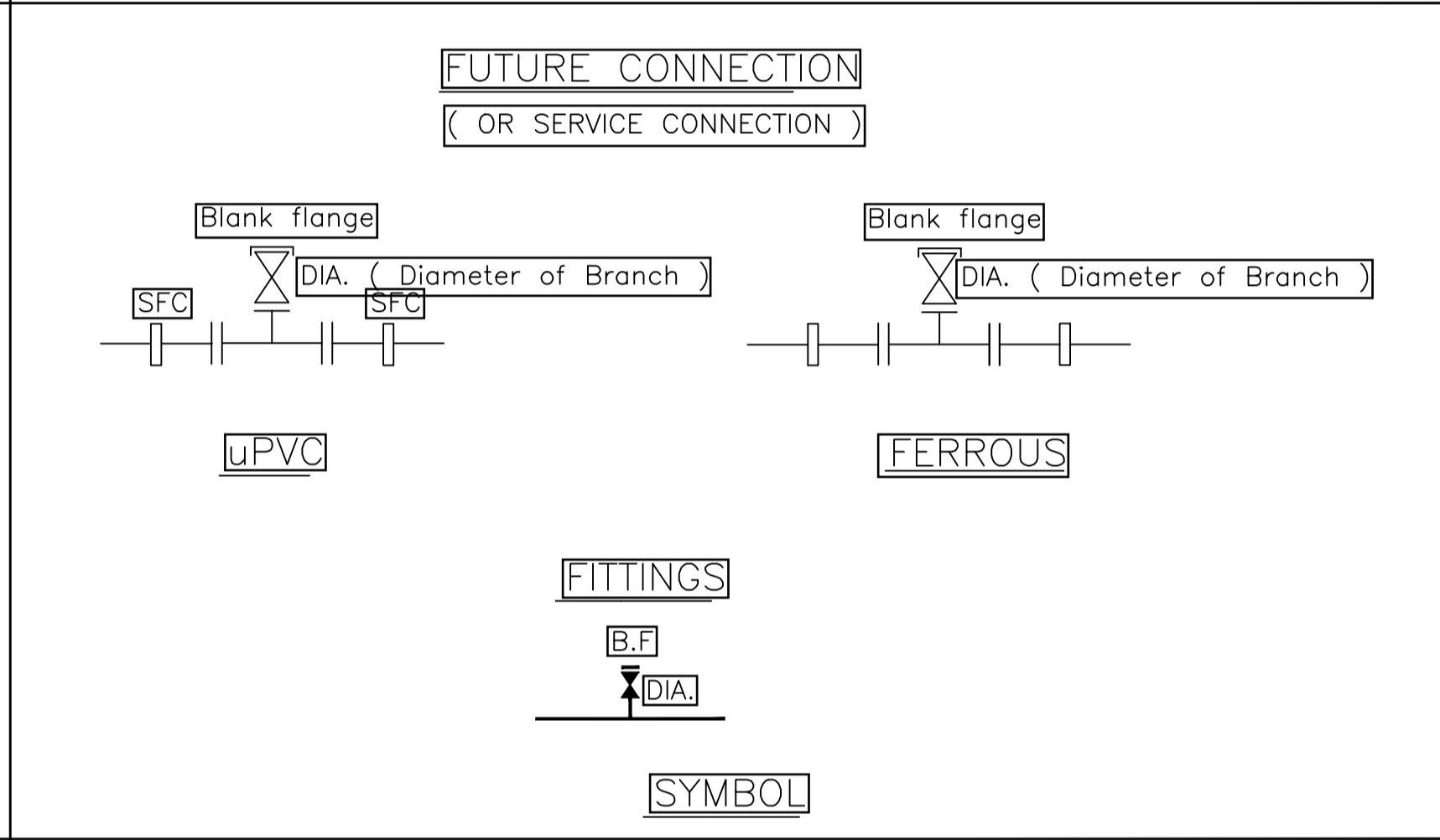
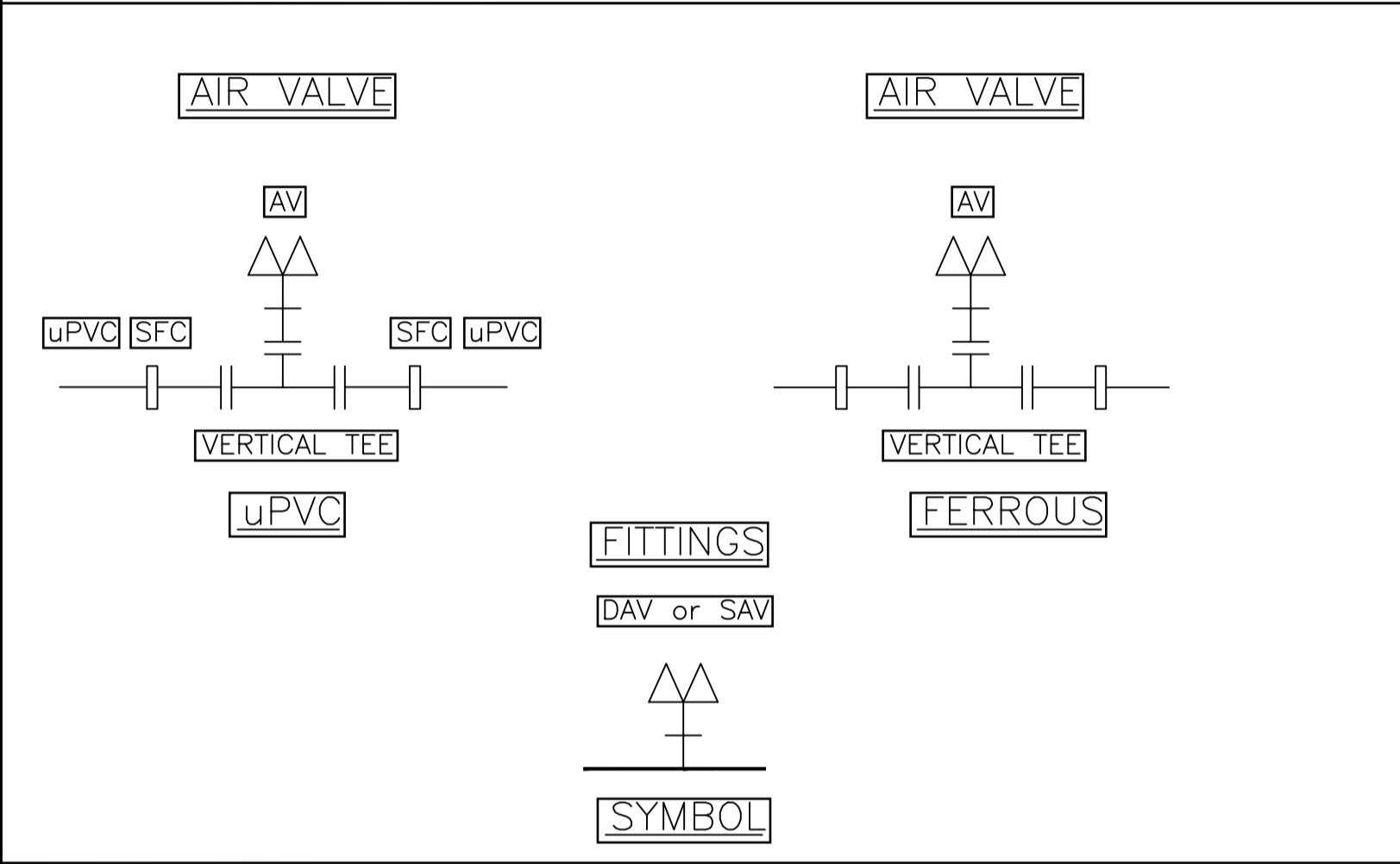
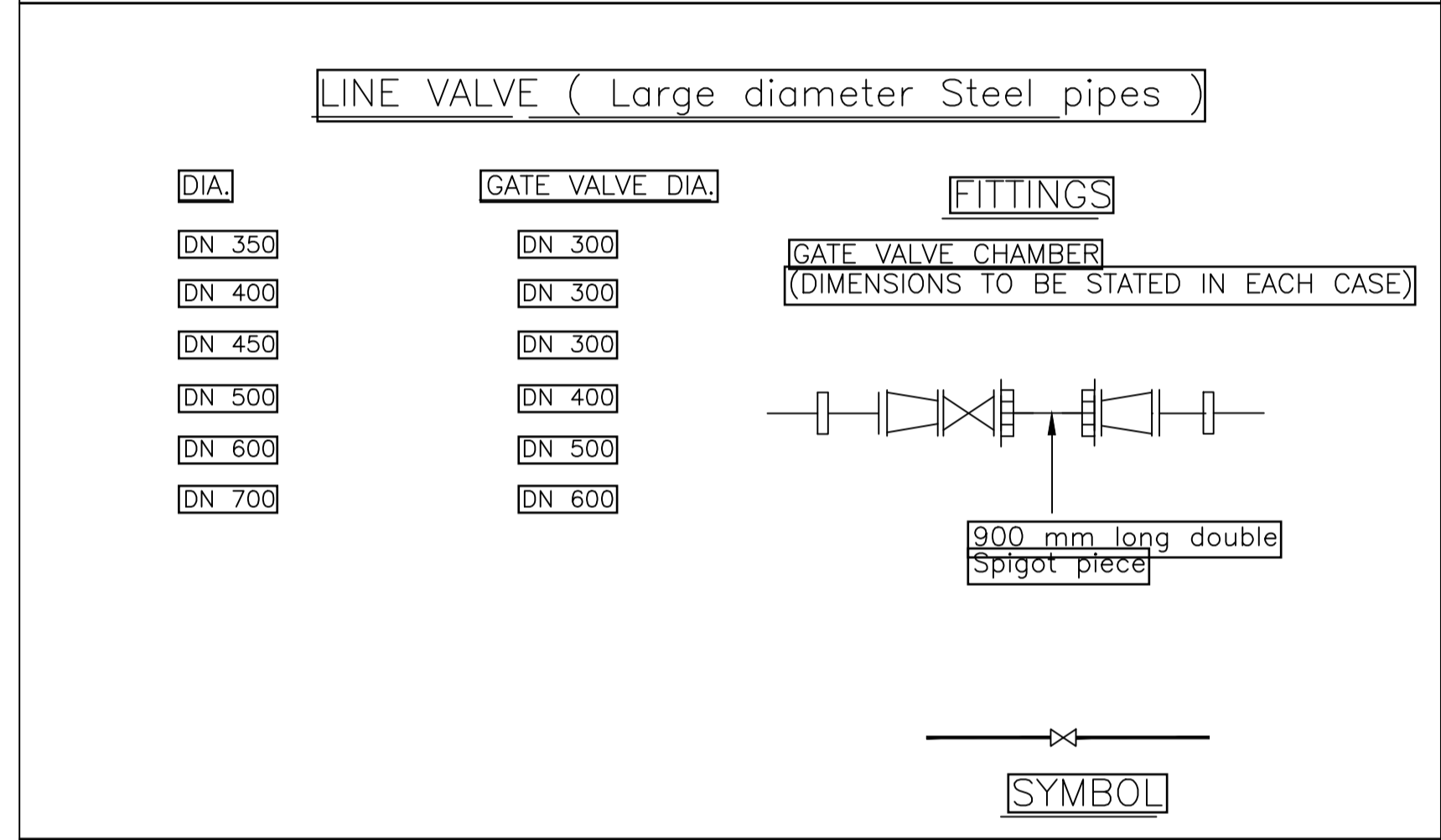
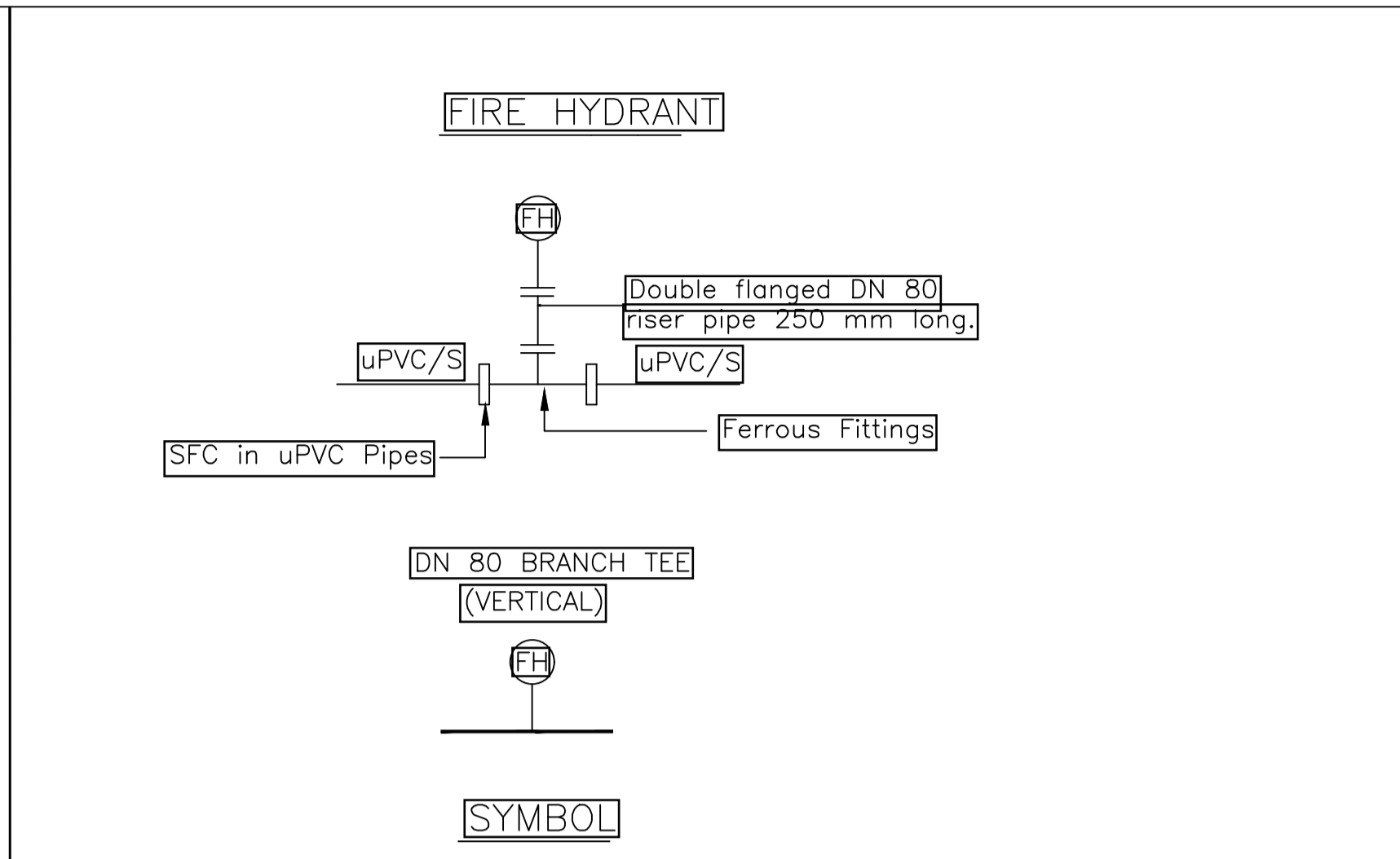
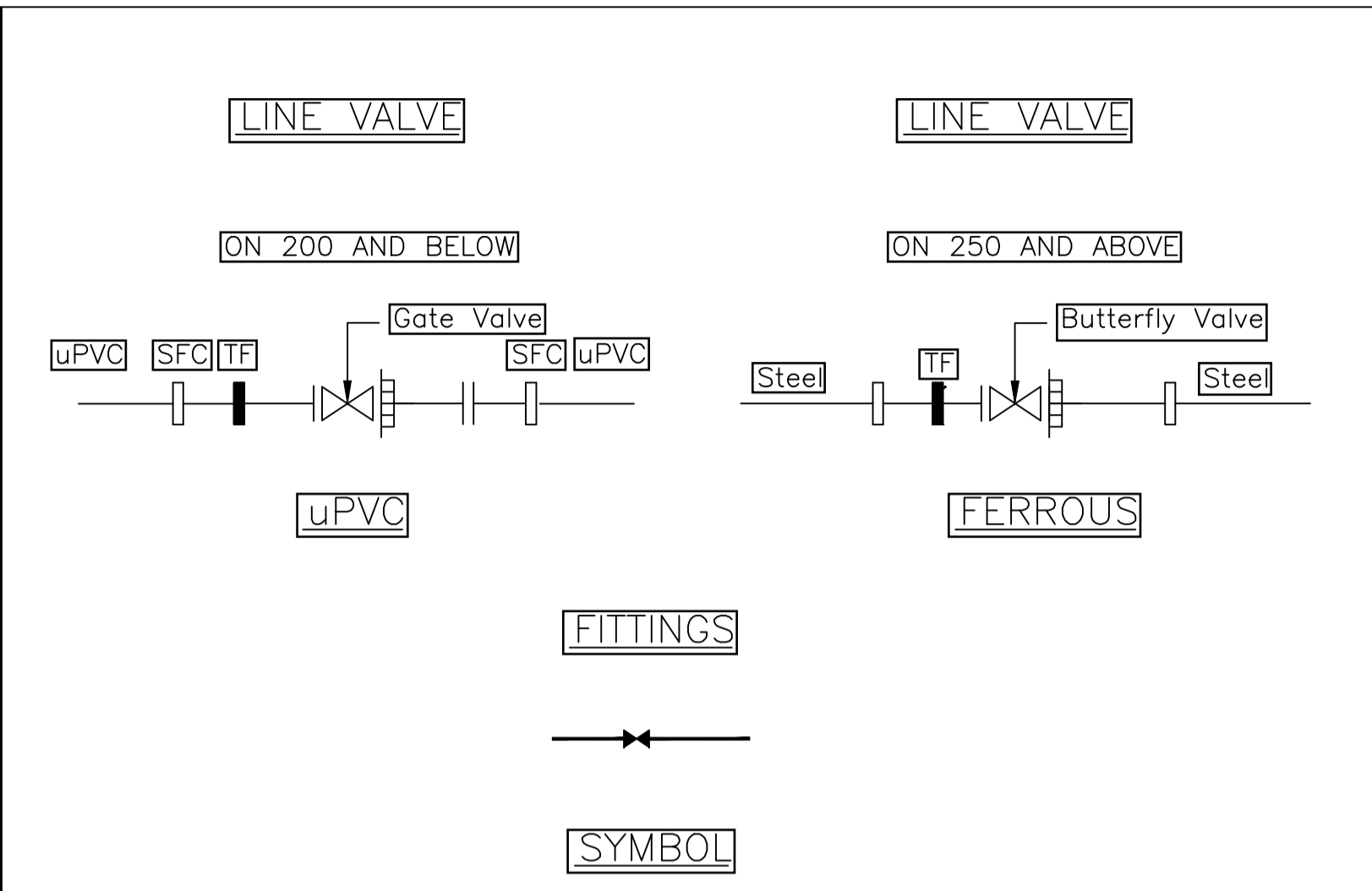
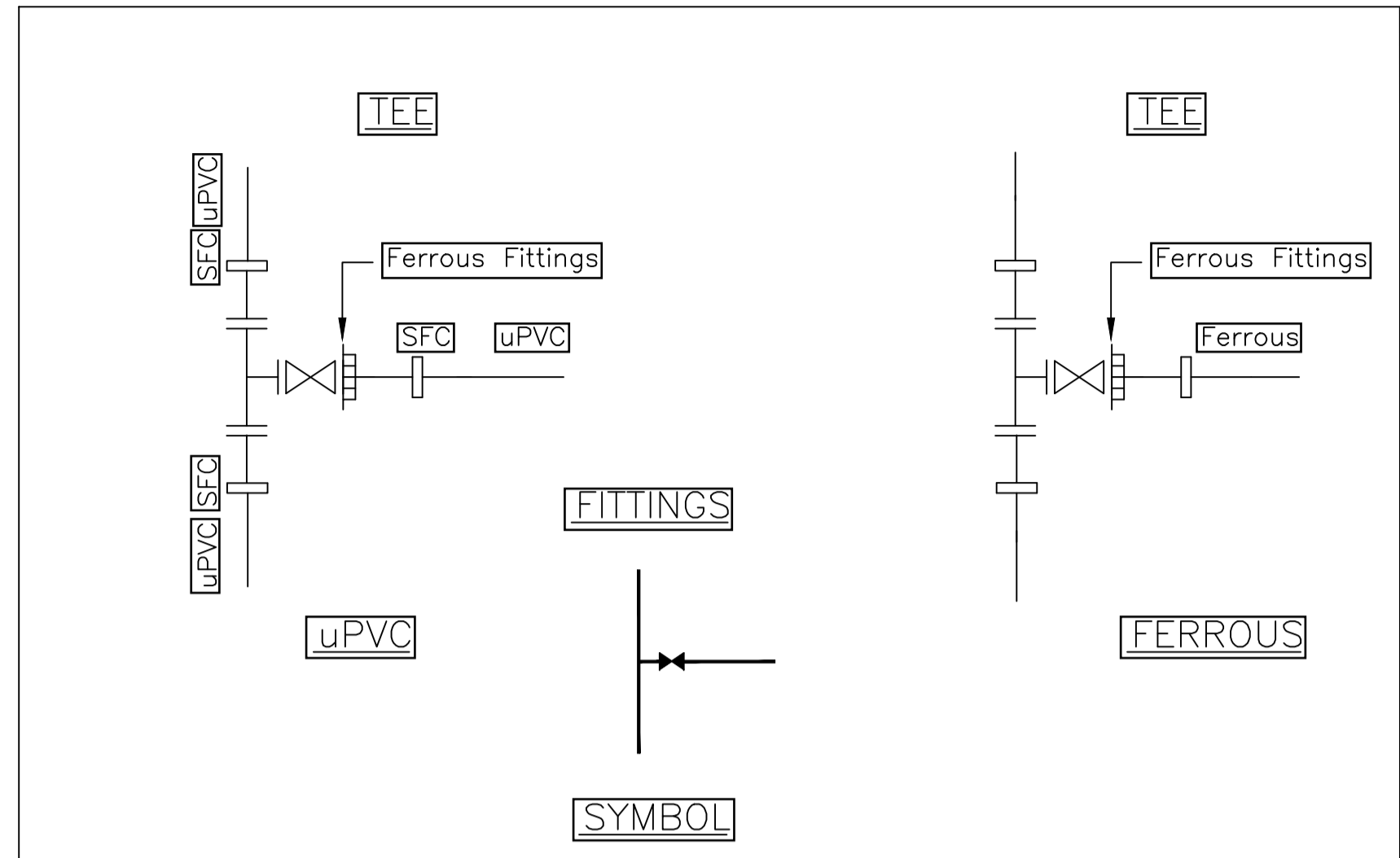
CLIENT

CLIENT REPRESENTATIVE:-
THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

CIVIL/STRUCTURAL ENGINEER:-
 Max & Partners Ltd
Consulting Engineers
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Off-Ojjo Road - P. O. Box 1349-
00606 Sarit Centre, NAIROBI, Kenya
Tel: +254.20.2343540/1
E-mail: info@max.co.ke

SCALE: A1 DWG 1:25

	NAME	SIGNATURE	DATE
Designed			
Drawn			
Checked			
DRG No.	Revision Suffix		
NIS-WI-DHO-CS-019			



- NOTES**
1. READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
 2. DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 3. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 4. MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
 5. MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
 6. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.

PROJECT TITLE:
CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN, BAKOL REGION SOUTH WEST STATE-SOMALIA

DRAWING TITLE:
TYPICAL PIPE FITTING CONSTRUCTION DETAILS.

CLIENT

CLIENT REPRESENTATIVE:-
THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

CIVIL/STRUCTURAL ENGINEER:-

 Max & Partners Ltd
Consulting Engineers

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00606 Sarit Centre, NAIROBI, Kenya
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E-mail: info@max.co.ke

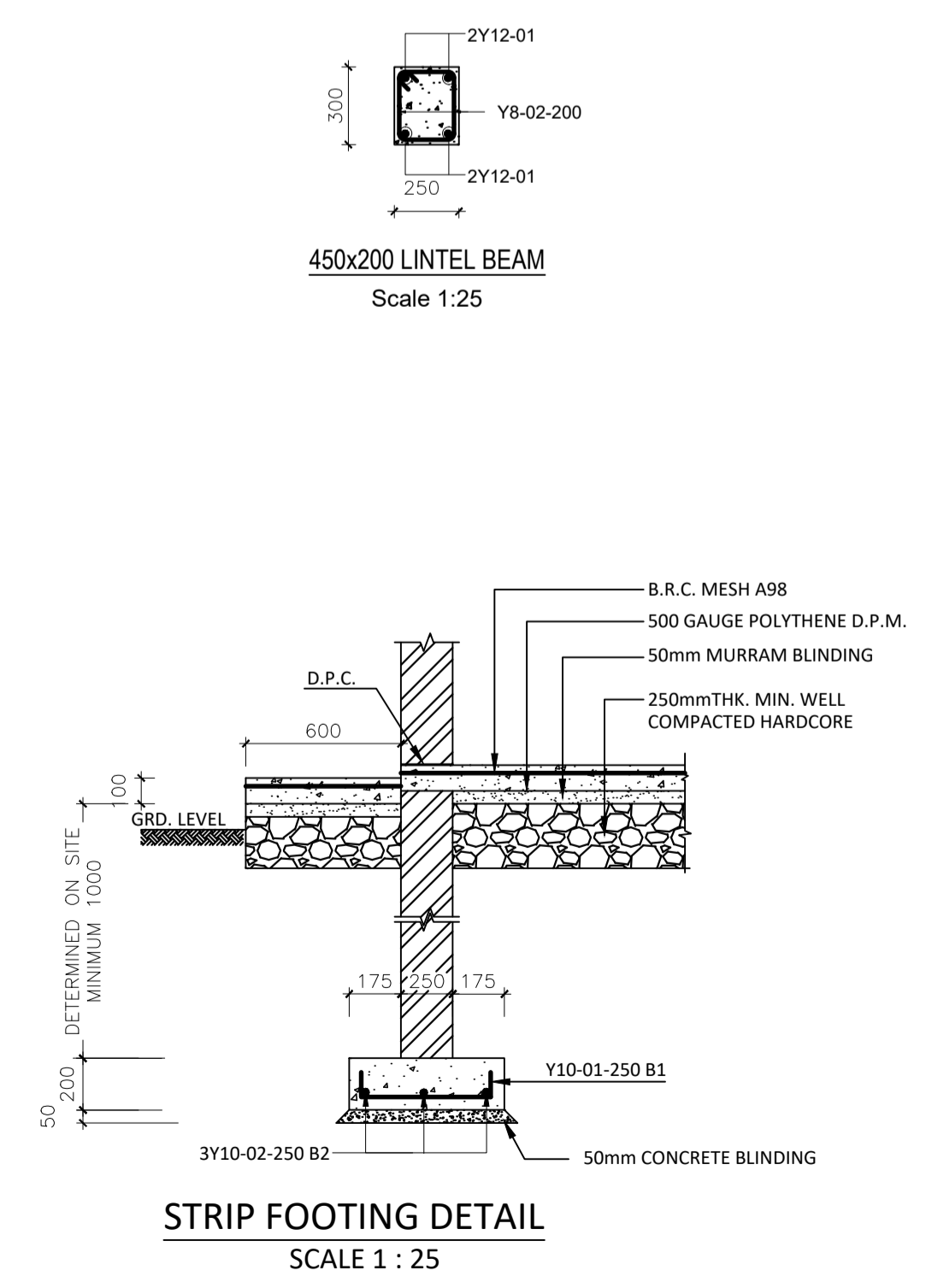
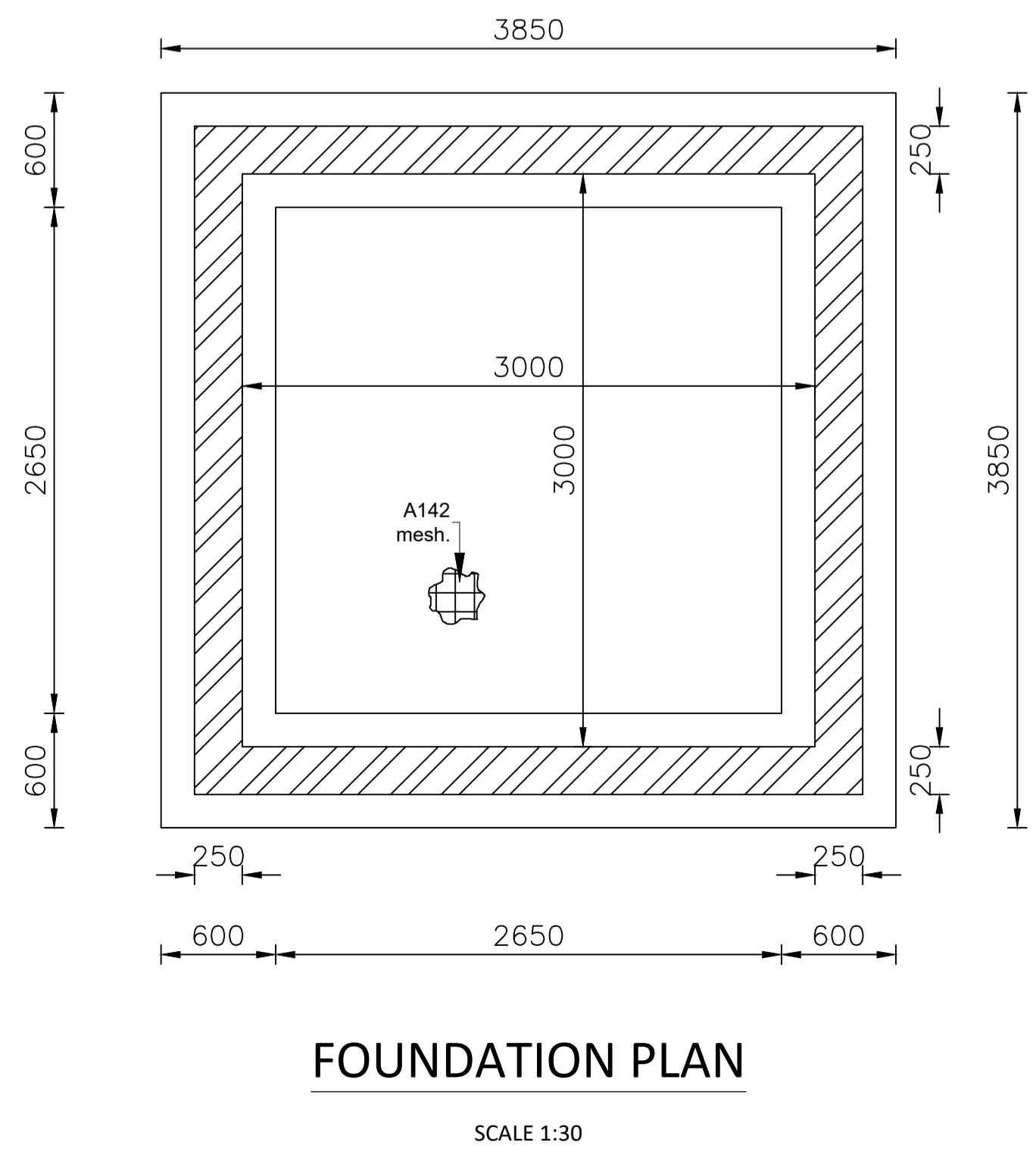
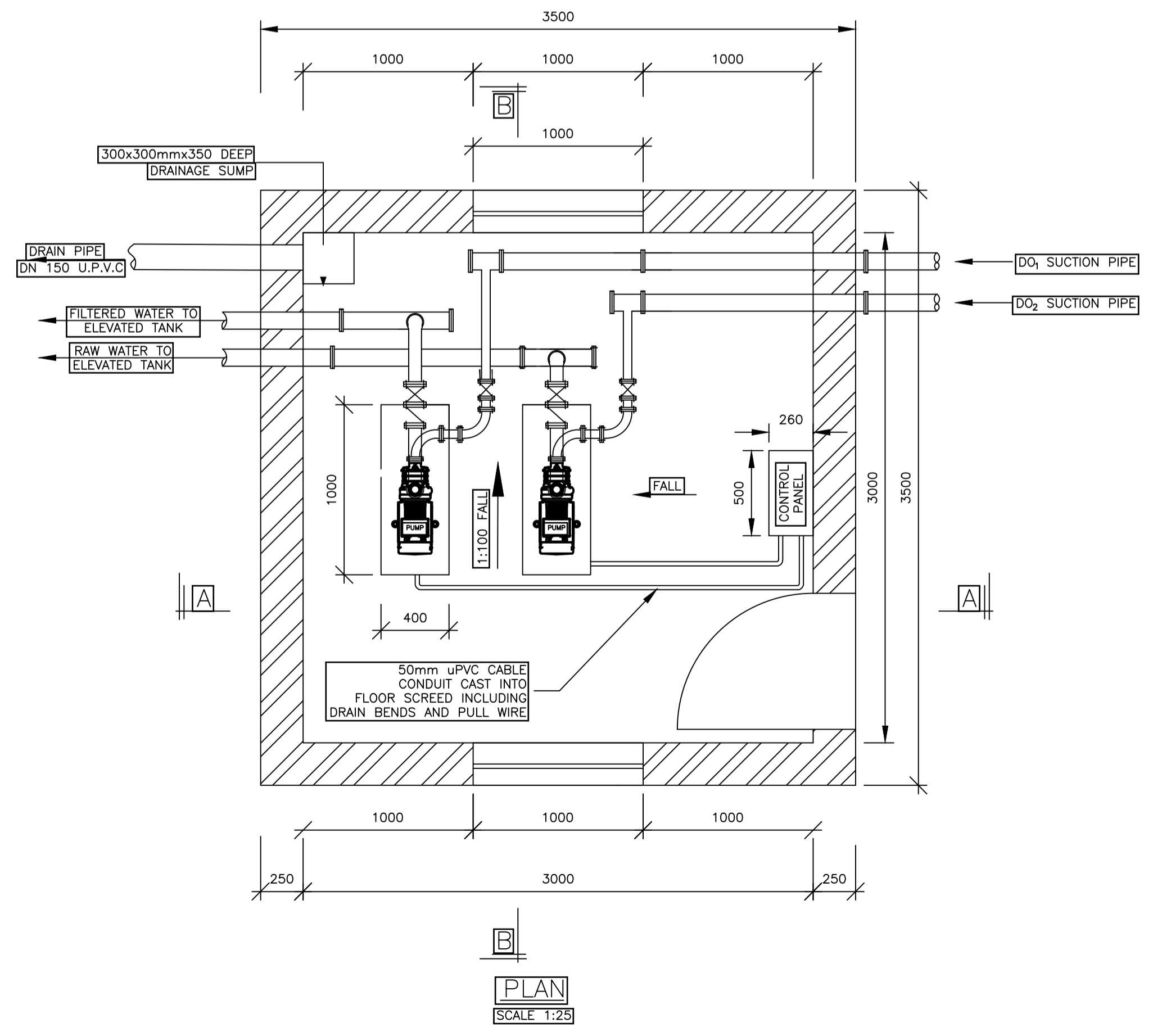
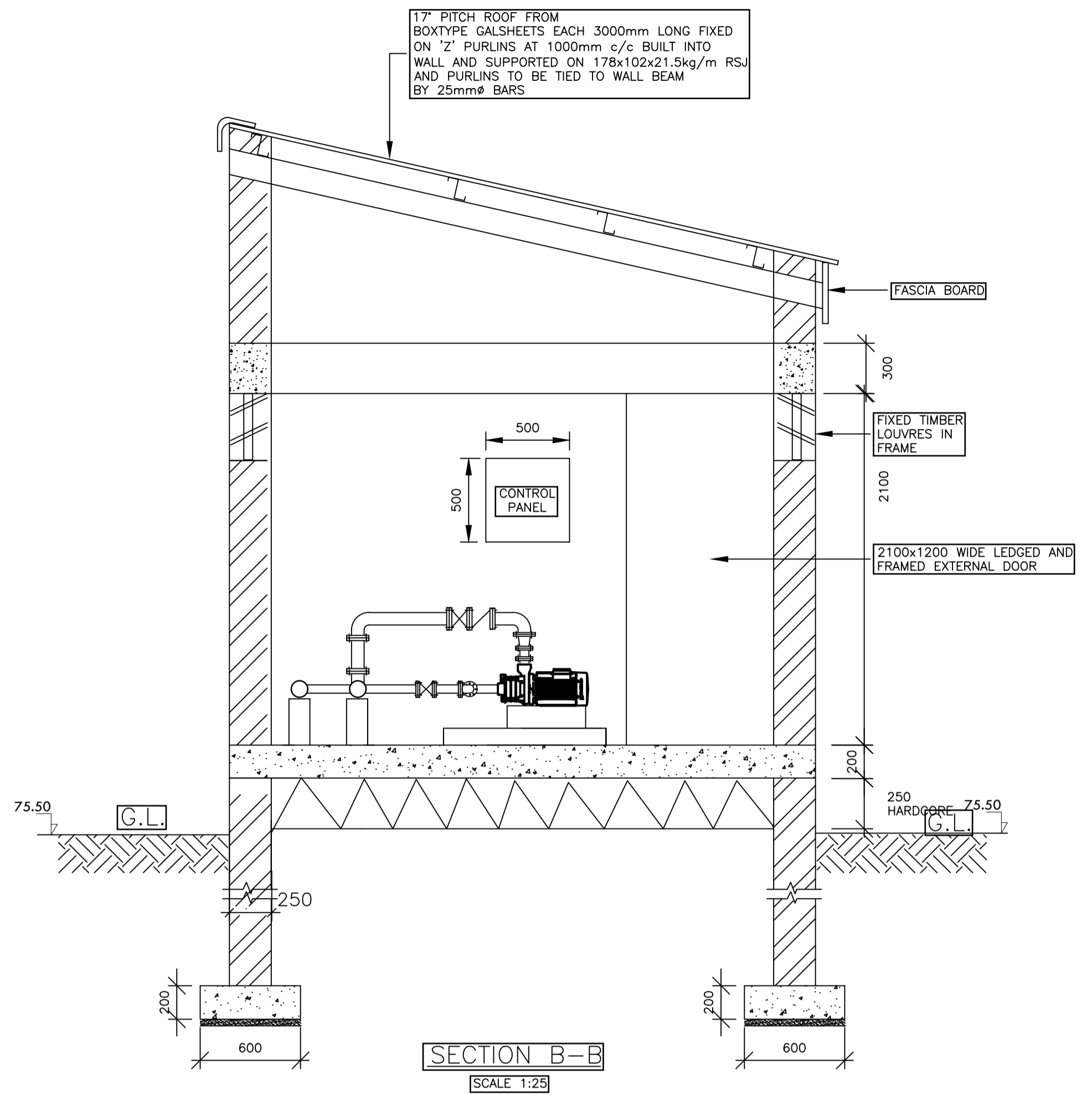
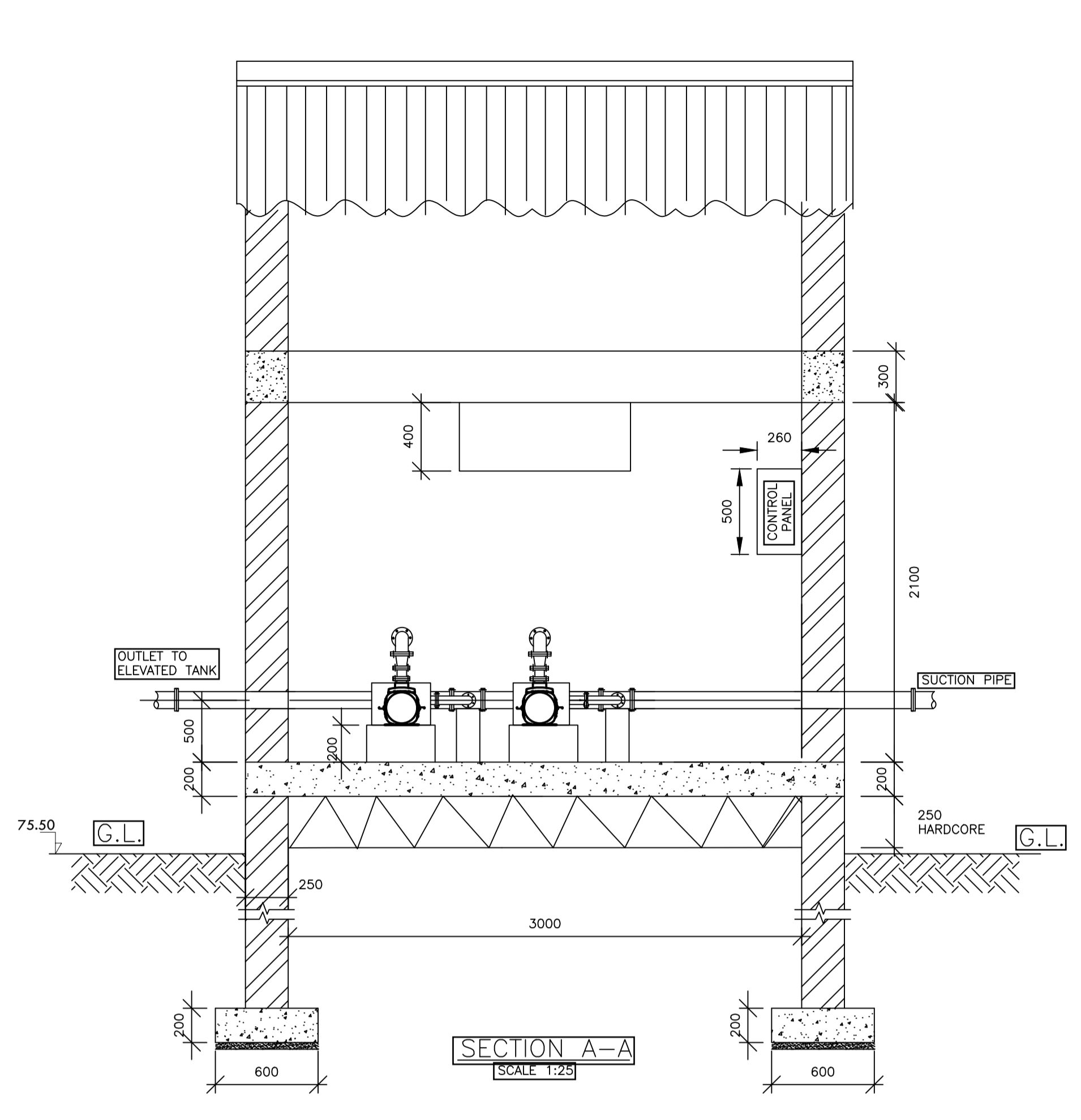
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DRG No. NIS-WI-DHO-CS-023

Revision Suffix

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- NOTES**
1. READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
 2. DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 3. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 4. MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
 5. MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
 6. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.

PROJECT TITLE:
CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN, BAKOL REGION SOUTH WEST STATE-SOMALIA

DRAWING TITLE:
PROPOSED PUMP HOUSE DETAILS.

CLIENT
\\Skectup.3\nis-logo2.PNG

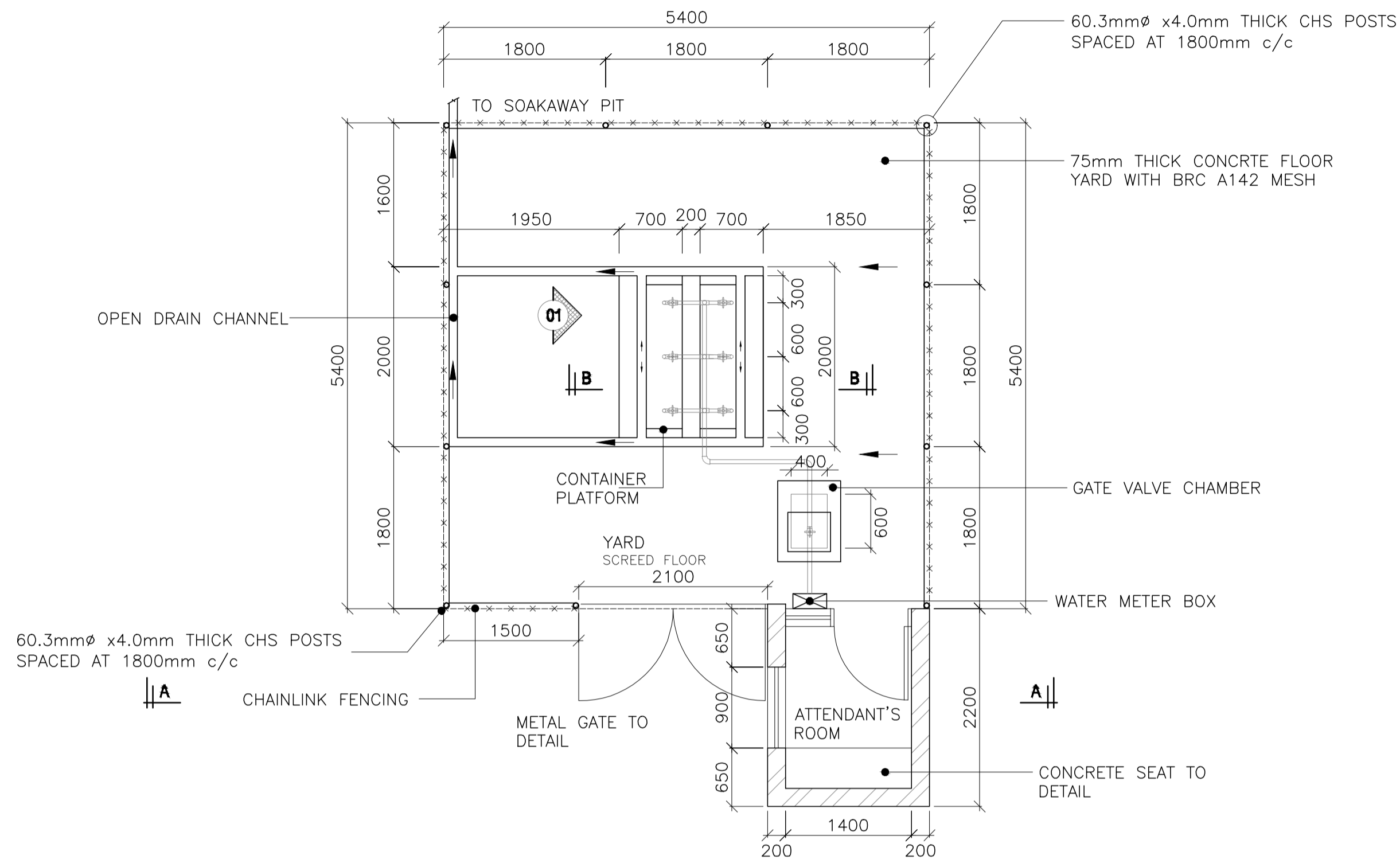
CLIENT REPRESENTATIVE:-
THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

CIVIL/STRUCTURAL ENGINEER:-
 Max & Partners Ltd
Consulting Engineers
Floor 2, B5, Ojijo Plaza, Plums Lane,
Off-Ojijo Road - P. O. Box 1349-
00606 Sarit Centre, NAIROBI, Kenya
Tel: +254.20.2343540/1
E-mail: info@max.co.ke

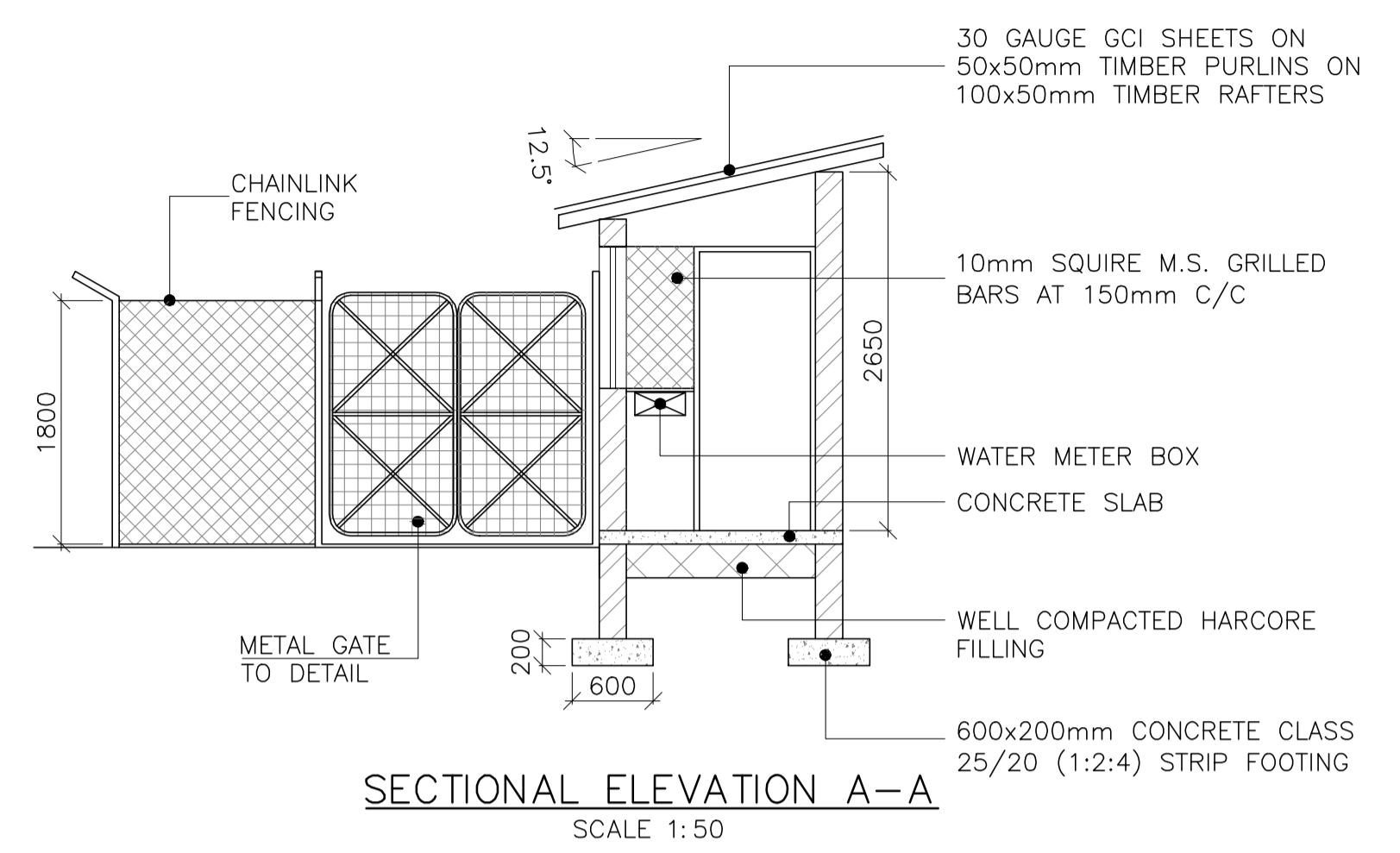
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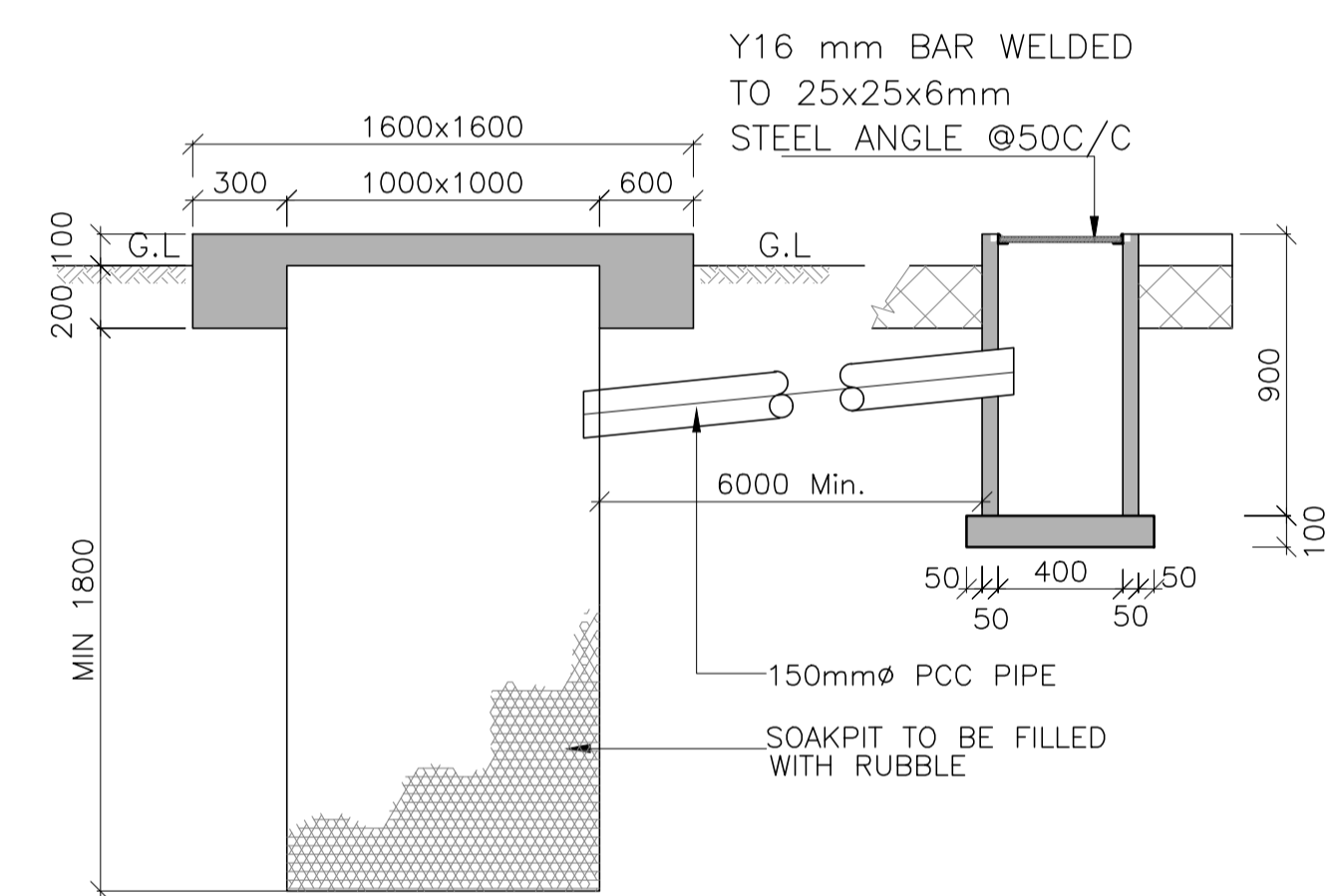
DRG No.	Revision	Suffix
NIS-WI-DHO-CS-009		



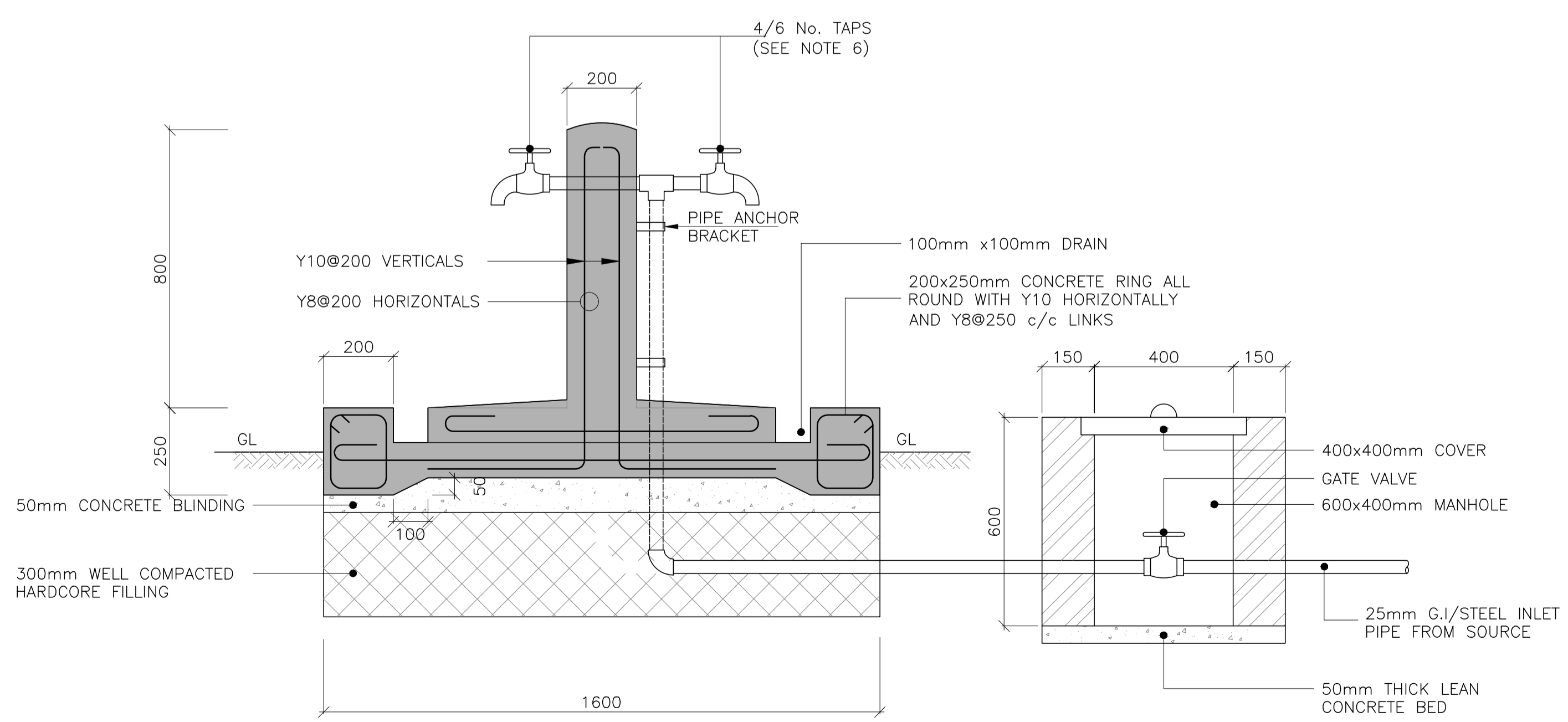
PLAN
SCALE 1:100



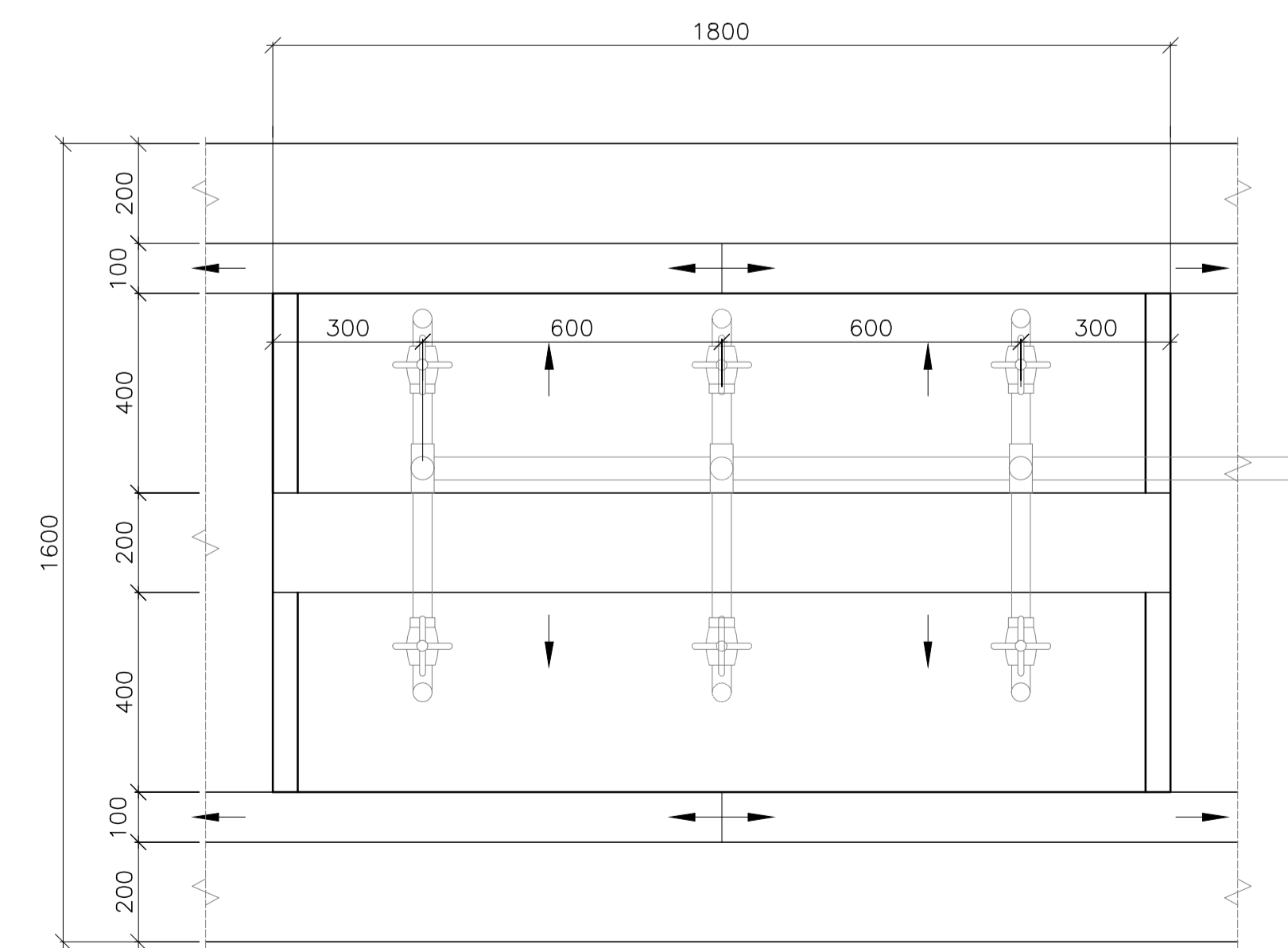
SECTIONAL ELEVATION A-A
SCALE 1:50



SOAKPIT & CATCHPIT DETAILS
SCALE 1:25



SECTION B-B
SCALE 1:50



PLAN
SCALE 1:50

- NOTES**
1. READ THE DRAWING IN CONJUNCTION WITH RELEVANT R.C.
 2. DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
 3. ALL LEVELS ARE IN METERS ABOVE SEA LEVEL.
 4. MIN CONCRETE COVER OF 40 mm TO THE MAIN STEEL TO BE MAINTAINED.
 5. MAXIMUM AGGREGATE SIZE FOR CONCRETE IS 20mm.
 6. ALL REINFORCEMENT TO BE INSPECTED BY THE ENGINEER BEFORE CONCRETING.
 7. BLINDING CONCRETE SHALL BE CLASS 15 (1:3:6)
 8. REINFORCED CONCRETE SHALL BE CLASS 25 (1:1:3)
 9. DEPENDING ON PREVAILING CONDITIONS, THE ATTENDANTS ROOM IS OPTIONAL.
 10. IN COSTAL/SALINE AREAS uPVC OR HDPE PIPES CAN BE USED. HOWEVER, IF THESE ARE EMPLOYED THE PIPE TO BE EMBEDDED IN THE CONCRETE STAND.

PROJECT TITLE:
CONSULTANCY SERVICES TO DEVELOP DETAILED TECHNICAL DRAWINGS AND BILL OF QUANTITIES FOR CONSTRUCTION OF WATER PAN IN ELBERDE TOWN, BAKOOL SOUTH WEST STATE-SOMALIA

DRAWING TITLE:
TAP STAND & SOAK PIT DETAILS..

CLIENT

CLIENT REPRESENTATIVE:-
THE COUNTRY REPRESENTATIVE
NIS SOMALIA PROGRAM

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Consulting Engineers
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SCALE: A1 DWG 1:25

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NIS-WI-DHO-CS-018			