

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	Contract	Activity	Year of	Name of the
	Description	Amount	implemented	implementation	Organization
		in USD	location		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 **28**<sup>th</sup> **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 abovementioned 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.



#### <u>Supplier Ethical form/ declaration of honour -exclusion criteria</u>.

Name of supplier/company:

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.

Please answer/fill the following questions, sign, and stamp at the bottom of the document:
<ol> <li>Have you ever implemented a contract financed by EU or any other donor which was terminated due to non-compliance or poor performance?</li> </ol>
Yes:No:
If yes please explain the remedial measures that have been taken to remedy the exclusion situation
<ol> <li>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?</li> <li>Yes:No:</li> </ol>
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/organ	isation involved in money laundering or terrorist financing?
	Yes:	No:
8.	Is the company/orgar to terrorist activities?	isation involved in terrorist-related offences or offences linked
	to terrorist activities?	
	Yes:	No:
9.	Is the company/orgar human beings?	isation involved in child labour or other forms of trafficking in
	Yes:	No:
10	. Has the company/org	anisation attempted to influence the decision-making process
	of the contracting aut	chority during the procurement process?
	Yes:	No:
	If yes, please explain exclusion situation:	the remedial measures that have been taken to remedy the
11	• • •	anisation attempted to obtain confidential information that indue advantages in the procurement process?
	,	
	Yes:	No:
	If yes, please explain exclusion situation:	the remedial measures that have been taken to remedy the

**COMMITMENT TO STANDARDS:** 



- 1. Workers shall be treated fairly and all articles of the fundamental ILO conventions shall be adhered to. <a href="http://actrav.itcilo.org/english/about/about fundamentals.html">http://actrav.itcilo.org/english/about/about fundamentals.html</a>
- 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 NO1. PRELIMINARIES				NIS
ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE	AMOUN
No.	Preliminary			(US\$)	(US\$)
1	The contractor should provide Detailed Topographic Surveys for the water pan before the commencement of the work, the Detailed tasks for the design of Earth Dam should include the Challedge (1) and	L.Sum	1.0		ş
BILL NO2.	Subtotal 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, crass and shrubs.	m²	1,000.0		s s
1.03	Extra over excavations for breaking up/ excavating in rocks. Class A (Provisional )	m <sup>a</sup>	3.0		s s
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		s
	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.	m²	500.0		s
1.08	Construct of Riprap as directed by the Engineer.	m <sup>3</sup>	60.0		s

	BILL NO1. PRELIMINARIES				NIS
No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUN (US\$)
	BILL 1: COLLECTION SHEET				
	DESCRIPTION (if any)				AMOUN (US\$)
Brou	ght forward from page 1				\$

ITEM DESCRIPTION UNIT QUANTITY  2.12 Exemption if an open channel drain in accordance with the control of the c		NI			BILL NO1. PRELIMINARIES	
SILT TRAP:  Site Clearance  SILT TRAP:  Site Clearance  Mark 243.3  Site C	AMOL (US:		QUANTITY	UNIT	ITEM DESCRIPTION	
SILT TRAP:  Site Clearance  SILT TRAP:  Site Clearance  Mark 243.3  Site C						
SILT TRAP:  Sils Clearance General clearance over the width of the severines in accordance with the severines of a severine of a business, great and shruke.  Exercised on a severine of the dam in the severines of the dam in the severines of the dam in the severines of the dam in the severine of the severine of the dam in the severine of the severine of the dam in the severine of the severine						
Since Contention over the width of the seventions in accordance with the seventions in accordance with the seventions. To include the removal of all bushes, grass and shribe.  Exercisions.  17 in include the remine and compaction of the dam sides boxes, stockalism of revusable material.  2.03 Exercision the remine and compaction of the dam sides boxes, stockalism of revusable material and cartine aware of access accordance material as a directed by the Engineer)  2.03 Exercision the termine Normal Soli material and stockpile in approved area. Ups the John Construction process of the second of the	AMOL (US:		QUANTITY	UNIT	ITEM DESCRIPTION	
Correlate Characteric over the width of the severitines in accordance with the secendificant. To include the removal of all bushes, gases and shude.  Exercised Similar and compaction of the dam aldestones. Secondarial and as a directed by the Engineer)  203 Exercise to remove Normal Soil method and administration of the dam aldestones. Secondarial and as a directed by the Engineer)  206 Extra over for items 2:03 - 2:06 for excavation in most Class X.  207 Dyte Construct Soil Post 3:06  208 Ophic Construct 1:06 high dye around the Grit Chamber with approved selected excavated material. Material to be compacted in highers not exceeding 155mm.  209 Construct 1:06 high dye around the Grit Chamber with approved selected excavated material. Material to be compacted in highers not exceeding 155mm.  210 Provide, mix, place and compact concrete class 15 (mix 1:36) in sed surround and haunch with litting to formation level for intelled and chamber with hilling to formation level for intelled and chamber with litting to formation level for intelled and chamber with litting to formation level for intelled and chamber with litting to formation level for intelled and chamber with litting to formation level for intelled and chamber with litting to formation level for intelled and chamber with litting to formation level for intelled and construction with litting to formation level for intelled and construction with litting to formation level for the concrete walls of the concrete walls o					SILT TRAP:	
To Include the trimino and compaction of the dam sidesbooks school/floor for probable material, and sidesbooks school/floor for probable material, and carfino awar of sciences accounted material as different by the Engineer.  203   Execute to remove Normal Soil material and stockpile in approve deat. Depth Atm		s	600.0	m²	General clearance over the width of the sewerlines in accordance with the specifications. To include the removal of all bushes, grass and shrubs.	2.01
In approved area. Depth 3.0m  In approved the terms 203 - 2.06 for excavation in cook Clears.  Debth Construction  Construct in the high dise around the Grit Chamber with approved selected executed material. Meterial to be compacted in high service executed material. Meterial to be compacted in highest networked profession.  2.09  Construct grouded rip rap revelement  as directed by the Enriener.  2.10  Provide, mr., pible and compact concrete class 15 (mr. 1.36) in bed surround and haunch with Briling to formstands have for intelled and becomes per mail to the contract of					(To include the triming and compaction of the dam sideslopes, stockpiling of reusable material, and carting away of excess excavated material	
cox Class X.  Dyke Construction  Contention of the City Chamber with  Contention of the City Chamber with  Contention of the City Chamber with  Construct John lips dependent manifestil Material to be compacted in layers not exceeding 150mm.  209 Construct grouded fip rap revenient  as directed by the Engineer.  210 Provide, mix, place and compact concrete class 15  (mix 1.58) in bed surround and haunch with filling to  formation level for place and content concrete pages  211 Excavated on moderate soil (10°30.5) and level the surface.  Compact to eliminate future settlement. Engineer to approve before  m³ 40.0 \$  212 Excavated on moderate soil (10°30.5) and level the surface.  Compact to eliminate future settlement. Engineer to approve before  m³ 40.0 \$  213 provide and construct stone manorary foundation/in wide x.0 4m.  214 provide and construct stone manorary foundation/in wide x.0 4m.  215 provide and construct stone manorary foundation/in wide x.0 4m.  216 provide and construct stone manorary foundation/in wide x.0 4m.  217 provide and construct stone manorary foundation/in wide x.0 4m.  218 provide and construct stone manorary foundation/in wide x.0 4m.  219 provide and construct stone manorary foundation/in wide x.0 4m.  210 provide well compacted grower stone file base fellow the two inlet diversion channels of 5fcm finick to receive concrete sile. The space between the valies 15 m. wide  m³ 14.0 \$  \$  SECTIONAL CARRIED FORWARD TO BILL 3 COLLECTION SHEET  TEM.  ITEM DESCRIPTION UNITY  ITEM DESCRIPTION SHEET  TIEM.  212 Sequence of an open-channel drain in accordance with the drain channels of drain in accordance with the drain channels and specifications, fluction for the drain channels and specifications. Induction the drain channels and specifications. Inductio		s	1,357.3	m <sup>3</sup>	Excavate to remove Normal Soil material and stockpile in approved area. Depth 3.0m	2.03
Construct 1.0m high pile around the Grit Chamber with approved selected excursived material. Material to be compacted in highers not exceeding 150mm.  209 Construct conducting for prevention of the control of the con		s	271.5	m <sup>3</sup>	rock Class 'A'.	2.07
2.09 Construct groused fip rap reventment as directed by the Enrineer.  2.10 Provide, mr., place and compact concrete class 15 (mr. 1.36) in bed surround and haunch with filing to formation level for letter and concrete places (Compact for concrete places) (Compact for elimitate future sestement. Engineer to approve before any construction to statir.  2.11 Provide and constant states and (10°70.6) and three of the places of the concrete states of the concrete and constant states of the carrier.  2.12 Provide well compacted gravel stone the base believe the two risks.  2.13 provide well compacted gravel stone the base believe the two risks.  2.14 Supply 30m bitic commetted lean concrete on top the gravel for the base floor between the diversion walls with 112 (400m and 30°p)  3. Supply 30m bitic commetted lean concrete on top the gravel for the base floor between the diversion walls with 112 (400m and 30°p)  3. Supply 30m bitic commetted lean concrete on top the gravel for the base floor between the diversion walls with 112 (400m and 30°p)  3. Supply 30m bitic commetted lean concrete on top the gravel for the base floor between the diversion walls with 112 (400m and 30°p)  3. Supply 30m bitic commetted lean concrete on top the gravel for the base floor between the diversion walls with 112 (400m and 30°p)  3. Supply 30m bitic commetted lean concrete on the two parts of the base floor between the diversion walls with 112 (400m and 30°p)  3. Supply 30m bitic commetted lean concrete on the two parts of the base floor between the diversion walls with 112 (400m and 30°p)  4. Supply 30m bitic commetted lean concrete on the two parts of the base floor between the diversion walls with 112 (400m and 30°p)  4. Supply 30m bitic commetted lean concrete on the two parts of the base floor between the diversion walls with 112 (400m and 30°p)  4. Supply 30m bitic commetted lean con			100.0	m <sup>3</sup>	Construct 1.0m high dyke around the Grit Chamber with approved selected excavated material. Material to be	2.08
2-10 Provide, mix place and compact concrete class 15 (mix 1-36) in bed surround and haunch with Billing to formation there for risit and outcome pipe.  Canel connecting the two chambers(Billings & Water pan)  2-11 Exavated on moderate soil (10°9°05) and level the surface. Our control of the control of th					Construct grouted rip rap revetment	2.09
2.11 Exercated or moderate soil (10°3°Cs) and level the surface.  Compare to eliminate flavor assessment: Engineer to approve before any construction to start.  2.12 Privide and construct store manorary foundationsh wide x 0.4m mbcx x flow long with remembers with a ratio to 14 in Under of the mbcx x flow long with cemented with a ratio to 14 in Under of the moderate with a flavor of the start of the construction of the start of the construction of the start of the sta		s	10.0	m <sup>3</sup>	Provide, mix, place and compact concrete class 15 (mix 1:3:6) in bed surround and haunch with filling to	2.10
Compact to eliminate flutre settlement. Engineer to approve before m³ 40.0 s s and construct store manner and construct store manner wide x 0.4 m toke x 1.6 m toke x 1.0 m to					Canel connecting the two chambers(Siltrap & Water pan)	
incisc x flow long with cemented with a ratio 14 in Under of the concrete was of the cannel.  2.13 provide well congraded gravel attore the base believe the two intel diversion forwards of 15 cm like to receive concrete slab. The space between the walls is 10 m wide  2.14 Supply 200m thick connected lean concrete on tap the graved for the slab floor between the diversion walls with Y12 8-400mm and Step 88 mm or.  S BOTHAL CARRIED FORWARD TO BILL 3 COLLECTION SHEET  TEM  No.  SPILWAY  2.12 Exercision of an open channel drain in accordance with the drawings and details. Depth of excansion on or exceeding 1.5m. Rate to Incide timming, ramming and compaction of site slopes to required grades.  2.13 Constructing 1.5m. Rate to Incide timming, ramming and compaction of site slopes to required grades.  2.14 Provide all materials and construct 5.1m x 1.6m of Channel of Concrete Channel  2.14 Provide all materials and construct 5.1m x 1.6m of Channel of Concrete Channel  2.15 Construction cholding the drain chamber and locable PCC cover.  S Construction cholding the drain chamber and locable PCC cover.		s	40.0	m <sup>3</sup>	Compact to eliminate future settlement. Engineer to approve before	2.11
diversion characteris of Stom tracks to receive concrete sites. The space of the second service of the second		s	15.0	m <sup>3</sup>	thick x 10m long with cemented with a ratio 1:4 in Under of the	2.12
Set TOTAL CARRIED FORWARD TO BILL 3 COLLECTION SHEET  TEM  1TEM  1TEM DESCRIPTION  SPLINAY  2.12 Execution of an open channel drain in accordance with the drawings and details. Depth of excavation not not exceeding from the Research of the Set Set Set Set Set Set Set Set Set Se		s	14.0	m <sup>3</sup>	diversion channels of 15cm thick to receive concrete slab. The space	2.13
TITEM DESCRIPTION UNIT QUANTITY  12.12 Execution of an open channel drain in accordance more accordance with the consistence of		s	8.0	m <sup>3</sup>	base floor between the diversion walls with Y12@400mm and Strip	2.14
No.  SPALWAY  2.12 Exacution of an open channel drain in accordance with the drawings and details. Depth of excavation not exceeding 1.5m. Rate in brushe details. Teach of excavation not exceeding 1.5m. Rate in brushe details. Teach of excavation and compaction of side slopes to require glades.  2.13 Constituct Grounded stone-picking / r/p sap revertment m² 135.0 s directed by the Enricing Conditions of the Condition of the Con		s			CARRIED FORWARD TO BILL 3 COLLECTION SHEET	E TOTAL
2.12 Excavation of an open channel drain in accordance with the drawners and dreists. Despit of excavation not exceeding 15m. Rate in braids the immining namining and composition of side slopes to required grades.  2.13 Construct grounded store-jointing / rips preventment and directed by the Enriqued.  2.14 CONCRETE CHAMBER  2.14 Privide all materials and construct 5 fm x 1.6m of Chamber in accordance with the drawings and specification. Including the draw in the drawings and specification. Including the draw chamber and locality FCG cover.  8 and 1.0 minimum control of the control of	AMOU (US		QUANTITY	UNIT	ITEM DESCRIPTION	No.
with the drawings and details. Depth of excavation not exceeding 1.5m. Rate to include formining, ramming and computation of side slopes to required grades.  2.13 Construct Ground stone-picking / rip rap revertment as directed by the Enrich Ground stone-picking / rip rap revertment as directed by the Enrich Ground Stone Stone Concentration of the Concentration of					SPILLWAY	
2.13 Construct grouted stone-pitching / rip ray revetiment m² 135.0 s s s a directed by the Enriquent.  CONCRETE CHAMBER  2.14 Privoid all materials and construct 5 fm x 1.6m (GHC Chamber and specifications including the drain chamber and specifications.		s	225.0	m <sup>3</sup>	with the drawings and details. Depth of excavation not exceeding 1.5m. Rate to include trimming, ramming	2.12
2.14 Provide all materials and construct 5 fm x 1.6m Girl Chamber in accordance with the drawings and specification. Includin a the draw chamber and locality FCC cover.  No. 1.0 S		s			Construct grouted stone-pitching / rip rap revetment	2.13
Grit Chamber in accordance with the drawings and specifications, including the drain chamber and location PCC cover.  No. 1.0 \$					CONCRETE CHAMBER	
		s	1.0	No.	Grit Chamber in accordance with the drawings and specifications. Including the drain chamber and	2.14
BILL 3: COLLECTION SHEET		s			BILL 3: COLLECTION SHEET	E TOTAL
DESCRIPTION (if any)	AMOU (USS				DESCRIPTION	
Brought forward from page 1 \$  Brought forward from page 2 \$						

ITEM	BILL NO1. PRELIMINARIES ITEM DESCRIPTION	UNIT	QUANTITY	RATE	NIS	AMOUNT
No.	L CARRIED FORWARD TO GRAND SUMMARY SHEET	UNIT	QUANTITI	(US\$)	s	(US\$)
SILL 2 TOTA	E CARRIED FORWARD TO GRAND SUMMART 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.	m²	3,600.0		\$	-
	Excavations (To include the triming and compaction of the dam sideslopes, stockpiling of reusable material, and					
	arting 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 <sup>3</sup>	12.600.0		s	
3.03	Extra over for items 3.03 - 3.06 for excavation in	m <sup>3</sup>	2,520.0		s s	-
3.04	rock Class 'A'.  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	m <sup>3</sup>	300.0		s	
	through 53 m IS Sieve. <b>Top cover</b> : Compacted soil.Cover soils shall not contain sharp, angular stones or any objects	m	300.0		3	
	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					
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 <sup>3</sup>	675.0		\$	-
3.05	Provided and install liner on the internal slopes of the pond with HDPE single sided textured waterproofing geomembrane of 1.0mm thickness. To include					
	for all lapping and welding of the liner.	m²	5,778.0		s s	- :
3.06	Construction of anchor trench all around the lagoon.	m <sup>3</sup>	300.0		s	-
PAGE TOTAL	CARRIED FORWARD TO BILL 4 COLLECTION SHEET				\$	
No.	ITEM DESCRIPTION	UNIT	QUANTITY		·	AMOUNT (US\$)
	PIPEWORK Provide lay, joint and test Spigot and Socket Concrete					
3.09	Sewer pipes as follows: 600mm Ø Inlet & Outlet Pipes	m	24.0		s	
3.10	200mm Ø Steel Flanged Spigot NP6	m	24.0		s	-
3.11	200mm Ø Steel Double Flanged Spigot with paddle flange 1.0m from on end. NP6	_	24.0		s	
3.12	DN 200 Butterfly Valve with wheel	m No.	1.0		s	
	and extension spindle.					
AGE TOTAL	CARRIED FORWARD TO BILL 4 COLLECTION SHEET				\$	
	BILL 4: COLLECTION SHEET  DESCRIPTION  (if any)					AMOUNT (US\$)
	DESCRIPTION				s	AMOUNT (US\$)
	DESCRIPTION (if any)					AMOUNT (US\$)
BILL 4 TOTA	DESCRIPTION (if any)  Brought forward from page 1				s	AMOUNT (US\$)
BILL 4 TOTA	DESCRIPTION (of any)  Brought forward from page 1  Brought forward from page 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE				\$	AMOUNT (US\$)
ITEM No.	DESCRIPTION (of any)  Brought forward from page 1  Brought forward from page 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 in PUMP HOUSE  ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	\$	AMOUNT (US\$)  AMOUNT (US\$)
ITEM	DESCRIPTION (If any)  Brought forward from page 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE ITEM DESCRIPTION  SUBSTRUCTURE AS Substructure  SUBSTRUCTURE	UNIT	QUANTITY		\$	(US\$)
ITEM	DESCRIPTION (of any)  Brought forward from page 2  Brought forward from page 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 in PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the direction of the Engineer.  Excavation	UNIT	QUANTITY		\$	(US\$)
ITEM No.	DESCRIPTION (of any)  Brought forward from page 2  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the direction of the Engineer.  All Substructure works are provisional and are subject to the direction of the Engineer.  (Documents in excluding maintaining and supporting sides and flocusion including maintaining and supporting sides and flocusions including maintaining and supporting sides and flocus and any subject to the size of the subject to the form sealer, and and filled maintaining by balling.	UNIT	QUANTITY		\$	(US\$)
ITEM	DESCRIPTION (of any)  Brought forward from page 2  Brought forward from page 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the direction of the Engineer.  Excession for form enhancing and supporting sides and second perform server, mad and film relativist by paging.	UNIT m²	QUANTITY 25.00		\$ \$	(US\$)
ITEM No.	DESCRIPTION (of any)  Brought forward from cines 1  Brought forward from cines 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Ciccumden including maintaining and supporting sides and keeping the from water, and and fallen materials by balling.  Prepare site by without to 200 or more also to remove all				\$ \$	(US\$)
ITEM No.	DESCRIPTION (of any)  Brought forward from page 1  Brought forward from page 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE  All Substructure All Substructure works are provisional and are subject to the direction of the Engineer.  (Excavation (Excavation of Characteristics) and any pumping of the strength of the form water, much and faller materials by balling, pumping or otherwise.)  DOD orn on so lot for enco eall destricts including sand (if any) from site and carting away spoil  Excavate for foundation site commencing at reduced levels:	m²	25.00		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	(US\$)
ITEM No. 4 01	DESCRIPTION (of any)  Broads forward from size 1  Brough forward from size 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP MOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Solitables works are provisional and are subject to the decision of the Engineer.  Excavation of the Engineer.  Excavation and any of the subject to the decision of the Engineer.  Excavation for foundation strip commencing at reduced levels; design not except the Engineer.  Extra-over for excavation in rock  Remove surplus excavation in rock	m² m³ m³	25.00 7.20		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	(US\$)
ITEM No. 4 01 4 02 4.03	DESCRIPTION (of any)  Brought forward from page 2  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILLS - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE  All Substructure works are provisional and are subject to the direction of the Engineer.  All Substructure will be expressed to the direction of the Engineer.  All Substructure will be expressed to the direction of the Engineer.  All Substructure will be expressed to the direction of the Engineer.  All Substructure will be expressed to the direction of the Engineer.  All Substructure will be expressed to the direction of the Engineer.  Precipier all the expressed of the direction of the Engineer.  Prepare sile by stripping top 20 mm of soil to remove all debts including and finely from site and carting away spoil  Excavate for foundation strip commencing at reduced levels: depth not exceeding 800mm deep.  Extra-over for excavation in rock.  Remove surplus excavated material from site  Backfill around foundation.	m² m³	25.00 7.20 1.44		\$ \$ \$	(US\$)
1TEM No. 4 01 4 02 4.03 4.04	DESCRIPTION (of any)  Broads forward from size 1  Brough forward from size 2  L CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP MOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Solitables works are provisional and are subject to the decision of the Engineer.  Excavation of the Engineer.  Excavation and any of the subject to the decision of the Engineer.  Excavation for foundation strip commencing at reduced levels; design not except the Engineer.  Extra-over for excavation in rock  Remove surplus excavation in rock	m² m³ m³	25.00 7.20 1.44 4.00		\$ \$	(US\$)
4 01 4 02 4.03 4.04 4.05 4.06	DESCRIPTION (of any)  Brought forward from capes 1  Brought forward from capes 2  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the decident of the Terpiner.  Excavation Contacting maintenancy and supporting sides and (Decayation Formation) and a subject to the decident of the Terpiner.  Excavation or contacting maintenancy and supporting sides and define national program of the subject to the decident of the Terpiner.  Excavation of contacting maintenancy and supporting sides and define national or defined and followed to the subject to the cape of the subject to the subject to the cape of the subject to the subject	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>	25.00 7.20 1.44 4.00 3.00		***************************************	(US\$)
4 nn 4 no 4 no 4 no 4 no 5 4 no 6 4 no 7	DESCRIPTION (of any)  Brought forward from cross on Brought forward from cross on Brought forward from page 2  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Ciccuration recluding maintenining and supporting sides and Aneatron free from water, muld and failinn materials by balling, pumping or delivers to to 500 from 64 acts to emove all debris including and 500 mm deep  Excavate for foundation strip commencing at reduced levels; depth not exceeding 500 mm deep  Extra over for excavation in rock  Remove surplus excavated material from site Backfill around foundation  Filling SO mm thick suproved handcore filling spread, well rammed and composited for 150mm levers is receive concrete surface.	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>	25.00 7.20 1.44 4.00 3.00		\$ \$	(US\$)
4 01 4 02 4.03 4.04 4.05 4.06	DESCRIPTION (of any)  Brought forward from capes 1  Brought forward from capes 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the decident of the Textineer.  Excavation  Cibconetion reluction maintening and susporting sides and (Disconetion reluction maintening and susporting sides and control of the control of the Textineer.  Excavation of control of the Control of	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>	25.00 7.20 1.44 4.00 3.00		***************************************	(US\$)
4 nn 4 no 4 no 4 no 4 no 5 4 no 6 4 no 7	DESCRIPTION (of any)  Broadth forward from size 1  BROUGH FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP MOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Schelaucium works are provisional and are subject to the direction of the Engineer.  Execution modular maintaining and supporting sizes and secretary for the direction of the Engineer.  Execution modular maintaining and supporting sizes and secretary for from water, must are failing materials by bailing, pumping or defense of any form size and carling away spoil  Executed for foundation strip commencing at reduced levels; design and secretary for secretary sizes and sizes of the s	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>	25.00 7.20 1.44 4.00 3.00 4.20 6.00			(US\$)
4 01 4 02 4 03 4 04 4 05 4 06 4 07 4 08	DESCRIPTION (of any)  Brought forward from close 1  Brought forward from close 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Excavation including maintaining and supporting sides and Asegory five from water, must and failing maintaining and supporting sides and Asegory five from water, must and failing maintaining as a subject to the direction of the Engineer.  Excavation for form water, must and failing materials by balling.  Prepare sells by stipping to 200 from so also remove all debris including sand (if any) from side and carting away spoil Excavate for foundation safe commencing at reduced levels; depth not exceeding 800mm diseg.  Extra-over for excavation in rock  Remove surpluse excavated material from side  Backfill around foundation  Filling  Backfill around concrete: class 15: mix 1:3-8  Somm binding layer on haddone surface and under foundations  Treat handone custince with approved insecticide  Concrete work.  Reinforced Concrete class 25	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>2</sup>	25.00 7.20 1.44 4.00 3.00 4.20 6.00			(US\$)
4 01 4 02 4 03 4 04 4 05 4 06 4 07 4 08	DESCRIPTION (of any)  Brought forward from capes 1  Brought forward from capes 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the decident of the Textineer.  Excavation (Chocandor neclucifior maintening and susporting sides and follow national programs of the provisional and are subject to the decident of the Textineer.  Excavation (Chocandor neclucifior maintening and susporting sides and define national by balling, pumples or otherwise).  Pregives tells by triging to 200 Orm of a sol to remove all definition and cartinu away sooil Excavation for condition strip commencing at reduced revets; depth not exceeding 500mm described from side and cartinu away sooil Excavate for foundation strip commencing at reduced revets; depth not exceeding 500mm described from side and compacted in 150mm sizes to receive for excavation in rock  Backfill around foundation  Filling 30 mm bick approved handcore filling spread, well rammed and compacted in 150mm layers to receive concrete surface. Intelligence of the provider foundation under foundation  Treat hardcore surface with approved insecticide  Concrete work  Reinforced Correcte class 25  Strip Durations	m² m³ m³ m² m²	25.00 7.20 1.44 4.00 3.00 4.20 6.00 6.00 0.90 14.00			(US\$)
4 nn 4 n	DESCRIPTION (of any)  Brought forward from cines 1  Brought forward from cines 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the discriction of the Engineer.  Excavation (Floravelson including maintaining and supporting sides and Asseption from interest by balling. Prepare selb by stilling to 200 mm of all on the materials by balling. Prepare selb by stilling to 200 mm of all on termore all debris including among fif any firm side and carting away sool Exactants for foundation still commencing at reduced levels; depth not exceeding 800mm deep  Extra-over for excavation in rock  Remove surplus excavated material from sile and carting and subject to the stilling stillin	m² m³ m³ m² m²	25.00 7.20 1.44 4.00 3.00 4.20 6.00 6.00			(USS)
4 nn 4 n	DESCRIPTION (of any)  Brought forward from capes 1  Brought forward from capes 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the decident of the Textineer.  Excavation  (Chocandor neclucifior maintening and susporting sides and follow national part of the provisional and are subject to the decident of the Textineer.  Excavation  (Chocandor neclucifior maintening and susporting sides and define national by balling, pumples or otherwise).  Pregue set bey stripping to 200 from of a sol or senore all definition of the control of the stripping stripping to 200 from of a sol or senore all definition and cartina wave sool Excavate for foundation strip commencing at reduced levels: depth not exceeding 500mm decident of the control of the stripping stripping to 200 from of sol or senore all depth in the stripping stripping to 200 from the 300 from stripping to 200 from the 300 from stripping to 300 mm decident of the stripping to 300 mm decident of 3	m² m³ m³ m² m²	25.00 7.20 1.44 4.00 3.00 4.20 6.00 6.00 0.90 14.00			(USS)
401 402 403 404 405 406 407 408 410 411	DESCRIPTION (of any)  Brought forward from close 1  Brought forward from close 1  Brought forward from close 1  BROUGHT forward from page 2  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Excavation including maintaining and supporting sizes and keeping the from water, must and failing materially by balling, purposing or delivers to 100 500 mm of soil to remove all definite including sand (if any) from site and carting away spoil  Excavates for foundation stip commencing at reduced levels: despite in closed for foundation stip commencing at the company of the commencing of the commencin	m² m³ m³ m² m² m²	25.00 7.20 1.44 4.00 3.00 4.20 6.00 0.90 14.00			(USS)
4 01 4 02 4 03 4 04 4 05 4 00 4 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DESCRIPTION (of any)  Brought forward from cines 1  Brought forward from cines 1  Brought forward from cines 1  BROUGHT STAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Chorusten including maintaining and supporting sides and keeping the from water. mad and fallen materials by balling. Prepare sleb by stilling to 200 mm of all on termore all definition and the control of the substructure works are provisional and a supporting sides and keeping from water. mad and fallen materials by balling. Prepare sleb by stilling to 200 mm of all on termore all definition stilling to 300 mm of all on termore all definition stilling to 300 mm of all on the control of the substructure of or excavation in rock  Remove surphus excavated material from site and carting any supporting stilling to 300 mm brids, approved handcore filling spread, well rammed and compacted in 150mm silvers to receive concrete surface. Hashin connected: Lass 15 mils 13.6  Som million stilling stilling to 300 mm brids, approved insecticide  Cancreta work.  Reinforced Concrete class 25  Strip bundation  Treat hardcore surface with approved insecticide  Cancreta work.  Reinforced Concrete class 25  Strip bundation  Som fromwork.  Reinforced Concrete class 25  Strip bundation  How the control of the surface should be supported insecticide.  Saven formwork.  Saven formwork.  Saven formwork.  Saven formwork.  Walling  Glomm Trick rubble stone foundation walling in cement and a surface and and a surface should some stone and a surface and a surface stone and surface and a surface stone surface.	m² m³ m² m² m² m²	25.00 7.20 1.44 4.00 3.00 4.20 6.00 0.90 14.00			(USS)
4 01 4 03 4 04 4 05 4 06 4 10 4 11 4 11 4 11 4 11 4 11 3	DESCRIPTION (of any)  Brought forward from close 1  Brought forward from close 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Excavation in Control of Control o	m² m³ m³ m² m² m²	25.00 7.20 1.44 4.00 3.00 4.20 6.00 6.00 0.90 114.00			(USS)
4 01 4 03 4 04 4 05 4 06 4 10 4 11 4 11 4 11 4 11 4 11 3	DESCRIPTION (of any)  Brought forward from cines 1  Brought forward from cines 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the discertion of the Engineer.  Excavation (Floraveton including maintaining and supporting sides and Asegora free from water. med and fallen materials by balling. Prepare sleb by stilling to 20.0 mm of all on termore all debts including and of the materials by balling. Prepare sleb by stilling to 20.0 mm of all on termore all debts including and if alm in materials by balling. Prepare sleb by stilling to 20.0 mm of all on termore all debts including sand (if any) from site and carting away sool Exactants for foundation still commencing at reduced levels; depth not exceeding 800mm deep Extra over for excavation in rock  Remove surplus excavated material from site and carting and soon of the surplus and stilling stilling stilling some and carting and stilling stilling some and carting and stilling sti	m² m³ m³ m² m² m² m²	25.00 7.20 1.44 4.00 3.00 4.20 6.00 0.90 14.00 14.00			(USS)
401 401 400 403 404 405 406 407 408 410 411 412 413	DESCRIPTION (of any)  Brought forward from close 1  Brought forward from close 1  Brought forward from close 1  BROUGHT forward from close 2  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Excavation including maintaining and supporting sites and Apequa for the former.  Excavation (Excavation and failing materials by balling, payments or delivers) to to 200 mm of act to remove all debris including amount on the control of the contr	m² m² m² m² m² m² m² m² m²	25.00 7.20 1.44 4.00 3.00 6.00 6.00 14.00 14.00 3.84			(USS)
4 01 4 02 4 03 4 04 4 05 4 06 4 10 4 11 4 11 4 11 4 11 4 11 4 11	DESCRIPTION (of any)  Brought forward from cines 1  Brought forward from cines 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Substructure works are provisional and are subject to the direction of the Endineer.  Excavation (Flocuration including maintaining and supporting sides and Asepting the from water, must and failing materials by balling. Prepare last by stripping to 200 from 16 also for enowe all debris including small failing materials are subject to the department of the form water, must and rating any spot and Asepting for from water, must and failing materials are subject to the debris including small (if any) from site and carting away spoil Ecavate for foundation stip commencing at reduced levels; depth not exceeding 800mm diage.  Extra-over for excavation in rock  Remove surpluse excavated material from site Backfill around foundation.  Filling  Backfill around foundation  Filling  Long the surpluse subject of the surplus of the surplus and under foundation.  Filling  The surplus of the surplus o	m² m³ m³ m² m² m² m²	25.00 7.20 1.44 4.00 3.00 6.00 6.00 14.00 14.00 14.00 13.00			(USS)
401 401 400 403 404 405 406 407 408 410 411 412 413	DESCRIPTION (of any)  Brought forward from ciges 1  Brought forward from ciges 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the discrict of the Engineer.  Excavation (Floravelson including maintaining and supporting sides and Asseption fee from water. med and fallen materials by balling. Prepare slick by stilling to 20.0 mm of all on termore all deficit including and fill minimum and supporting sides and Asseption fee from water. med and fallen materials by balling. Prepare slick by stilling to 20.0 mm of all on termore all deficit including sand (if any) from side and carting away sool Eccaration for foundation stip commencing at reduced levels; depth not exceeding 800mm deep  Extra-over for excavation in rock  Remove surplus excavated material from sile Backfill around foundation  Filling Som mm finick approved hardcore filling spread, well rammed and compacted in 150mm sileys to receive concrete surface. Insight prepare on hardcore surfaces and under foundations  Treat hardcore surface with approved insecticide  Cancrete work Reinforce-Concrete class 25  Strip foundation  The structure of t	m² m³ m³ m² m² m² m² m² m²	25.00 7.20 1.44 4.00 3.00 6.00 0.90 14.00 14.00 3.84		5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	(USS)
4 nn 4 n	DESCRIPTION (of any)  Brought forward from close 1  Brought forward from close 1  Brought forward from close 1  BROUGHT forward from close 2  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5-3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE AS Substructure works are provisional and are subject to the direction of the Engineer.  Excavation (Excavation in Controllary maintaining and supporting sites and Anegros free from water, mud and failing materials by balling, payments or delivers to be controlled and failing materials by balling, payments or delivers to be controlled and failing materials by balling, payments or delivers to be controlled and failing materials are subject to the decivation facility of the controlled and failing materials are subject to the decivation of the fail of the controlled and failing materials are subject to the decivation of the controlled and failing materials are subject to the controlled and failing materials are subject to the controlled and failing materials are subject to the controlled and failing materials.  Excavate for foundation strip commencing at reduced levels: depth not exceeding 500mm decived payments of the controlled and failing spread, well rammed and compacted of 150mm blowns is receive concrete subfect.  Filling 300 mm bloods place of 150mm bloods is the controlled and failing spread, well rammed and compacted of 150mm bloods is the controlled and compacted of 150mm bloods is the controlled and compacted of 250mm bloods place of 150mm bloods is the subject of 150mm bloods in 150mm bloods is subject to 150mm bloods in 15	m² m³ m³ m² m² m² m²	25.00 7.20 1.44 4.00 3.00 6.00 6.00 14.00 14.00 14.00 13.00		5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	(USS)
4 nn 4 n	DESCRIPTION (of any)  Brought forward from ciges 1  Brought forward from ciges 1  CARRIED FORWARD TO GRAND SUMMARY SHEET  BILL 5 - 3.0 x 3.0 m PUMP HOUSE  ITEM DESCRIPTION  SUBSTRUCTURE All Substructure works are provisional and are subject to the discrict of the Engineer.  Excavation (Floravelson including maintaining and supporting sides and Asseption fee from water. med and fallen materials by balling. Prepare slick by stilling to 20.0 mm of all on termore all deficit including and fill minimum and supporting sides and Asseption fee from water. med and fallen materials by balling. Prepare slick by stilling to 20.0 mm of all on termore all deficit including sand (if any) from side and carting away sool Eccaration for foundation stip commencing at reduced levels; depth not exceeding 800mm deep  Extra-over for excavation in rock  Remove surplus excavated material from sile Backfill around foundation  Filling Som mm finick approved hardcore filling spread, well rammed and compacted in 150mm sileys to receive concrete surface. Insight prepare on hardcore surfaces and under foundations  Treat hardcore surface with approved insecticide  Cancrete work Reinforce-Concrete class 25  Strip foundation  The structure of t	m² m³ m³ m² m² m² m² m² m²	25.00 7.20 1.44 4.00 3.00 6.00 0.90 14.00 14.00 3.84		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	(USS)

	BILL NO1. PRELIMINARIES				NIS
TEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	Concrete Work		İ		
	Vibrated reinforced concrete class 25 (1:1.5:3) with 20mm maximum accreaste as described in:				S - S - S -
4.19	Ring Beam	m <sup>3</sup>	0.72		s -
	Reinforcement				s - s -
4.20	8mm Diameter high tensile reinforcement bar	kg	20.00		s - s -
4.21	Ditto but 10mm	kg	37.00		s - s -
4.22	Sawn Formwork Formwork to sides and soffits of ring beam	m²	8.00		s - s - s -
	ROOFING Roof Structure				\$ - \$ - \$ -
4.23	Sawn celcured cypress timber as described in: 200mm x 25mm Fascia Board	m	15.00		S - S -
4.24	100 x 50 mm Rafters	m	20.00		s -
4.25	100 x 50 mm Wall Plate	m	23.00		s -
4.26	50 x 50 Purlins	m	34.00		\$ -
E TOTA	L CARRIED FORWARD TO BILL 5 COLLECTION SHEET				\$ -
4.27	Roof Covering 28 Gauge galvanized corrugated iron sheets fixed to timber Purlins	m²	32.00		s -
4.28	26 Gauge flushing 450mm wide bent to shape tucked under roofing sheets and parapet wall	m	23.00		s - s -
	Painting and Decorating Knot prime stop and apply two undercoats and one gloss finishing coat oil paint to fascia beard 200-300 mm wide	m	23.00		s -
4.29	Doors and Windows Purpose-made steel casement double door, manufactured from standard sections, finished with pressed steel horizontal louvers and complete with all the necessary ironmonoery overall size 900 x 2100mm high	No	1.00		s -

BLANK BXQ for Elborie water catchmere development 07 02.141.25 - BXQ WATER CATCHMENT ELBERGE

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	BILL NO1. PRELIMINARIES				NIS
TEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
4.30	Metal crill window with wire mesh: overall size 1000 x 400mm high	No	1.00		s - s -
4.31	Prepare and apply two undercoats and one finishing cost oil paint to steel door	m <sup>2</sup>	4.00		s - s -
4.32	Ditto window	m²	2.00		s - s -
	FINISHES				s - s -
4.33	Floor Finishes Cement and sand mortar (1:3) in: 30mm thick steel trowelled screed	m²	14.00		S - S - S - S -
4.34	100 x 25mm Thick skirting to junction with floor and wall finish	m	12.00		s - s -
4.35	Wall Finishes 12mm lime plaster: steel trowelled finish: on concrete, block work or stonework: to Walls and beams	m²	78.00		s - s - s -
4.36	Prepare and apply three coats plastic emulsion paint to: Plastered surfaces	m²	78.00		S - S -
4.37	Precast Slabs 600 x 600 x 50 mm thick Precast concrete slabs on 50mm sand blinding around the building.	m²	30.00		\$ - \$ - \$ - \$ -
E TOTA	AL CARRIED FORWARD TO BILL 5 COLLECTION SHEET				s -
	CLASS J: PIPEWORK - FITTINGS AND VALVES				
	Supply, lay and joint pipe fittings & valves. All diameters are nominal.				
	DI Pipe Fittings to NP10				
4.38	BENDS 90° Double Flanged Short Radius Bend, 50mm dia.	No.	2.00		s -
4.39	22.5° Double Flanged Short Radius Bend, 75mm dia.	No.	4.00		s - s -
4.40	45° Double Flanged Short Radius Bend, 75mm dia.	No.	2.00		s -
4.41	90° Double Flanged Short Radius Bend, 75mm dia.	No.	2.00		\$ - \$ -
4.42	TEES 75 x 50mm All Flanged Y-Branch	No.	1.00		s - s -
4.43	75 x 75mm All Flanged Special Manifold Branch	No.	1.00		S - S -
					S -

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

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	BILL NO1. PRELIMINARIES				NIS		
No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)		
CE TOTAL CARE	RIED FORWARD TO BILL 5 COLLECTION SHEET				s		
GE TOTAL CARE	BILL 5: COLLECTION SHEET		_		,		
	DESCRIPTION DESCRIPTION				AMOUNT		
	(if any)				KShs		
Broug	ht forward from page 1				\$		
Broug	ht forward from page 2				S		
Broug	ht forward from page 3				\$		
Broug	tht forward from page 3				S		
Broug	ht forward from page 5				\$		

ITEM No.	BILL NO1. PRELIMINARIES				NIS	
140.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)		OUNT IS\$)
	•					
	BILL 6 - 50 m <sup>3</sup> REINFORCED CEMENT WATER TANK					
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)		OUNT IS\$)
1	C1- Substructure works General cleaning for all broken stones, trees, sharps and	_	24			
1.1	other material which are occupying the area where is acing to be build the elevated water tank.  Excavation of 6 footings of 1.9mx1.9m and 1.60m depth.	m²	24		\$	
1.2	Excavation of 6 footings of 1.9mx1.9m and 1.50m depth.  Excavated material may be used backfilling for this pits after casting of the footings upon the approval by the	m³	34.66		\$	
	enained depending on the soil properties.  Lay 5cm thick Plain cement concrete of 1:3:6 mixing for					
1.3	column footings  Construct 150x150x50 cm reinforced concrete footing of	m <sup>3</sup>	1.08		\$	-
1.4	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/cc. For 6 nos of column.	m³	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	m <sup>3</sup>	25.86		s	
1.6	the ground floor level.  40cm thick stone masonary foundation with mixing ratio	m <sub>3</sub>	3.84		s	
1.6	1:4  Construct 40cm wide, 20cm thick of reinforced concrete	m-	3.84		3	
1.7	ground beam of 1:2:4 mixing ratio with # 8 Y16 and staffs of 8mm@ 150mm/cc over ground level.	m3	1.92		\$	-
1.8	35cm thick Backfilling and well compact with pre excavated soil for floor level	m <sup>3</sup>	7.20		\$	-
1.9	Lay 5cm thick Plain cement concrete of 1:3:6 mixing for floor level	m³	1.20		\$	-
2	Sub total - 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 Ø 8mm @150mm c/c.	m³	5.376		\$	
2.2	Construct 40cm wide, 30cm thick of reinforced concrete ring beams of 1:2:4 mixing ratio for every 2.5m		2.00			
2.2	alternatively. The beams should be reinforced with # 4 Y14 and staffs of 8mm@ 150mm/cc.	m3	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	m³	2.88		\$	
	of 8mm@ 150mm/cc.  Constructing of 7.4m length and 5.4m width R.C (1:2:4  Mixing ratio) slab base of 0.3m thick with Ø 13mm main					
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	m <sup>3</sup>	7.99		s	
	N.B <u>The slab should mixed by machine, also it has to be</u> kept moist and watered for a period of minimum 3 weeks				Ů	
	and protect from sun  Construction RCC water retaining walls LM 20m (2x6m +					
2.5	2x4m ) and 2.2m hiegh and 20cm thick to hold water ( Water Barket walls)	m3	8.8		\$	•
	Constructing of 6.4m length and 4.4m width R.C (1:2:4 Mixing ratio) Cover slab with manehole and its cover, the					
2.6	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 manhole size should be	m <sup>3</sup>	4.22		s	
	50cmx60cm with cover  N.B The slab should mixed by machine, also it has to be	100	4.22		•	
	kept moist and watered for a period of minimum 3 weeks and protect from sun	L				
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	m²	128.96		\$	
2.8	apply White wash and destemper on the external walls of	m²	84.96		\$	
	the tank Provide and fix internal and external 10m and 2m height				-	
2.9	respectively 2*GI pipe ladder to top of water tank following the provided design Sub-Total C2	Item	1.00		\$	
3	C3 - Supply & install pipes and fittings for Inlet pipe,				\$	
3 1	complete with gaskets, bolts, nuts, washers, etc  Inlet pipes and fittings	<u> </u>				
3.1 3.1.1 3.1.2	DN 2", PN6, male threaded GI Nipple DN 2", PN, female threaded GI 90° deg bend	No No	8 2		\$	
3.1.3	DN 2", PN, female threaded GI 90" deg bend  DN 2" PN6. female threaded GI Union  DN 2", class B GI pipe, 10.5m long, both endes male	No	6		\$	
3.1.4	threaded, complete with female threaded couplings  DN 2" PN6, DCI gate valve, female threaded	m No	18		\$	-
3.2	Outlet 1 pipes and fittings to the filter tank DN 3*, PN6, male threaded GI Nipple	L				
		No	8		\$	
3.2.1 3.2.2 3.2.3	DN 3*, PN6, female threaded GI 90 degrees bend DN 3*, PN6, male threaded GI nipple	No No	4		\$	
3.2.1 3.2.2 3.2.3 3.2.4	DN 3". PN6. female threaded GI 90 decrees bend DN 3", PN6, male threaded GI nipple DN 3", PN6, Female threaded GI Union DN 3", Class B GI, pipe,both ends male threaded,	No	4 4 1		\$ \$	
3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3.3	DN 3". PN6. female threaded GI 90 decrees bend DN 5", PN6. male threaded GI nipple DN 3", PN6. Female threaded GI Union DN 3", class B GI, pipe,both ends male threaded, complete with female threaded couplings Outlet 2 pipes and fittings to the animal troughs	No No No m	4 4 1 18		\$ \$ \$	-
3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3 3.3.1 3.3.2	DN 3.º PN6. female threaded GI 90 decrees bend DN 3.º PN6. melt hreaded GI npple DN 3.º PN6. Female threaded GI high DN 3.º L988. The same threaded GI blinion DN 3.º class BG (p) pip both ends made threaded, complete with female threaded couplings Outlet 2 pipes and fiftings to the animal troughs DN 3.º PN6. mile threaded GI blincle DN 3.º PN6. female threaded GI blincle DN 3.º PN6. female threaded GI blincle	No No No m	4 4 1 18 8 4		\$ \$ \$ \$	
3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3 3.3.1 3.3.2 3.3.3 3.3.4	DN 3; PN6. female threaded GI 90 decrees bend DN 3; PN8. mel threaded GI npple DN 3; PN8. Female threaded GI plug DN 3; Chas El G, lippe, both ends made threaded, complete with female threaded couplings Outlet 2 pipes and fittings to the animal troughs DN 3; PN6. made threaded GI Nicole DN 3; PN6. made threaded GI Nicole DN 3; PN6. finale threaded GI gl 90 degrees bend DN 3; PN8. The made threaded GI npple DN 3; PN8. Finale threaded GI npple	No No No m No No No No	4 4 1 18 8 4 4 1		\$ \$ \$ \$ \$ \$ \$	
3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3 3.3.1 3.3.2 3.3.3 3.3.4 3.3.5 3.3.4	DN 3°, PNB. Temale threaded GI 90 departes bend DN 3°, PNB. Temale threaded GI pipel DN 3°, PNB. Temale threaded GI pipel DN 3°, PNB. Female threaded GI bution DN 3°, class BG (i), pipe, both ends made threaded, complete with female threaded couplings. Ontile 2 pipes and fiftings to the animal troughs DN 3°, PNB. mile threaded GI Nicole. DN 3°, PNB. Temale threaded GI Nicole. DN 3°, PNB. Temale threaded GI Nicole. DN 3°, PNB. Female threaded GI Linion. DN 3°, class BG (i), pipe, both ends made threaded, complete with female threaded CI Linion.	No No No m No No No No	4 4 1 18 8 4 4 1 18		\$ \$ \$ \$ \$ \$ \$ \$ \$	
3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3 3.3.1 3.3.2 3.3.3 3.3.4 3.3.5 3.4 3.4.1 3.4.2	DN 3°, PNB. Temale threaded GI 90 decrees bend DN 3°, PNB. Temale threaded GI ripple DN 3°, PNB. Temale threaded GI ripple DN 3°, Class Bi G, tipp b, both ends made threaded, complete with female threaded couplings. Outlet 2 pipes and fittings to the animal troughts DN 3°, PNB. Temale threaded GI Nicole DN 3°, PNB. Temale threaded CI Nicole DN 3°, Class GI Ci pipe both ends with temale threaded couplings. Overflow Pipes and Fittings.  DN 3°, PNB. Temale threaded GI 90 dgree bend DN 3°, PNB. Temale threaded GI 90 dgree bend.  DN 3°, PNB. Temale threaded GI 90 dgree bend.	No No No No No No No No No No	4 4 1 18 8 4 1 18 4 7		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
3.2.1 3.2.2 3.2.3 3.2.4 3.2.5 3.3 3.3.1 3.3.2 3.3.3 3.3.4 3.3.5 3.4 3.4.1 3.4.2 3.4.3	DN 3.º PNB. Temale threaded GI 90 decrees bend DN 3.º PNB. Temale threaded GI reple DN 3.º PNB. Fernate threaded GI reple DN 3.º PNB. Fernate threaded GI blrion DN 3.º class BG to phip both or flow made threaded, complete with fernate threaded couplings. Outsit 2 pipes and fittings to the animal troughts DN 3.º PNB. Temale threaded GI Nicole DN 3.º PNB. Temale threaded CI blrion. Overflow Plose and Fittings. DN 3.º PNB. Temale threaded couplings. DN 3.º PNB. Temale threaded GI DN drope bend. DN 3.º PNB. Temale threaded GI DN drope bend. DN 3.º PNB. Temale threaded GI DN 3.º PNB. Temale thread	No No No Mo No No No No	4 4 1 18 8 4 4 1 18		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
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BLANK BLQ for Elberdie water calchiment -development 67 x21 x21 x2 + SOQ WATER CATCHMENT ELBERGY 9 of 32

ITEM	BILL NO1. PRELIMINARIES	Luce	lous:		NIS
No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUN (US\$)
BILL 7:	- SUPPLY & INSTALLATION OF SOLAR WATER	PUM	PING SY	STEM FO	R THE DA
	Description	Unit	Qty	Unit	Total Ame
LL NO 8.1	Solar and Electrical/Electronics Equipment			Price	1
	Monocrystalline Solar PV Modules appropriate for	Watt			
1.1	powering the pump and controller, approved by NIS Engineers	s	10000		\$
12	Aluminium PV Mounting Structure with the smaller height	Watt	10000		s
1.2	of the structure not to be less than 1M, approved by NIS Engineers	s	10000		•
1.3	Required RCC concrete foundation for the Aluminum PV Mounting Structure should have a dimension of length				
1.3	400mm by width 400mm by depth 700mm (below G.L), and 300mm above ground level.	Lsm	1		,
	Surface Pump(stairs pump 5kW or equivalent) complete with motor, flanges, non-return valve and other relevant				
1.4	accessories with a flow rate of at least 30 cubic meters per	Unit	1		s
	hour at a head of 15M, approved by NIS Engineers. This pump will be installed on a floating system inside the				
	Fabrication of Floating Rack With A Suction Pipeline				
1.5	Connected To The Pump House/Shade Secured With Cables At The Edge of The Dam, capable of carrying the	Ls	1		\$
	pump, approved by NIS Engineers  Pump controller complete with accessories (Hobsolar				
1.6	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 arrestor in copper c/w accessories i.e., GI Pipes, Conductor c/w accessories i.e.,	Lsm	1		
1.3	GI Pipes, Conductor cable/copper tape etc.	Latti	'		,
1.9	Submersible drop cable 4x6mm2 felxible for the pump	m	100		\$
2	Solicing Kit for the submersible cable	No	1		s
2.1	DC 1x6mm DC cable for the PV panels Switchover switch between solar and generator	m No	50 1		S S
2.3	Electrical sundries for the installation- to include earth rod; earth lead cable and clamping device, adaptor metal box	Lsm	1		s
	and other accessories.  Sub-total for BILL NO 8.1		-		
LL NO 8.2	Pipeline works and fittings				1.3
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		\$
	Provide and fix 200m 2" GI class B pipe connecting the				
1.3	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 adopters	Ring	4		
1.5	3" Gate valve	No.	2		
1.6	3" non return valve	No	2		Š
1.7	Float switch 4" x 6" Pan Cover	No No	1		\$
1.8	B Meters DN40 water meter	No Ls	1		S S
1.9	B Meters DN40 water meter Installation labor costs, testing and commissioning. Sub-Total for BILL NO 8.2	No			
1.9	B Meters DN40 water meter Installation labor costs, testing and commissioning.	No			
1.9	B Meters DN40 water meter Installation bloom crosts, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 7	No			
1.9	B Meters DN40 water meter Installation labor coats, teating and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 7.  BILL 8 - FENCING AND GATE	No Ls	1		\$ \$
1.9	B Meters DN40 water meter Installation bloom crosts, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 7	No		RATE (US\$)	\$ \$
1.9 2.0	B. Meters DN40 water meter Installation labor costs, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 7  BILL 8 - FENCING AND GATE ITEM DESCRIPTION  CHAIN INK CENTING Learth - 600m.	No Ls	1		\$ \$ \$
1.9 2.0	B. Meters DN40 water meter Installation labor costs, testing and commissioning. sub-Total for BILL NO 8.2 Grand Total for BILL NO 7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHANLINK FENCING Length = 600m Site clearance Clear the site of all grasses, shrubs small and	No Ls	QUANTITY		AMOUN (US\$)
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1.9 2.0	B Meters DN40 water meter Installation labor costs, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHARLINK FENCING Length = 600m Site detarrace Clear the sike of all crasses, shrubs small and bits tress etc. and slope of the affected on site. 100.x 100.x 3.0m km precared concrete fencing posts with 600mm inon crask and restricted with summer from	No Ls	QUANTITY		AMOUN (US\$)
1.9 2.0 ITEM No.	B Meters DN40 water meter Installation labor coats, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHAINLINK FENCING Length + 600m Site dearance Clear the site of all grasses, shruks small and clear the site of all grasses, shruks small and labor the site of all grasses, shruks small and labor to the commission of the site of the si	No Ls	QUANTITY		AMOUN (US\$)
1.9 2.0 ITEM No.	B. Meters DN40 water meter Installation labor costs, testing and commissioning. sub-Total for BILL NO 8.2  Grand Total for BILL NO 7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHAINLINK FENCING Length = 600m Site clearance Clear the site of all crasses, shrubs small and bits trees etc. and dispose of las directed on site. 103 - 100 x 3.0m lang precasal concerns fencing posts with 600mm long crank and rendroded with 4 number ferror diameter indicated sets best between the control costs with 600mm long crank and rendroded with 4 number ferror diameter indicated sets best less than 600mm long crank and rendroded with 4 number ferror diameter indicated sets best, from diameter indicated sets less, from diameter indicated sets less, from diameter indicated sets less.	No Ls	QUANTITY		AMOUN (US\$)
1.9 2.0 ITEM No.	B Meters DN40 water meter Installation labor coats, testing and commissioning. Sub-Total for BILL NO 8.2  Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHAINLINK FENCING Length = 600m  State clearance Clear the site of all grasses, shrubs small and bis tress etc. and fasone of the advected on site. 100 x 100 x 3.0m long precast concrete fencing posts with 600mm inport, and are formed manufactured and site of the clear of the cle	UNIT	QUANTITY 600.0		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
1.9 2.0 ITEM No. 8.01	B Meters DN40 water meter Installation labor coats, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 8.7  BILL 8-FENCING AND GATE  ITEM DESCRIPTION  CHANLING FENCING Length = 600m  Stale leterance Clear the size of all crassess, shrubs small and bits rese that and appeared and served on site. 103 - 103 - 3.0m lang precase concerns fencing socials with 600mm long craim and reserved and size for some concerns the control of th	UNIT	QUANTITY 600.0		S S S S S S S S S S S S S S S S S S S
1.9 2.0 ITEM No. 8.01	B Meters DN40 water meter Installation labor coats, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHAINLINK FENCING Length = 600m Stee flows and and the state of the state	UNIT m² No.	000.0 000.0 201.0		AMOUN (USS).
1.9 2.0 1TEM No. 8.01 8.02	B Meters DN40 water meter Installation labor coats, testing and commissioning. Sub-Total for BILL NO 8.2 Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHAINLINK FENCING Length + 600m Site desarrace Of the coat of the coats o	UNIT m <sup>2</sup>	600.0 201.0		AMOUN (USS).
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1.9 2.0 1.9 2.0 8.01 8.02 8.03 8.04 8.05 8.06	B Meteres DN40 water meter Installation labor costs, testing and commissioning, Sub-Total for BILL NO 8.2  Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHANLINK FENCING Length - 900m  Site clearance Clear the site of all grasses, shrubs small and bits tree site. and fiscope of the affected on site.  100 x 100 x 3.0m for percent concrete ferming posts with 600mm inon craim and restricted shall be treed to the contract of the contr	No. Ls  Unit  m²  No. m³  m³  Roll	QUANTITY 600.0 201.0 40.0 19.3 19.3 10.0		AMOUND: S S S S S S S S S S S S S S S S S S S
17EM No. 8.01 8.02 8.03 8.04 8.06 8.06 8.07	B Meters DN40 water meter Installation labor costs, testing and commissioning.  Sub-Total for BILL NO 8.2  Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHANLING FENNING Length = 600m  Size destance  Clear the site of all grasses, shrubs small and bits reset in the site of all grasses, shrubs small and bits reset extra dispose of as directed on site.  100 x 100 x 3.0m long precast concrete fencing octs with 600mm long crisis and concrete fencing octs with 600mm long crisis and restorated with 4 number farm diameter deformed steel bars, 6mm diameter deformed steel bars, 6mm diameter and site of steel bars, 6mm diameter deformed steel bars, 6mm diameter dark steel bars and 100 miles in which is a diameter language of the main poles.  Discover of the steel bars of the steel mean steel concrete posts well vibrated.  12 12 cause 150 pulsavirient desteel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the steel barbard vive or other equal and approved and to existing powers of the existing powers of the steel barbard vive or other equal and approved and to existing powers of the existing powers o	No. Ls  Unit  m²  No. m³  m³  Roll	QUANTITY 600.0 201.0 40.0 19.3 19.3 10.0		AMOUND (USS).  S 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
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17EM No. 8.01 8.02 8.03 8.04 8.06 8.06 8.07	B Meteres DN40 water meter Installation labor coats, teeting and commissioning, Sub-Total for BILL NO 8.2  Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHANLINK FENCING Length + 600m  Site clearance Clear the site of all grasses, shrubs small and bis tree site. and discovered to a site of a site	No. Ls  Unit  m²  No. m³  m³  Roll	QUANTITY 600.0 201.0 40.0 19.3 19.3 10.0		AMOUND (USS)  5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	B Meters DN40 water meter Installation labor costs, testing and commissioning.  Sub-Total for BILL NO 8.2  Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHANLINK FENCING Length - 900m  Site clearance Clear the site of all grasses, shrubs small and bits tree site. and dispose of its a directed on site.  100 x 100 x 3.0m for percent concrete fencing posts with 600mm long crisina and elements of the control of th	No.  No.  No.  Roll  Roll  Kq	GUANTITY 600.0 201.0 40.0 19.3 19.3 10.0 34.0 15.0		AMOUND (USS) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
17EM No. 8.01 8.03 8.04 8.06 8.07 8.08 8.09	B Meteres DN40 water meter Installation labor coats, teeting and commissioning.  sub-Total for BILL NO 8.2  Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHAINLINK FENCING Langth + 600m  Site clearance Clear the site of all grasses, shrubs small and bia tress etc. and dispose of the directed on site.  100 x 100 x 3.0m long present concrete ferming posts with 600mm long cannot and the site of all grasses, shrubs small and bia tress etc. and dispose of the directed on site.  100 x 100 x 3.0m long present concrete ferming posts with 600mm long-cannot are recorded and have 9 number hots for site losts, cmm diameter mild steel  Class 20 (12.4 mild, niched far faced and have 9 number hots of the site losts, cmm diameter mild steel  Dut fines for corner end and estimating posts distribution of the site losts, classes of the site losts, classes of the site losts, classes of the site losts of the s	No.  No.  No.  Roll  Roll  Kq	GUANTITY 600.0 201.0 40.0 19.3 19.3 10.0 34.0 15.0		AMOUND (USS) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
17EM No. 8.01 8.03 8.04 8.05 8.06 8.07 8.09	B Meters DN40 water meter Installation labor costs, testing and commissioning.  Sub-Total for BILL NO 8.2  Grand Total for BILL NO 8.7  BILL 8 - FENCING AND GATE  ITEM DESCRIPTION  CHANLINK FENCING Length - 900m  Site clearance Clear the site of all grasses, shrubs small and bits tree site. and dispose of its a directed on site.  100 x 100 x 3.0m for percent concrete fencing posts with 600mm long crisina and elements of the control of th	No.  No.  No.  Roll  Roll  Kq	GUANTITY 600.0 201.0 40.0 19.3 19.3 10.0 34.0 15.0		AMOUND (USS) 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5

SUMSTRUCT	ION OF WATER SUPPLY FACILITY AT ELBERDE TOWN. BAKOO	L REGIO	ON - SOMAL	IA		
ITEM	BILL NO1. PRELIMINARIES ITEM DESCRIPTION	UNIT	QUANTITY	RATE	NIS	т
No.	TIEM DESCRIPTION	OMIT	QUANTITY	(US\$)	(US\$)	
	BILL 9 - ANIMAL WATER TROUGHS					
ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE	AMOUN	т
No.	WATER TROUGH FOR CAMELS			(US\$)	(US\$)	
	Excavation (Provisional) Excavation including maintaining and supporting sides and keeping free from water, mud and fallen materials by					
9.01	bailing, pumping or otherwise  Prepare site by stripping top 150 mm of soil to remove all debris including sand (if any) from site and carting saws sonii	m²	58.0		e	
9.02	Excavate for foundation strip commencing at stripped levels; depth not exceeding 1.50m deep	m <sup>3</sup>	6.0		s s s	-
9.03	Extra-over for excavating in rock	m <sup>3</sup>	1.0		s s	-
9.04	Remove surplus excavated material from site	m <sup>3</sup>	17.0		s s s	-
9.06	Backfill around foundation	m <sup>3</sup>	10.0		s s	:
9.06	Filling 200 mm thick approved hardcore filling spread, well rammed and compacted in 150mm layers to receive concrete surface bed	m <sup>2</sup>	54.0		s s s s	:
9.07	Treat hardcore surface with approved insecticide	m <sup>2</sup>	54.0		s s	:
	Concrete work Mass Concrete class 15 (1:3:6) with 20mm thick maximum aggregate size in				s s s s s s	:
9.08	50mm blinding layer under foundations	m²	9.5		s s	:
9.09	50mm blinding layer on hardcore surfaces	m²	54.0		s s s s	-
	Vibrated reinforced concrete class 25 (1:1.5:3) with 20mm maximum aggregate as described in:				S	-
9.10	Strip foundation	m <sup>3</sup>	2.0		S S	-
9.11	75mm thick concrete benching laid to falls and with surface steel trowelled rough (optional)	m²	48.0		s s	:
9.12	100 mm thick floor slab	m²	7.0		s s	-
PAGE TOTAL ITEM No.	CARRIED FORWARD TO BILL 9 COLLECTION SHEET ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUN (US\$)	T.
NO.	Vibrated reinforced concrete class 25 (1:1.5:3) with			(034)	(034)	
9.13	20mm maximum aggregate as described in: 200mm thick walls	m <sup>3</sup>	5.2		s	
9.14	150mm thick wall	m <sup>3</sup>	0.1		s s	:
9.15	Reinforcement Mesh fabric reinforcement ref. No. A142 laid in floor slab with minimum 150 mm side allowance	m²	68.0		s	
9.16	Reinforcement bars (All sizes) as shown on drawings	kg	280.0		* * * * * * * * * * * * * * * * * * * *	-
9.17	Sawn formwork Formwork to sides of foundation strip girth 150-225mm	m	31.0		S	-
9.18	Formwork to edges of floor slab girth not exceeding 75mm	m	32.0		S	1
9.19	Formwork to sides of walls	m²	47.0		s s	-
	Finishes				S S S	-
9.20	Cement and sand mortar (1:3) in: 25 mm Thick paving to floor with water proof cement (Optional)	m²	6.5		\$ \$ \$	
9.21	15mm thick plaster to internal side of wall	m²	10.0		S	-
	with water proof cement				s s s	:
9.22	12mm thick plaster to external side of wall	m²	17.0		s s	1
9.23	25 mm Thick screed with approved hardener to		6.0			
	floor steel trowelled rough (Optional)	m <sup>2</sup>			s	•
PAGE TOTAL ITEM	floor steel trowelled rough (Optional)  CARRIED FORWARD TO BILL 9 COLLECTION SHEET  ITEM DESCRIPTION		QUANTITY	RATE	\$ AMOUN	·
	CARRIED FORWARD TO BILL 9 COLLECTION SHEET ITEM DESCRIPTION			RATE (US\$)	s	
ITEM	CARRIED FORWARD TO BILL 9 COLLECTION SHEET ITEM DESCRIPTION WATER TROUGH FOR SHEEPIGOATS			RATE (US\$)	\$ AMOUN	ıT
ITEM	CARRIED FORWARD TO BILL 9 COLLECTION SHEET ITEM DESCRIPTION			RATE (US\$)	\$ AMOUN	
ITEM	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Excavation (Pyovisional) Excavation including maintaining and supporting sides and keepon for from water, mut and fallen materials			RATE (US\$)	S AMOUN (USS)	T .
No.	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exeavation (Provisional)  Exeavation including maintaining and supporting sides and keeping the from water, mud and faften materials by balling, pumping or otherwise by the side of the second of the secon	UNIT	QUANTITY 56.0	RATE (US\$)	S AMOUN (USS)	IT
9.24 9.25	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Examation (Provisional)  Examation including maintaining and supporting sides and keeping free from water, must and faffen materials by balling, pumpling or otherwise by balling, pumpling or otherwise including and of any from size and carriang away spoil Examation and off any from size and carriang away spoil Examation (and including a size of a size	m <sup>2</sup>	56.0 6.0	RATE (US\$)	S AMOUN (USS)	IT
9.24 9.25 9.26	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/FOATS  Excavation (Provisional)  Excavation including maintaining and supporting sides and keeping feet from water, mut and fallen materials by balling, pumpling or otherwise Papeurs selb by stipping to 150 mm of soil to remove all debris including sand (if any) from site and carting away spoil  Excavate for foundation stip commencing at stripped levels depth not exceeding 150m deep  Extra-over for excavating in rock	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup>	56.0 6.0 1.0	RATE (US\$)	S AMOUN (USS)	- · · · · · · · · · · · · · · · · · · ·
9.24 9.25 9.26 9.27	CARRIED FORWARD TO BILL 9 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/QOATS  Excavation (Provisional)  Excav	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup>	56.0 6.0 1.0 9.0	RATE (US\$)	S AMOUN (USS)	
9.24 9.25 9.26	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/FOATS  Excavation (Provisional)  Excavation including maintaining and supporting sides and keeping feet from water, mut and fallen materials by balling, pumpling or otherwise Papeurs selb by stipping to 150 mm of soil to remove all debris including sand (if any) from site and carting away spoil  Excavate for foundation stip commencing at stripped levels depth not exceeding 150m deep  Extra-over for excavating in rock	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup>	56.0 6.0 1.0	RATE (US\$)	\$ AMOUN (US\$)	
9.24 9.25 9.26 9.27	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEPIQOATS  Exervation (Provisiona)  Exervation including maintaining and supporting sides by belating, purporting or otherwise  Prepare site by stripping top 150 mm of soil to remove all debris including sand if any from the and certifica wave spoil  recavate for founding strip commencing at stripped levels depth not exceeding 1.50m deep  Extra-over for exervating in rock  Remove surplus exervated material from site  Backfill around foundation	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup>	56.0 6.0 1.0 9.0	RATE (US\$)	\$ AMOUN (US\$)  \$ 5 \$ \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5	
9.24 9.25 9.26 9.27 9.28	CARRIED FORWARD TO BILL 9 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Excavation (Provisional)  Excav	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>	56.0 6.0 1.0 9.0 3.4	RATE (US\$)	S AMOUN (USS)	
9.24 9.25 9.26 9.27 9.28	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exavation (Provisional)  Exavation including maintaining and supporting sides and keeping the from water, much and fallen materials by balling, pumping or otherwise  Prepare set bey stipping to 150 mm of soil to remove all debris including sand (if any) from site and certifing away spoil  Exavate for foundation strip commencing at stripped levels depth not exceeding 1.50m deep  Extra-over for excavating in rock  Remove surplus excitated material from site  Backfill around foundation  Filling  200 mm that ded compared to 150mm byers  to receive concrete surface bed  Treat hardcore surface with approved insecticide  Concrete work  Mass Courriere class 15 (1.3.6) with 20mm trick	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup>	56.0 6.0 1.0 9.0 3.4 38.0	RATE (US\$)	S AMOUN (USS)	
9.24 9.25 9.26 9.27 9.28 9.29	CARRIED FORWARD TO BILL 9 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exervation (Provisional)  Pagine state by atticiping top 150 mm of soil to remove all debris including sand of large or thereive  Pagine state by atticiping top 150 mm of soil to remove all debris including sand of large may be provided and state of the state of th	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>2</sup>	56.0 6.0 1.0 9.0 3.4 38.0	RATE (US\$)	\$ AMOUN (USS)	
9.24 9.25 9.26 9.27 9.28 9.29	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Excavation (Provisional)  Water trough the state of the s	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>2</sup> m <sup>2</sup>	56.0 6.0 1.0 9.0 3.4 38.0	RATE (USS)	S AMOUN (USS)  S S S S S S S S S S S S S S S S S S	
9.24 9.25 9.26 9.27 9.28 9.29	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exercation (Provisiona)  Exercation including maintaining and supporting sides by batiling, purpoing or otherwise by balling, purpoing or otherwise by balling, purpoing or otherwise by balling, purpoing or otherwise including and if any from the and carting away spoil including and if any from the and carting away spoil including and if any from the and carting away spoil including and if any from the and carting away spoil including and if any from the and carting away spoil including and if any from the and carting away spoil including and if any from the and carting away spoil including and including any from the second of the analysis of the analy	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>2</sup>	56.0 6.0 1.0 9.0 3.4 38.0	RATE (USS)	\$ AMOUN (US\$)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
9.24 9.25 9.26 9.27 9.28 9.29 9.30	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  ITEM DESCRIPTION  WATER TROUGH FOR SHEEPIGOATS  Exeavation (Provisional)  Exeavation including maintaining and supporting sides and despired fire from water, mad and faften materials by ballers, purposes or otherwise and caseing fire from water, mad and faften materials by ballers, purposes or otherwise before the state of	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>2</sup> m <sup>2</sup>	56.0 6.0 1.0 9.0 3.4 38.0 9.3 56.0	RATE (USS)	\$ AMOUNT (US\$)  \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$	
9.24 9.25 9.26 9.27 9.28 9.29 9.30	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  TEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exeavation (Provisional)  Exeavation inclusion analysis and supporting sides and keeping the form writer must and fallen materials by balling, pumping or chievelies  Prepare set bey stripping too 150 mm of soil to remove all debris including sand (if any) from size and carring away soil  Exeavate for foundation strip commencing at stripped levels depth not exceeding 1.50m deep  Extra-over for excavating in rock  Remove surplus excavated material from site  Baddill around foundation  Fillian  Gor mm hicks approved hardone filling scread, well removed any companies of the c	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>2</sup> m <sup>2</sup> m <sup>2</sup> m <sup>2</sup>	560 60 1.0 9.0 3.4 38.0 9.3 56.0	RATE (USS)	\$ AMOUNT (US\$)  \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$ 5 \$	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  TEM DESCRIPTION  WATER TROUGH FOR SHEEPIGOATS  Exeavation (Provisional) Exeavation (Provisional) Exeavation including maintaining and supporting sides and beasing late from water, mud and follen materials by lateling, pumping or otherwise  Prepare set bey stripping too 150 mm of soil to remove all debris including sand (if any) them site and central saws soil  Exeavate for founding strip commencing at stripped levels depth not exceeding 1.50m deep  Extra-over for exeavating in rock  Backfill around foundation  Filling  20 mm bick approved haddore filling spread, well rammed and compacted in 150mm layers to rockev concrete surface bed  Treat haddoor surface with approved insecticide  Concrete work  Mass Concrete class 15 (1.36) with 20mm thick machinum appropriate size in  Somm blinding later on haddoore surfaces  Variand erreinforced concrete datas 25 (1.1.5.3) with  20mm machinum appropriate as described in:  Strip boundation	m² m³ m³ m² m² m² m²	56.0 6.0 1.0 9.0 3.4 38.0 9.3 56.0 2.0 47.0	RATE (USS)	\$ AMOUNT (USS)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exercision (Provisional)  Exercision including maintaining and supporting sides provided by the state of the	m <sup>2</sup> m <sup>3</sup> m <sup>3</sup> m <sup>3</sup> m <sup>2</sup> m <sup>2</sup> m <sup>2</sup> m <sup>2</sup>	560 60 1.0 9.0 3.4 38.0 9.3 56.0	RATE (US\$)	S AMOUND (955)	
9.24 9.25 9.28 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35  PAGE TOTAL ITEM	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  TEM DESCRIPTION  WATER TROUGH FOR SHEEPIGOATS  Exeavation (Provisional) Exeavation (Provisional) Exeavation including maintaining and supporting sides and beasing late from water, mud and follen materials by lateling, pumping or otherwise  Prepare set bey stripping too 150 mm of soil to remove all debris including sand (if any) them site and central saws soil  Exeavate for founding strip commencing at stripped levels depth not exceeding 1.50m deep  Extra-over for exeavating in rock  Backfill around foundation  Filling  20 mm bick approved haddore filling spread, well rammed and compacted in 150mm layers to rockev concrete surface bed  Treat haddoor surface with approved insecticide  Concrete work  Mass Concrete class 15 (1.36) with 20mm thick machinum appropriate size in  Somm blinding later on haddoore surfaces  Variand erreinforced concrete datas 25 (1.1.5.3) with  20mm machinum appropriate as described in:  Strip boundation	m² m³ m² m² m² m² m²	56.0 6.0 1.0 9.0 3.4 38.0 9.3 56.0 2.0 47.0	(USS)	\$ AMOURN (055)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exervation (Provisiona)  Exervation (Provisiona)  Exervation including maintaining and supporting sides by balling, burning or otherwise  Pregure site by stripping top 150 mm of soil to remove all debris including sand (if any) from side and carring away spool  Exervate for foundation strip commencing at stripped levels depth and exervation (if any) from side and carring away spool  Exervate for foundation strip commencing at stripped levels depth and exervation (if any) from side and carring away spool  Exervate for foundation strip commencing at stripped levels depth and exervation (if any) from side and carring away spool  Exervate for foundation step  Exervate for foundation from side  Backfill around foundation  Filling  20 mm Bick approved inactions filling spread, 20 mm binds approved inacticide  Concrete work  Concrete work  Mass Concrete class 15 (1:3/8) with 20mm trick maintum appression size in  50mm bindsing layer under foundations  50mm bindsing layer under foundations  50mm bindsing layer under foundations  50mm bindsing layer on handour eurlances  75mm sinck concrete benchring laid to falls and with surface sites frowelled rough (Optional)  100 mm Bick foor side	m² m³ m² m² m² m² m²	56.0 6.0 1.0 9.0 38.0 38.0 2.0 47.0 6.9	(USS)	S AMOUN (MSS)  5 S S S S S S S S S S S S S S S S S S	
9.24 9.25 9.28 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35  PAGE TOTAL ITEM	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  ITEM DESCRIPTION  WATER TROUGH FOR SHEEPIGOATS  Exercision (Provisional)  Exercision including maintaining and supporting sides by a simple of the side of	m² m³ m² m² m² m² m²	56.0 6.0 1.0 9.0 38.0 38.0 2.0 47.0 6.9	(USS)	\$ AMOUND (055)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35  PAGE TOTAL ITEM No. 9.36	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  ITEM DESCRIPTION  WATER TROUGH FOR SHEEPIGOATS  Exercision (Provisional)  Exercision including maintaining and supporting sides by a simple of the side of	m² m² m² m² m² m² m² m²	GUANTITY  56.0 6.0 1.0 9.0 9.1 38.0 9.3 56.0 47.0 6.9 1.4 1.4	(USS)	\$ AMOUN (MS)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35  PAGE YOTAL ITEM No. 9.36	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Executation (Provisional)  Executed in relunder maintaining and supporting sides by striped in relunder maintaining and supporting sides by before the side of the side	m² m	56.0 6.0 1.0 9.0 38.0 38.0 9.3 56.0 2.0 47.0 6.9	(USS)	\$ AMOUND (MSS)  \$ AMOUND (MSS)  \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35  PAGE TOTAL ITEM No. 9.36	CARRIED FORWARD TO BILL 8 COLLECTION SHEET  ITEM DESCRIPTION  WATER TROUGH FOR SHEEPIGOATS  Exercision (Provisional)  Exercision including maintaining and supporting sides by a simple of the side of	m² m² m² m² m² m² m² m²	GUANTITY  56.0 6.0 1.0 9.0 9.1 38.0 9.3 56.0 47.0 6.9 1.4 1.4	(USS)	\$ AMOUNT (1955)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35  PAGE YOTAL ITEM No. 9.36	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Executation (Provisional)  Executed in relunder maintaining and supporting sides by striped in relunder maintaining and supporting sides by before the side of the side	m² m	56.0 6.0 1.0 9.0 38.0 38.0 9.3 56.0 2.0 47.0 6.9	(USS)	\$ AMOUN (MS)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
9.24 9.25 9.26 9.27 9.28 9.29 9.30 9.31 9.32 9.33 9.34 9.35  PAGE TOTAL NO. 9.36 9.37	CARRIED FORWARD TO BILL 8 COLLECTION SHEET ITEM DESCRIPTION  WATER TROUGH FOR SHEEP/GOATS  Exervation (Provisiona)  Exervation (Provisional and supporting also debits including and (If any from most and control and support in an exervation and exervat	m² m² m² m² m² m² m² m² m² cm² m² cm² cm	56.0 6.0 1.0 38.0 38.0 9.3 56.0 2.0 47.0 6.9 1.4 67.0 210.0	(USS)	\$ AMOUNT (1955)  \$ 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	

CONSTRUCT	ION OF WATER SUPPLY FACILITY AT ELBERDE TOWN. BAKOO	L REGIO	ON - SOMAL	IA.		
	BILL NO1. PRELIMINARIES				NIS	
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)		MOUNT (US\$)
9.42	Walling 150 Thick solid concrete block walling	m²	3.0		s s	- :
9.42	Finishes	m	3.0		\$	-
9.43	Cement and sand mortar (1:3) in: 25 mm Thick paving to floor with water proof cement (Optional)	m²	6.9		s s	-
9.44	15mm thick plaster to internal side of wall with water proof cement	m²	5.0		s s s	-
9.45	12mm thick plaster to external side of wall (Optional)	m²	4.7		s s	
9.46	25 mm Thick screed with approved hardener to floor	m²	7.0		s	-
	steel trowelled rough (Optional)  Water Supply System					
	PCV pressure pipe Class C medium thickness with and including iginting fittings and fixed as described					
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		s s	-
9.49	32mm diameter PVC draw off pipe 300mm long with and including gate valve	No	1.0		s	-
PAGE TOTAL	CARRIED FORWARD TO BILL 9 COLLECTION SHEET				\$	
	BILL 9: COLLECTION SHEET DESCRIPTION					MOUNT
	(if any)  Brought forward from page 1				s	(US\$)
	Brought forward from page 2				s	
	Brought forward from page 3				\$	
	Brought forward from page 4				s	-
BILL 9 TOTAL	L CARRIED FORWARD TO GRAND SUMMARY SHEET				s	
	BILL 10 - TAP STANDS				l	
ITEM	ITEM DESCRIPTION	UNIT	QUANTITY	RATE	A	MOUNT
No.	Excavation (Provisional)			(US\$)		(US\$)
	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 <sup>2</sup>	33.1		s s	-
10.02	Excavate to reduce levels not exceeding 1.50m deep; average depth 300mm	m²	33.1		****	
	Filling		33.1		S	
10.03	300 mm thick approved hardcore filling spread, well rammed and compacted in 150mm layers to receive				s s	- :
	concrete surface bed Insitu concrete: class 15: mix 1:3:6	m <sup>3</sup>	9.9		S	
10.04	50mm blinding layer on hardcore surfaces	m <sup>2</sup>	33.1		\$ S	-
10.05	Treat hardcore surface with approved insecticide	m <sup>2</sup>	33.1		\$ \$	- :
10.06	Concrete work Reinforced Concrete class 25 75mm thick floor slab with surface steel trowelled smooth	m²	26.0		\$ \$ \$ \$	-
10.07	200mm thick floor slab with surface steel trowelled smooth	m²	7.2		s	-
10.08	200mm walls	m²	1.4		s	-
10.09	Reinforcement Reinforcent bars (all sizes) as shown on drawings	ka	20.0		S	-
10.10	Mesh fabric reinforcement ref. No. A142 laid in floor	NG.	20.0		s s s s s s s s	
	slab with minimum 150 mm side allowance	m <sup>2</sup>	36.5		s s s	- :
10.11	Sawn formwork Formwork to edges of floor slab girth not exceeding 75mm	m	26.0		S	-
10.12	Formwork to sides of walls	m <sup>2</sup>	3.2		SSS	
10.13	100 x 100mm open drain channel Finishes	m	14.7		s	-
	Finishes Floor Finishes Cement and sand mortar (1:3) in:					
10.14	30mm thick steel trowelled screed	m <sup>2</sup>	33.1		s	-
PAGE TOTAL ITEM	CARRIED FORWARD TO BILL 10 COLLECTION SHEET ITEM DESCRIPTION	UNIT	QUANTITY		\$	MOUNT
No.		0.411	QUARTITY.			(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	Pit excavation commencing at reduced levels; depth not exceeding 1.50m deep	m <sup>3</sup>	1.0		s s	:
10.16	Remove surplus excavated material from site	m <sup>3</sup>	0.5		s	-
10.17	Backfill around foundation	m <sup>3</sup>	0.5		s s	-
	Concrete work Mass Concrete class 20 with 20mm thick maximum aggregate size in				s	-
	50mm Thick	m <sup>2</sup>	1.0		s s	-
10.18	Walling 150 Thick load bearing solid concrete block walling	m²	2.0		S	:
10.19	Finishes Cement and sand mortar (1:3) rendering in:				s s s s	
10.20	15mm internal plaster to walls	m²	1.2		s s	-
10.21	400 x 400mm precast concrete cover	No	1.0		555555555555	
	Water Supply System PVC pipe Class C with and including jointing.				S	:
10.22	fittings and fixe as described  38mm diameter inlet pipe	m	9.0		S	
10.22	38mm diameter brass gate valve with wheel and head	M No	2.0		S	:
BILL 10:	CARRIED FORWARD TO BILL 10 COLLECTION SHEET	_			\$	
DESCRIPTION (if any)	N .					MOUNT (US\$)
	Brought forward from page 1				\$	
	Brought forward from page 2				S	-
BILL 10 TOTA	AL CARRIED FORWARD TO GRAND SUMMARY SHEET				\$	

	BILL NO1. PRELIMINARIES				NIS
ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (US\$)	AMOUNT (US\$)
	+			(,	(==4)
	CONSTRUCTION OF WATER SUPPLY FACILIT	YATE	LBERDE 1	OWN	
	BILL OF QUANTITIES				
	GRAND SUMMARY SHEET				
BILL NO.	DESCRIPTION		AMG	U) NI TNUC	S\$)
BILL No.1	PRELIMINARIES	s			
BILL No. 2	INTAKE WORKS	s			
BILL No. 3	30 x 20 m SILT TRAP & SPILLWAY	s			
BILL No. 4	50 x 60 m WATER PAN	s			-
BILL No. 5	3.0 x 3.0 m PUMP HOUSE	s			-
BILL No. 6	Construction of 50m³ Capacity R.C Elevated Water Tank	s			
BILL No. 7	SUPPLY & INSTALLATION OF SOLAR WATER PUMPING SYSTEM FOR THE DAM	s			
BILL No. 8	FENCING AND GATE	s			
BILL No. 9	ANIMAL WATER TROUGHS ( CAMELS & SHEEPS/GOATS)	\$			
BILL No.10	TAP STANDS	s			

## 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

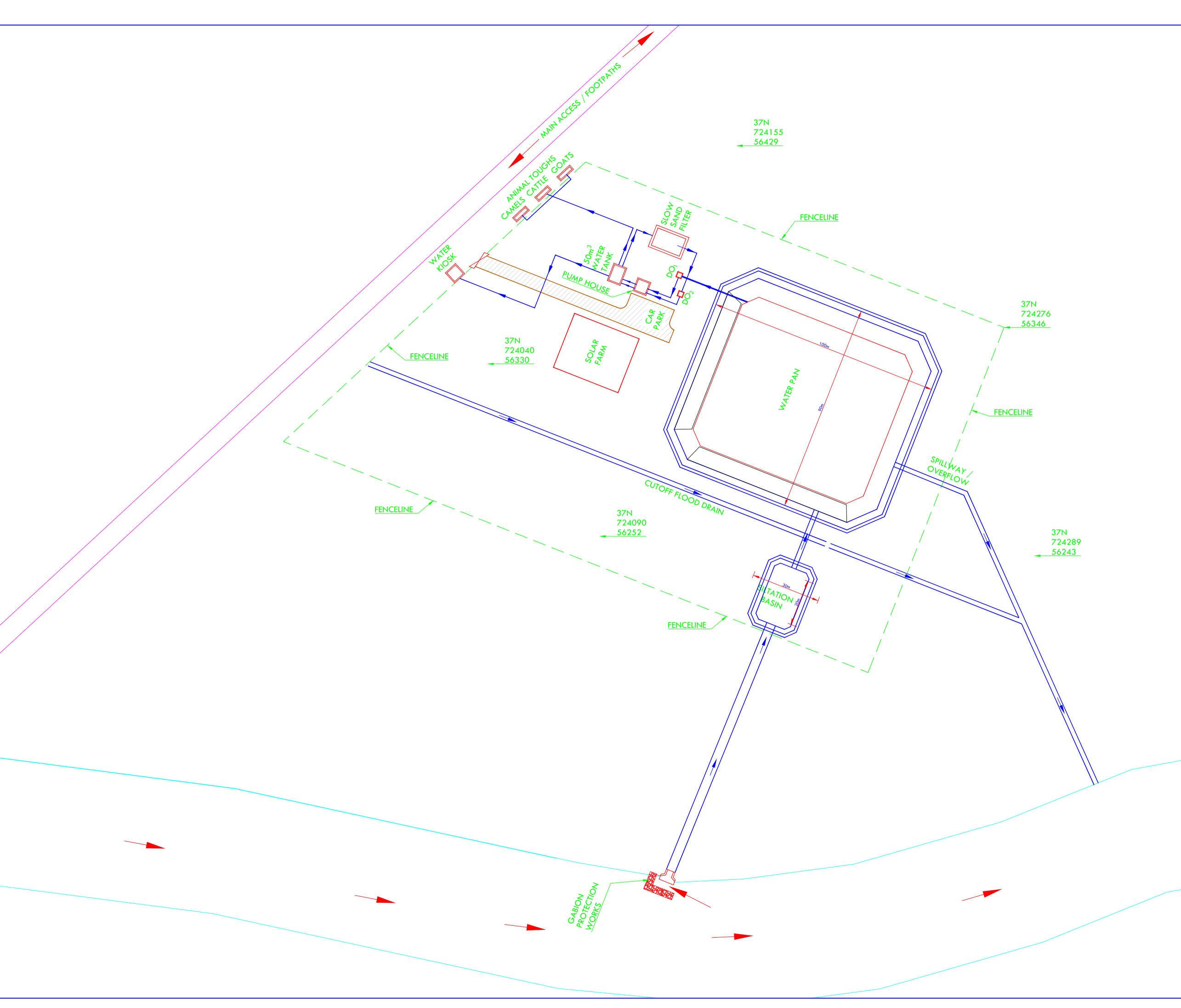
# Max & Partners Ltd Consulting Engineers

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

**CUSTOMIZED BY NIS** 

JAN2025



- 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

<u>CLIENT</u>

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#### CLIENT REPRESENTATIVE:-

THE COUNTRY REPRESENTATIVE NIS SOMALIA PROGRAM

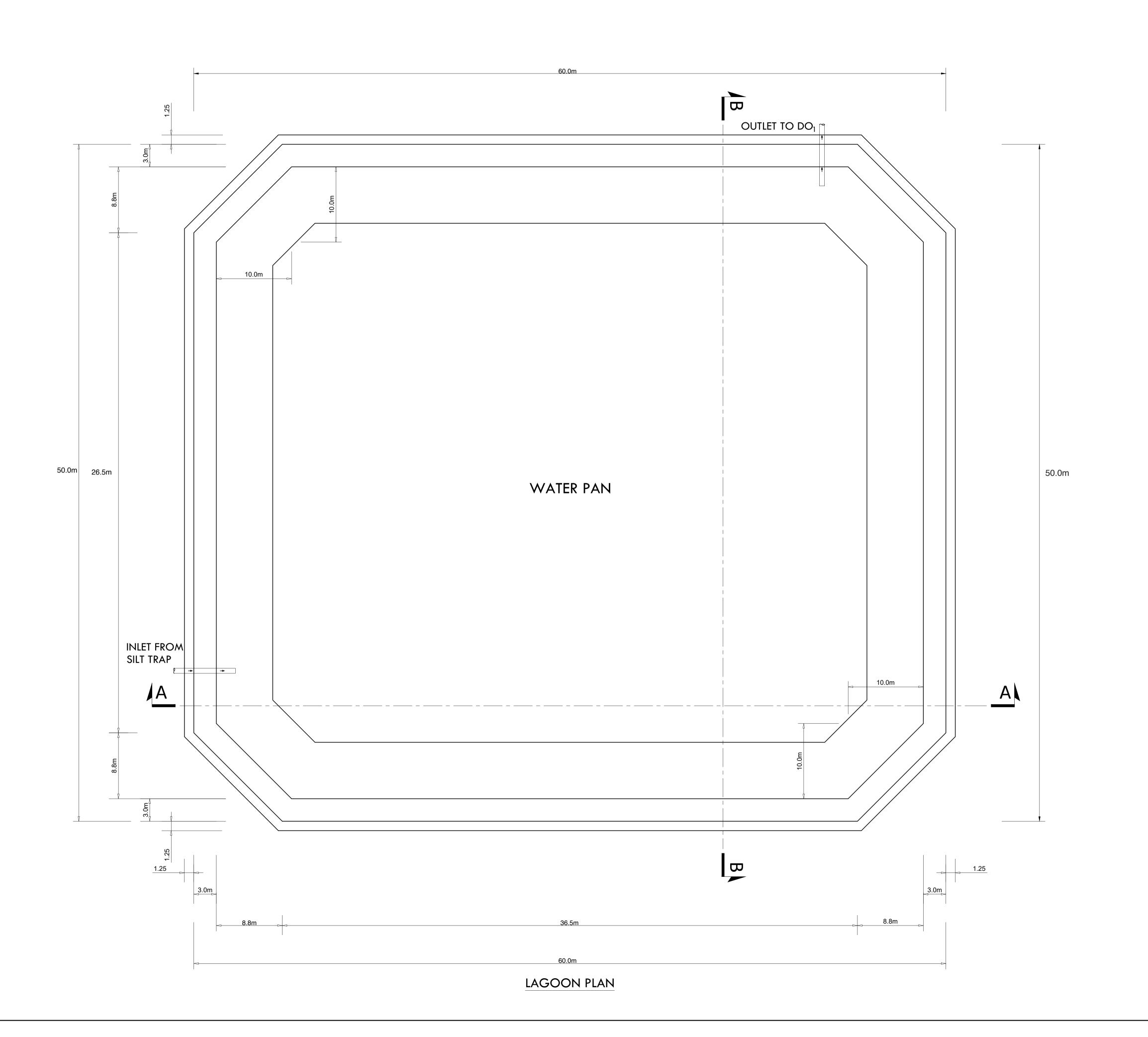
#### CIVIL/STRUCTURAL ENGINEER:-



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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#### 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:-**

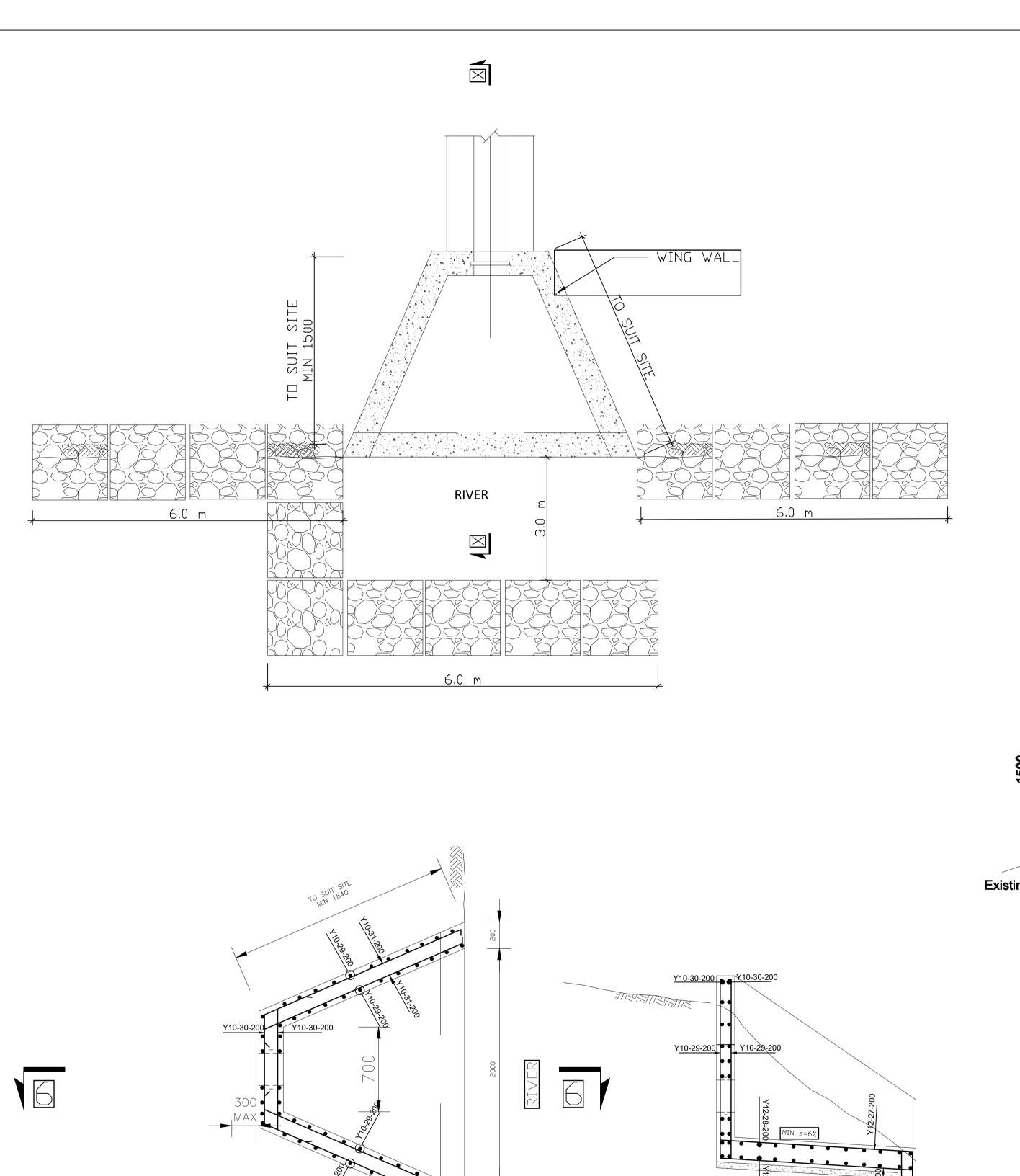
THE COUNTRY REPRESENTATIVE NIS SOMALIA PROGRAM

## 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 Consulting Engineers E-mail: info@max.co.ke

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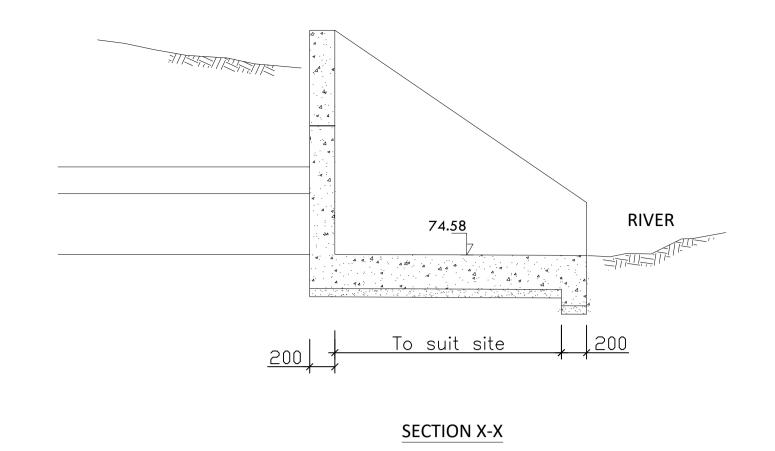
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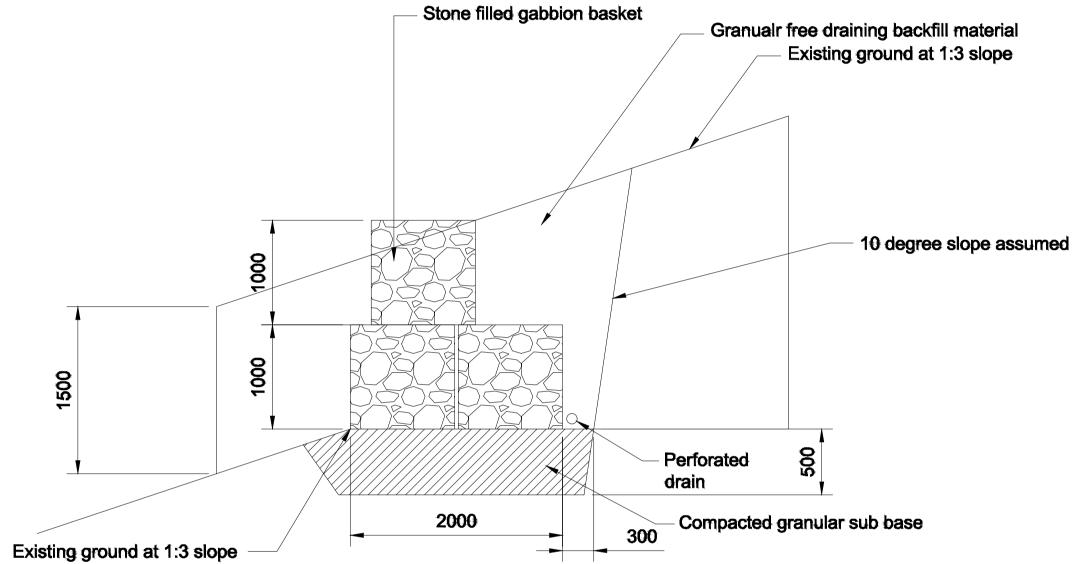
Scale 1/50

CHAMBER PLAN

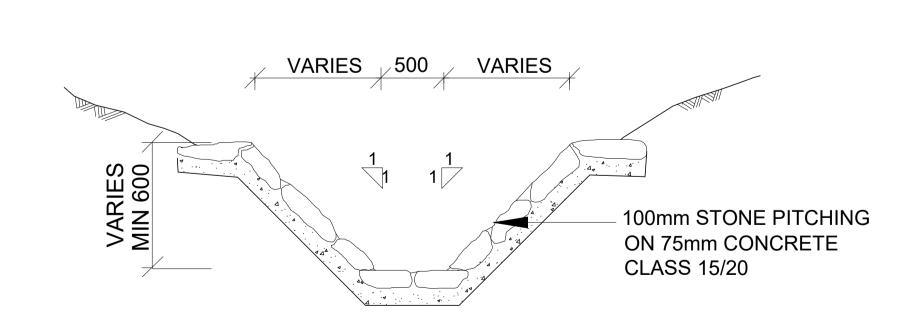
SECTION 6-6

Scale





## **TYPICAL STONE GABION DETAIL**



## 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

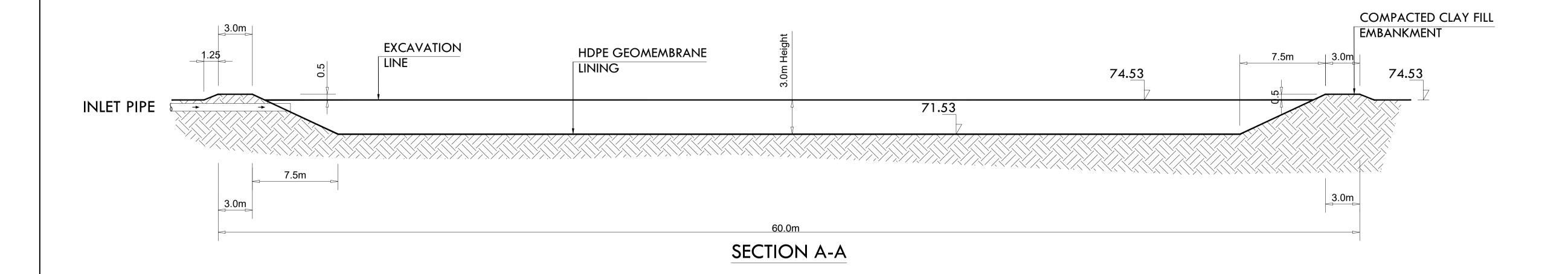
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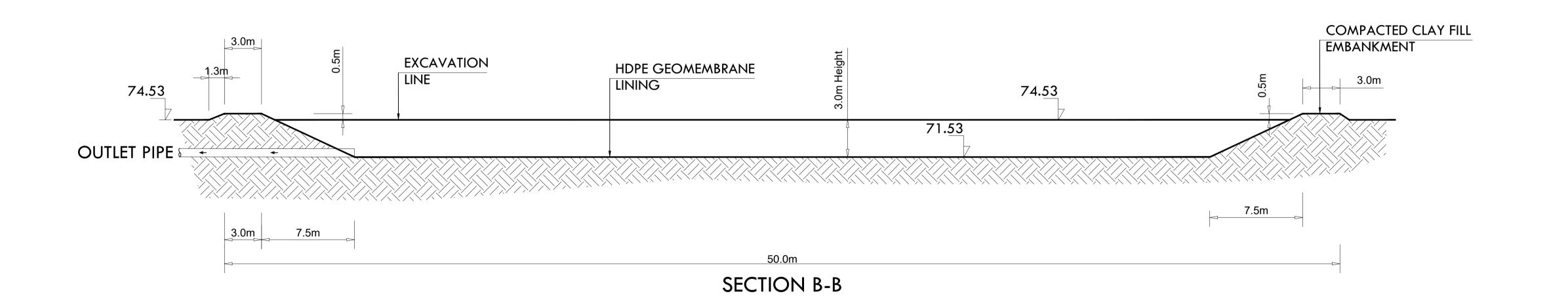


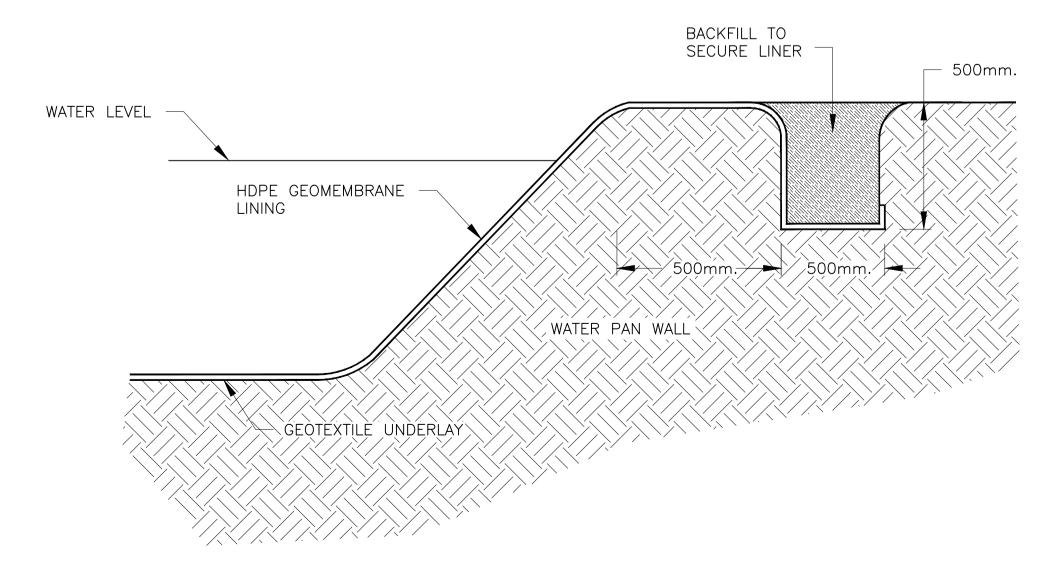
Floor 2, B5, Ojijo Plaza, Plums Lane, Off-Ojijo Road - P. O. Box 1349-00606 Sarit Centre, NAIROBI, Kenya Tel: +254.20.2343540/1 E-mail: info@max.co.ke

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HDPE GEOMEMBRANE LINING ANCHOR DETAIL

#### **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.
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#### 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.

## <u>CLIENT</u>



#### **CLIENT REPRESENTATIVE:-**

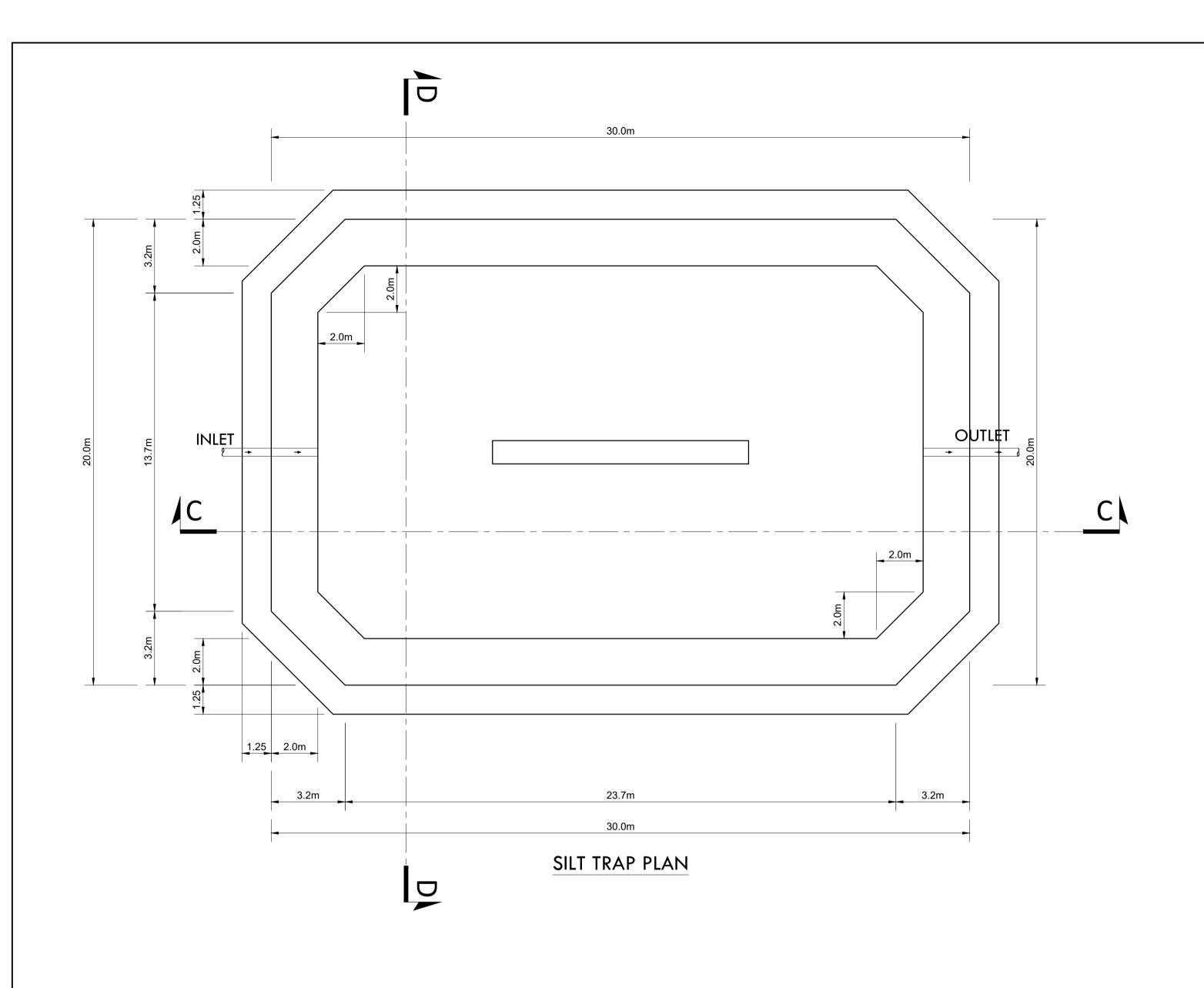
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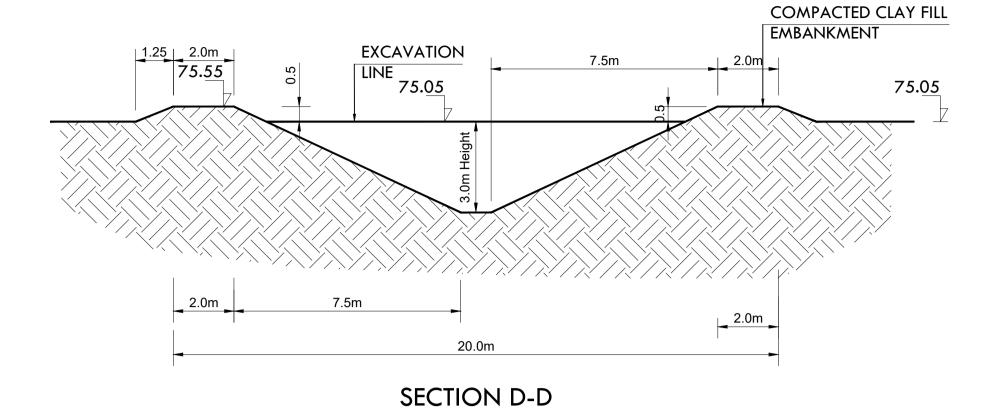
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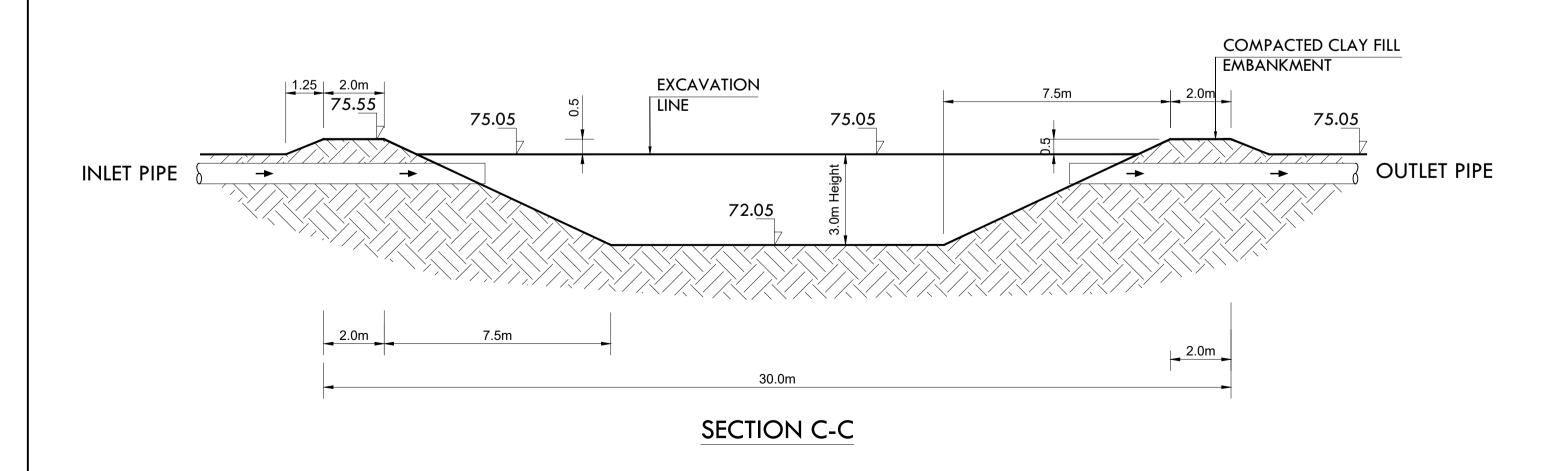


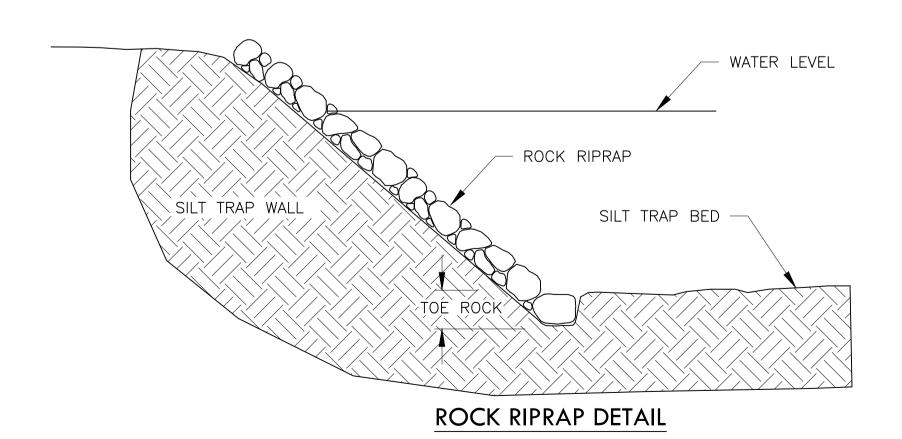
Floor 2, B5, Ojijo Plaza, Plums Lane, Off-Ojijo Road - P. O. Box 1349-00606 Sarit Centre, NAIROBI, Kenya Tel: +254.20.2343540/1 Consulting Engineers E-mail: info@max.co.ke

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#### 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.

#### <u>CLIENT</u>



#### CLIENT REPRESENTATIVE:-

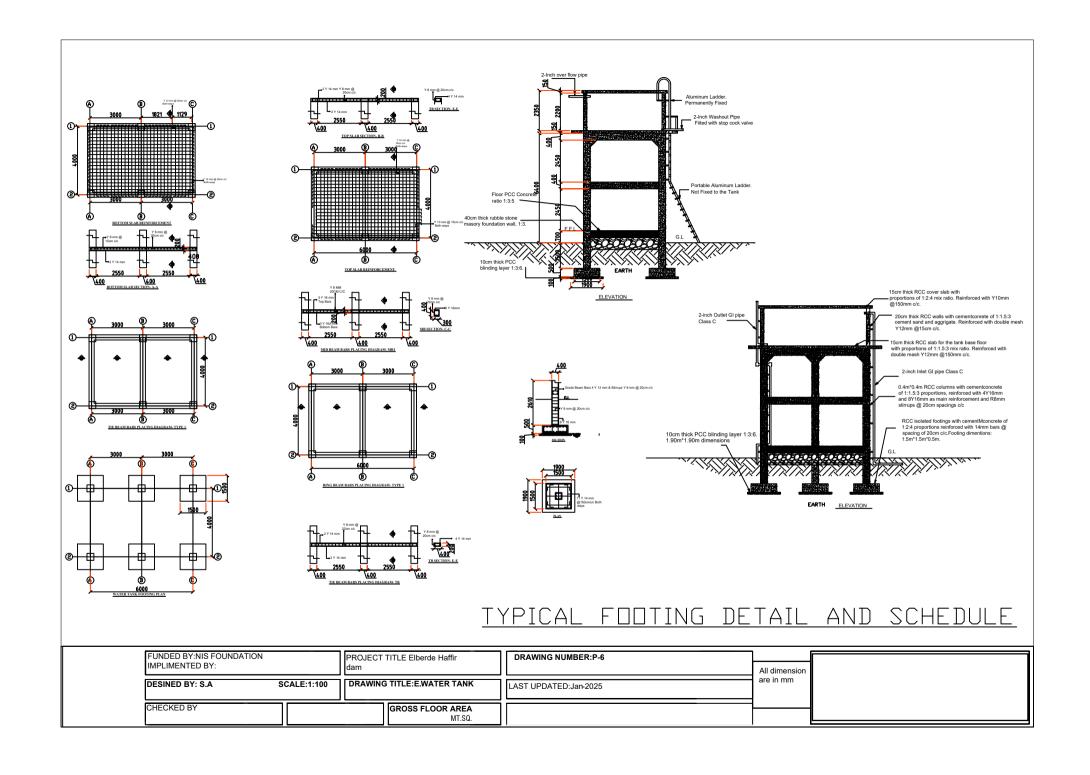
THE COUNTRY REPRESENTATIVE NIS SOMALIA PROGRAM

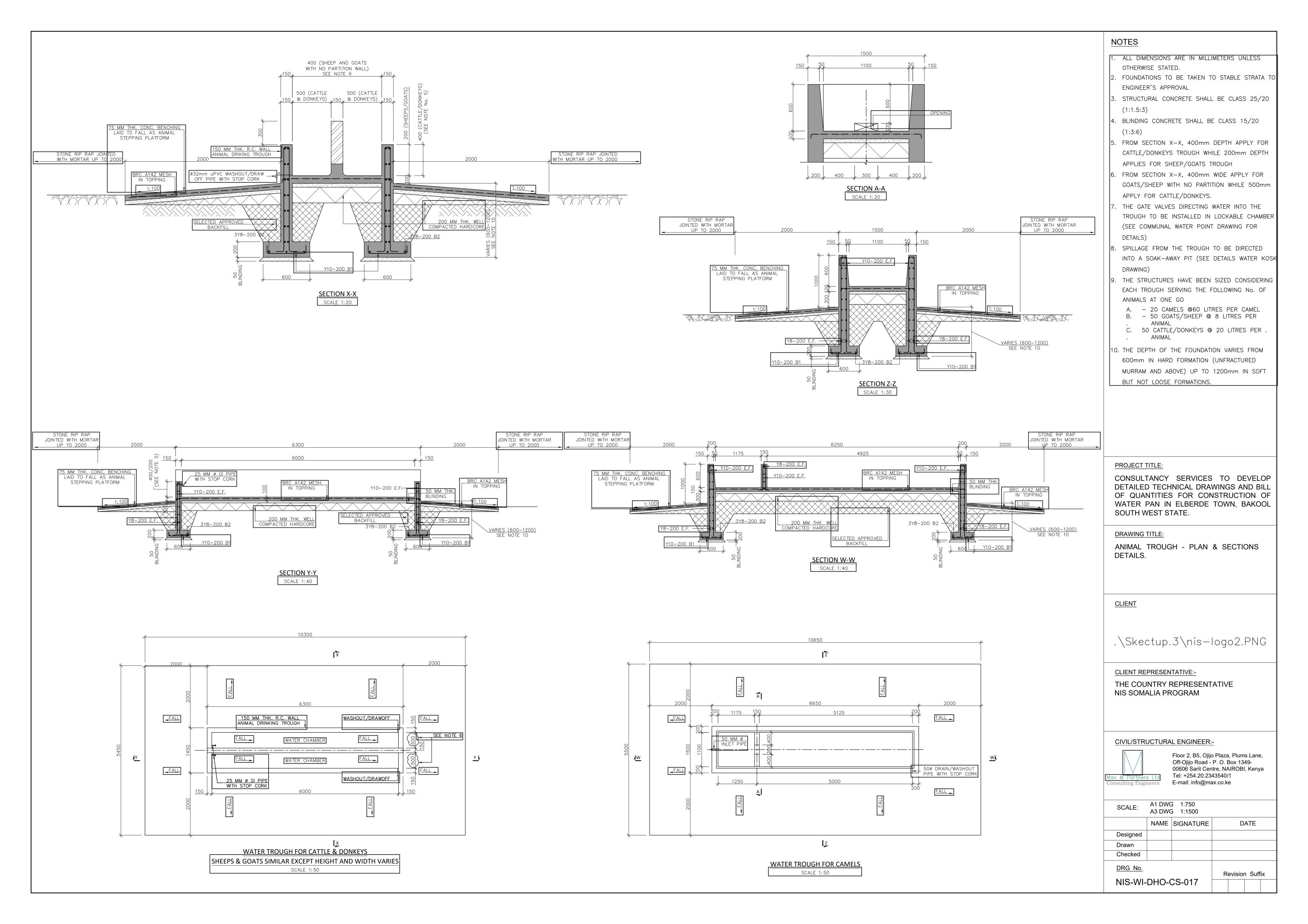
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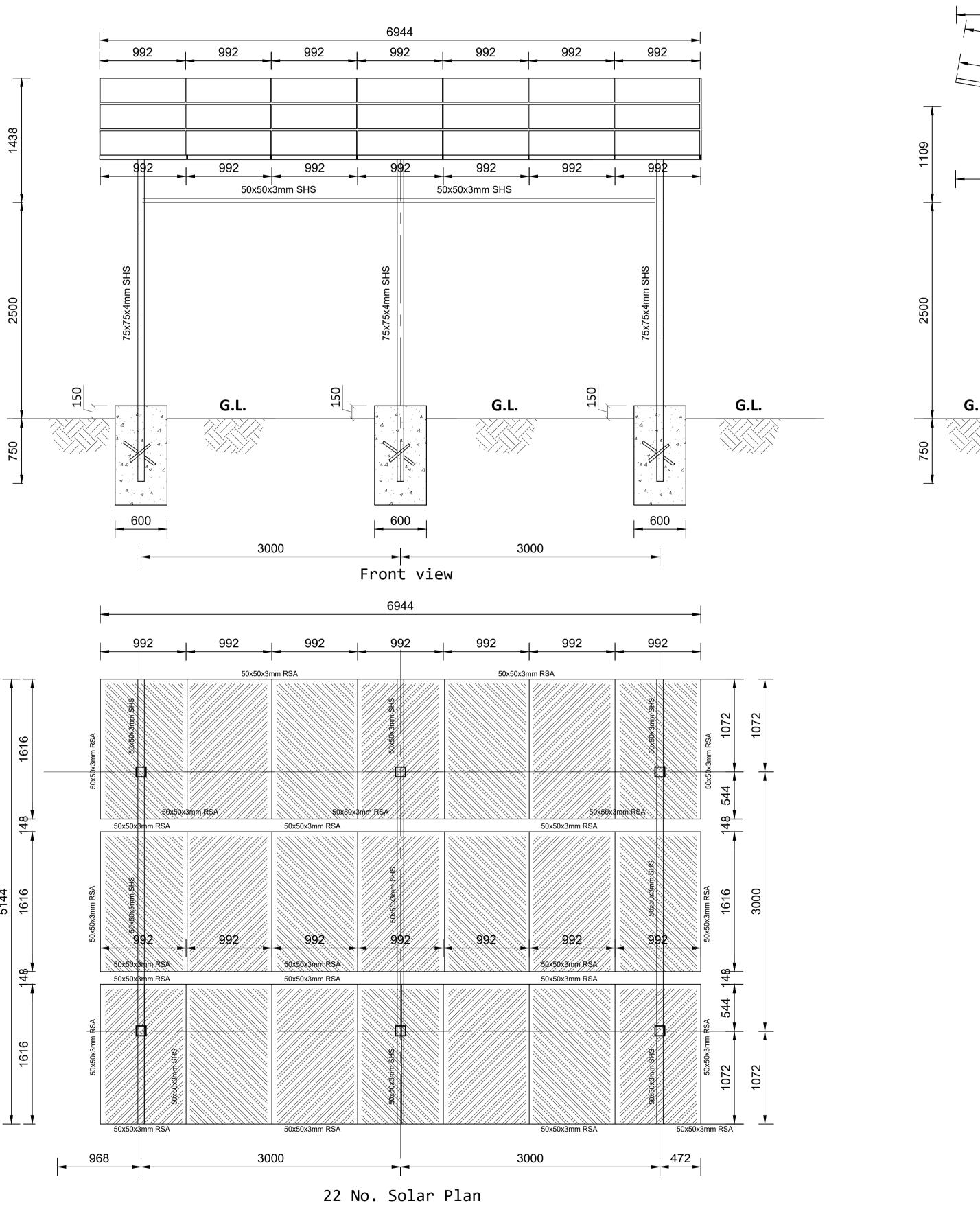


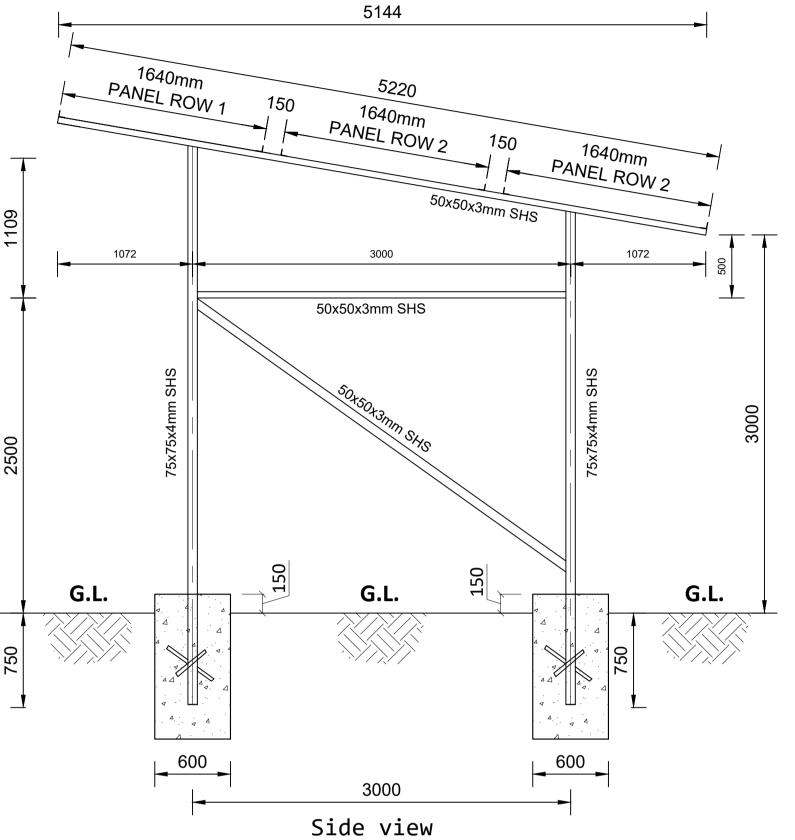
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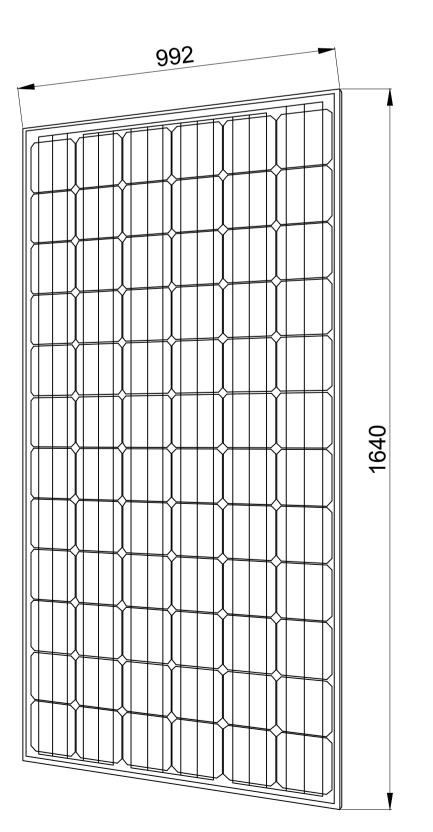
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PERSPECTIVE DRAWING OF 280W 31.7V SOLAR PANEL

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.

<u>CLIENT</u>

CLIENT REPRESENTATIVE:-

THE COUNTRY REPRESENTATIVE NIS SOMALIA PROGRAM

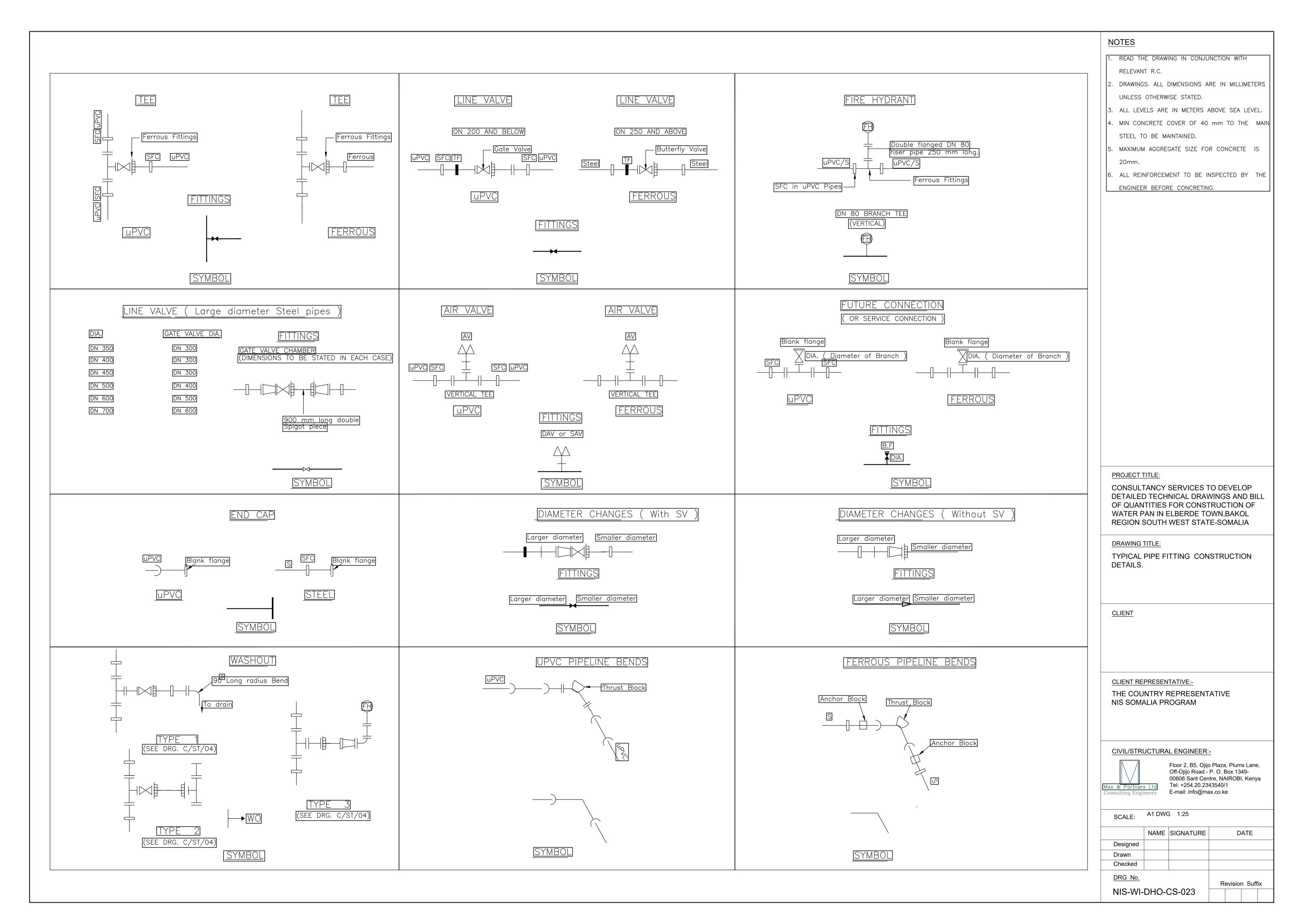
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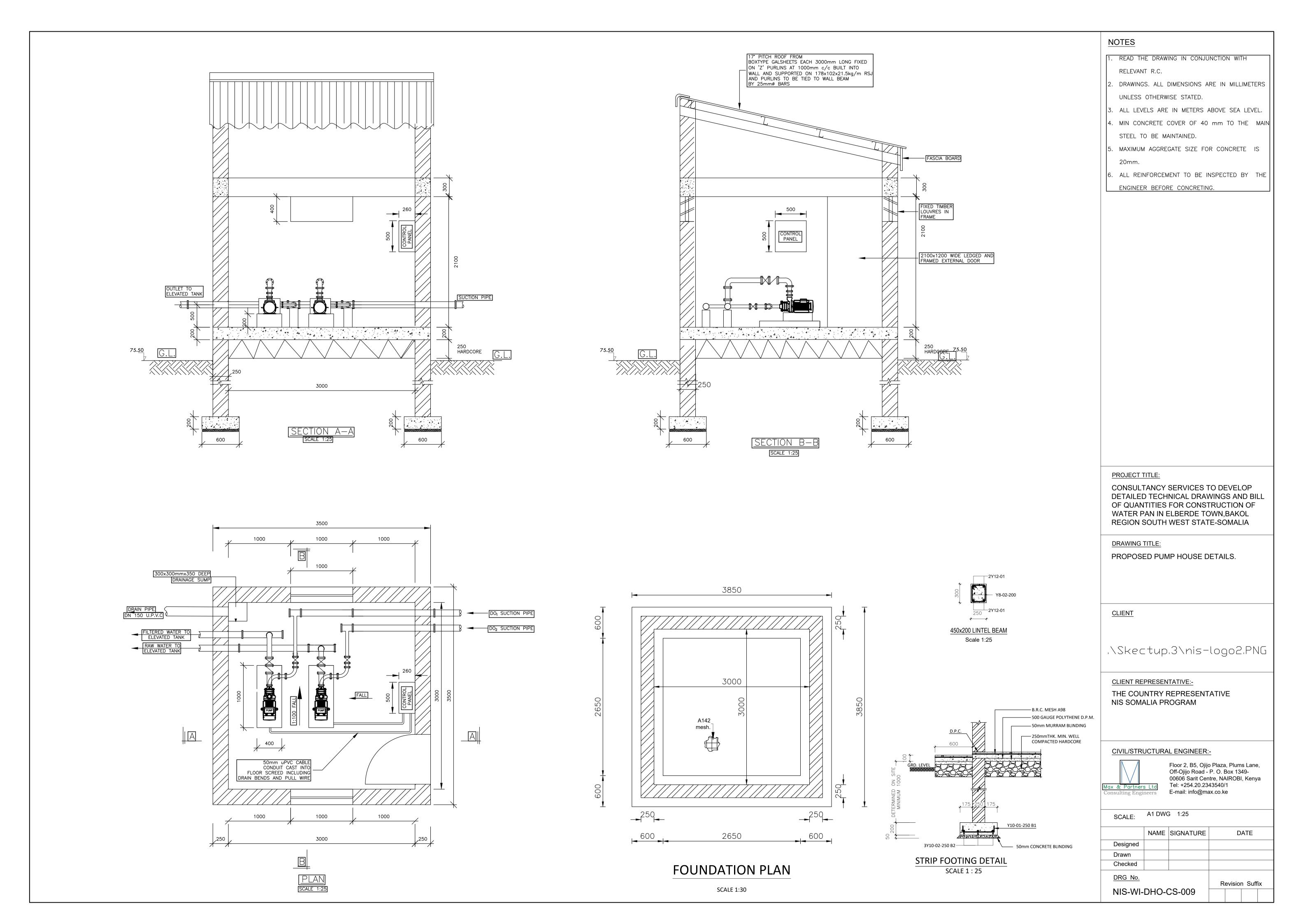


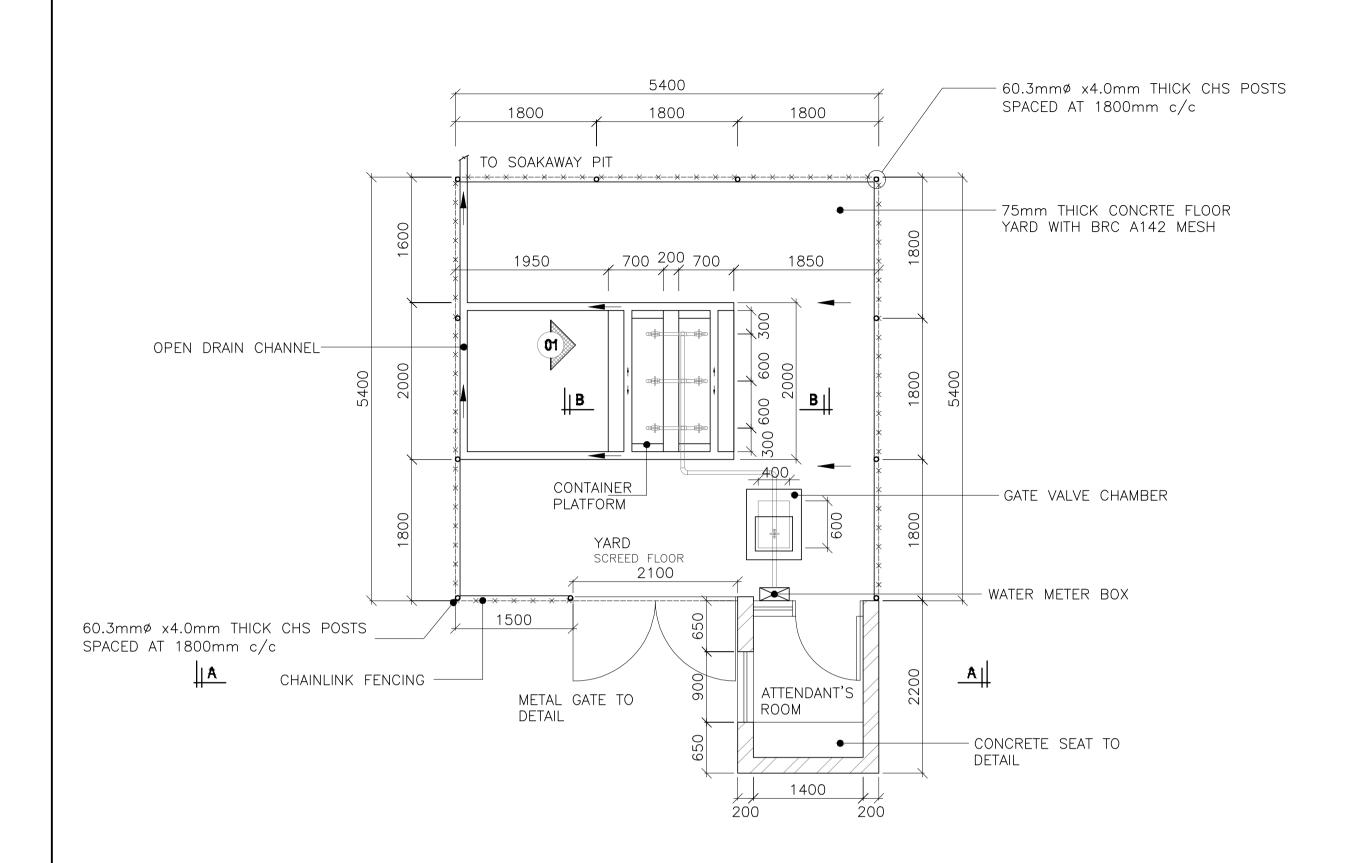
Floor 2, B5, Ojijo Plaza, Plums Lane, Off-Ojijo Road - P. O. Box 1349-00606 Sarit Centre, NAIROBI, Kenya Tel: +254.20.2343540/1 E-mail: info@max.co.ke

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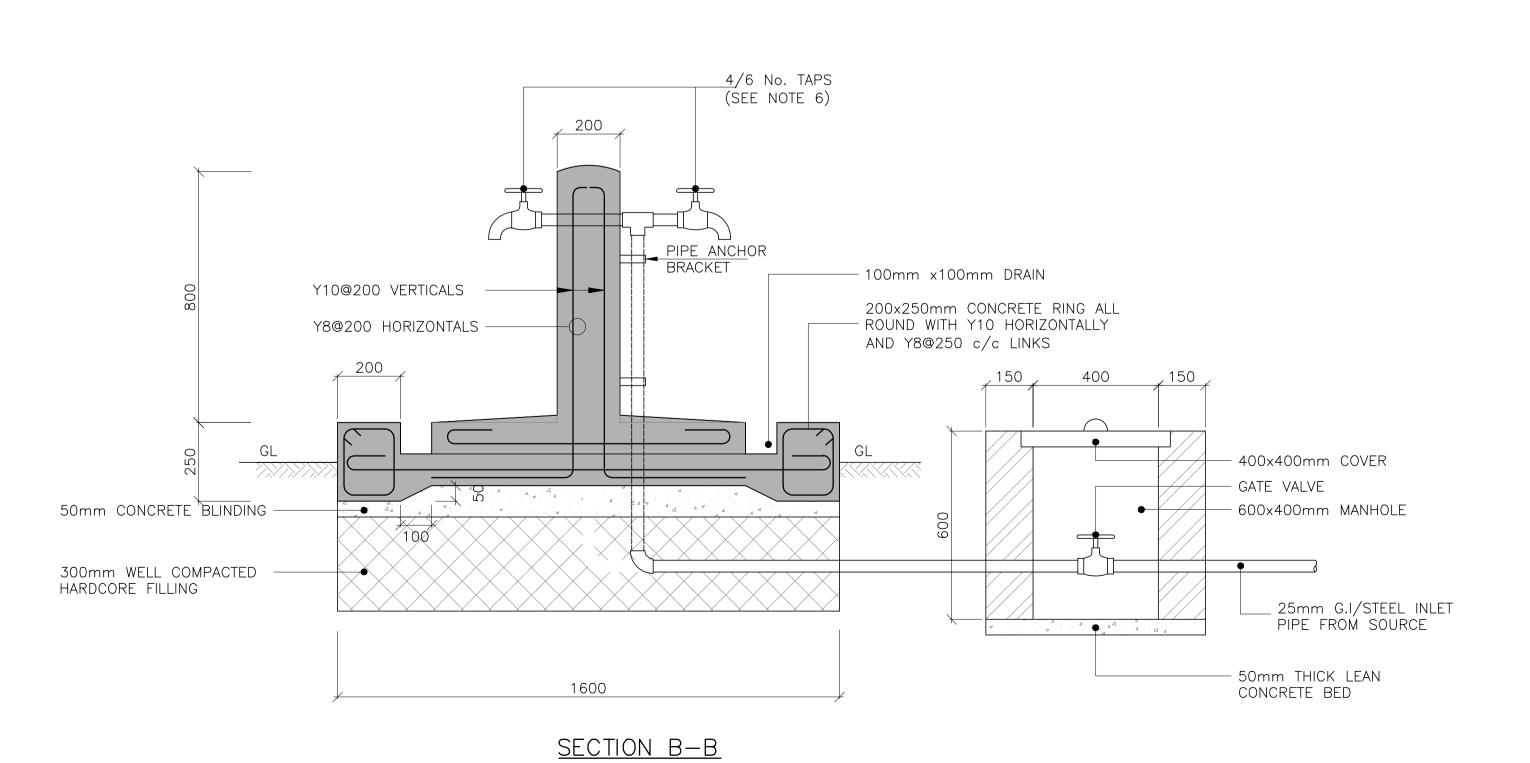
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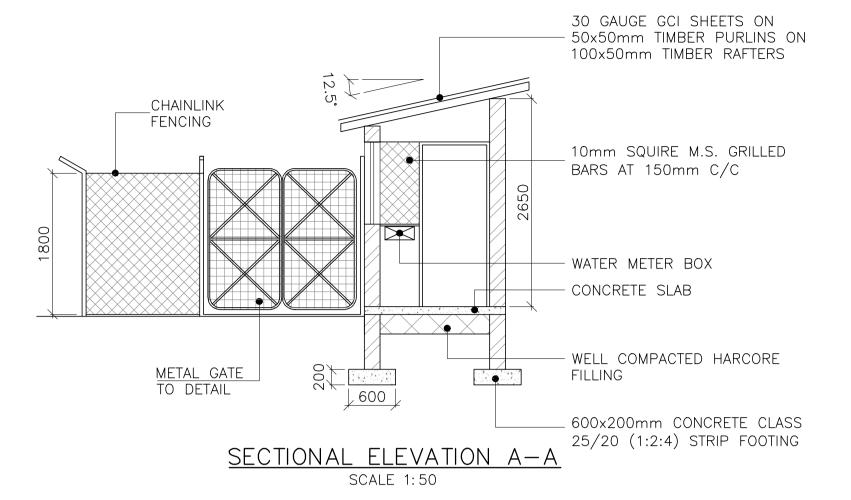


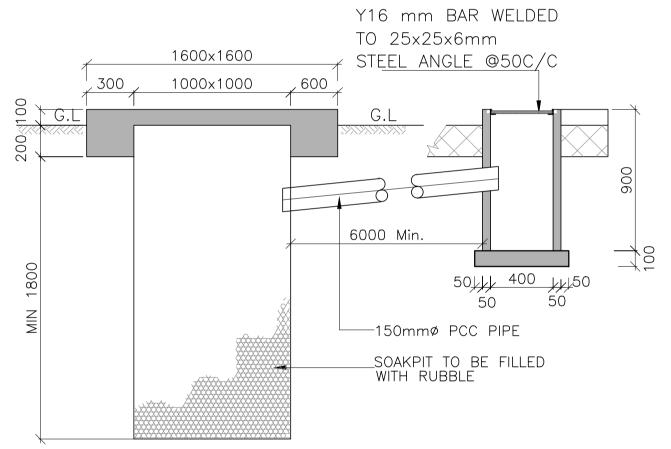




PLAN SCALE 1:100

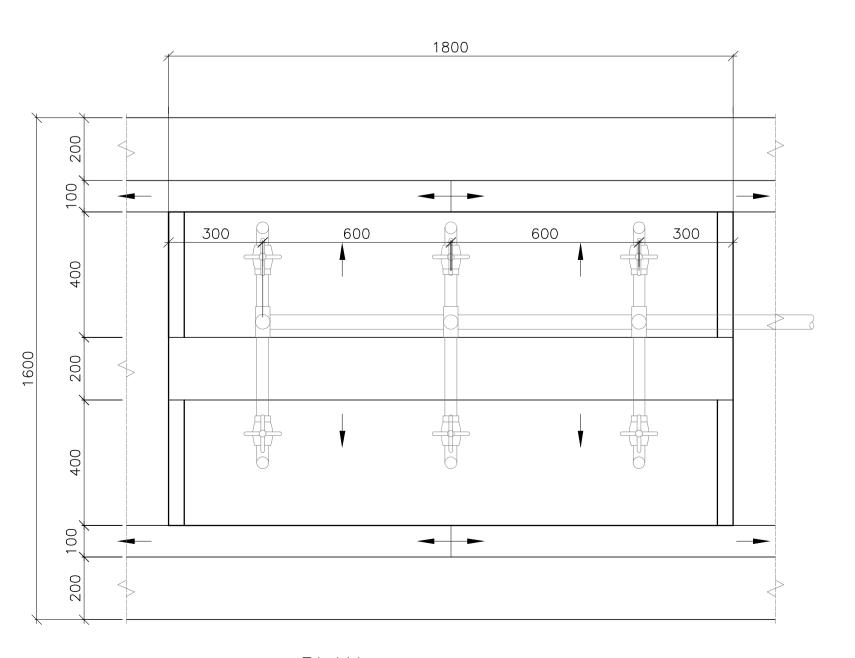






SOAKPIT & CATCHPIT DETAILS

SCALE 1:25



PLAN SCALE 1:50

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  $(1:1\frac{1}{2}:3)$ 

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..

#### <u>CLIENT</u>

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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