



BIDDING DOCUMENTS

**FOR THE PROCUREMENT OF
THE REHABILITATION OF AIRSIDE PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT,
MOMBASA**

IPC/ICB No: KAA/OT/MIA/0036/2024-2025

PROJECT: KENYA TRANSPORT SECTOR SUPPORT PROJECT

EMPLOYER: KENYA AIRPORTS AUTHORITY

COUNTRY: KENYA

ISSUED ON: OCTOBER 2024

VOL IV OF IV – BOOK OF DRAWINGS – TENDER

Employer	Design Consultant
Kenya Airports Authority (KAA) P. O. Box 19001; Nairobi 00501 Republic of Kenya	APEC Consortium Ltd P. O. Box 3786-00100 Nairobi

The Tender Documents for the above project consist of the following Volumes:

VOLUME I OF IV: BIDDING AND CONTRACT DOCUMENTS

PART 1 – BIDDING PROCEDURES

- SECTION I: INSTRUCTIONS TO BIDDERS
- SECTION II: BID DATA SHEET
- SECTION III: EVALUATION AND QUALIFICATION CRITERIA
- SECTION IV: BIDDING FORMS
- SECTION V: ELIGIBILITY CRITERIA
- SECTION VI: AFD POLICY – CORRUPT AND FRAUDULENT PRACTICES - ENVIRONMENTAL AND SOCIAL RESPONSIBILITY

PART 2 – WORKS REQUIREMENTS

- SECTION VII: WORKS REQUIREMENTS

PART 3 – CONDITIONS OF CONTRACT (CC) AND CONTRACTS FORMS

- SECTION VIII: GENERAL CONDITIONS (GC)
- SECTION IX: PARTICULAR CONDITIONS (PC)
- SECTION X: CONTRACT FORMS

VOLUME II OF IV: BILL OF QUANTITIES

VOLUME III OF IV: TECHNICAL SPECIFICATIONS

- PART A: CIVIL WORKS
- PART B: ELECTRICAL WORKS

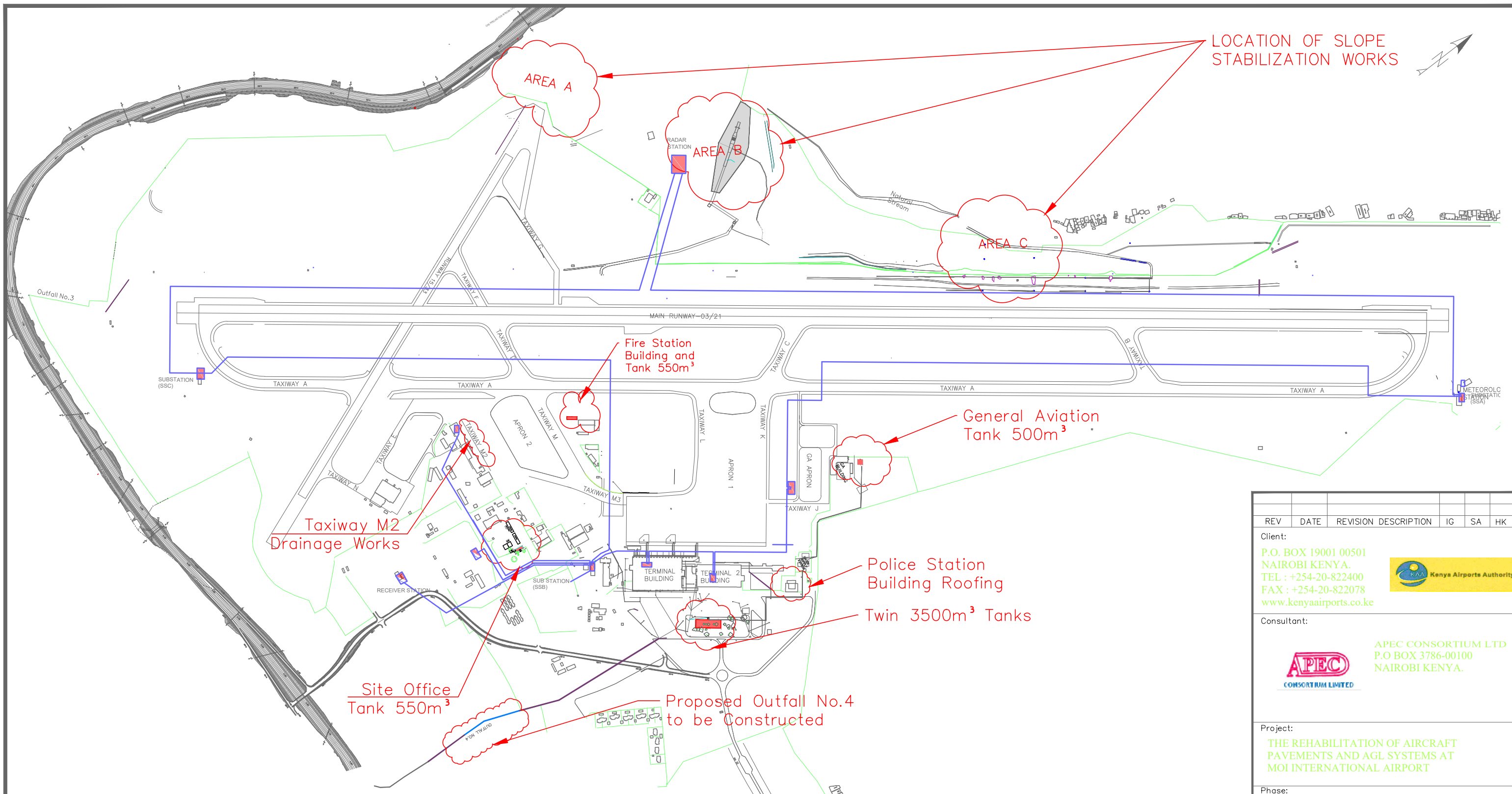
VOLUME II OF IV: BOOK OF DRAWINGS

GENERAL

LIST OF DRAWINGS

ITEM	TITLE	DRAWING NUMBER	NO. OF SHEETS
GENERAL			
1	LIST OF DRAWINGS	KAA/OT/MIA/0226/2022-2023/LOD	01
2	PROJECT LOCATION	KAA/OT/MIA/0226/2022-2023/LP	01
3	SCOPE OF WORK	KAA/OT/MIA/0226/2022-2023/GL/01	01
DRAINAGE WORKS			
4	TAXIWAY M2	KAA/OT/MIA/0226/2022-2023/DRG/M2	02
5	OUTFLALL NO. 4	KAA/OT/MIA/0226/2022-2023/DRG/GL01	03
SLOPE STABILIZATION WORKS			
6	AREA A - AREA BEHIND THRESHOLD 15 OF THE SECONDARY RUNWAY 15/33 & THE OUTFALL NO. 5	KAA/OT/MIA/0226/2022-2023/SS01A	02
7	AREA B - AREA BEHIND THE RADAR STATION, AT THE OUTFALL	KAA/OT/MIA/0226/2022-2023/GL01	03
8	AREA C – AREA BEHIND THE FENCE OF MAINRUNWAY 03/21	KAA/OT/MIA/0226/2022-2023/SS/01	05
9	TYPICAL DRAWINGS FOR SLOPES STABILIZATION AREA	KAA/OT/MIA/0226/2022-2023/TYP 01	05
RAINWATER HARVESTING SYSTEMS WORKS			
10	TWIN 3500M ³ TANK DETAILS	KAA/OT/MIA/0226/2022-2023/C(A)RWH-TT01	24
11	SITE OFFICE 500M ³ TANK DETAILS	KAA/OT/MIA/0226/2022-2023/RWH-GL01	11
12	GENERAL AVIATION 500M ³ TANK DETAILS	KAA/OT/MIA/0226/2022-2023/RWH-GL01	18
13	FIRE STATION 550M ³ TANK DETAILS	KAA/OT/MIA/0226/2022-2023/RWH-FS 01	13
ELECTRICAL WORKS			
14	PROPOSED 11 KV POWER DISTRIBUTION CABLE	KAA/OT/MIA/0226/2022-2023/ELE/GL/01	02
STANDARD DRAWINGS WORKS			
15	STANDARD CONSTRUCTION DRAWINGS	KAA/OT/MIA/0226/2022-2023/MIA/SD/01	05

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DOCUMENTS					
Subject:					
REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Drawing title:					
LIST OF DRAWINGS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	NTS		
Paper size:	A3	Rev No.:	0		
Dwg No.: KAA/OT/MIA/0226/2022-2023/LOD					







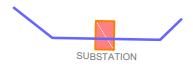



LOCATION OF SLOPE STABILIZATION WORKS



REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Drawing title:					
GENERAL LAYOUT FOR PROPOSED WORKS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	1:10,000		
Paper size:	A3	Rev No.:	1		
Dwg No.:	KAA/OT/MIA/0226/2022-2023/GL-01				

LEGEND

-  RAINWATER HARVESTING TANKS
-  EXISTING BUILDINGS
-  PAVEMENTS
-  PROPOSED OUTSTANDING WATER RETICULATION PIPELINES
-  LOCATION OF PROPOSED WORKS
-  FENCE
-  PROPOSED 11KV DISTRIBUTION CABLE
-  PROPOSED FIRE HYDRANT PIPELINES

GENERAL LAYOUT

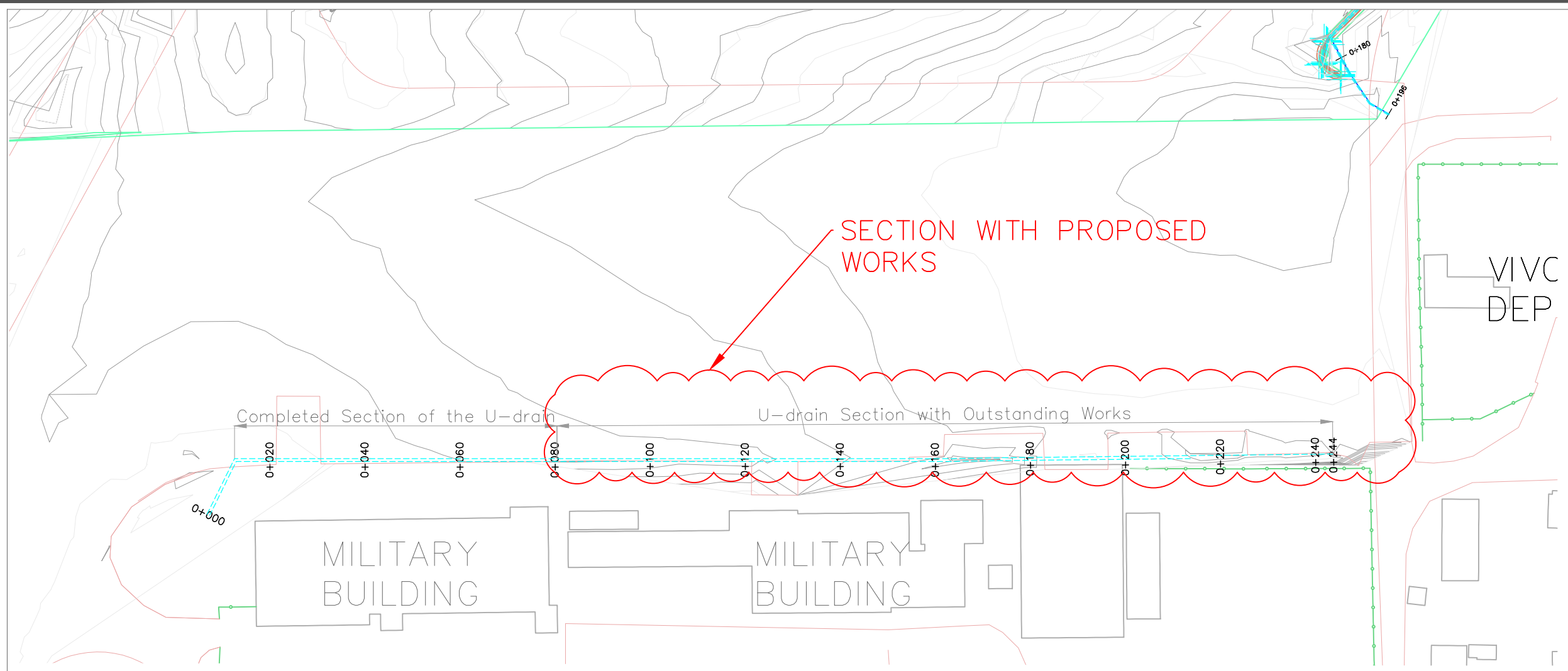
SCALE 1:10000



DRAINAGE WORKS DRAWINGS

- 1. TAXIWAY M2 WORKS**
- 2. OUTFALL NO. 4 WORKS**

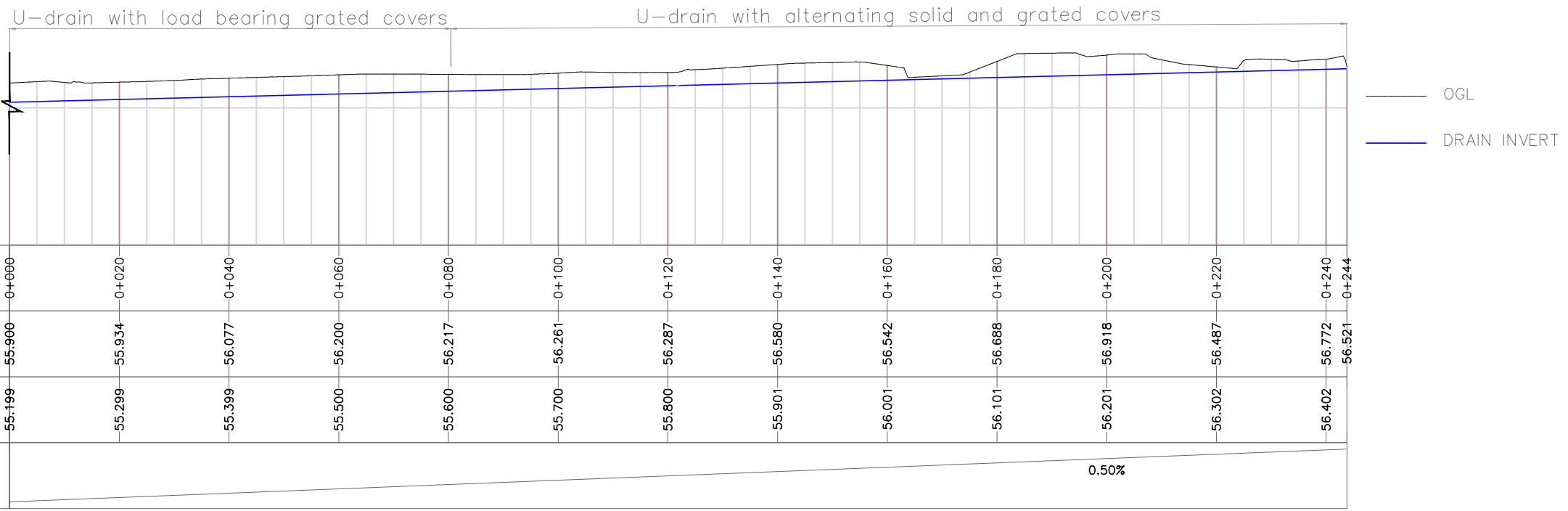
1. TAXIWAY M2 DRAWINGS



LEGEND

- Proposed U-Drain with grated covers
- Pavement Edge

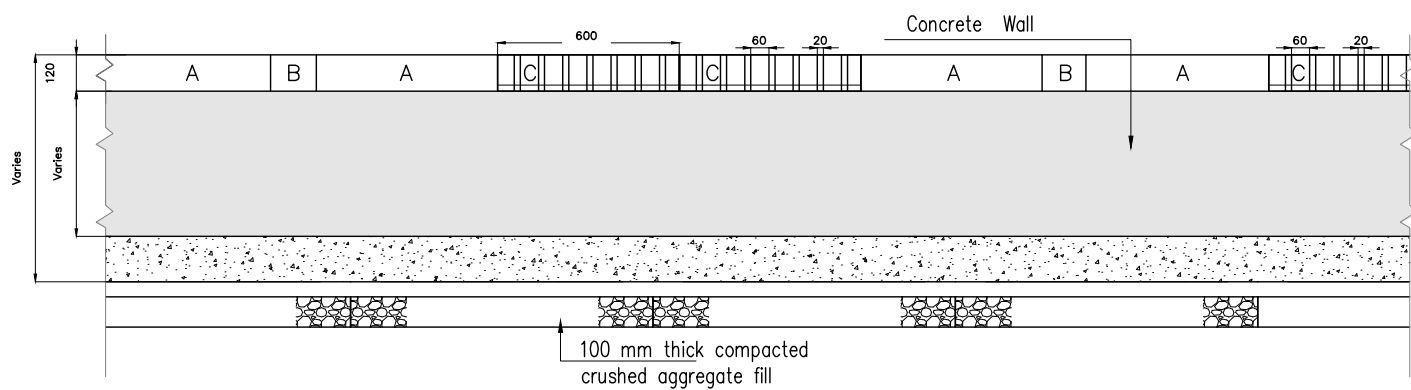
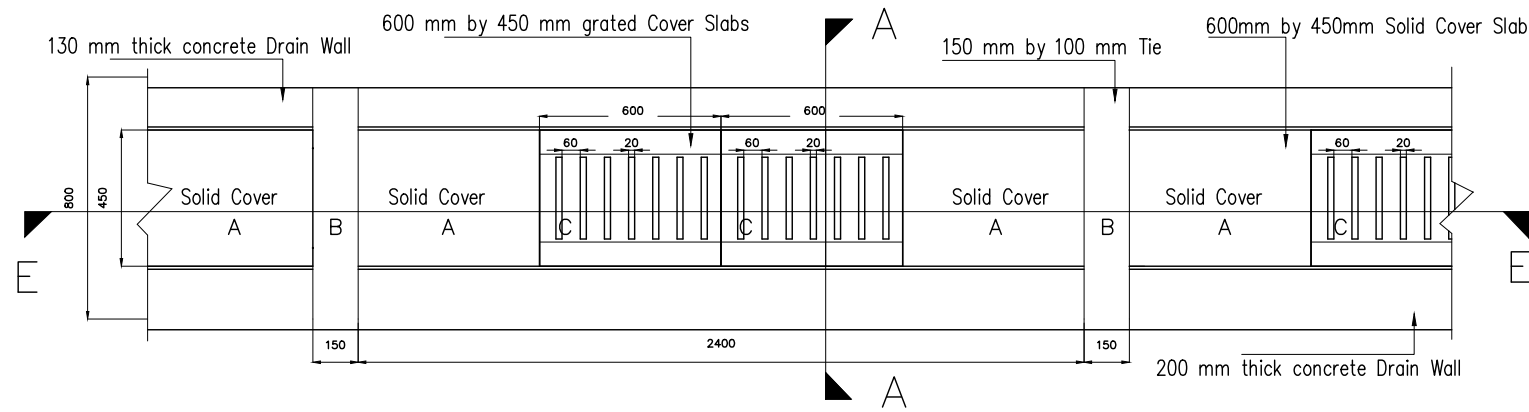
DRAIN NEXT TO MILITARY APRON 2



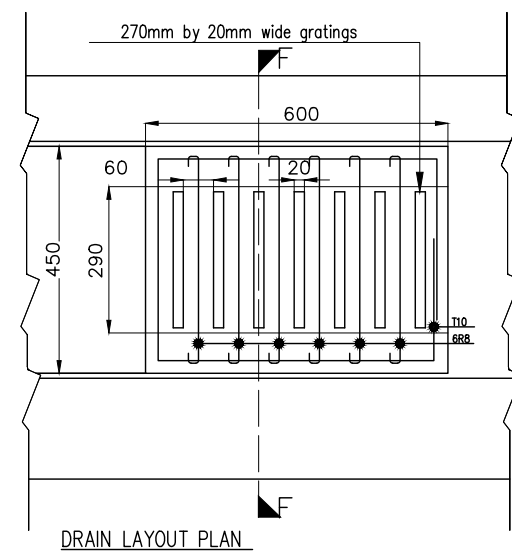
CHAINAGE	0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	0+244
EXISTING GROUND LEVEL	55.900	55.934	56.077	56.200	56.217	56.261	56.287	56.580	56.542	56.688	56.918	56.487	56.772	56.521
INVERT LEVEL OF THE DRAIN	55.199	55.299	55.399	55.500	55.600	55.700	55.800	55.901	56.001	56.101	56.201	56.302	56.402	
SLOPE	0.50%													

TAXIWAY M2 DRAIN

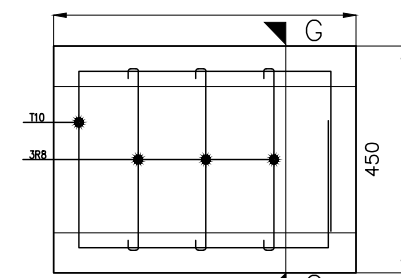
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client: P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke 					
Consultant:  APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project: THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT					
Phase: TENDER DRAWINGS					
Subject: STORM WATER DRAINAGE DETAILS - OUTSTANDING WORKS					
Drawing title: GENERAL LAYOUT AND PROFILE FOR PROPOSED WORKS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: 1:10,000			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/DRG/M2-01					



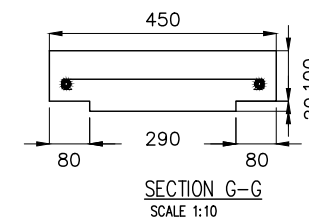
COVERS PLACEMENT PATTERN -SECTION E-E_
Scale 1:25



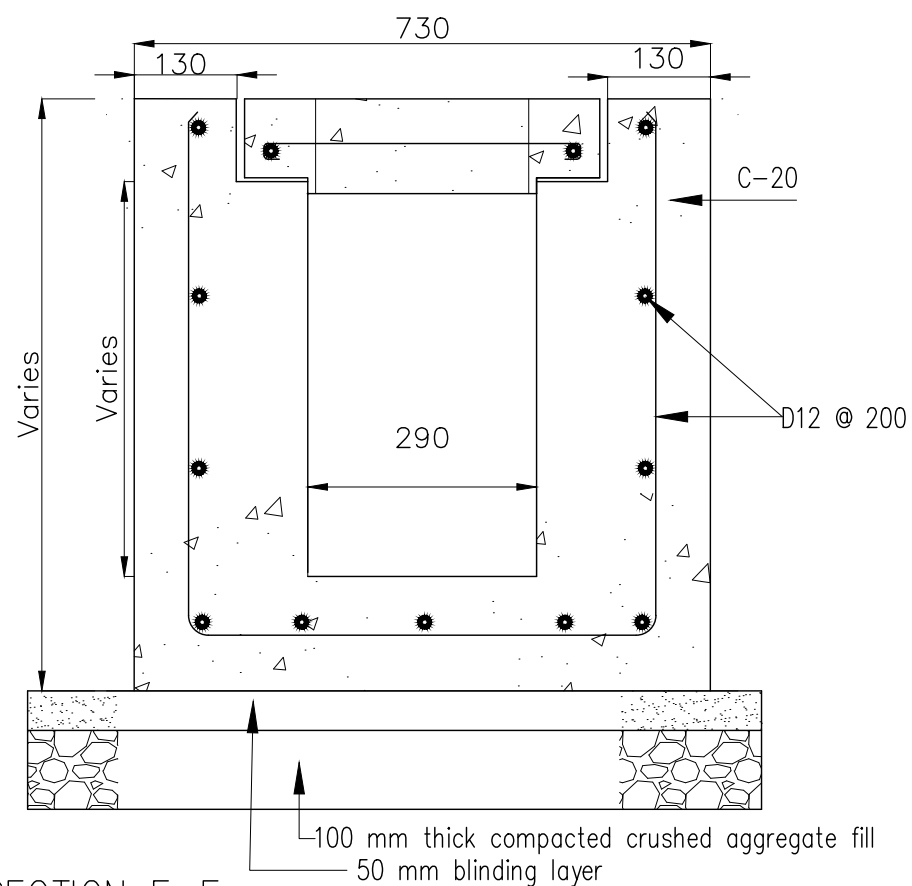
DRAIN LAYOUT PLAN
SCALE 1:15



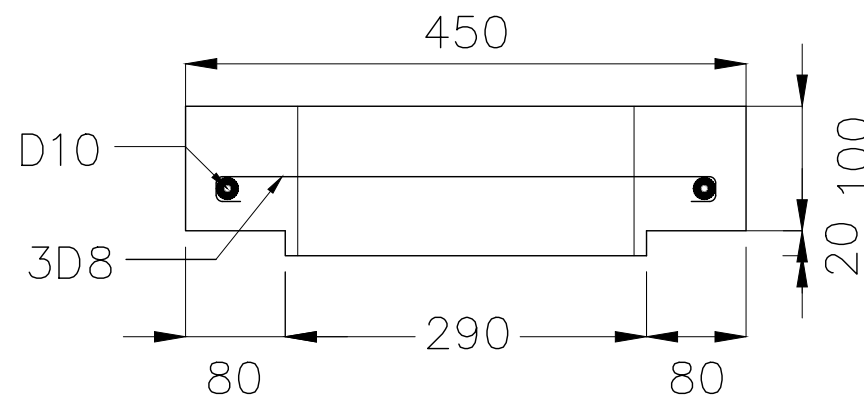
SOLID COVER SLAB LAYOUT PLAN
SCALE 1:10



SECTION G-G
SCALE 1:10



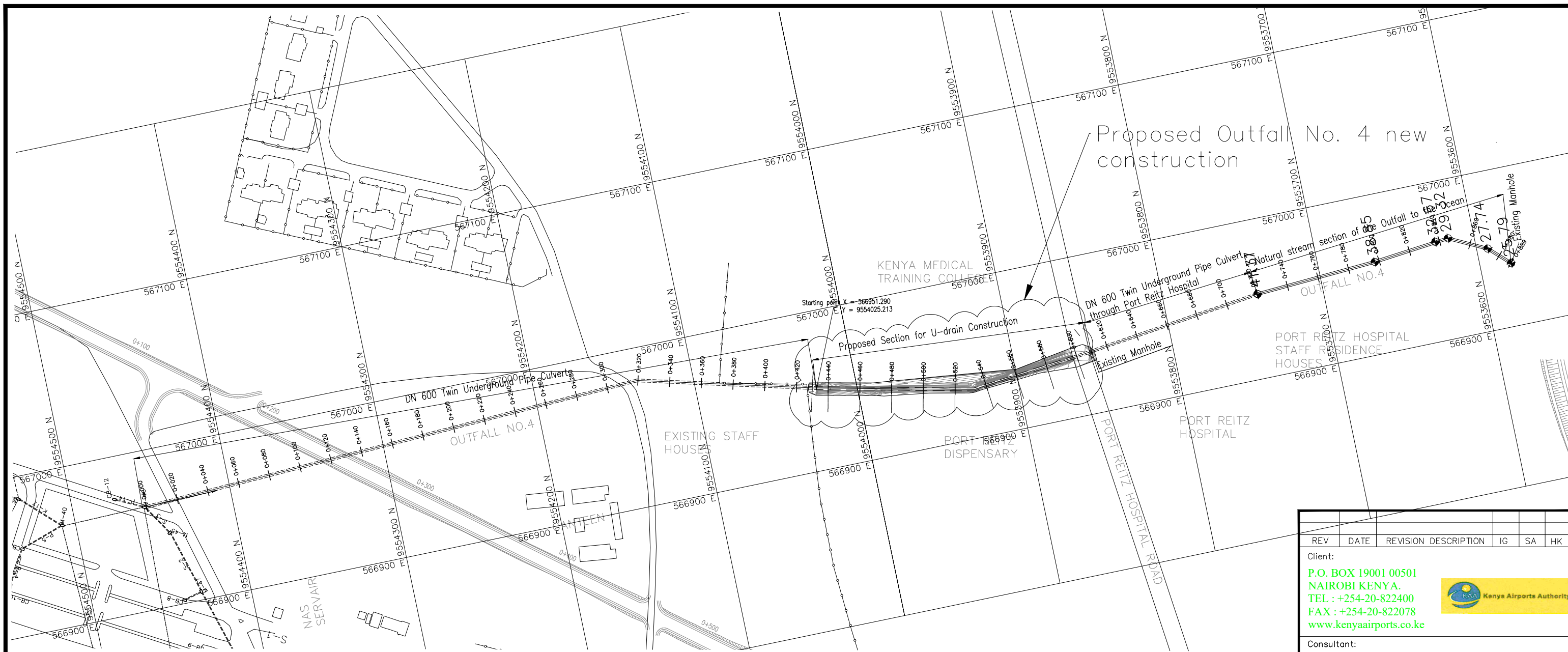
SECTION E-E



SOLID COVER DETAIL
SCALE 1:15

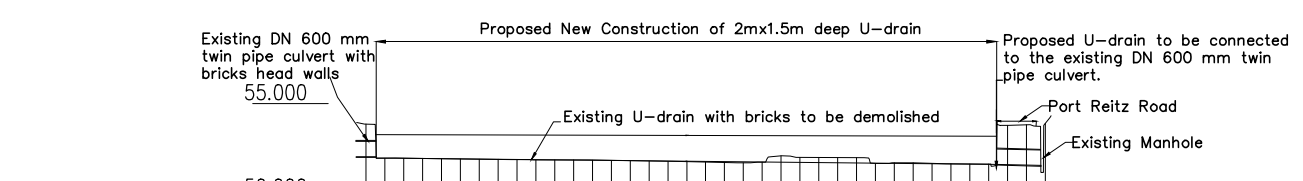
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
STORM WATER DRAINAGE DETAILS - OUTSTANDING WORKS					
Drawing title:					
DRAIN SECTION DETAILS FOR PROPOSED WORKS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	1:10,000		
Paper size:	A3	Rev No.:	1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/DRG/M2-02					

2. OUTFALL NO. 4 DRAWINGS



Proposed Outfall No. 4 new construction

Starting point X = 566951.290
Y = 9554025.213



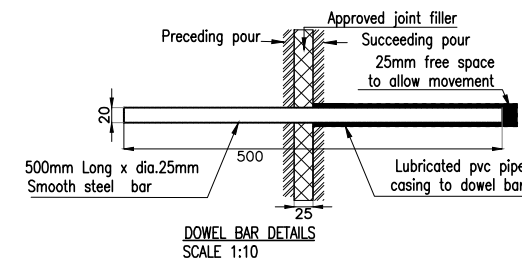
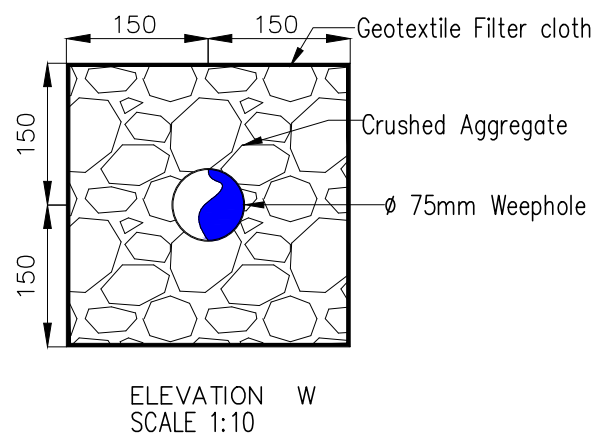
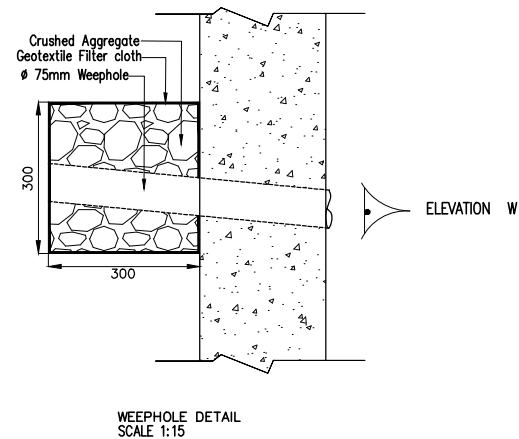
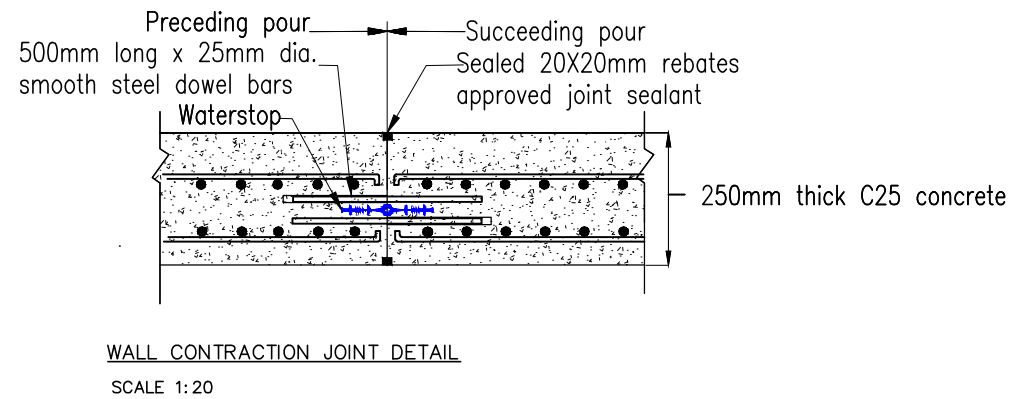
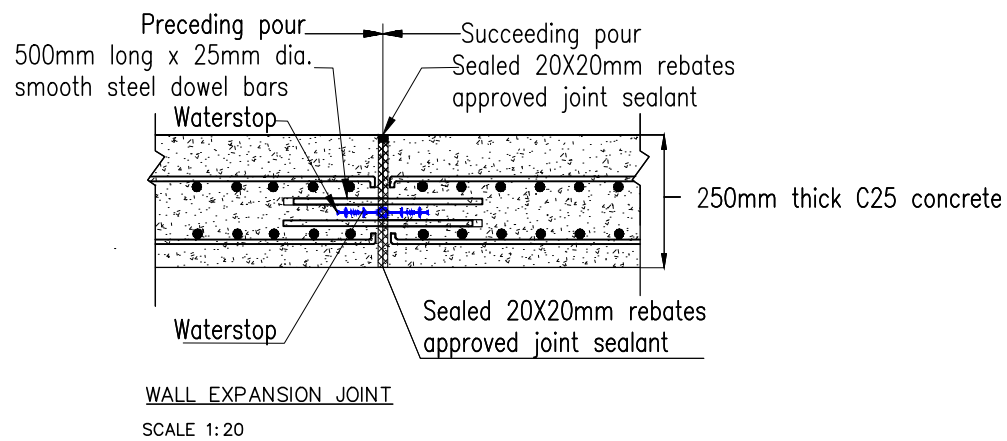
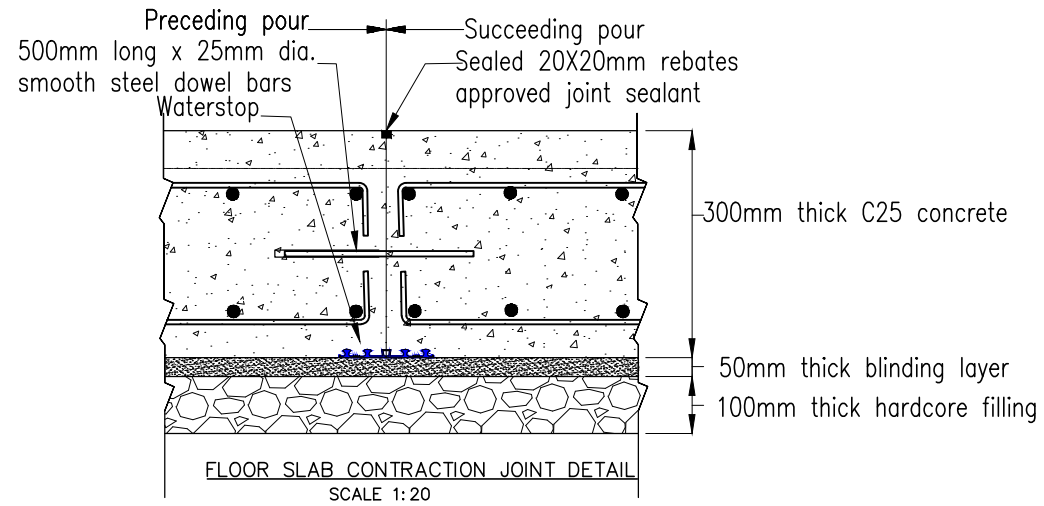
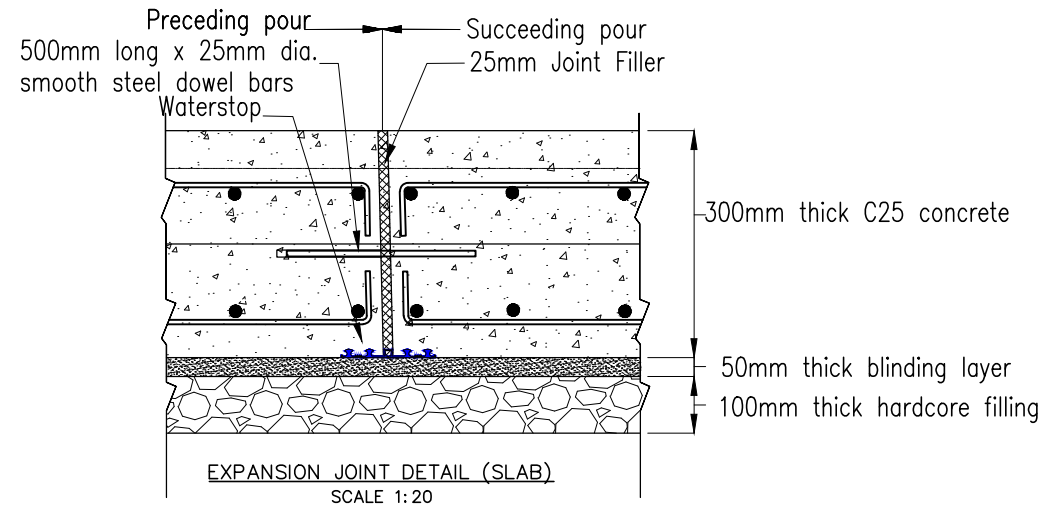
CHAINAGE	0+420	0+440	0+460	0+480	0+500	0+520	0+540	0+560	0+580	0+600	0+620
FINISHED GROUND LEVEL		53.345	53.336	53.327	53.319	53.310	53.301	53.292	53.283		
INVERT LEVEL OF THE DRAIN		52.094	52.054	52.014	51.974	51.934	51.894	51.854	51.814		
SLOPE		$L=164.41$ $S=-0.20\%$									

OUTFALL NO.4 PROFILE

LEGEND


- ==== Proposed U-drain
- Pavement Edge
- Earth Drain
- Underground Drain
- ○ ○ ○ Fence

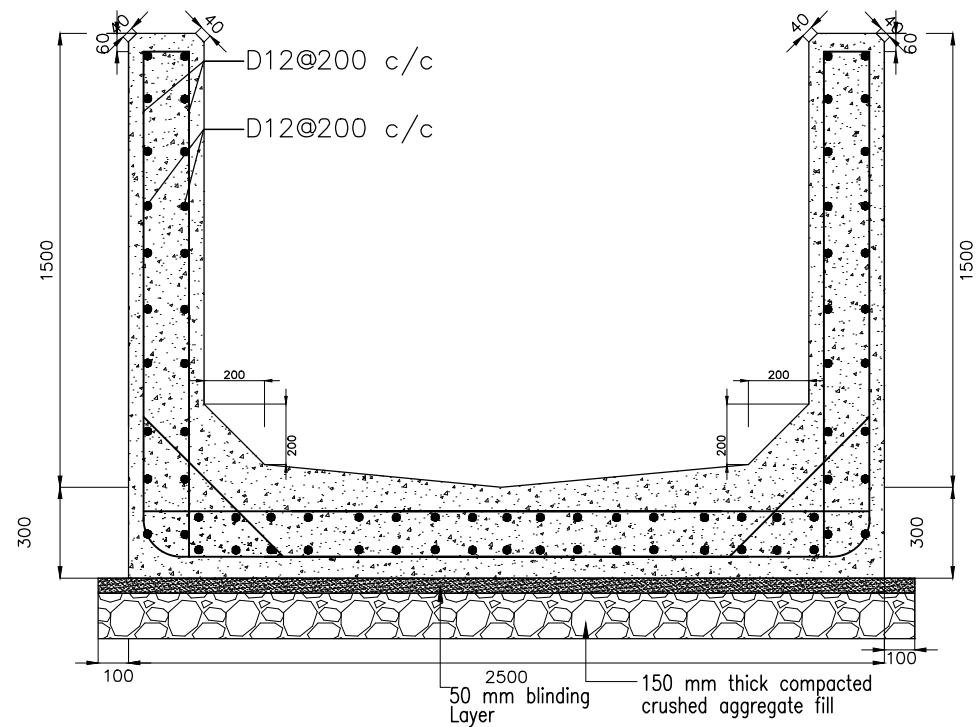
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
OUTFALL NO. 4 GENERAL LAYOUT					
Drawing title: STORM WATER DRAINAGE DETAILS					
OUTFALL 4 PLAN AND PROFILE					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 0			
Dwg No.: KAA/OT/MIA/0226/2022-2023/DRG/GL/01					



NOTES:

1. All exposed concrete edges to be chamfered
2. Contractor shall ensure continuity of the drain during construction.
3. Expansion joints to be spaced as shown
4. Weepholes at the box culvert to be provide at 3m interval, 250mm above the invert level

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
OUTFALL NO. 4 WORKS					
Drawing title: STORM WATER DRAINAGE DETAILS OUTFALL 4 JOINT DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 0		
Dwg No.: KAA/OT/MIA/0226/2022-2023/DRG/02					



PROPOSED U-DRAIN CROSS SECTION FOR OUTFALL NO. 4 AT KM 0+430-0+600 SECTION E-E

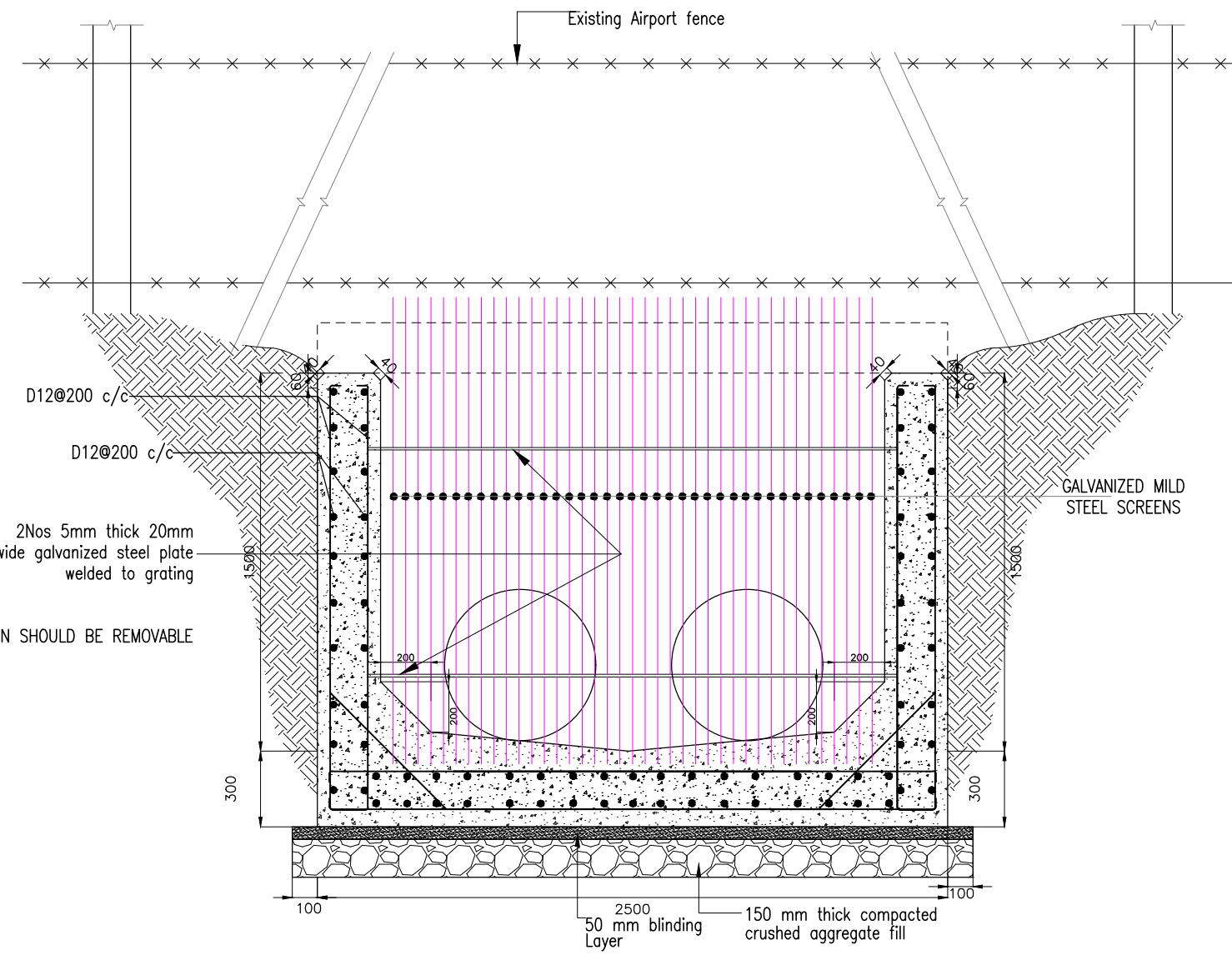
SCALE 1:25

NOTES:

- Expansion joints to be spaced as shown
- Contraction joints to be spaced as shown

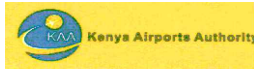

NOTES:

1. All exposed concrete edges to be chamfered
2. Contractor shall ensure continuity of the drain during construction.
3. Expansion joints to be spaced as shown
4. Connection for drains emanating from the sides at outfall no.4



INSTALLATION OF SECURITY GRILL AT KM 0+430

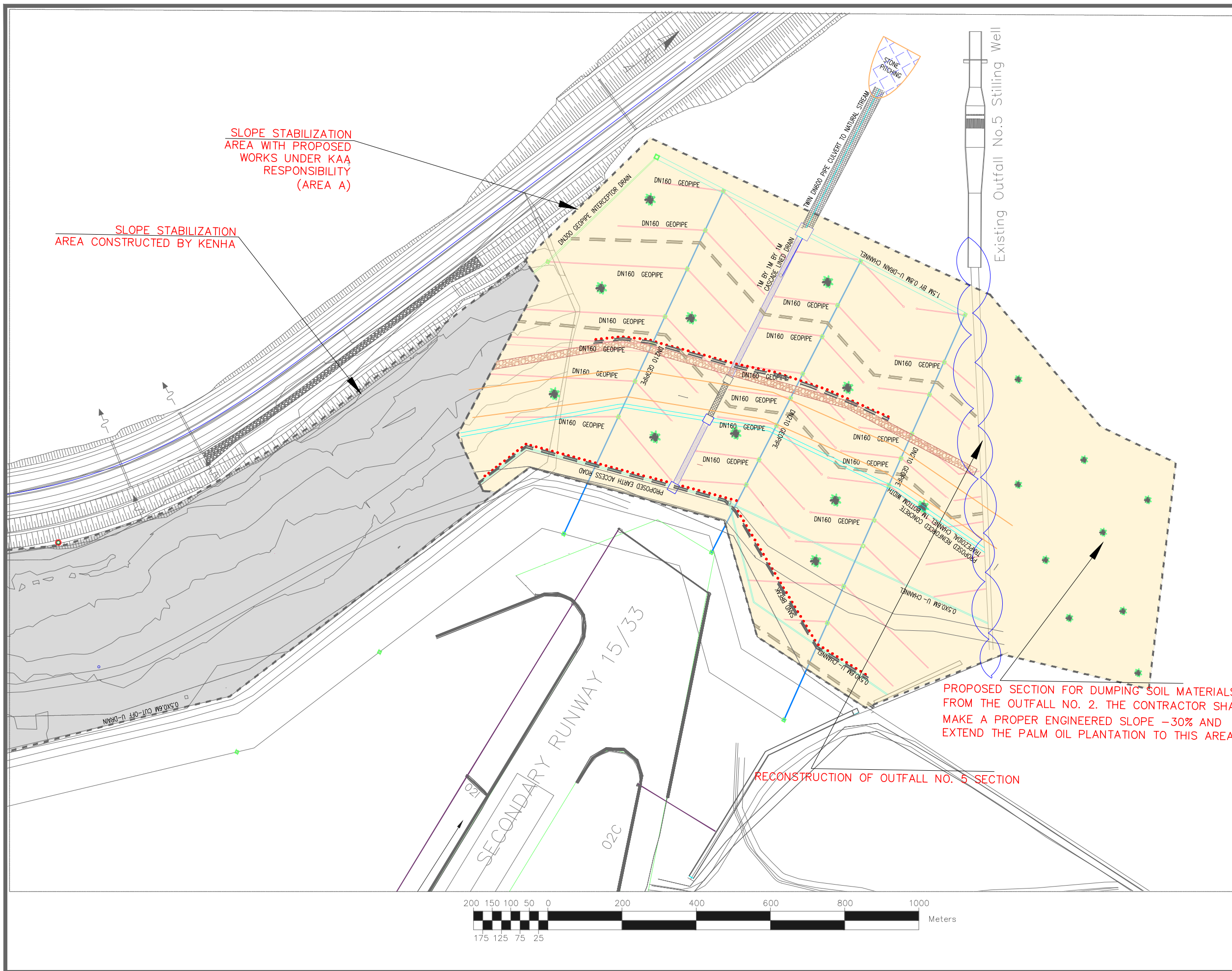
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REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
OUTFALL NO. 4 WORKS					
Drawing title: STORM WATER DRAINAGE WORKS OUTFALL 04 SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/DRG/03					

SLOPES STABILIZATION DRAWINGS

- 1. AREA A – AREA BEHIND THRESHOLD 15 OF THE
SECONDARY RUNWAY 15/33 & OUTFALL NO. 5**
- 2. AREA B – AREA BEHIND THE RADAR STATION, AT THE
OUTFALL NO. 2**
- 3. AREA C – AREA BEHIND THE FENCE OF MAINRUNWAY
03/21**
- 4. TYPICAL DRAWINGS FOR SLOPES STABILIZATION AREA**

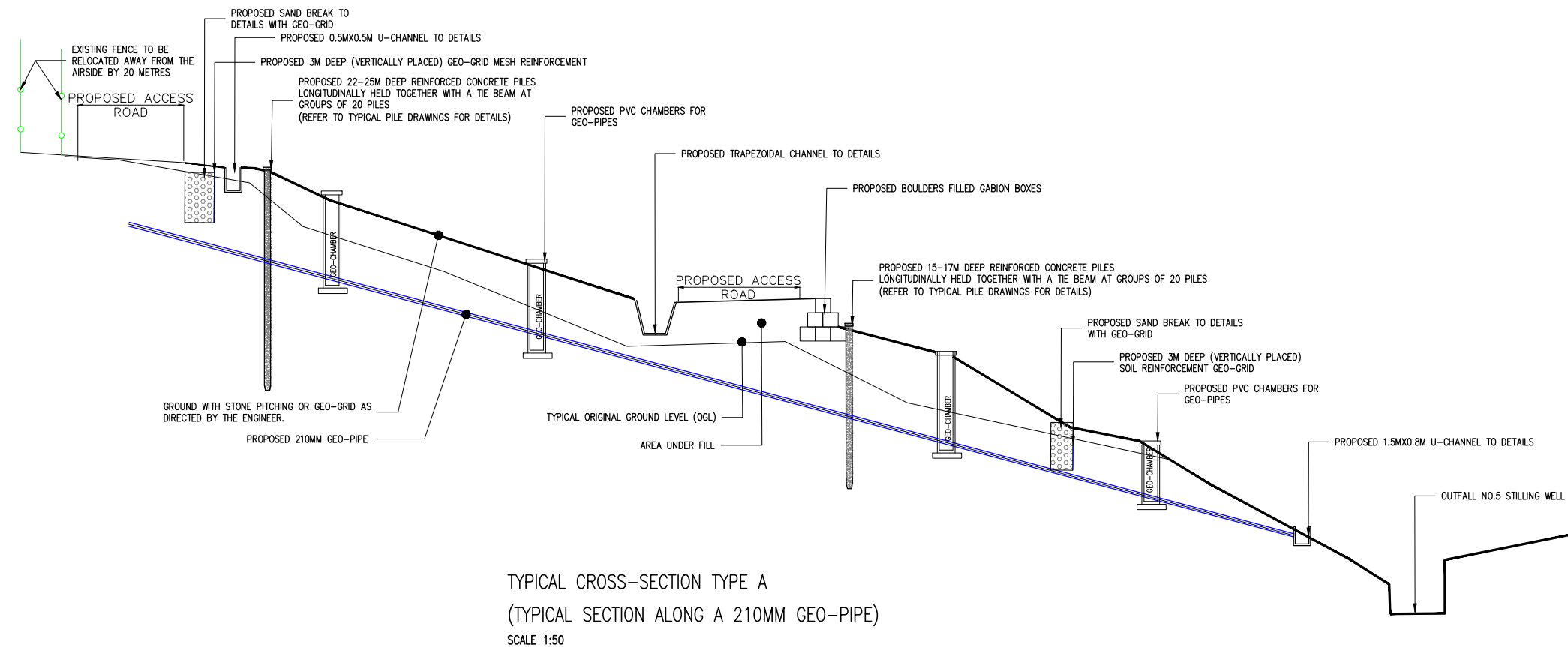
**1) AREA A – AREA BEHIND THRESHOLD 15 OF THE
SECONDARY RUNWAY 15/33 & OUTFALL NO. 5**



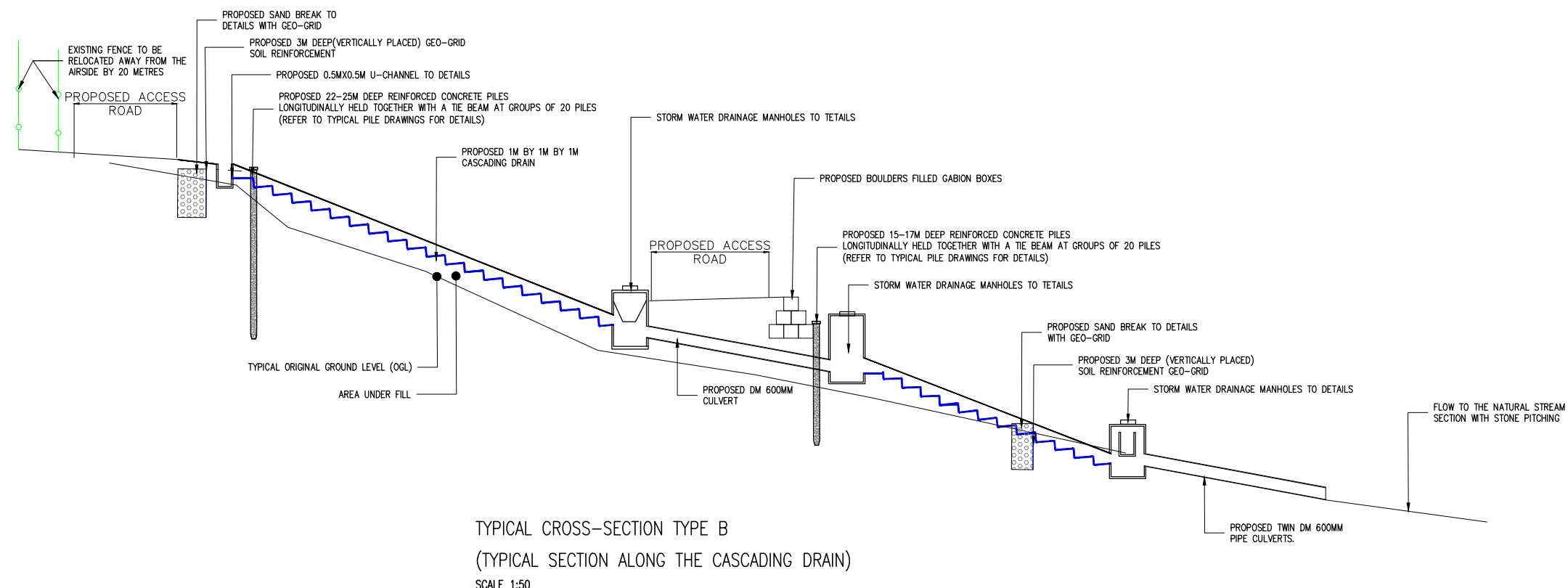
NOTES
 CONTRACTOR TO SUBMIT TOPO-SURVEY DATA TO THE ENGINEER PRIOR TO COMMENCEMENT

- LEGEND
- DN 210 Geopipe (main pipe)
 - DN 160 Geopipe
 - Proposed Reinforced Concrete Open Channels
 - Proposed Drainage Manholes
 - Proposed 1m by 1m by 1m Cascading Drain
 - Proposed Concrete Pipe
 - Proposed 450x450 PVC Chamber
 - Proposed Reinforced Concrete Piles
 - ★ Proposed Palm Oil Trees Plantation spaced out at 5m
 - Proposed Stone Filled Gabions
 - Proposed Sand Breaks
 - Proposed Earth Access Roads
 - Existing Fence Lines

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT- OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SLOPE STABILIZATION - AREA A					
Drawing title: SLOPE STABILIZATION- AREA A					
PLAN LAYOUT FOR AREA A SLOPE STABILIZATION.					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: 1:2750			
Paper size: A3		Rev No.: 0			
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS-01A - 01					



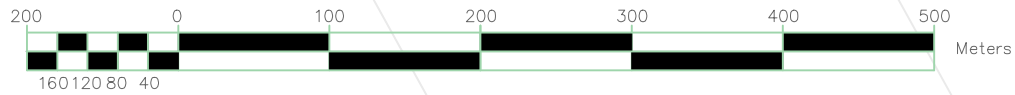
TYPICAL CROSS-SECTION TYPE A
 (TYPICAL SECTION ALONG A 210MM GEO-PIPE)
 SCALE 1:50



TYPICAL CROSS-SECTION TYPE B
 (TYPICAL SECTION ALONG THE CASCADING DRAIN)
 SCALE 1:50

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT- OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SLOPE STABILIZATION - AREA A					
Drawing title: SLOPE STABILIZATION- AREA A TYPICAL CROSS-SECTIONS ACROSS AREA A OF SLOPE STABILIZATION					
Contract No.: KAA/ES/MIA/617/C					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/ES/MIA/617/C/SS-01A - 02					

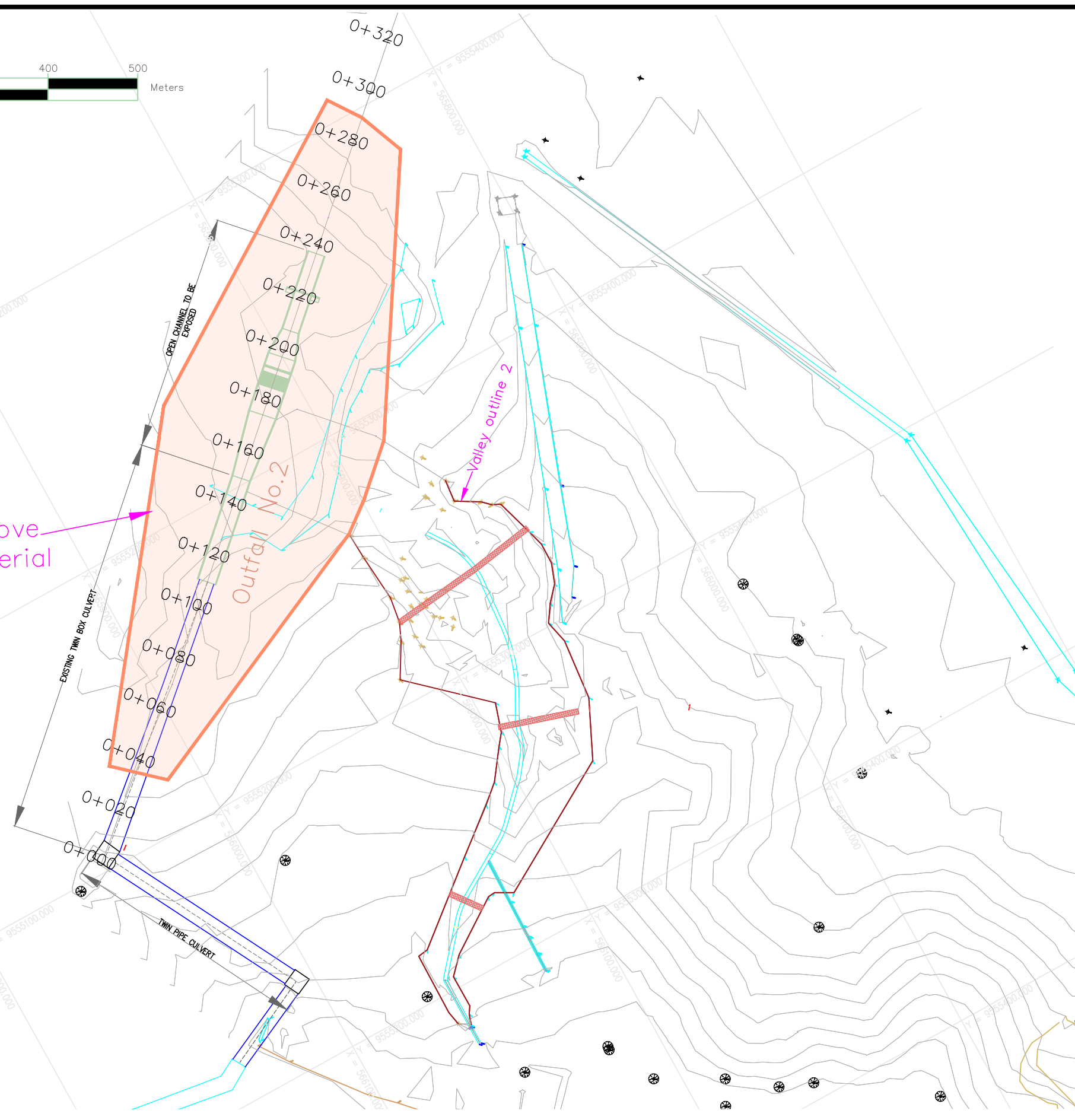
**2) AREA B – AREA BEHIND THE RADAR STATION, AT THE
OUTFALL NO. 2**



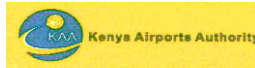

LEGEND

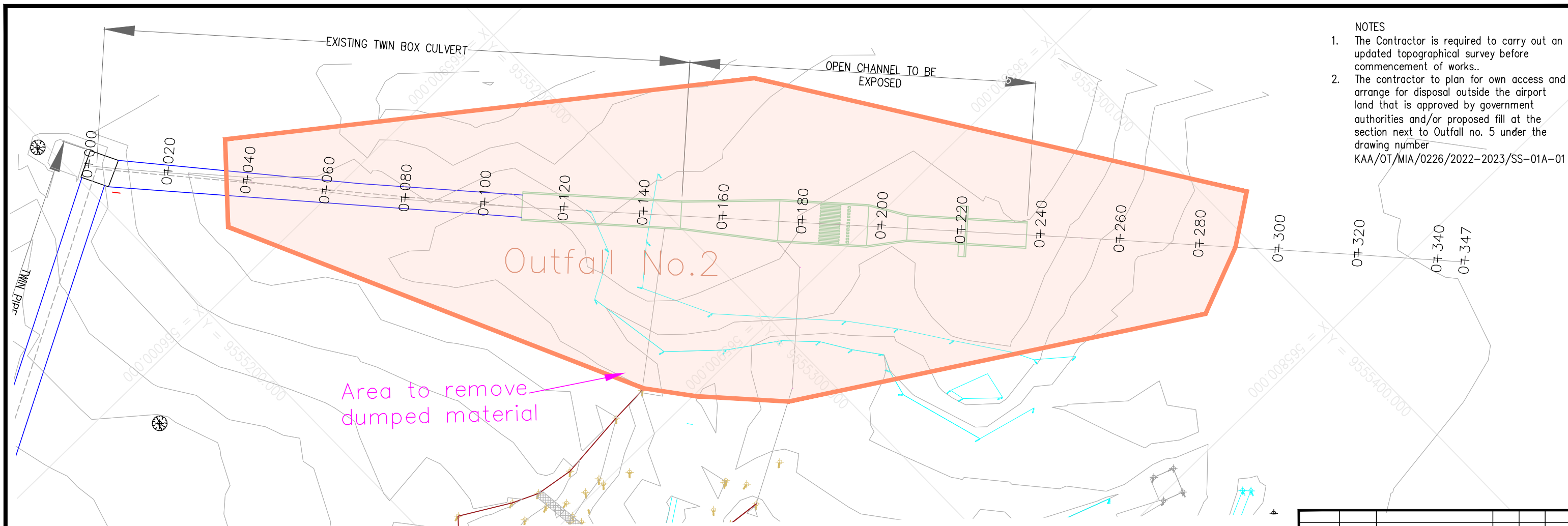
- Gully
- Existing Open Channel Drain
- Existing Road
- Fence
- Tree
- Outfall no. 2 Stilling Well
- Existing Sand break

Area to remove dumped material



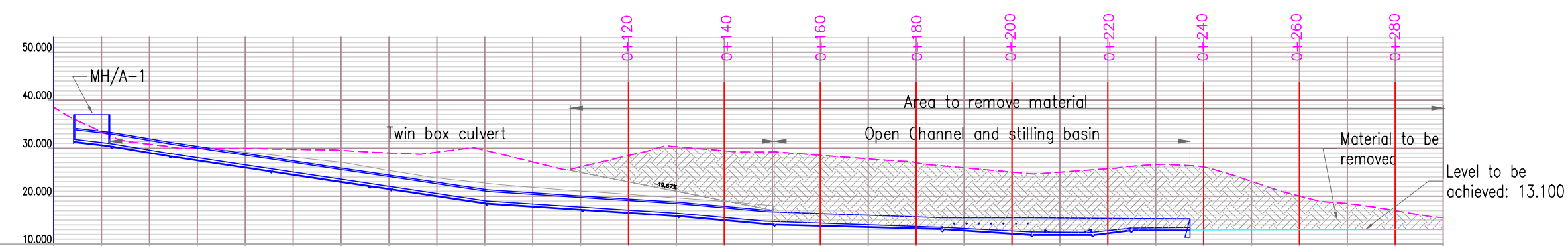
SLOPE STABILIZATION LAYOUT NEAR OUTFALL 2
Scale 1:2500

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
AREA 2 - OUTFALL NO. 2 EXPOSURE WORKS					
Drawing title: SLOPE STABILIZATION DRAWINGS					
SLOPE STABILIZATION LAYOUT- OUTFALL 2 (AREA 2) REMOVAL OF DUMPED MATERIAL					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS-GL01					



- NOTES
1. The Contractor is required to carry out an updated topographical survey before commencement of works..
 2. The contractor to plan for own access and arrange for disposal outside the airport land that is approved by government authorities and/or proposed fill at the section next to Outfall no. 5 under the drawing number KAA/OT/MIA/0226/2022-2023/SS-01A-01

OUTFALL NO. 2 PROFILE



STATION	0+000	0+010	0+020	0+030	0+040	0+050	0+060	0+070	0+080	0+090	0+100	0+110	0+120	0+130	0+140	0+150	0+160	0+170	0+180	0+190	0+200	0+210	0+220	0+230	0+240	0+250	0+260	0+270	0+280	0+290
EGL		33.44	30.82	29.95	29.91	29.76	29.54	29.01	29.15	29.55	27.11	26.11	28.46	30.29	29.45	29.23	28.51	27.75	26.97	25.87	24.98	24.98	25.69	26.54	26.06	23.08	20.03	18.49	16.99	
OUTFALL INVERT LEVELS	31.833		28.840			25.707	23.787	21.992		19.000		17.700		16.400		15.180			13.500		12.500		12.500		13.300		13.210			
CUT						1.783	3.505	4.654		8.122		6.195		11.540		14.520			10.784		12.130		10.065		10.893		11.100		7.455	

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
AREA 2 - OUTFALL NO. 2 EXPOSURE WORKS

Drawing title: **SLOPE STABILIZATION DRAWINGS
PLAN PROFILE FOR OUTFALL NO. 2 EXPOSURE**

Contract No.: **KAA/OT/MIA/0226/2022-2023**

Date: **JUNE 2023** Scale: **AS SHOWN**




Paper size: **A3** Rev No.: **1**

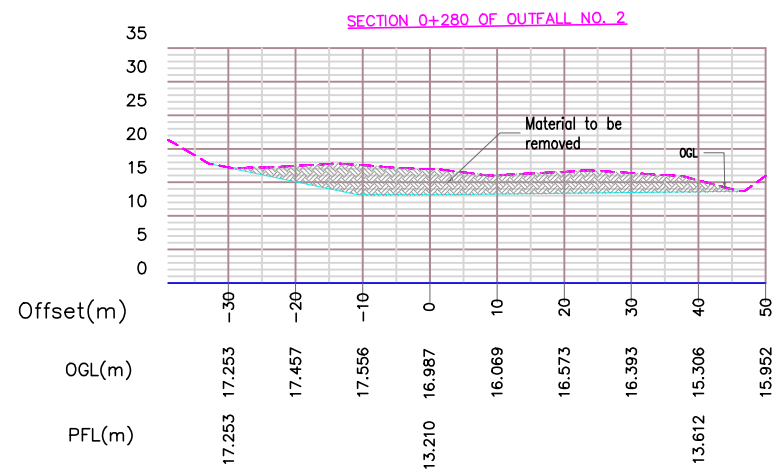
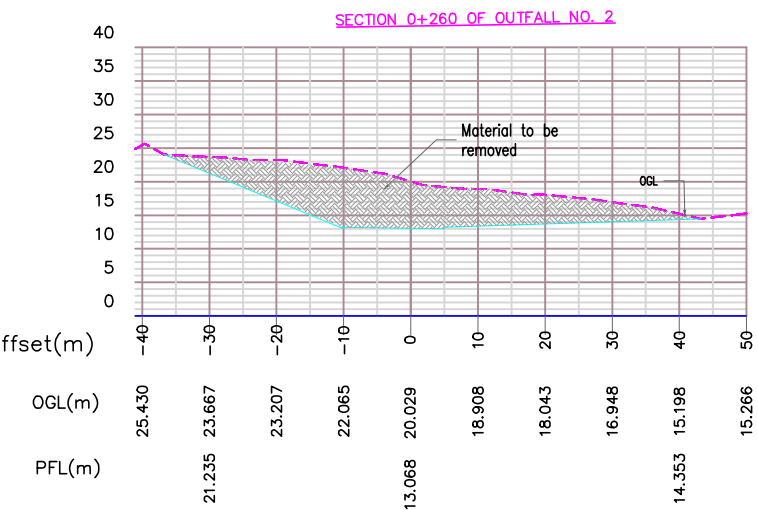
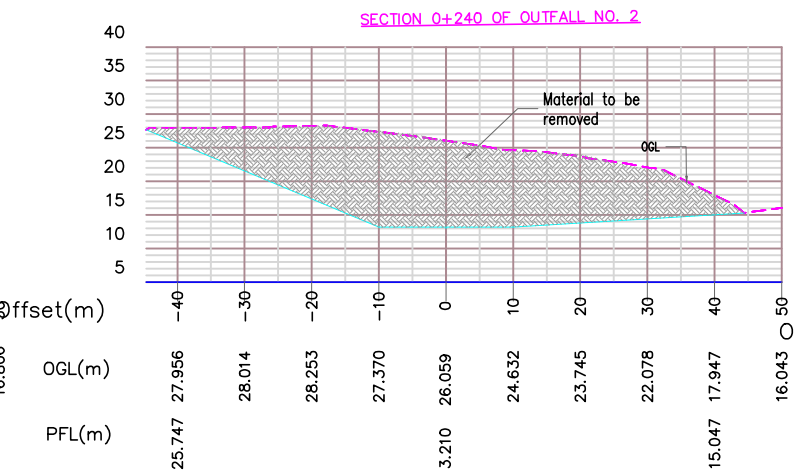
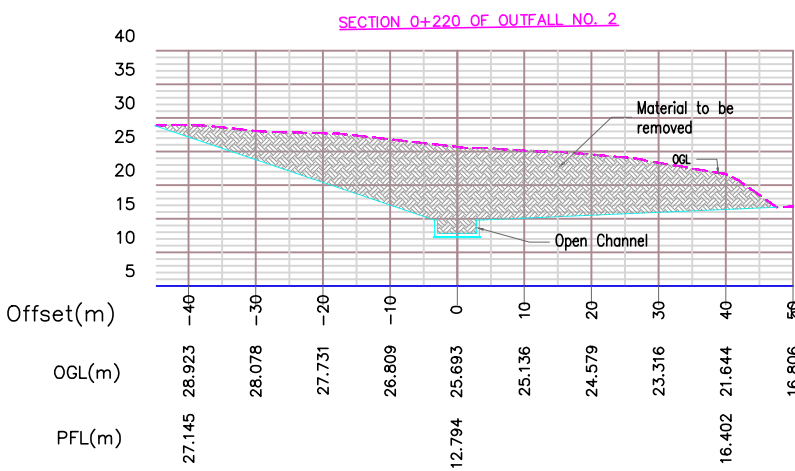
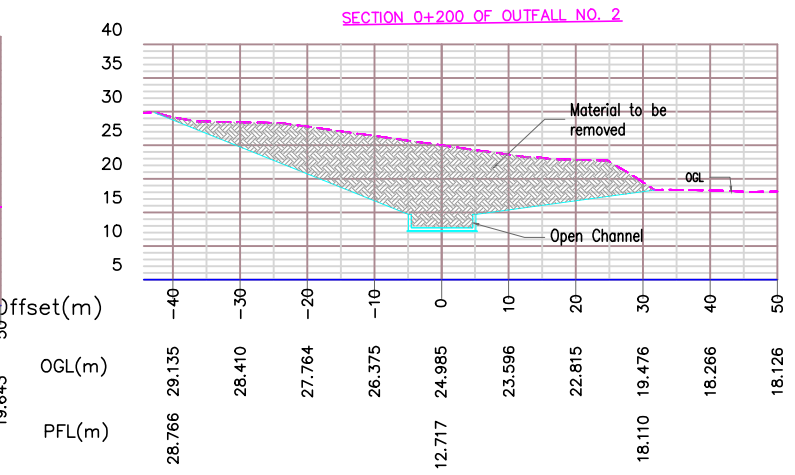
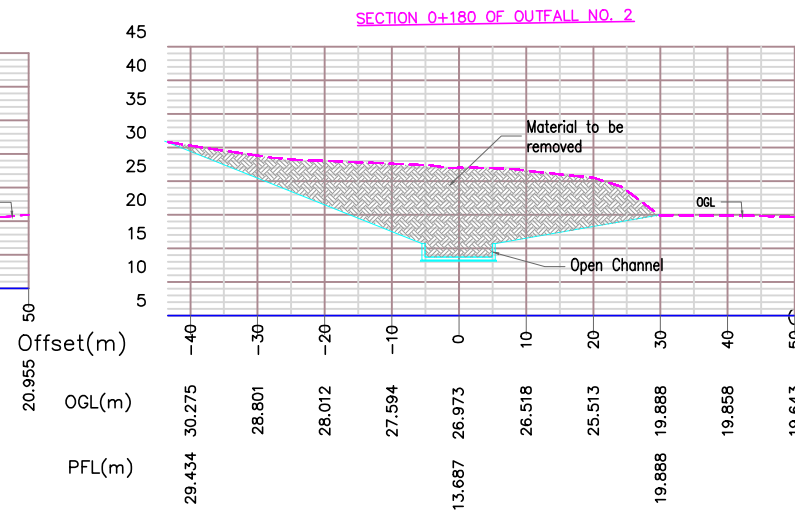
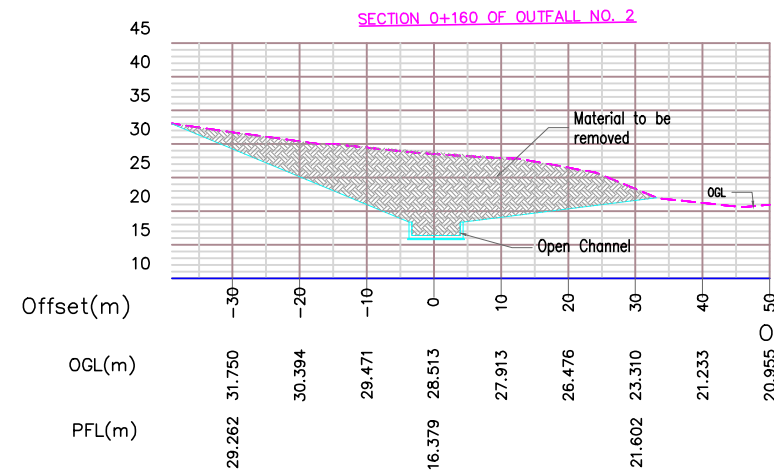
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NOTES

- The Contractor is required to carry out an updated topographical survey before commencement of works..

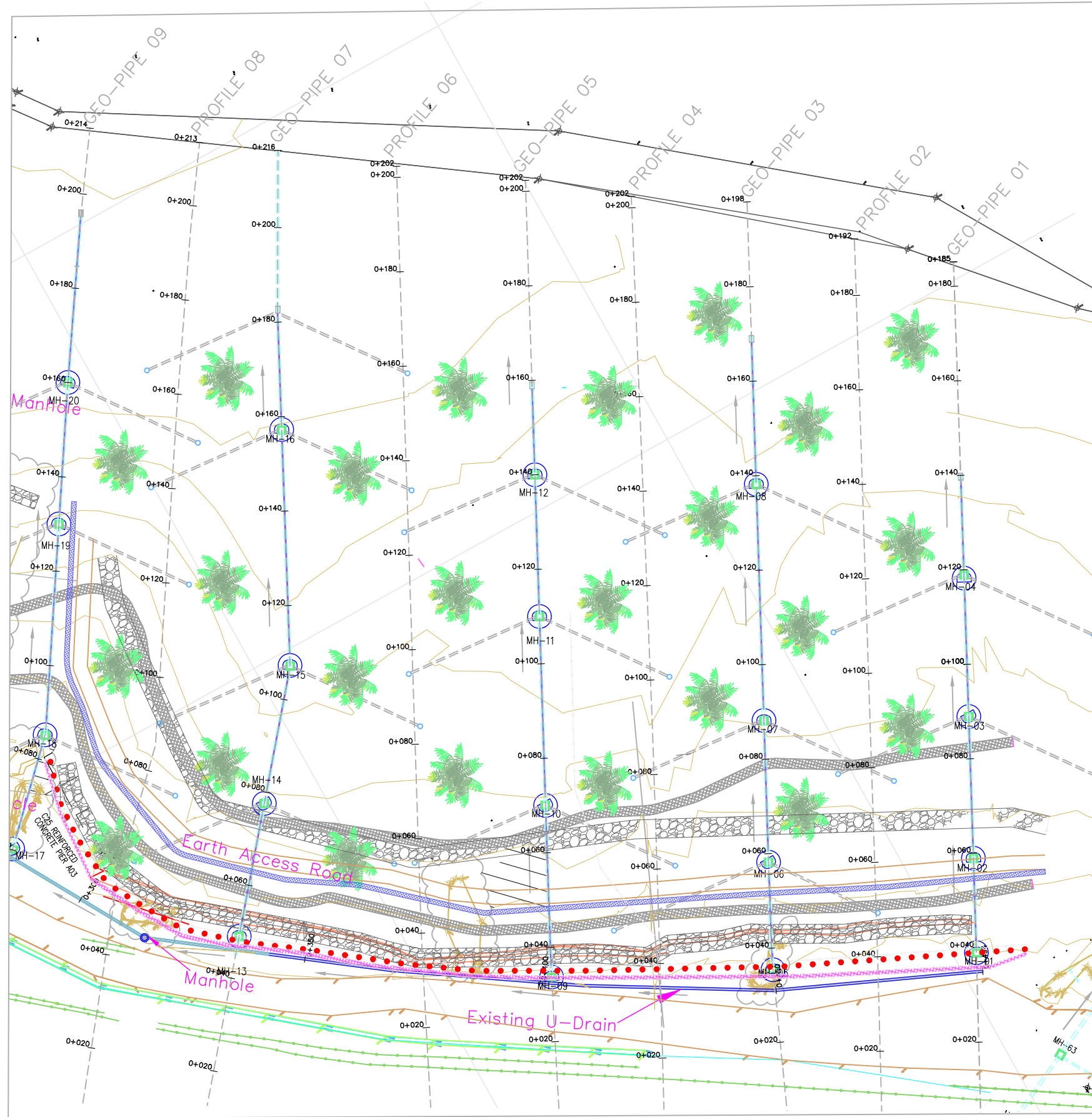
LEGEND:

-  Proposed Ground Level
-  Existing Ground Level
-  Dumped Material to be Removed

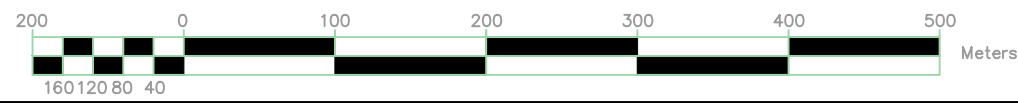


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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
AREA 2 - OUTFALL NO. 2 EXPOSURE WORKS					
Drawing title: SLOPE STABILIZATION DRAWINGS SECTIONS FOR THE EXPOSURE OF OUTFALL NO. 2					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS-PP02					

**4) AREA C – AREA BEHIND THE FENCE OF MAIN
RUNWAY 03/21**



SLOPE STABILIZATION AREA C LAYOUT
Scale 1:2500



NOTES:

A. Slopes Stabilization Works

- **Pile Works**
 - i. The Contractor shall be required to construct reinforced concrete piles Class 30/20 with reference to Sections 31 62 13 and 03 31 13 of the Technical Specifications.
 - ii. The Contractor is required to undertake an updated survey prior to works commencement, provide shop drawings, and work methodology.
 - iii. Construction procedure shall avoid excessive vibrations and compactions. Care is required due to presence of tunnel erosions. Refer to factual materials reporting under Sections 31 01 50 and 31 62 13 of the Specifications for the detailed ground condition.
 - iv. The Contractor shall construct a sand break.

● **Fill Work**

- v. The Contractor is required to trim and form the ground to proper engineered slopes as described in the drawings. Borrowed fill material to comply with Section 31 23 16 of the Specifications. Provided access roads to revert to the Employer for security surveillance.

B. Surface Protection Works

- vi. The Contractor shall make oil palm trees plantation, grassing vegetation cover, provide stone pitching, and geo grid soil reinforcements on steep and unstable soils as directed by the Engineer.

C. Drainage Works

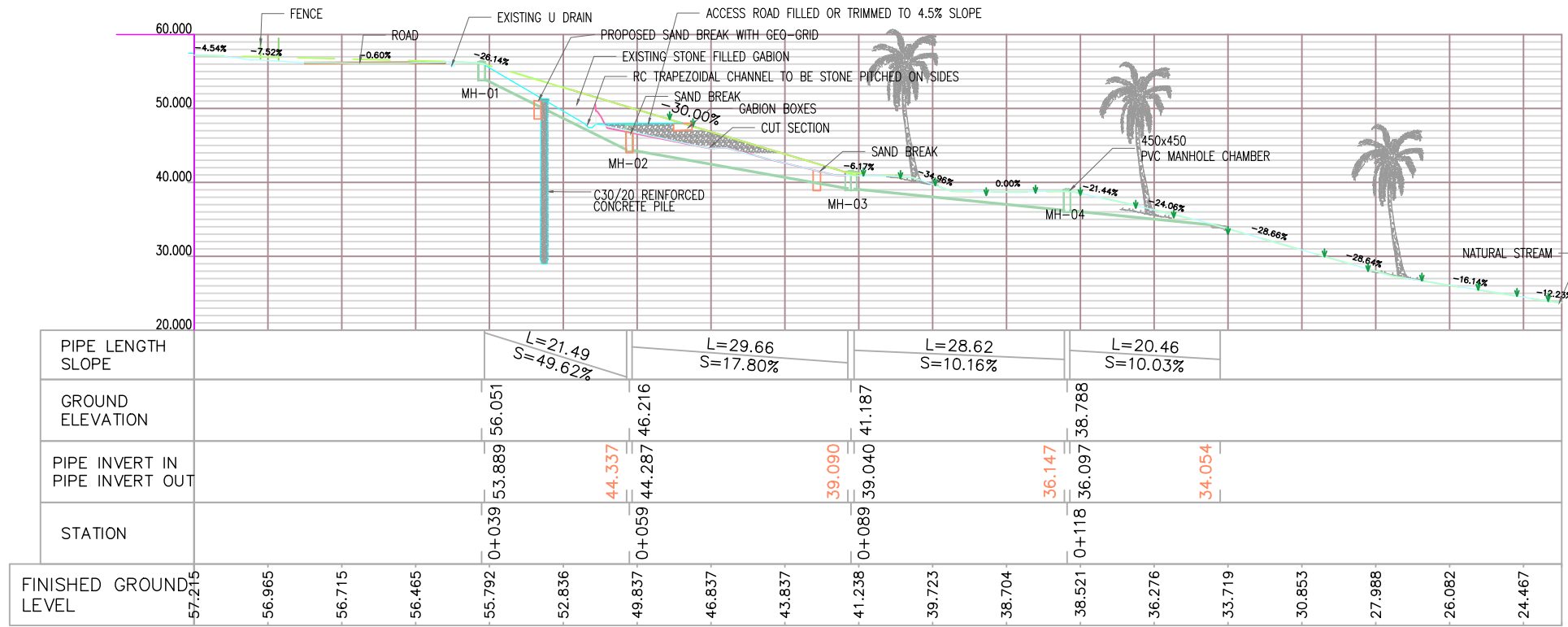
- **Surface Run-off Drainage Works**
 - vii. Drainage works require to follow the conventional practice of construction from the downstream.
 - viii. Contractor is required to construct a reinforced concrete trapezoidal channel
- **Subsurface Drainage Works**
 - ix. The Contractor shall construct major rib, and minor rib subsurface drains complete with the PVC manholes as prescribed in the construction drawings.

LEGEND

- Proposed Trapezoidal Drain
- Proposed Oil Palm Tree Canopy Plantation At 7-10m Spacing
- Proposed reinforced Concrete Piles
- Proposed Sand Break with Geo-Grid
- Proposed DN210mm Geopipe (Profile 1,2,3 &4)
- Existing Drains
- Existing Fence
- Existing Sand Break
- Existing DN210 mm Geopipe
- Existing Gabion boxes
- Existing Earth Road

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Consultant:					
					
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Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
AREA C - SLOPE STABILIZATION LAYOUTS					
Drawing title:					
SLOPE STABILIZATION DRAWINGS PLAN LAYOUT					
Contract No.:					
KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS-01					

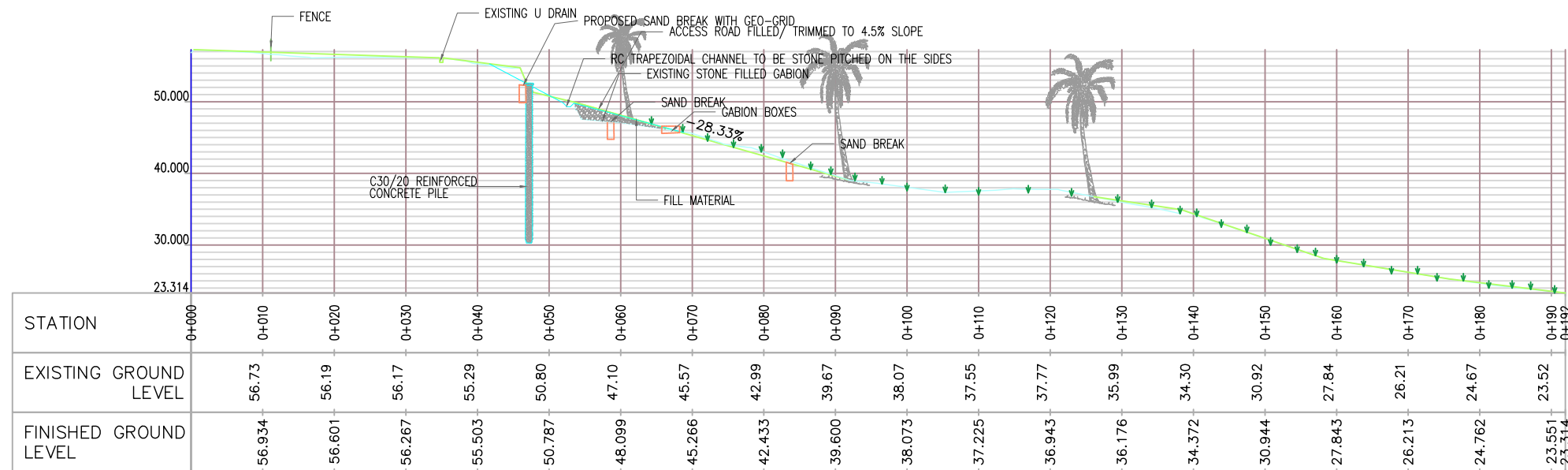
GEO-PIPE 01 PROFILE



NOTE
Prepare existing surface for geo-textile material

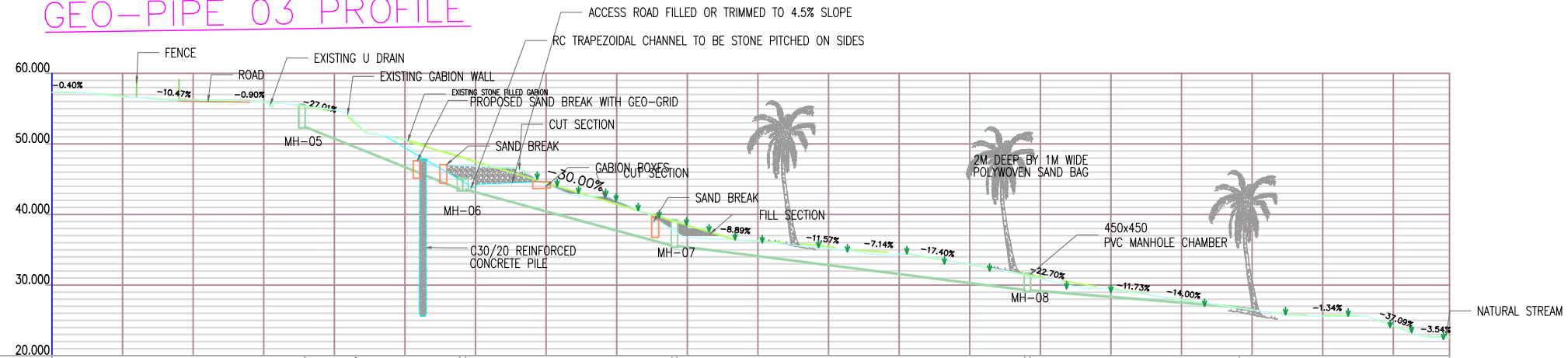
- LEGEND
- OGL
 - Proposed Finished Ground Level
 - Palm Tree
 - Grass Vegetation Cover

GEO-PIPE 02 PROFILE



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Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
AREA C - SLOPE STABILIZATION					
Drawing title:					
AREA C - SLOPE STABILIZATION PROFILE DRAWINGS					
Contract No.:					
KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS-02					

GEO-PIPE 03 PROFILE

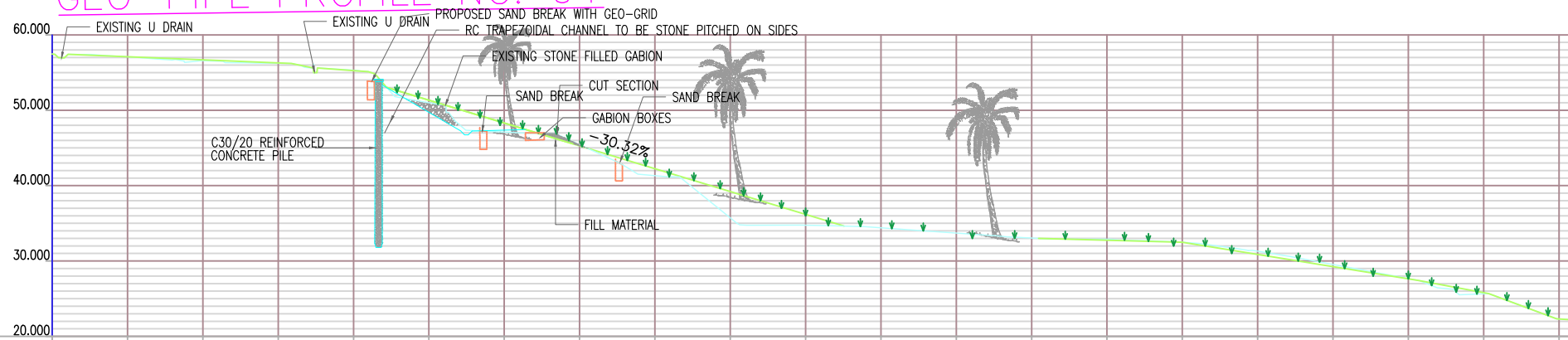


PIPE LENGTH SLOPE	L=23.68 S=40.32%		L=30.25 S=27.22%		L=49.64 S=12.67%		L=29.74 S=8.11%													
GROUND ELEVATION		55.076	45.465	37.935	31.321															
PIPE INVERT IN PIPE INVERT OUT		52.371 43.516	43.486 35.521	35.471	29.182 26.779															
STATION	0+035	0+058	0+088	0+138																
FINISHED GROUND LEVEL	56.788	56.209	55.950	54.734	50.630	47.515	44.470	41.470	38.470	36.244	35.433	34.533	32.903	31.149	29.488	27.914	26.511	25.725	24.207	22.595
FINISHED GROUND LEVEL						47.470	44.470	41.470	38.470	36.244	35.433	34.533	32.903	31.149	29.488	27.914	26.511	25.725	24.207	22.595

NOTE
Prepare existing surface for geo-textile material

- LEGEND
- OGL
 - Proposed Finished Ground Level
 - Palm Tree
 - Grass Vegetation Cover





GEO-PIPE PROFILE NO. 04



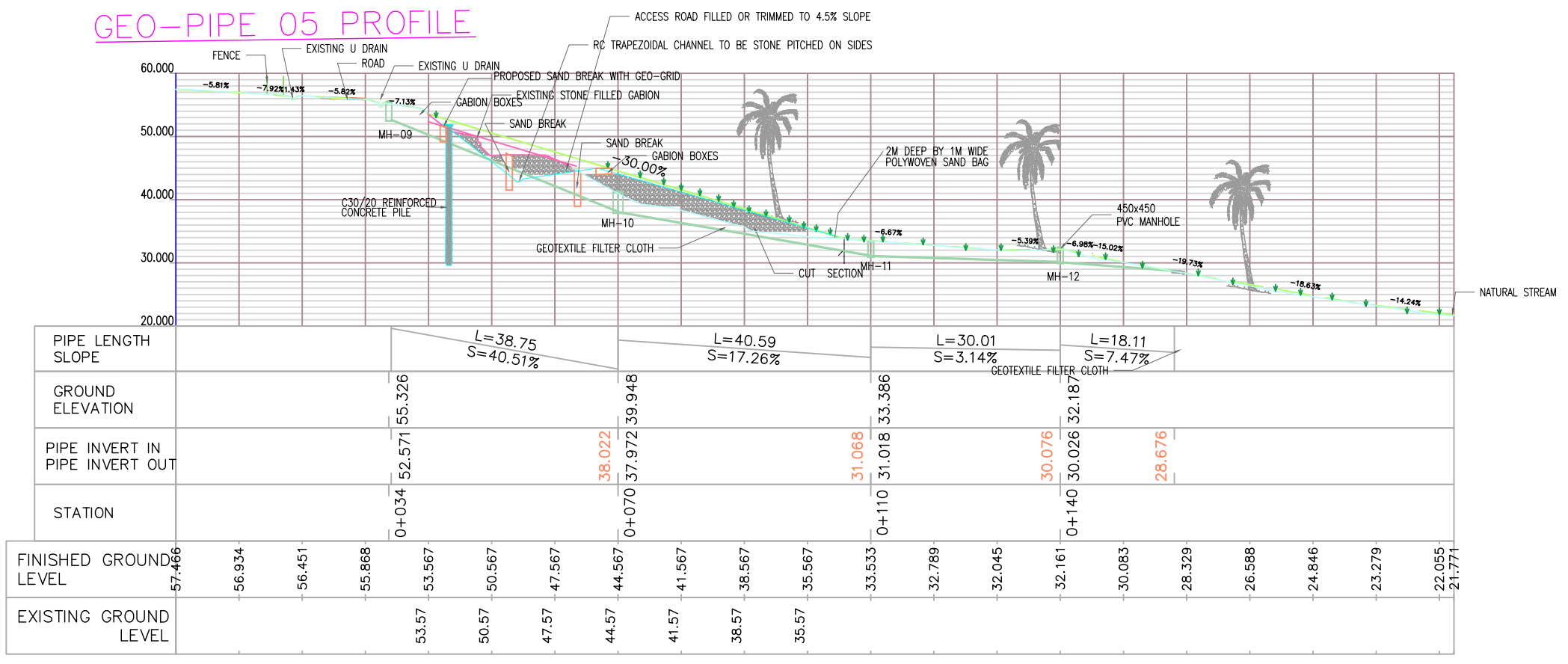
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EXISTING GROUND LEVEL	57.09	56.58	56.22	55.32	51.00	47.10	45.44	41.32	35.72	34.75	34.40	33.70	33.04	32.89	32.49	31.30	29.53	27.67	25.65	22.31		
FINISHED GROUND LEVEL	57.467	57.095	56.685	56.275	55.256	51.342	48.311	45.279	42.247	39.215	36.184	34.325	33.689	33.052	32.756	32.491	30.871	29.252	27.632	25.803	22.312	22.142

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Consultant: APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project: THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase: TENDER DRAWINGS					
Subject: AREA C - SLOPE STABILIZATION					
Drawing title: AREA C - SLOPE STABILIZATION PROFILE DRAWINGS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS-03					

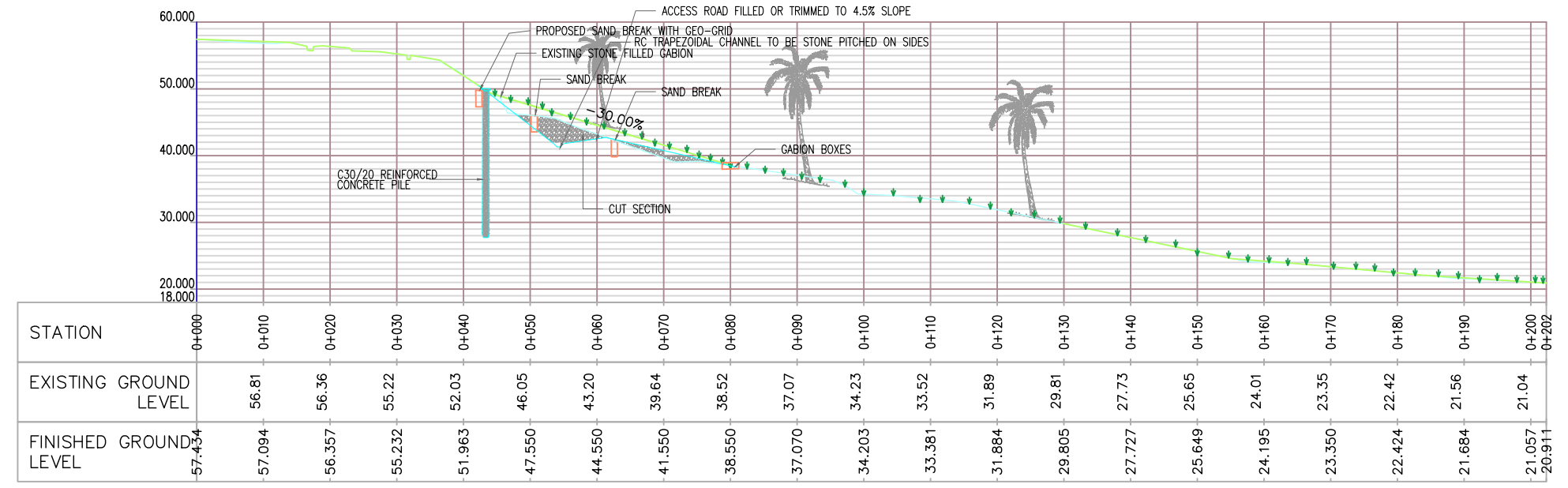
NOTE
Prepare existing surface for geo-textile material

- LEGEND
-  OGL
 -  Proposed Finished Ground Level
 -  Palm Tree
 -  Grass Vegetation Cover

GEO-PIPE 05 PROFILE



GEO-PIPE 06 PROFILE



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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
AREA C - SLOPE STABILIZATION

Drawing title:
AREA C - SLOPE STABILIZATION PROFILE DRAWINGS





Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023 Scale: AS SHOWN

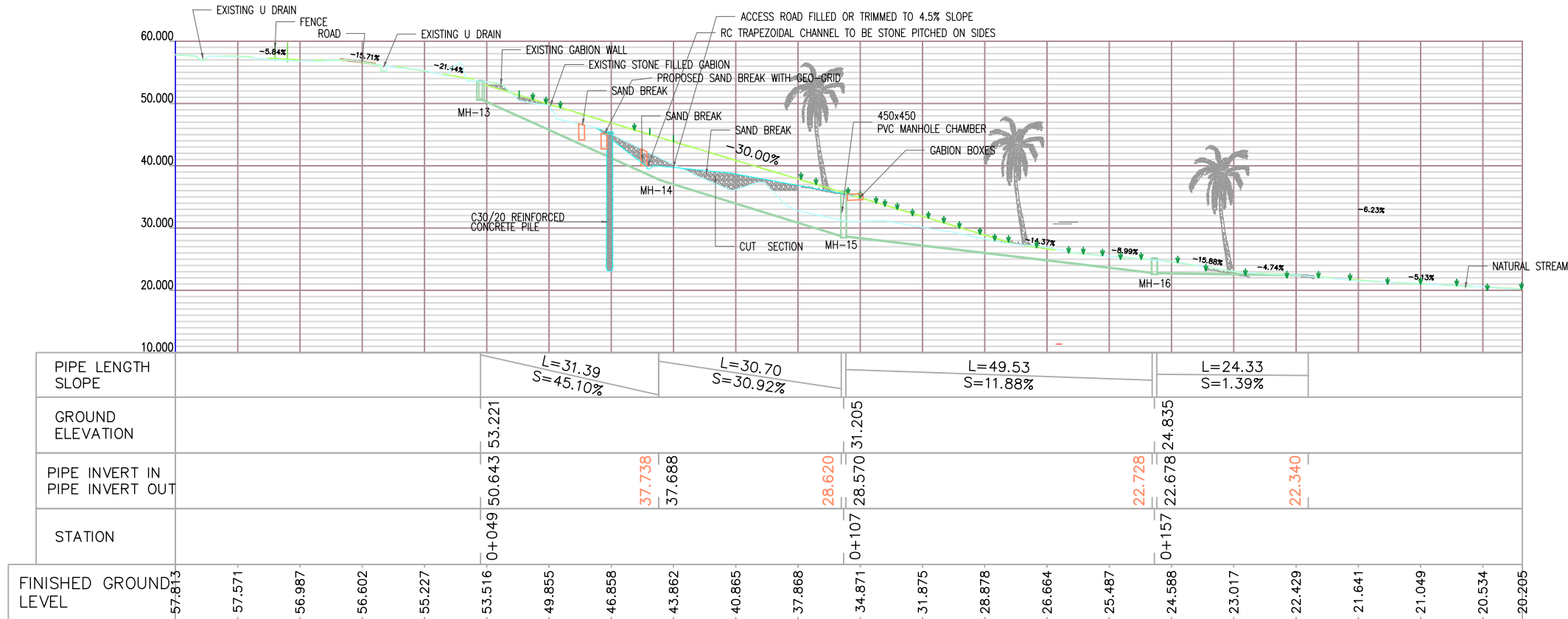
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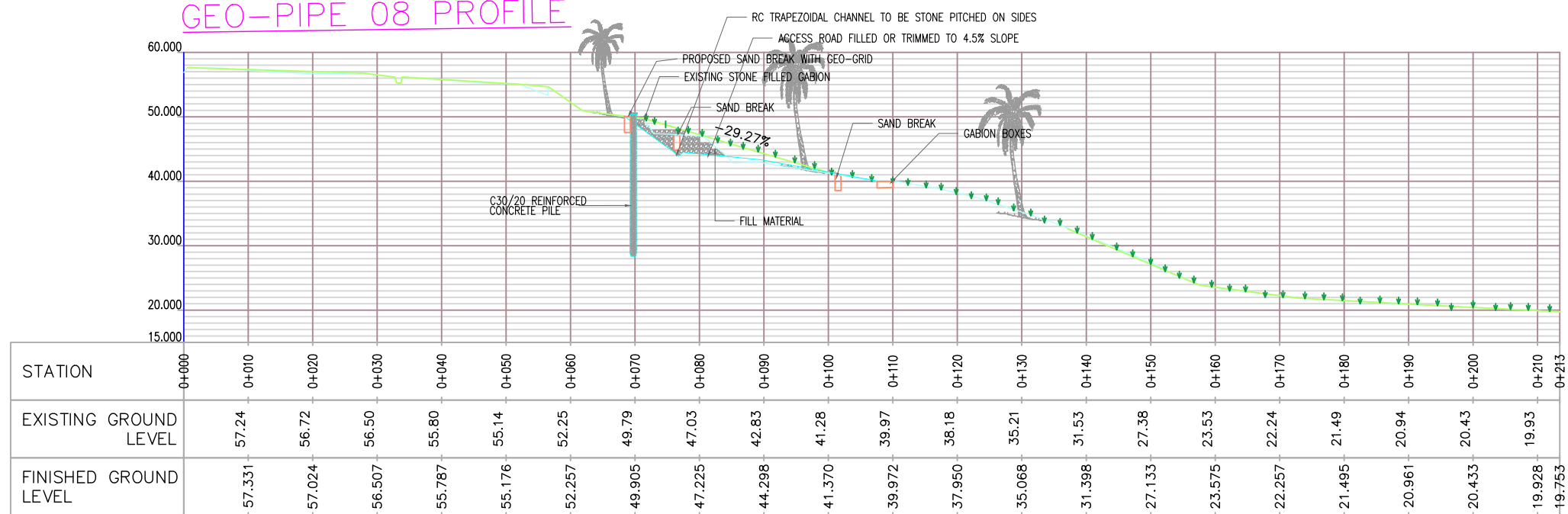
NOTE
Prepare existing surface for geo-textile material

- LEGEND
-  OGL
 -  Proposed Finished Ground Level
 -  Palm Tree
 -  Grass Vegetation Cover

GEO-PIPE 07 PROFILE



GEO-PIPE 08 PROFILE



REV	DATE	REVISION DESCRIPTION	IGM	SA	HMK

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Project:
THE REHABILITATION OF AIRCRAFT
PAVEMENTS AND AGL SYSTEM AT MOI
INTERNATIONAL AIRPORT - OUTSTANDING
WORKS

Phase:
TENDER DRAWINGS

Subject:
AREA C - SLOPE STABILIZATION

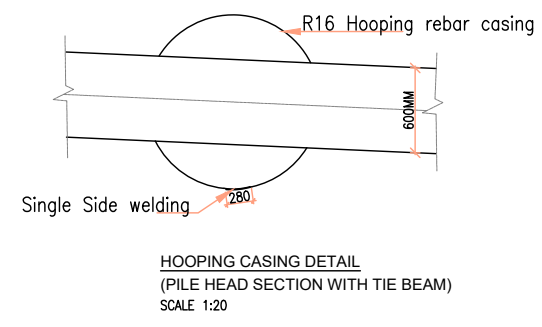
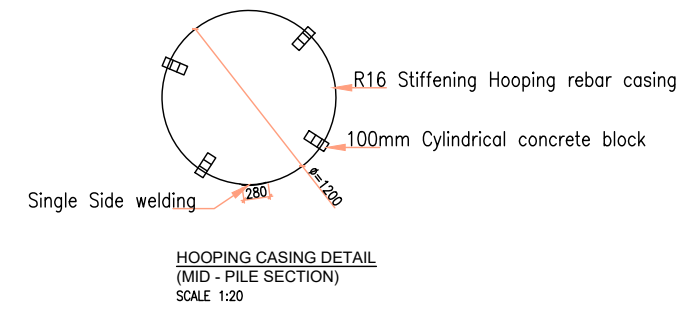
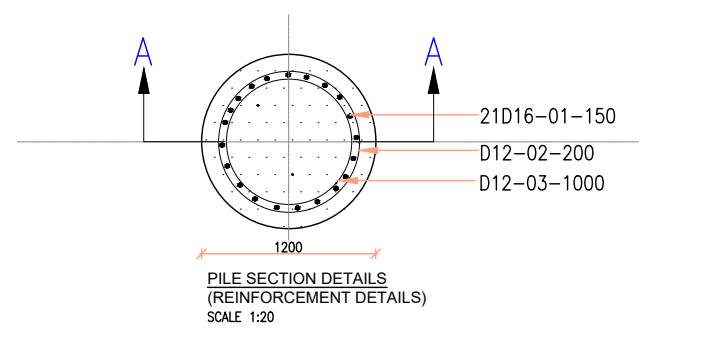
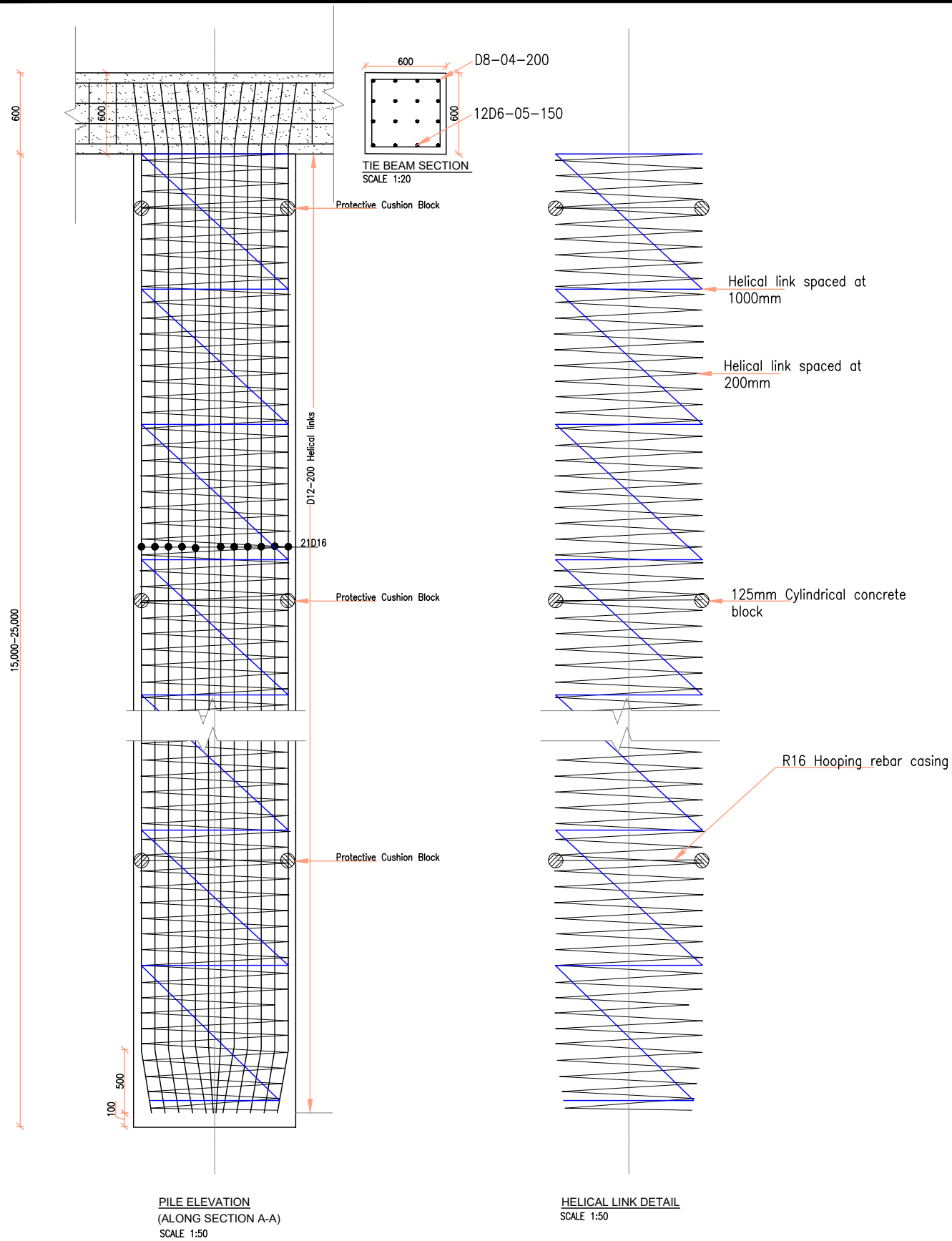
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PROFILE DRAWINGS

Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023	Scale: AS SHOWN
Paper size: A3	Rev No.: 1

Dwg No.: KAA/OT/MIA/0226/2022-2023/SS-05


5) TYPICAL DRAWINGS FOR SLOPES STABILIZATION AREA



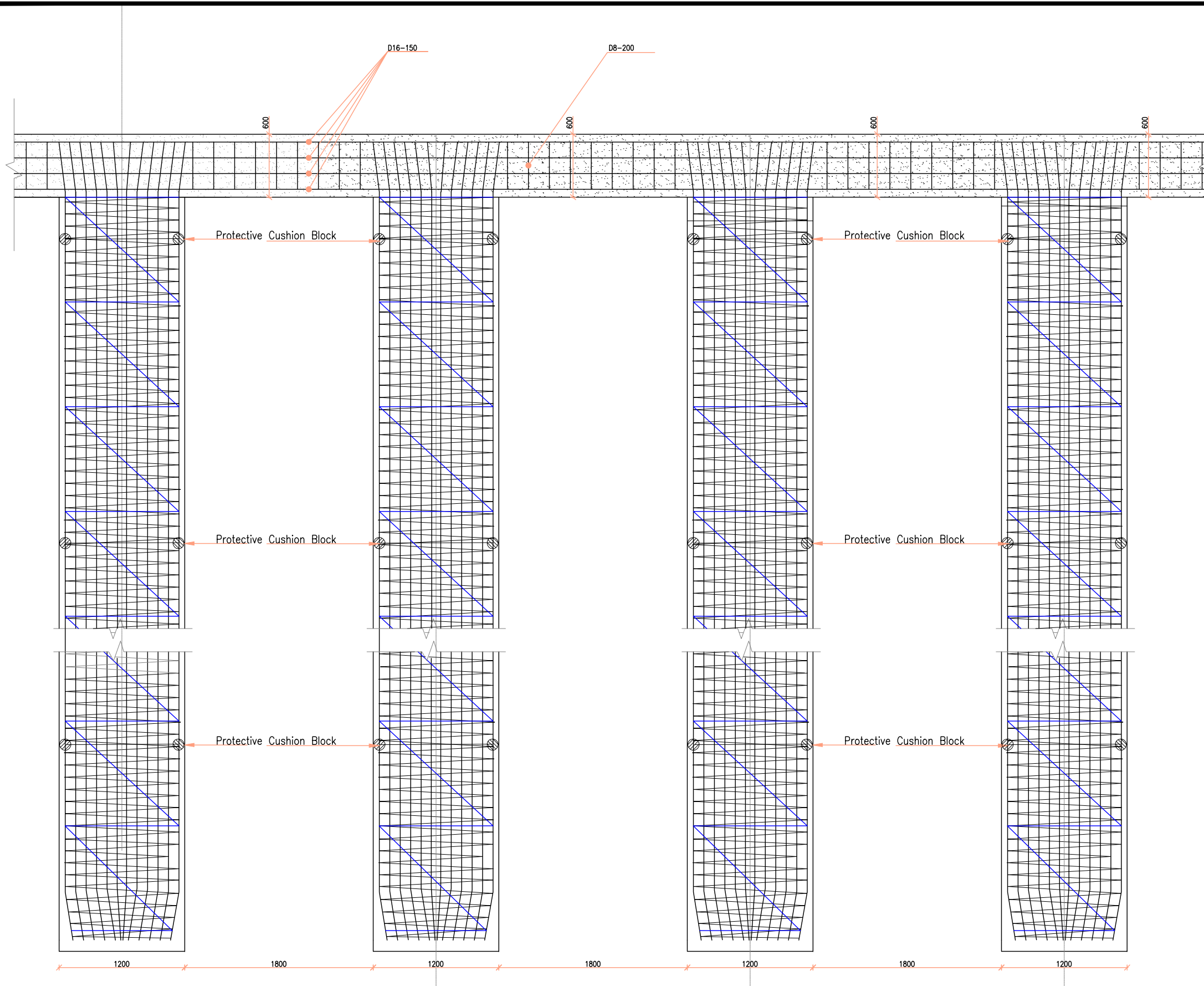
NOTE:
EVERY GROUPS OF 20 NO. PILES TO BE TIED TOGETHER USING TIE BEAM TO DETAILS.

NOTES

- DIMENSIONS IN mm UNLESS OTHERWISE SPECIFIED
- THE STRUCTURAL DESIGN TO BE CONFIRMED BY THE CONTRACTOR AFTER ESTABLISHING GROUND CONDITIONS.
- PROGRAMME ,METHOD OF CONSTRUCTION AND SETTING OUT OF WORK TO BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORKS
- DESIGN CRITERIA
 - DESIGN CODES B.S. 8007 & B.S. 8110
 - CONCRETE AGGREGATE TO COMPLY WITH B.S 882
 - WATER IN CONCRETE MIXES TO BS 3148
 - CONCRETE CLASSES TO BE AS FOLLOWS
MASS CONCRETE FILL AND BLINDING MIX CLASS 15/20
REINFORCED CONCRETE CLASS 30/20
 - MINIMUM COVER TO ALL REINFORCEMENT TO BE 40mm UNLESS AS SPECIFIED BELOW FOR BUILDING MEMBERS OF BUILDING
-SLABS-20mm
-BEAMS-25mm
-COLUMNS-40mm-
-FOUNDATIONS & FOOTINGS-50mm
-DOWEL BARS MINIMUM COVER -80MM
 - WALLS/COLUMNS SHOULD BE POURED IF POSSIBLE IN A FULL HEIGHT POUR AS SOON AS POSSIBLE AFTER THE BASE HAS BEEN CONCRETED (2 TO 3 DAYS)
 - 1000 GAUGE DPM TO BE PROVIDED ON THE ENTIRE TOP OF BLINDING LAYER
- REINFORCEMENT:
 - REINFORCEMENT TO BE HIGH YIELD RIBBED BARS TO B.S 4461
 - BENDING DIMENSIONS TO BS 4466
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SPACER BLOCKS ,CHAIRS AND TYING WIRE

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 APEC CONSORTIUM LIMITED APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT- OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SLOPE STABILIZATION TYPICAL PILING DETAILS					
Drawing title: SLOPE STABILIZATION DETAILS TYPICAL PILING DETAILS FOR AREA A AND C					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS/TYP 01					

TYPICAL PILE DETAILS



PILES AND TIE BEAM ARRANGEMENT
SCALE 1:50

NOTES

1. DIMENSIONS IN mm UNLESS OTHERWISE SPECIFIED
2. THE STRUCTURAL DESIGN TO BE CONFIRMED BY THE CONTRACTOR AFTER ESTABLISHING GROUND CONDITIONS.
3. PROGRAMME ,METHOD OF CONSTRUCTION AND SETTING OUT OF WORK TO BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORKS
4. DESIGN CRITERIA
 - (a) DESIGN CODES B.S. 8007 & B.S. 8110
 - (b) CONCRETE AGGREGATE TO COMPLY WITH B.S 882
 - (c) WATER IN CONCRETE MIXES TO BS 3148
 - (d) CONCRETE CLASSES TO BE AS FOLLOWS
MASS CONCRETE FILL AND BLINDING MIX CLASS 15/20
REINFORCED CONCRETE CLASS 30/20
 - (e) MINIMUM COVER TO ALL REINFORCEMENT TO BE 40mm UNLESS AS SPECIFIED BELOW FOR BUILDING MEMBERS OF BUILDING
-SLABS-20mm
-BEAMS-25mm
-COLUMNS-40mm-
-FOUNDATIONS & FOOTINGS-50mm
-DOWEL BARS MINIMUM COVER -80MM
 - (f) WALLS/COLUMNS SHOULD BE POURED IF POSSIBLE IN A FULL HEIGHT POUR AS SOON AS POSSIBLE AFTER THE BASE HAS BEEN CONCRETED (2 TO 3 DAYS)
 - (g) 1000 GAUGE DPM TO BE PROVIDED ON THE ENTIRE TOP OF BLINDING LAYER
5. REINFORCEMENT:
 - (a) REINFORCEMENT TO BE HIGH YIELD RIBBED BARS TO B.S 4461
 - (b) BENDING DIMENSIONS TO BS 4466
 - (c) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SPACER BLOCKS ,CHAIRS AND TYING WIRE

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Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT- OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SLOPE STABILIZATION TYPICAL PILING DETAILS					
Drawing title: SLOPE STABILIZATION DETAILS TYPICAL PILES AND TIE BEAM ARRANGEMENT DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS/TYP 02					

THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT- OUTSTANDING WORK

CONTRACT NO. :KAA/OT/MIA/0226/2022-2023

PILE BAR BENDING SCHEDULE

REF: BS 4466

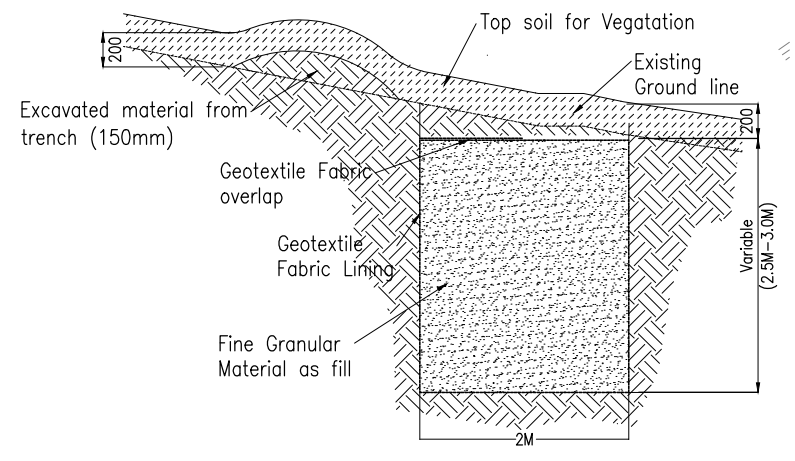
DATE PREPARED

JUNE, 2023

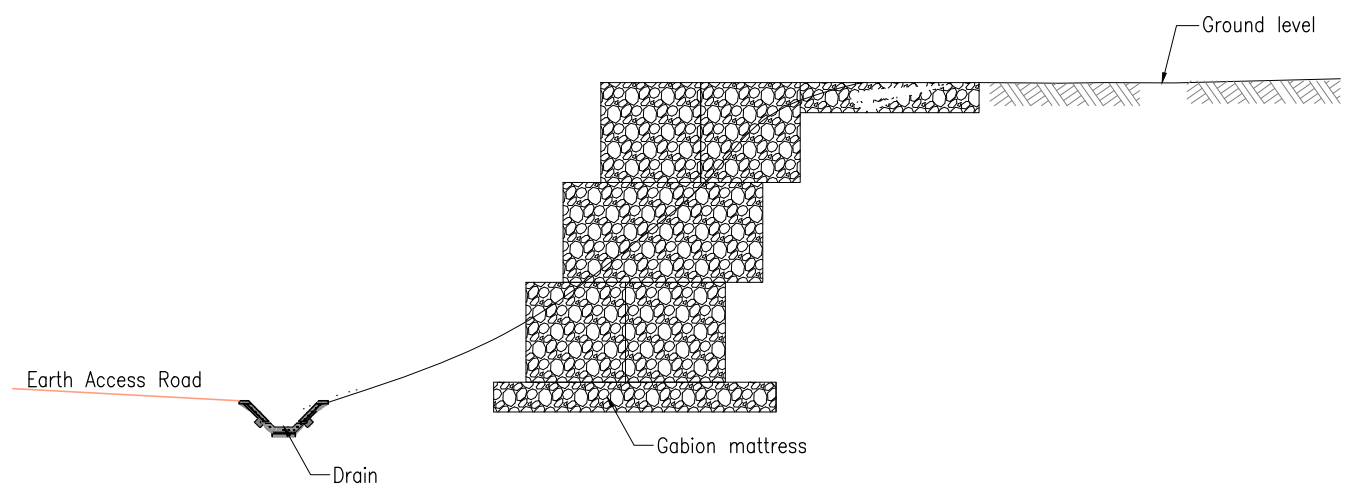
Member	Bar Mark	Type and Size		No. of Bars in Each	Spacing	Length of Each bar	Total Length	Shape Code	A*	B*	C*
		Type	size								
piles	1	D	16	21	150	22,000	462	62	500		21,500
	2	D	12	1	200	375,986	376	87	1,100	200	22,000
	3	D	12	1	1,000	72,985	73	87	1,068	1,000	22,000
Tie Beam	4	D	16	12	150	1,000	12,000	20	500	500	
	5	D	8	5	200	750	4	61	450	300	

NB: The bars schedule have been done per metre run of the tie beam, and per 1 no. column of 22-25 metres in depth. The Contractor is required to prepare final bar bending schedules after preparation of shop drawings for approval by the Engineer. The Contractor is required to additionally refer to the tender drawings while providing the rates.

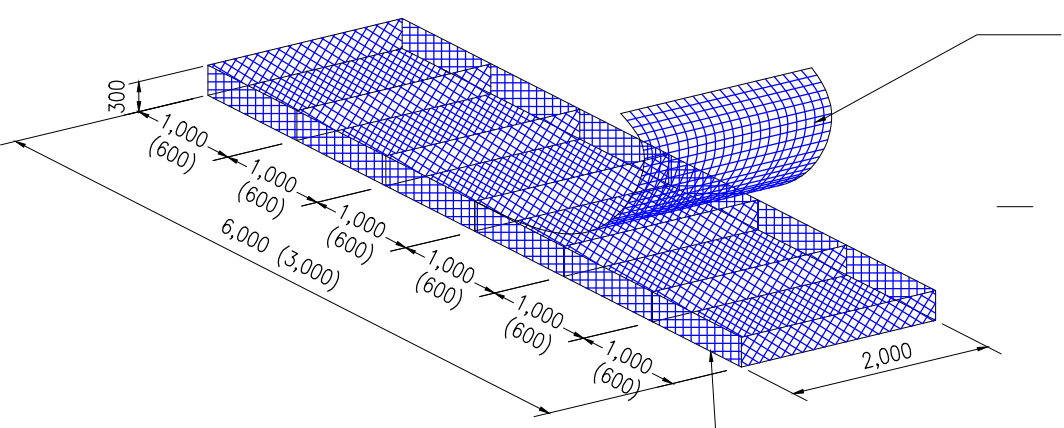
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT- OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TYPICAL DETAILS					
Drawing title: SLOPE STABILIZATION DETAILS BAR BENDING SCHEDULES					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/SS/TYP 03					



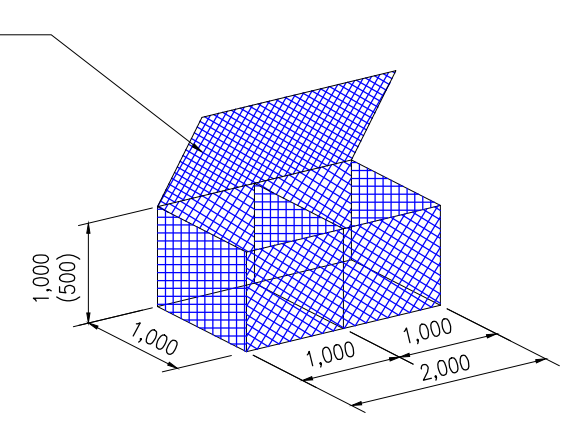
DETAILS OF SAND BREAK FOR SLOPE STABILIZATION
Scale 1:100



TYPICAL GABION ARRANGEMENT DETAIL (STEPPED EMBANKMENT)



TYPICAL GABION MATTRESS DETAILS
SCALE 1:50



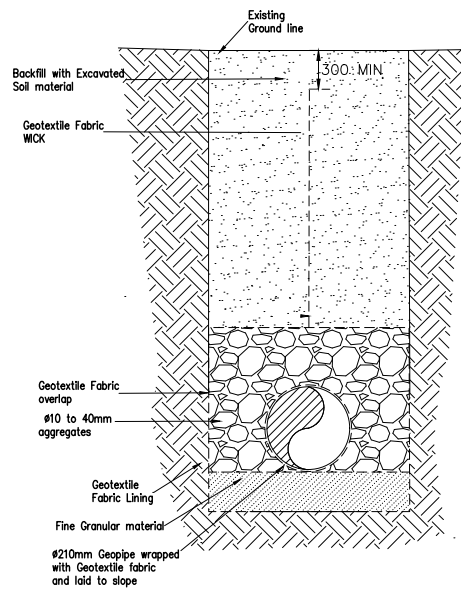
TYPICAL GABION DETAILS

NOTES:

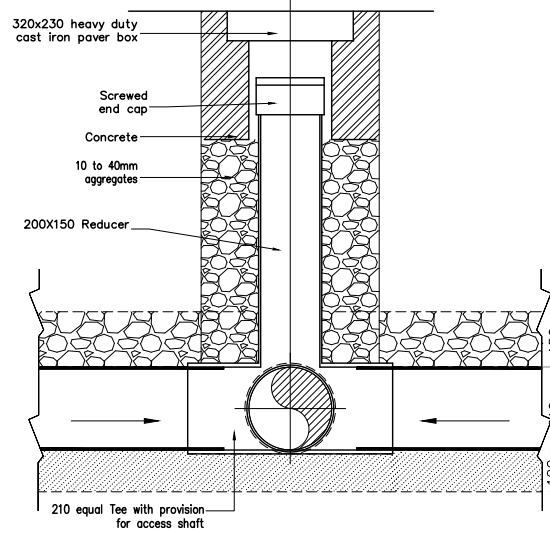
- Dimensions in millimeters unless otherwise indicated.
- The extension of erosion protection of grouted stone pitching or gabions for the protection of structures and for stabilization of embankments shall be placed where indicated on the drawings as per schedule, or as directed by the Resident Engineer.
- Gabions shall be made from galvanized steel wire mesh in accordance with clause the technical specifications.
- The assembly of gabion boxes and mattresses shall be done according to the manufacturer's instructions. Gabion box elements shall be edged with a 4mm dia. wire to give the box stability. All wiring shall be done as a continuous lacing operation, not with individual twists at intervals. Tightness of the mesh and wiring is essential at all times.
- The gabion structure shall be formed by wiring the gabion boxes and/or mattresses together, using exactly the same method as for assembling single gabions (see note 3). Gabions shall be placed and wired together empty.
- Fill to gabions is to be placed by hand and stones are to be tightly packed to ensure minimum voids. After filling slightly overfull, lids are to be stretched tightly over the filling and wired down. The fill shall comply with the Technical Specifications.
- The ends of a gabion structure must not project into the flow but shall taper smoothly into the bank. Where both a vertical wall and a lining are required next to each other, a transition from one form of structure to the other shall be done in stages. One example is a culvert which has vertical wingwall faces, while the channel up and downstream has a trapezoidal cross-section. The gabion wall next to the wingwall shall be vertical (detail 3), but as it proceeds away from the wingwall, steps between the courses of gabion boxes shall be formed and gradually increased in widths until a slope of say 1:1 is obtained (detail 2). At this point, the retaining wall section changes to a stepped revertment. The revertment is continued with the width of its steps increasing until a slope of 1:1.5 is reached, at which point the bank is faced with a smooth mattress lining (detail 1).
- Layout and dimensions will be instructed by the Resident Engineer to suit site conditions.

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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
SLOPES STABILIZATION TYPICAL DETAILS					
Drawing title: SLOPE STABILIZATION TYPICAL DETAILS GABION AND GABION MATTRESS DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ SS/TYP 04					

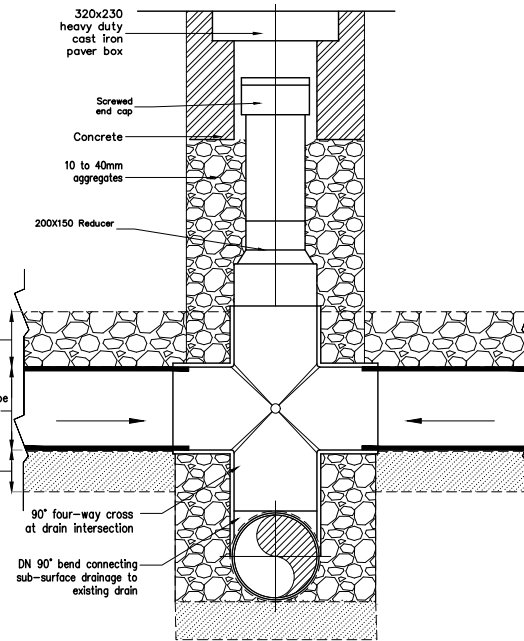
PROCEDURE: Geopipe surround with aggregate



GEOPIPE INSTALLATION DETAIL
Scale 1:100

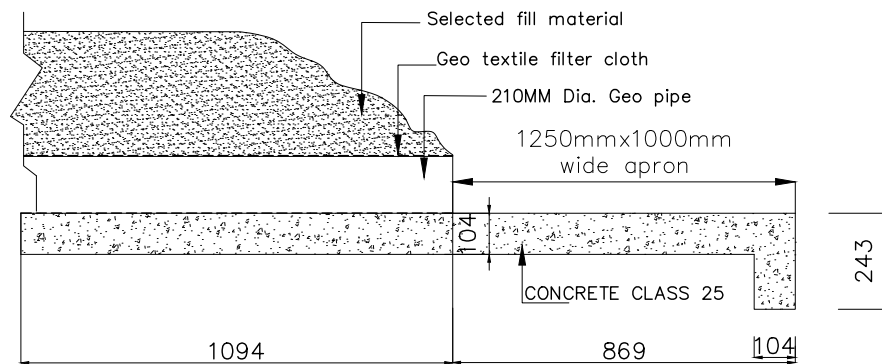


GEOPIPE TEE CONNECTION DETAIL
Scale 1:100

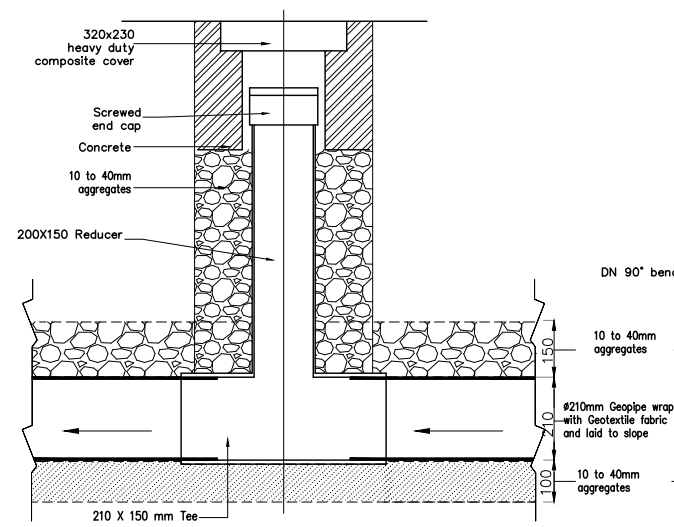


GEOPIPE FOUR WAY CONNECTION DETAIL
Scale 1:100

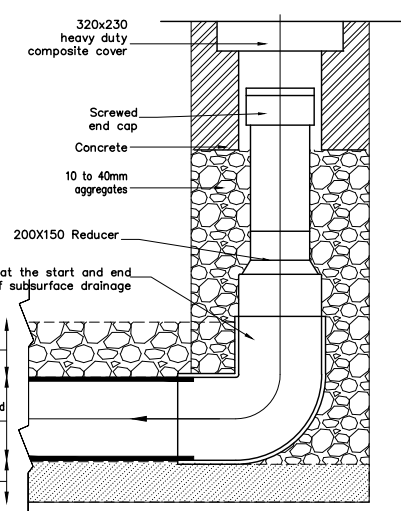
- The trench shall be lined with geo-textile fabric right to the bottom of the trench and up the sides. The fabric shall be enough on either side of the trench to lay over the pipe and to be used as fabric WICK as shown in the drawings. The surface underlying geo-textile shall be smooth and free of ruts or protrusions which could damage the geo-textile fabric..
- The bottom of the trench should be filled with 100mm of fine granular material for pipe bedding.
- The geo-pipes wrapped with geo-textile fabric shall then be laid on the bedding material at specified depths and slope.
- The Ø10 to 40 mm aggregates shall be placed on top of the pipe in the trenches outside the runway shoulder as shown in the drawing. The aggregates and the geo-pipes shall be covered with the remaining geo-textile fabric which will extend to 300mm below the existing ground level as geo-textile fabric WICK.
- 2 to 19 mm aggregates shall be placed on top of the pipe installed along the runway shoulder as shown in the drawing. The aggregates and the geo-pipes shall be covered with the remaining geo-textile fabric which will be overlapped at 300mm above surround. Soils should not enter geo-textile overlap.
- 200mm of vegetative soils as per the specification will be deposited on the upper side of the trench.
- Pipe bedding shall be granular material described in the specification.
- Access shafts to be installed at all interconnections and as shown on the drawings where maximum spacing shall not exceed 50m.
- Appropriate joint fittings to be used in all junction connections.




GEO-PIPE END DETAILS
Scale 1:100



ACCESS SHAFT DETAIL
Scale 1:100



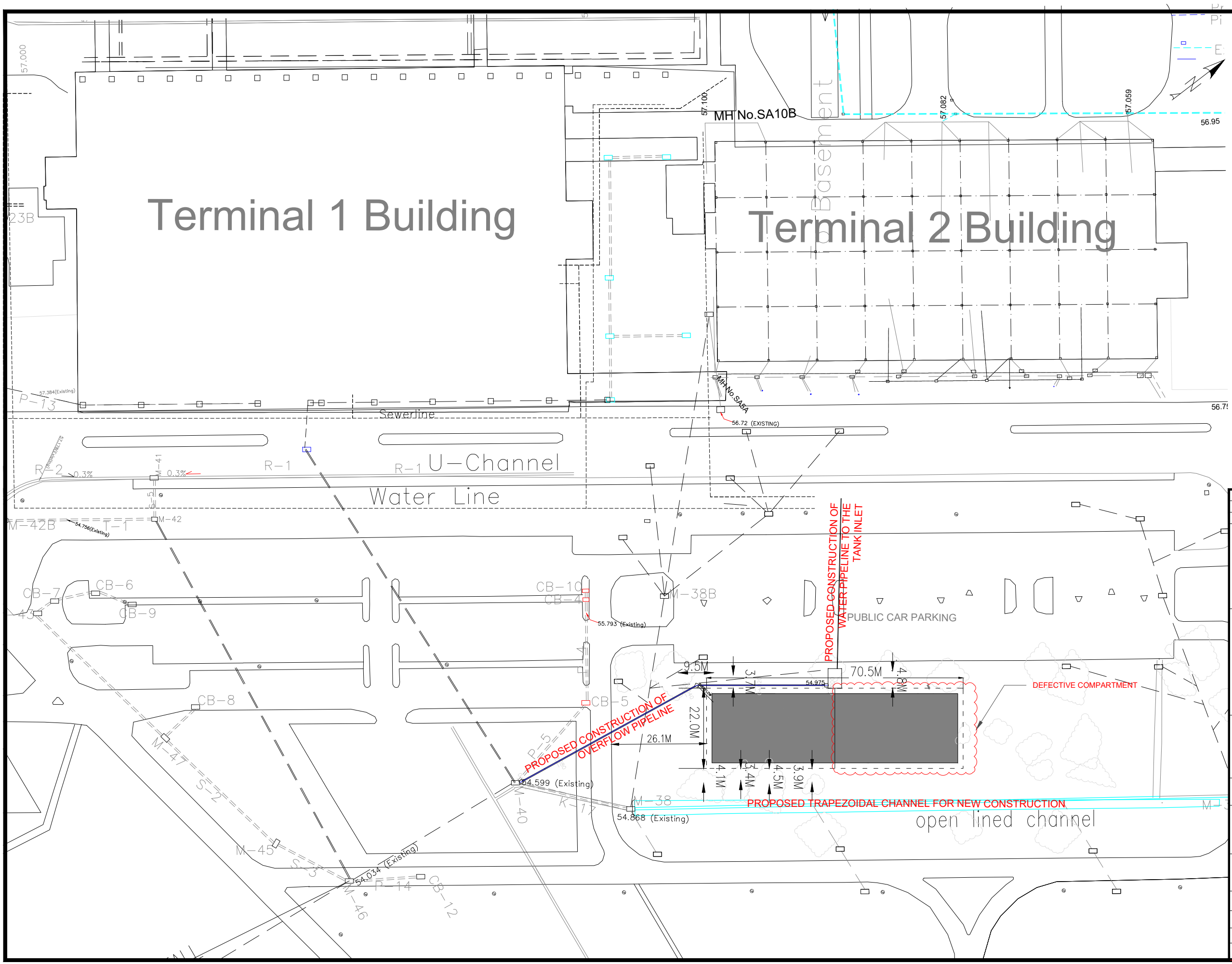
BEND CONNECTION AT THE START OF GEOPIPES
Scale 1:100

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
SLOPES STABILIZATION TYPICAL DETAILS					
Drawing title: SLOPE STABILIZATION TYPICAL DETAILS FOR GEOPIPES AND PVC MANHOLES					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ SS/TYP 05					

RAINWATER HARVESTING DRAWINGS

- 1) TWIN TANKS DRAWINGS**
- 2) SITE OFFICE TANK DRAWINGS**
- 3) GENERAL AVIATION DRAWINGS**
- 4) FIRE STATION TANKS**

1) TWIN TANKS DRAWINGS



LEGEND

- Proposed rainwater collection Pipeline
- Existing rain water drainage pipeline
- Proposed 1000x1000 Manhole Chambers
- Extent Of Tree canopy

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
<p>Client:</p> <p>P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke</p> 					
<p>Consultant:</p> <p>APEC CONSORTIUM LIMITED</p> <p>APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.</p>					
<p>Project:</p> <p>THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS</p>					
<p>Phase:</p> <p>TENDER DRAWINGS</p>					
<p>Subject:</p> <p>TWIN TANK GENERAL LAYOUT</p>					
<p>Drawing title:</p> <p>TWIN TANK GENERAL LAYOUT AND EXISTING FEATURES</p>					
<p>Contract No.: KAA/OT/MIA/0226/2022-2023</p>					
<p>Date: JUNE 2023</p>			<p>Scale: AS SHOWN</p>		
<p>Paper size: A3</p>			<p>Rev No.: 1</p>		
<p>Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-TT 01</p>					

TWIN 3500M³ RWH TANKS - OUTSTANDING WORKS MATRIX

No.	Description of Work	Status
General Items		
1	Allow for water testing of the reservoir as specified to the satisfaction of the Engineer. Include for provision of water from approved source.	Outstanding
2	Cleansing and sterilization of reservoir in accordance with specifications	Outstanding
3	Pressuring testing, cleansing and sterilization of pipework in accordance to specification	Outstanding
4	General clearance, removal of all bushes, grass, shrubs e.t.c grub up roots and cart away to tip, identified by the contractor in liaison with Local Authority.	Outstanding
Excavation and Earthworks		
5	Provide backfill in layers not exceeding 300mm by reinstatement of the previous excavated material stockpiled within the Airport land and as prescribed in the specifications. The Contractor shall prepare the walls of the tank before the backfill through application of two layers bitumen.	Outstanding
6	Excavate the required sections while constructing the chambers, and inlet works.	Outstanding
7	Provide approved hardcore and compact in layers of 150mm, blinded with final material 200 mm thick.	Outstanding
Concrete and Reinforcement for Inlet Works		
8	Strength Grade 15/20 (1:3:6) blinding concrete 75 mm thick with sulphate resisting cement .	Outstanding
Reinforced Concrete Class 25/20:		
9	Foundation, Base and ground slab concrete to BS 8007: Allow for supply and pour of C25/20 for prescribed works	Outstanding
10	Provide and fix high tensile steel reinforcement to SRN 127 including cutting, bending, propping with spacers and tying as specified in the drawings.	Outstanding
11	Provide steel fabric to BS 4483: A142 square mesh, nominal mass 3-4 kg/m ²	Outstanding

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval by the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to interpret the Outstanding Work matrix in relation to the other layout and section drawings represented in the following set of drawings.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK OUTSTANDING WORKS MATRIX					
Drawing title:					
OUTSTANDING WORKS MATRIX					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 02					

No.	Description of Work	Status
Formwork and Chambers		
12	Provide formwork that shall include fixing shuttering, propping, strutting and striking as specified for sides of the inlet work, and overflow chambers as specified.	Outstanding
13	Carry out specified boxing out in concrete wall for the tank for inlet and outlet pipework, overflow chamber, pipe installations, access manholes	Outstanding
14	Provide rebates in walls of overflow chamber for precast concrete slabs	Outstanding
15	Provide rebates for manhole covers	Outstanding
16	Provide fillet to form chamfer for all roof upstands and manhole upstands	Outstanding
17	Rehabilitate Terminal 1 buildings manholes for downpipes by careful removal of the existing manhole covers and subsequent supply and installation of airtight heavy duty ductile cast iron manhole and associated jointing works to match the existing flooring.	Outstanding
18	Provide Precast Reinforced Concrete class 20/20 finished fair on all surfaces and reinforced with one layer steel mesh fabric reinforcement BRC No. A142 and high steel reinforcement complete with special lock and handling mechanism for the overflow chambers, inlet works openings, tank openings, and washout chamber.	Outstanding

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval by the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to interpret the Outstanding Work matrix in relation to the other layout and section drawings represented in the following set of drawings.

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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK OUTSTANDING WORKS MATRIX					
Drawing title:					
OUTSTANDING WORKS MATRIX					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 03					

No.	Description of Work	Status
Twin Tank Leakage - Construction Joints		
19	Conduct detailed joints (both wall and wall foundations) X-ray investigations and make a report of findings not later than two weeks after completion of the investigations.	Outstanding
20	Provide and install new water stops on selected construction joints identified that shall include all preparation works before installation and as further described as per drawings and specifications	Outstanding
21	The Contractor shall careful break the existing concrete joints to 500mm extents on either sides of the wall or bottom slab. While doing so, precaution is required for minimal damage especially to the rebars. Prepare the ground for new concrete pour.	Outstanding
22	Carefully pour concrete pours, to bond with special jointing sealant to bond old an new concrete, complete with Class F3 formwork finish	Outstanding
23	The Contractor will be required to complete joint sealing works in both compartments.	
Pipework		
24	The Contractor shall supply lay and joint pipes includes for excavation backfilling of pipe trenches Including where there is pavement and the associated reconstruction works. All diameters are nominal for the section leading to the inlet works, for the overflow pipe, and for the reticulation to the Water Tank near the Police Station building as prescribed in the drawings.	Outstanding

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval by the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to interpret the Outstanding Work matrix in relation to the other layout and section drawings represented in the following set of drawings.

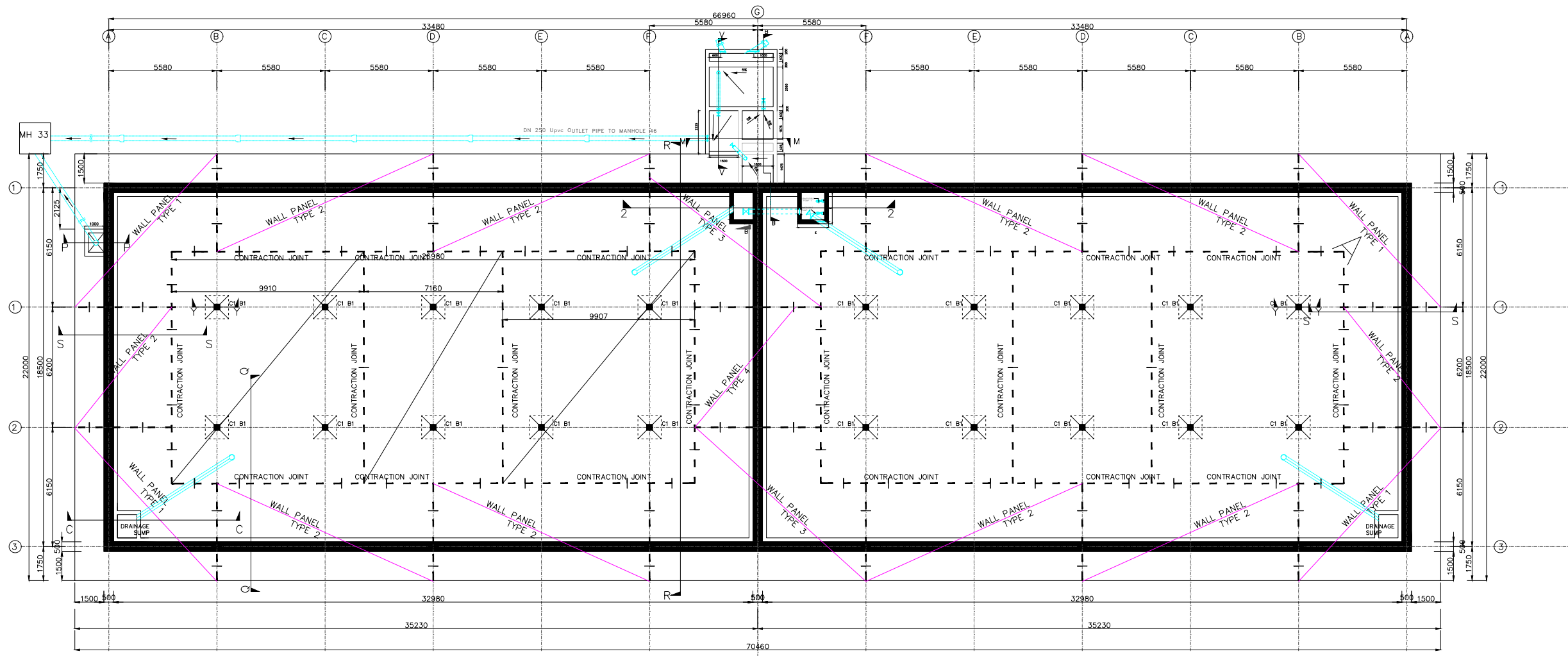
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Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK OUTSTANDING WORKS MATRIX					
Drawing title:					
OUTSTANDING WORKS MATRIX					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 04					

No.	Description of Work	Status
Miscellaneous Works		
25	Supply, and install an access ladder of galvanized mild steel internal ladders with stringers returned to form hand rails as per detail on drawing	Outstanding
26	Supply and install vent pipes in roof slab complete with a mosquito gauze.	Outstanding
27	Supply and install step iron to chambers with excess of 1 meter depth.	Outstanding
28	Supply and place a layer of pumice on roof slab.	Outstanding
29	Supply and install valves, screen gratings, troughs as prescribed in the drawings	Outstanding
30	Supply and construct fencing and gate around the tank as prescribed.	Outstanding
31	Supply, install, test, and commission sump pumps, and pipes. The provision and installation of pump system includes 2 pumps (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system including the pump controls with supply, installation and integration of float switch at the Water Supply tank near the Police Station premises for a seamless operation. Allow for all design requirements to the Engineer's approval.	Outstanding
32	Supply an electrical dewatering pump system with a suction height of 7.5m, flow rate between (18m ³ /hr to 23m ³ /hr) and a 20m pumping head fitted on a portable 4 wheel non-skid mounted trailer chasis. This pump is portable to be used on all the other 4 number tanks on need to need basis, and to be housed at the pump house within the Twin Tank.	Outstanding
33	Supply, install, test and commission chlorine feeding machines. The provision and installation of the Chlorine gas system should be as prescribed and the system shall include 2 No (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system. Allow for all design requirements to the Engineer's approval.	Outstanding
34	Construct trapezoidal open channel as prescribed in the drawings.	Outstanding

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval by the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to interpret the Outstanding Work matrix in relation to the other layout and section drawings represented in the following set of drawings.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK OUTSTANDING WORKS MATRIX					
Drawing title:					
OUTSTANDING WORKS MATRIX					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 05					



FOUNDATION SLAB LAYOUT PLAN
SCALE 1:250

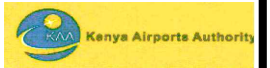
- LEGEND:
- GRID
 - WALL PANEL
 - - - CONTRACTION JOINTS
 - EMBEDDED PIPEWORK
 - 20MM Ø DOWEL BARS
 - C1 B1
300X300mm COLLUMN ON
1500X1500X300mm BASE

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to complete the outstanding works represented in the following sets of drawings.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

Client:
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Consultant:
APEC CONSORTIUM LTD
 P.O BOX 3786-00100
 NAIROBI KENYA.

Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
 TENDER DRAWINGS

Subject:
 TWIN TANK GENERAL LAYOUT

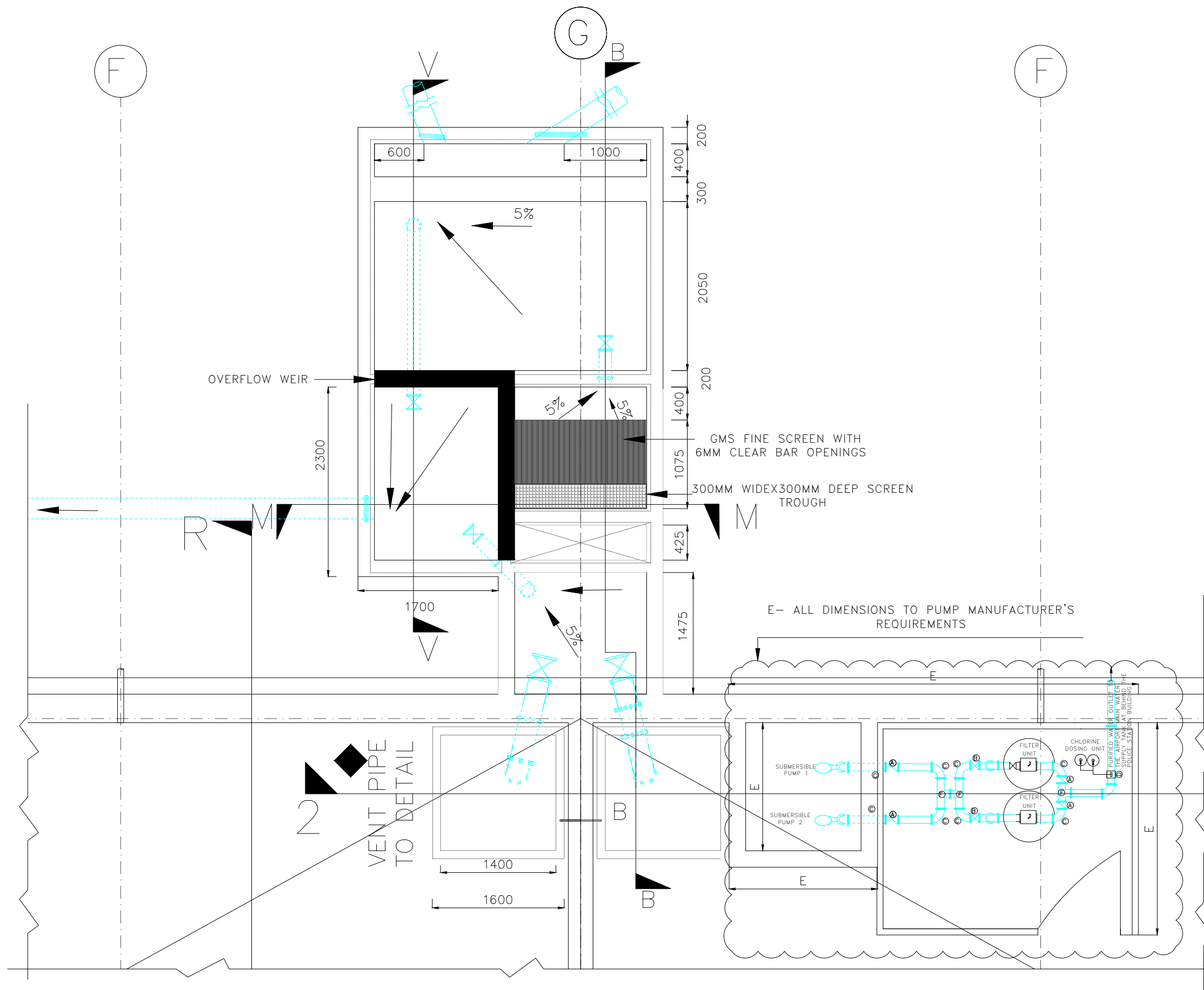
Drawing title:
 TWIN TANK FOUNDATION LAYOUT

Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023 Scale: AS SHOWN

Paper size: A3 Rev No.: 1

Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 06

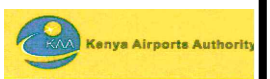


NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to construct the outstanding proposed inlet works and pumping system as shown in the drawings.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

Client:
 P.O. BOX 19001 00501
 NAIROBI KENYA.
 TEL : +254-20-822400
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 www.kenyaairports.co.ke



Consultant:
APEC
 CONSORTIUM LIMITED
 P.O BOX 3786-00100
 NAIROBI KENYA.

Project:
 THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS

Phase:
 TENDER DRAWINGS

Subject:
 TWIN TANK INLET AND PUMP PLAN

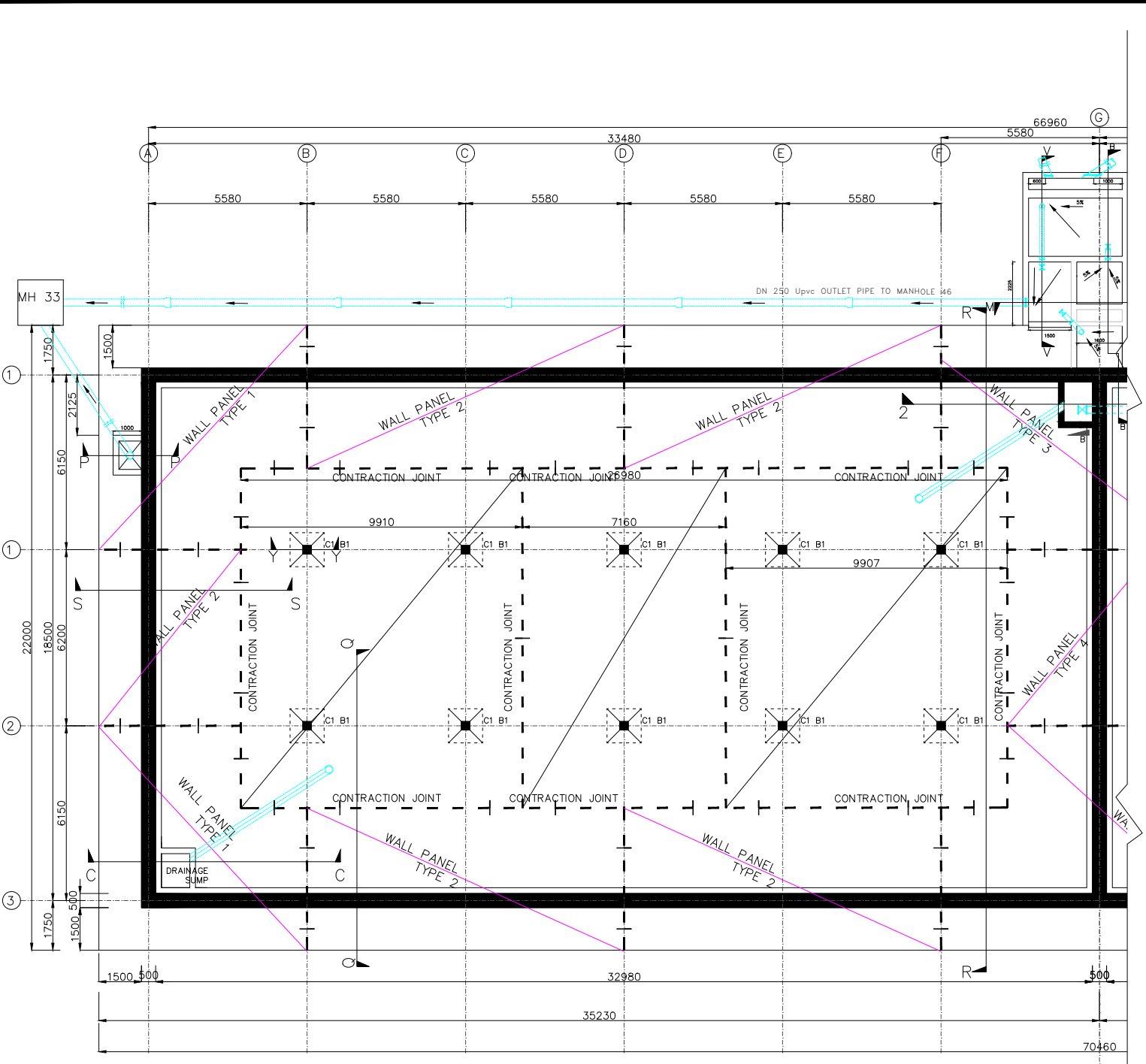
Drawing title:
 TWIN TANK INLET WORKS AND PUMP WORKS
 LAYOUT

Contract No.: KAA/OT/MIA/0226/2022-2023

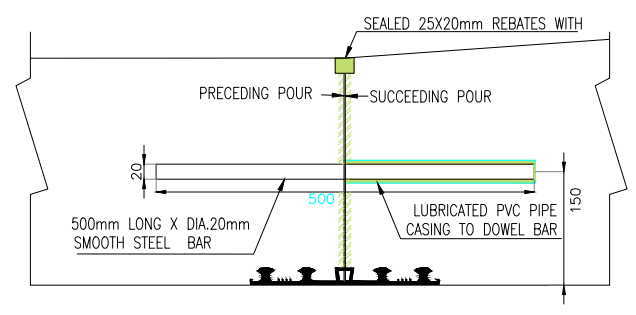
Date: JUNE 2023 Scale: AS SHOWN

Paper size: A3 Rev No.: 1

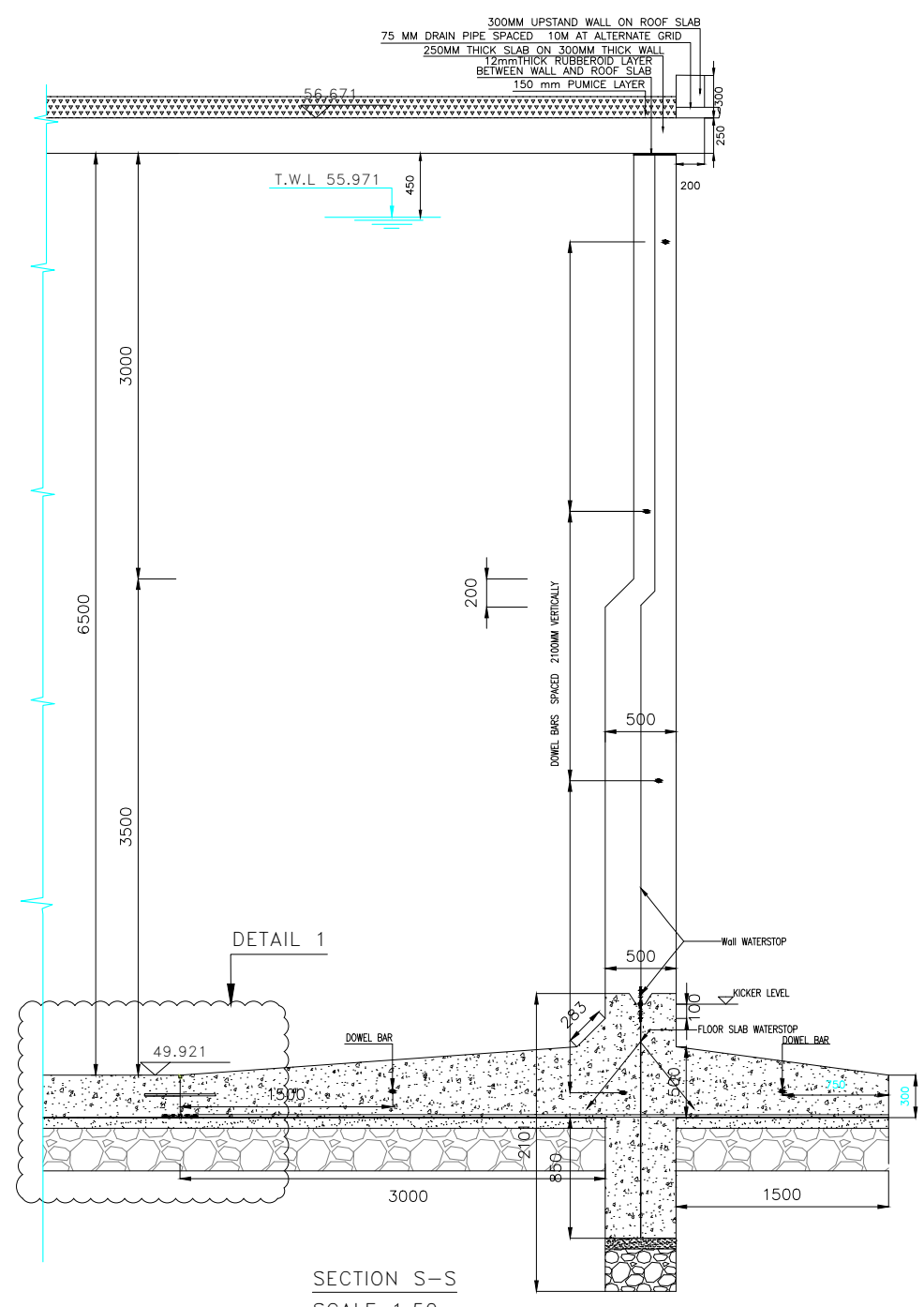
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 07



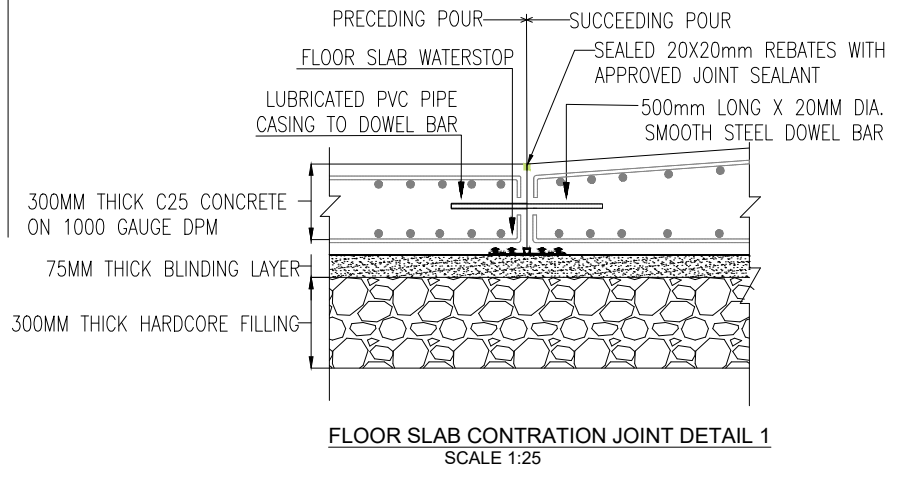
FOUNDATION SLAB LAYOUT PLAN
SCALE 1:250



CONTRACTION JOINT DOWEL BAR DETAILS
SCALE 1:10



SECTION S-S
SCALE 1:50

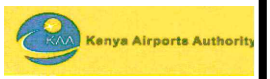


FLOOR SLAB CONTRACTION JOINT DETAIL 1
SCALE 1:25

- NOTES:**
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
 2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
 3. The Contractor is required to read the section details with relation to the layouts.
 4. The contractor is required to complete the outstanding roof works (placement of pumice layer, covering the openings) and completing the joint works.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

Client:
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 FAX : +254-20-822078
 www.kenyaairports.co.ke



Consultant:
APEC
 CONSORTIUM LIMITED
 APEC CONSORTIUM LTD
 P.O BOX 3786-00100
 NAIROBI KENYA.

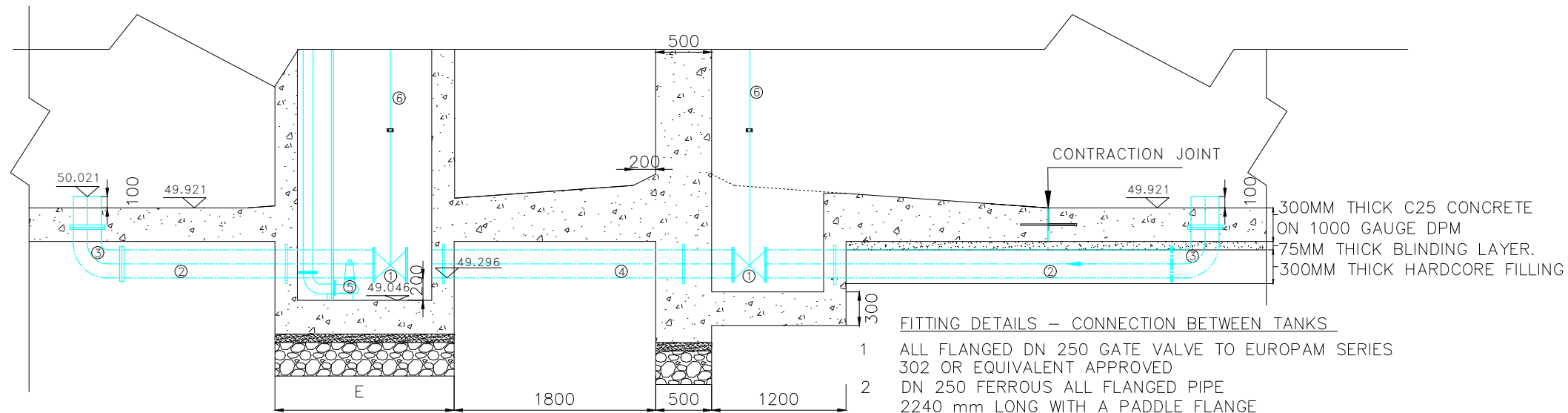
Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
 TENDER DRAWINGS

Subject:
 TWIN TANK INLET PLAN AND WALL SECTION

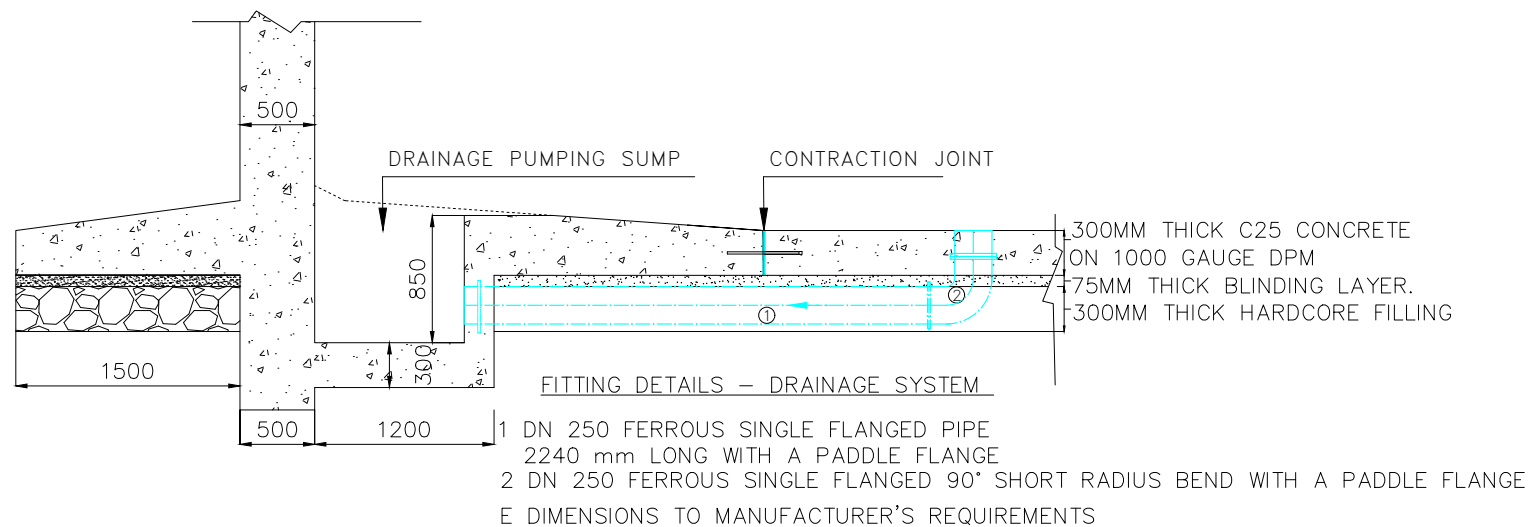
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Contract No.: KAA/OT/MIA/0226/2022-2023
 Date: JUNE 2023 Scale: AS SHOWN
 Paper size: A3 Rev No.: 1
 Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 08



CONNECTION BETWEEN 3500M³ TWIN TANKS SECTION 2-2

- FITTING DETAILS – CONNECTION BETWEEN TANKS**
- 1 ALL FLANGED DN 250 GATE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
 - 2 DN 250 FERROUS ALL FLANGED PIPE 2240 mm LONG WITH A PADDLE FLANGE
 - 3 DN 250 FERROUS ALL FLANGED 90° SHORT RADIUS BEND WITH A PADDLE
 - 4 DN 250 FERROUS SINGLE FLANGED SPIGOT PIPE 1735 mm LONG WITH PADDLE FLANGES
 - 5 PUMP SYSTEM TO MANUFACTURER'S DETAILS
 - 6 SPINDLE TO MANUFACTURER'S DETAIL
 - E DIMENSIONS TO MANUFACTURER'S REQUIREMENTS

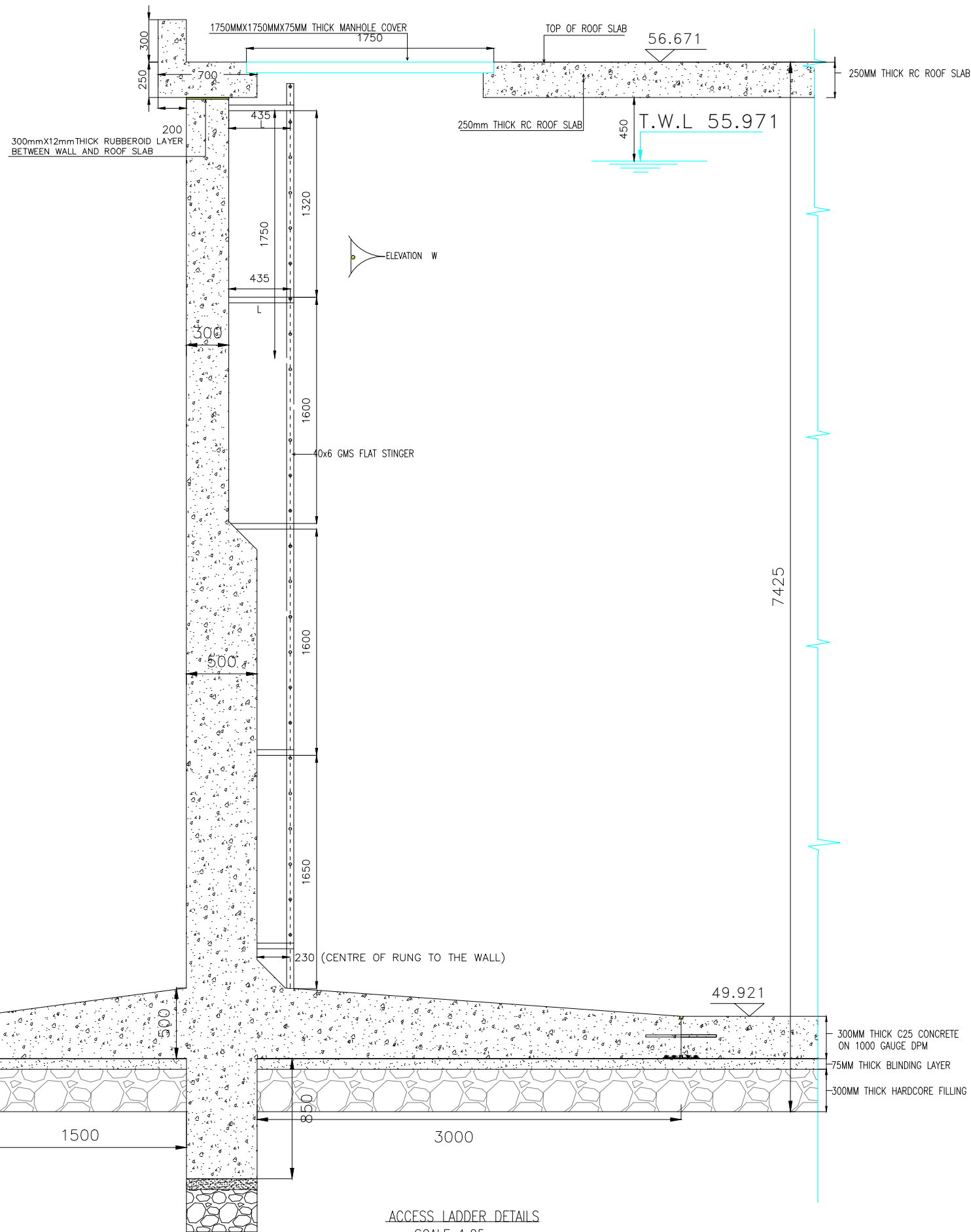


**DRAINAGE SYSTEM SECTION C-C
SCALE 1:50**

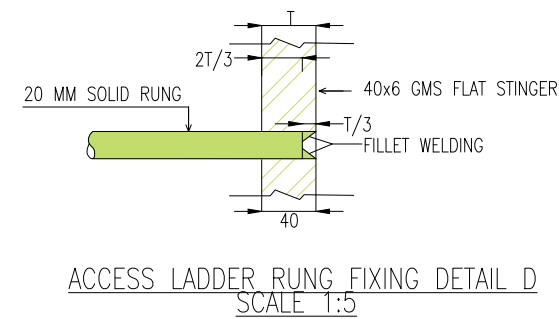
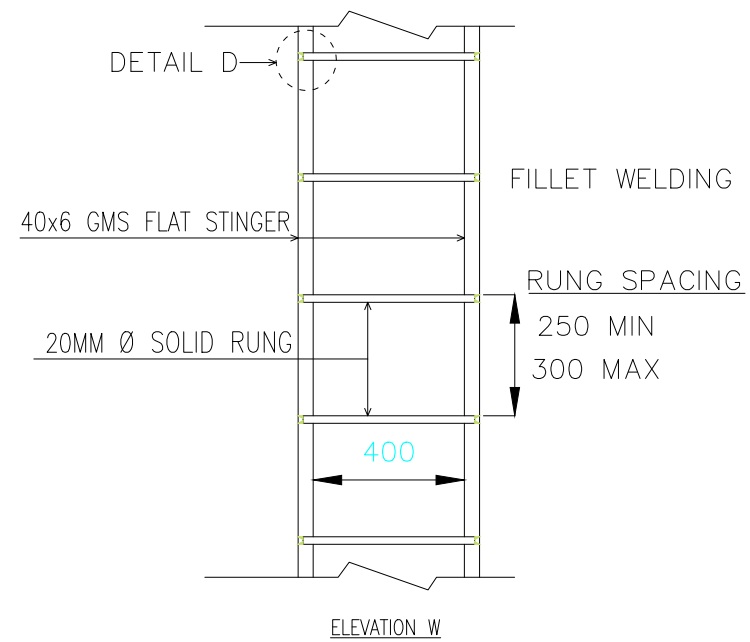
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to supply and install valves and complete connection between the two tanks.

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Client:					
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Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK'S CONNECTION					
Drawing title:					
TWIN TANK'S WALLS CONNECTION DETAILS					
Contract No.:					
KAA/OT/MIA/0226/2022-2023					
Date:		JUNE 2023		Scale:	
				AS SHOWN	
Paper size:		A3		Rev No.:	
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Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 09					



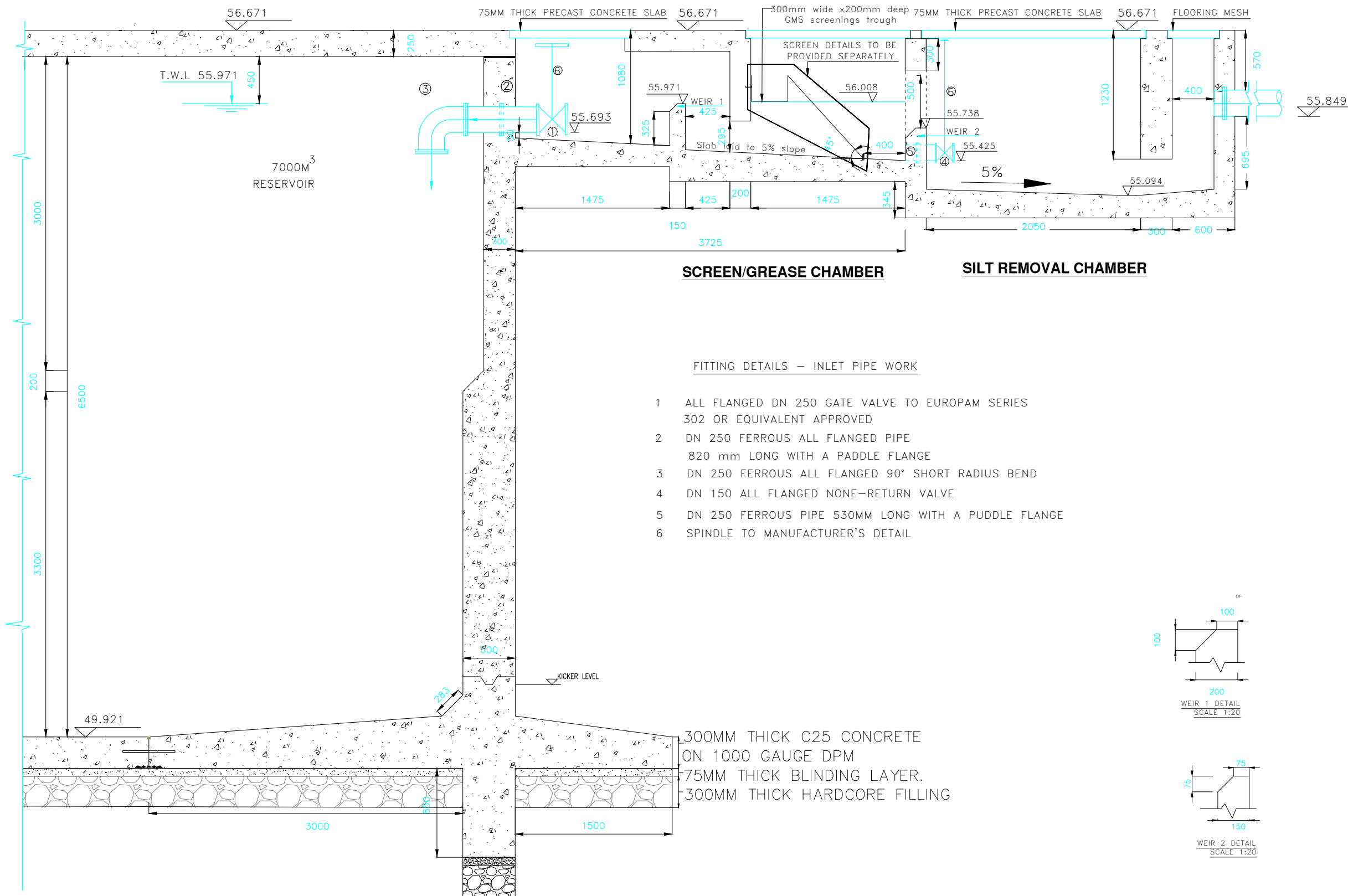
ACCESS LADDER DETAILS
 SCALE 1:25



NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to supply and fix and place the ladder in place.
5. The Contractor is required to supply, fix the reinforced precast concrete covers complete with opening and closing mechanisms to cover all openings

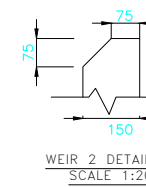
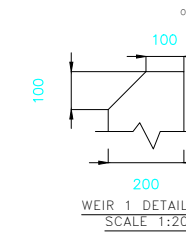
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LIMITED APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK LADDER					
Drawing title:					
TWIN TANK LADDER AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 10					



INLET WORKS SECTION B-B
SCALE 1:50


FITTING DETAILS – INLET PIPE WORK

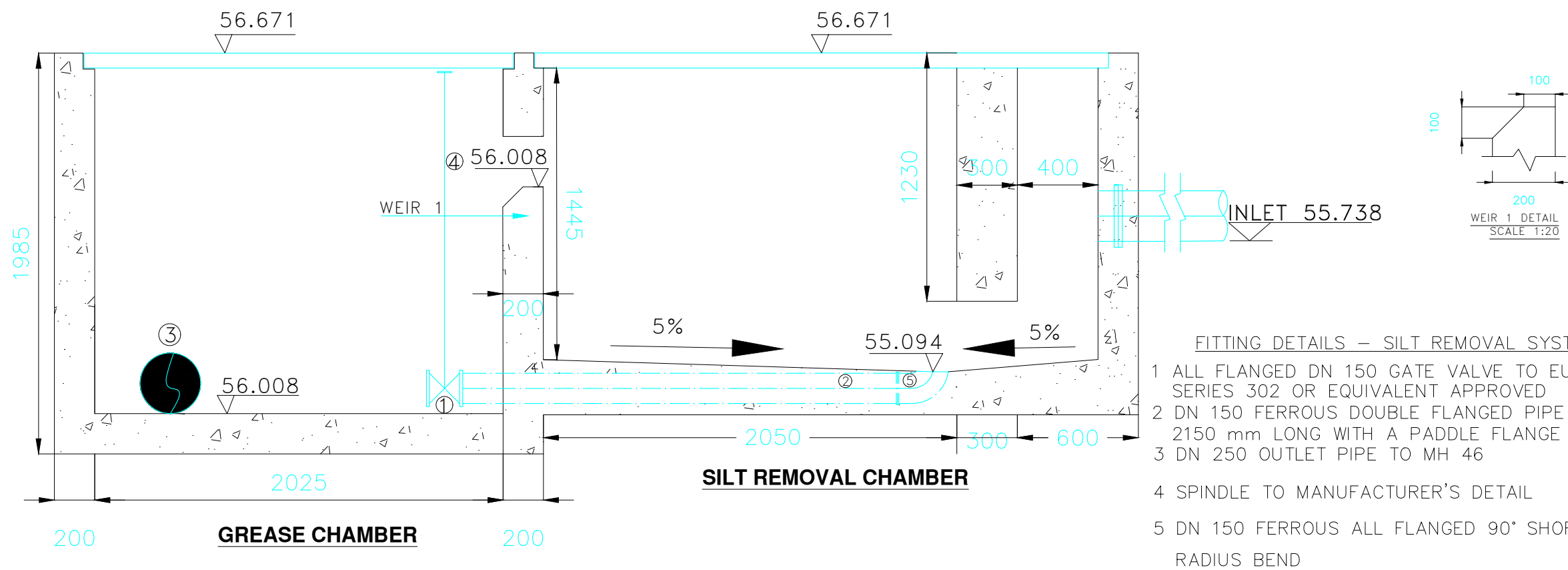
- 1 ALL FLANGED DN 250 GATE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
- 2 DN 250 FERROUS ALL FLANGED PIPE 820 mm LONG WITH A PADDLE FLANGE
- 3 DN 250 FERROUS ALL FLANGED 90° SHORT RADIUS BEND
- 4 DN 150 ALL FLANGED NONE–RETURN VALVE
- 5 DN 250 FERROUS PIPE 530MM LONG WITH A PUDDLE FLANGE
- 6 SPINDLE TO MANUFACTURER’S DETAIL



NOTES:

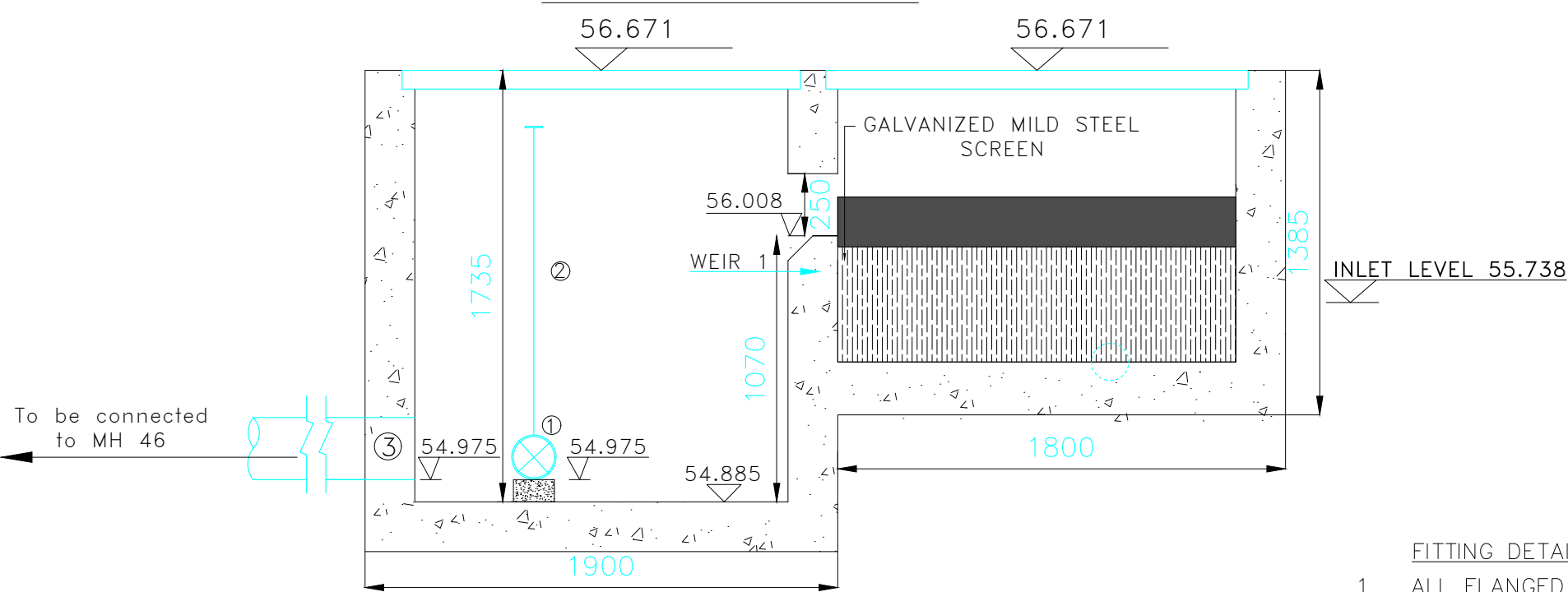
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in mm unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to backfill the sides of the tank and construct the proposed inlet works.

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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK INLET WORKS					
Drawing title:					
TWIN TANK INLET WORKS SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 11					



- FITTING DETAILS – SILT REMOVAL SYSTEM**
- 1 ALL FLANGED DN 150 GATE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
 - 2 DN 150 FERROUS DOUBLE FLANGED PIPE 2150 mm LONG WITH A PADDLE FLANGE
 - 3 DN 250 OUTLET PIPE TO MH 46
 - 4 SPINDLE TO MANUFACTURER'S DETAIL
 - 5 DN 150 FERROUS ALL FLANGED 90° SHORT RADIUS BEND

SECTION V-V




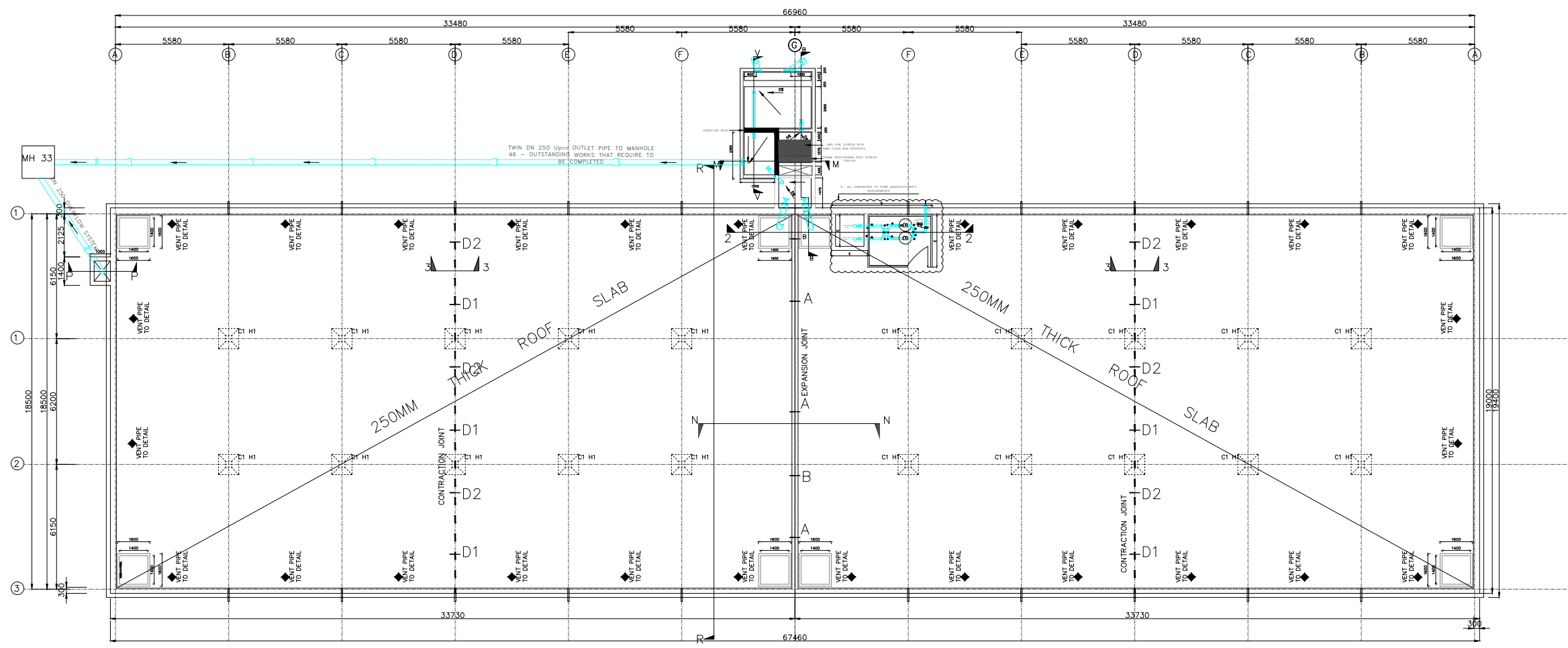
- FITTING DETAILS – SILT REMOVAL SYSTEM**
- 1 ALL FLANGED DN 250 GATE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
 - 2 SPINDLE TO MANUFACTURER'S DETAIL
 - 3 DN 250 OUTLET PIPE TO MH 46

SECTION M-M

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in mm unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to backfill the sides of the tank and construct the proposed inlet works.

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Client:					
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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK INLET WORKS					
Drawing title:					
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Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 12					



ROOF SLAB LAYOUT PLAN
SCALE 1:250

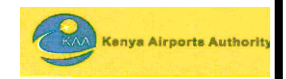
- LEGEND:**
- GRID
 - - - CONTRACTION JOINTS
 - - - EXPANSION JOINTS
 - 20MM Ø DOWEL BARS
 - C1 H1 300X300mm COLUMN 1000X1000 HEAD
 - ◆ VENT PIPES
 - ▬ ROOF DRAIN PIPES

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to read the section details with relation to the layout.

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
TWIN TANK ROOF SLAB

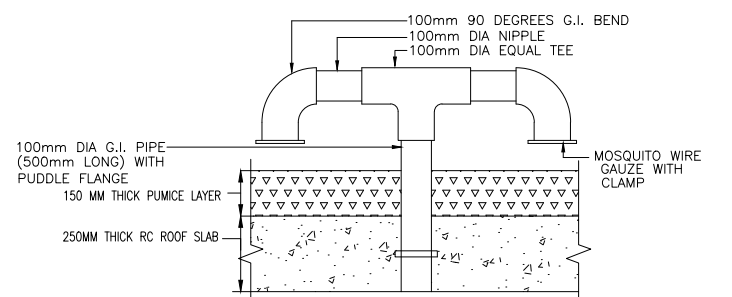
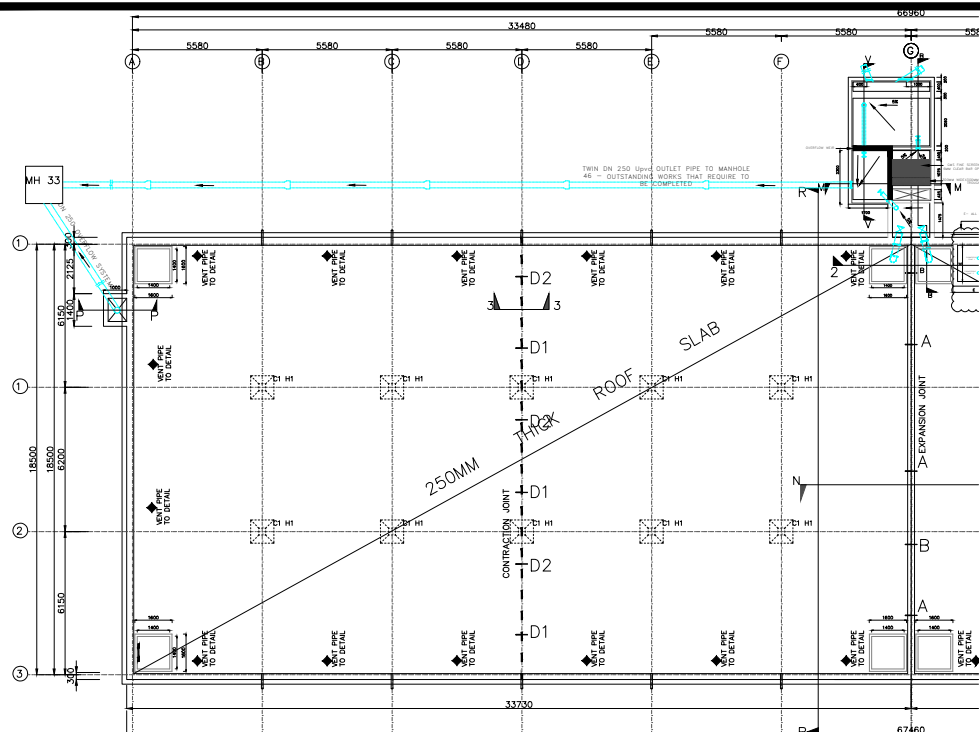
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TWIN TANK ROOF SLAB LAYOUT

Contract No.: **KAA/OT/MIA/0226/2022-2023**

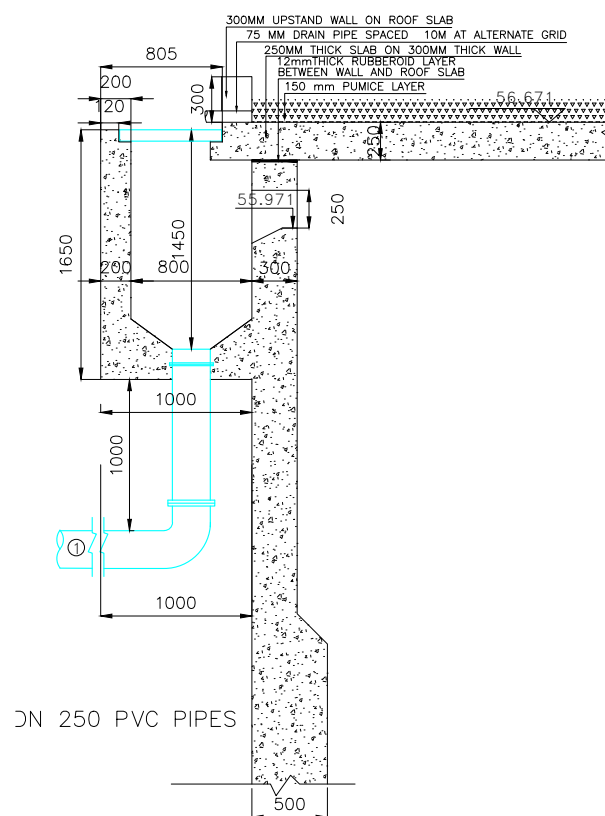
Date: **JUNE 2023** Scale: **AS SHOWN**

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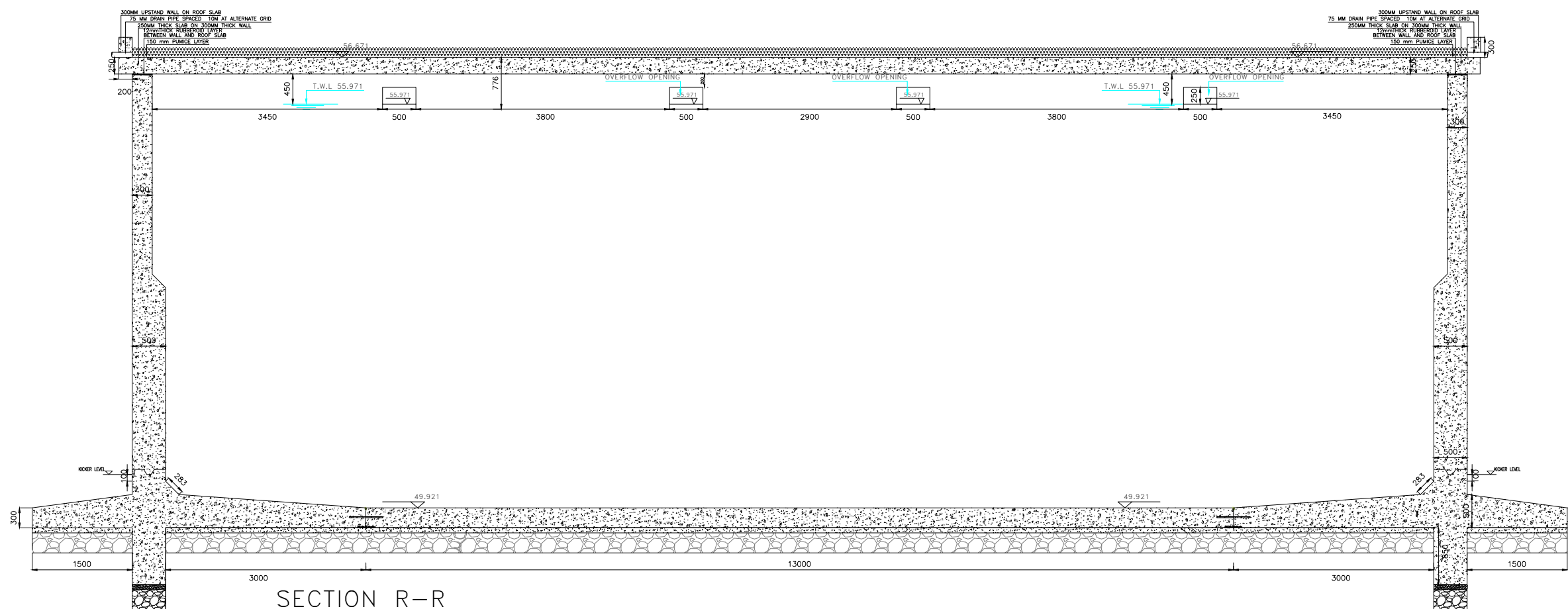
Dwg No.: **KAA/OT/MIA/0226/2022-2023/ RWH-TT 13**



SECTION THROUGH VENT PIPE -DETAIL H
SCALE 1:25



SECTION P-P
SCALE 1:50



SECTION R-R
SCALE 1:50

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to read the section details with relation to the layout.
4. The Contractor is required to fix the manholes precast reinforced concrete covers complete with opening and closing mechanisms.
5. The Contractor is required to install vent pipes with mosquito gauze
6. The Contractor is required to place pumice layer.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

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 NAIROBI KENYA.**

Project:
**THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS**

Phase:
TENDER DRAWINGS

Subject:
TWIN TANK ROOF SLAB

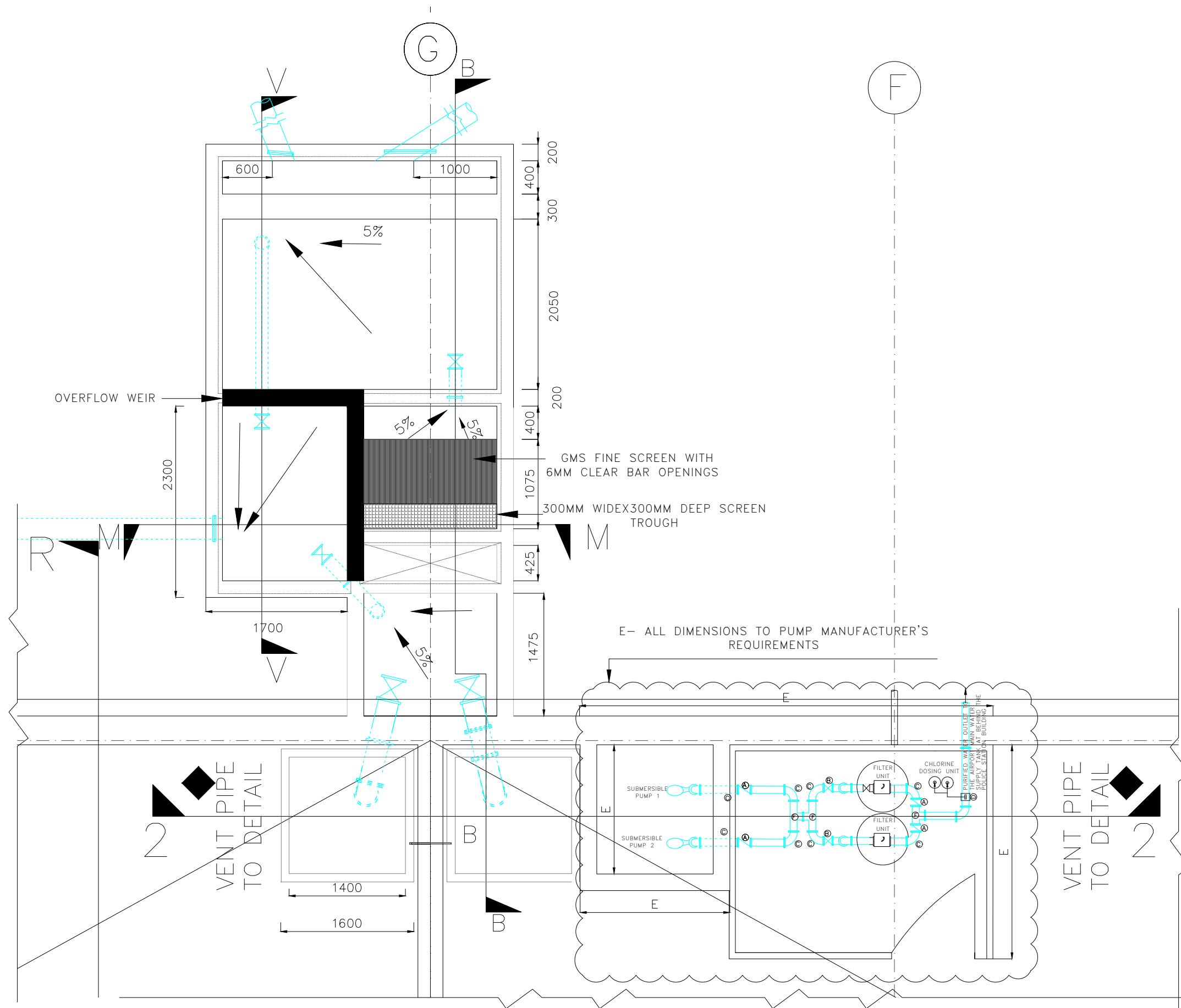
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**TWIN TANK ROOF SLAB PLAN AND SECTION
 DETAILS**

Contract No.: **KAA/OT/MIA/0226/2022-2023**

Date: **JUNE 2023** Scale: **AS SHOWN**

Paper size: **A3** Rev No.: **1**

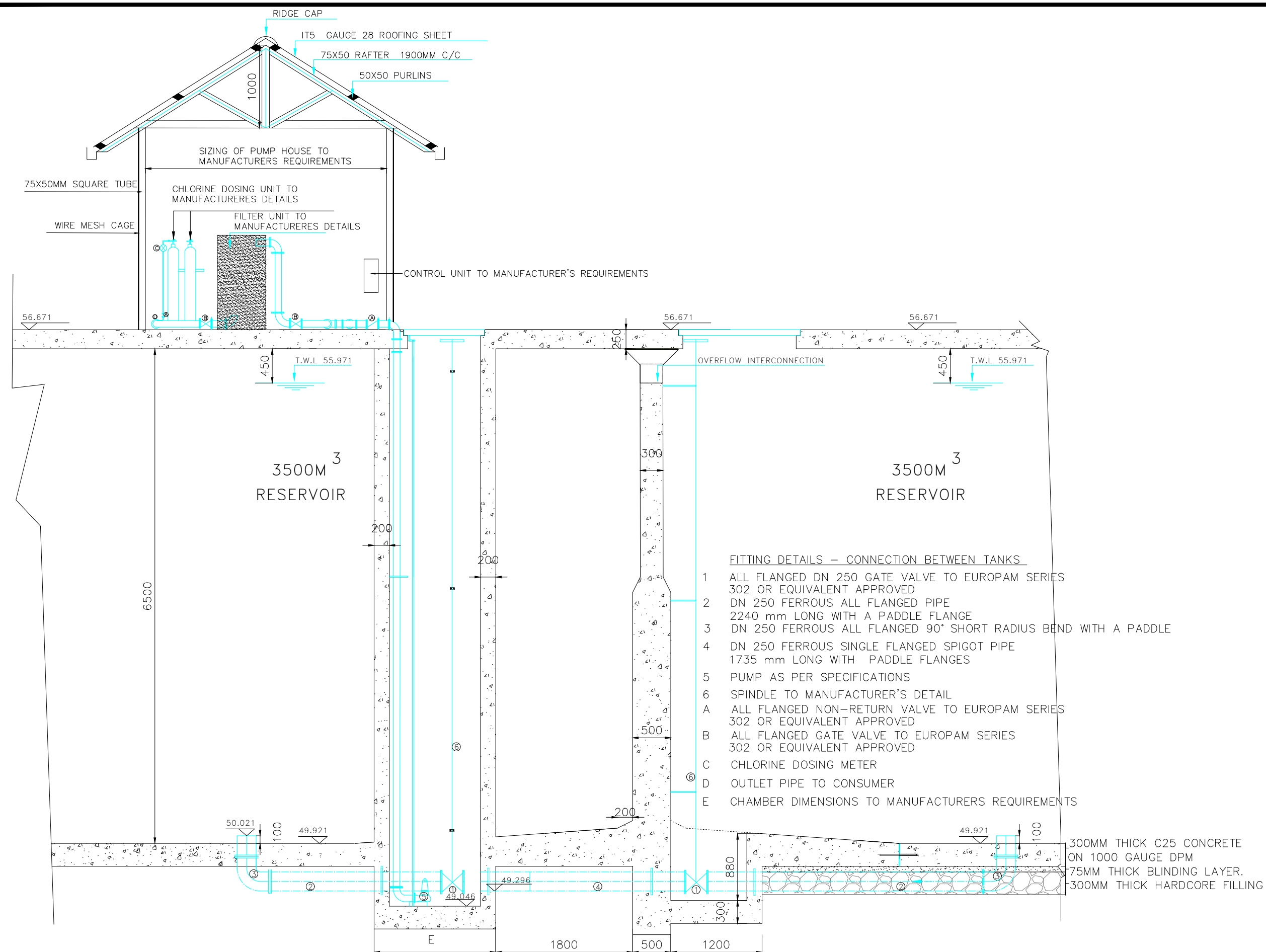
Dwg No.: **KAA/OT/MIA/0226/2022-2023/ RWH-TT 14**



NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, filter systems and to install vent pipes with mosquito gauge.
5. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

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Client:					
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Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK PUMP PLAN					
Drawing title:					
TWIN TANK ROOF SLAB TANK PLAN					
Contract No.:					
KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 15					



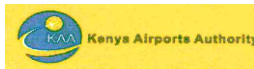

CONNECTION BETWEEN 3500M³ TWIN TANKS SECTION 2-2

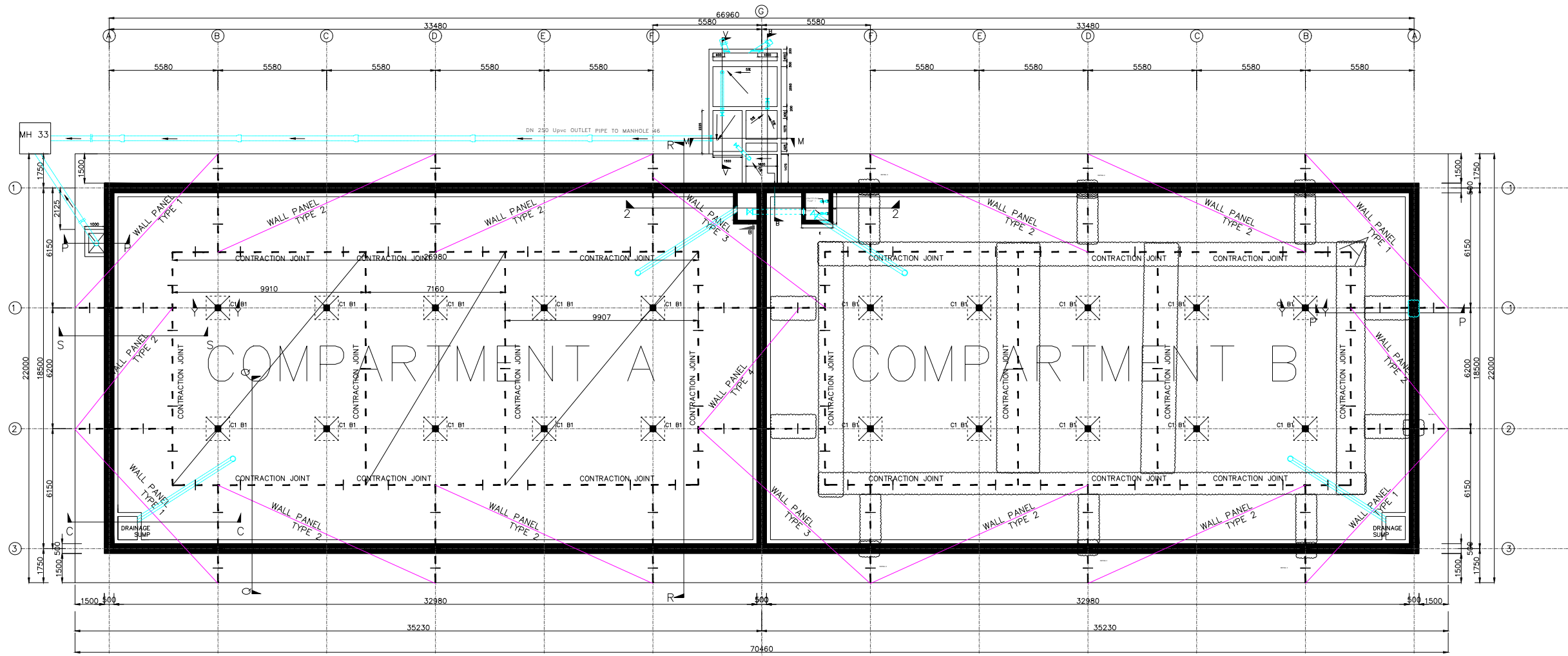
FITTING DETAILS – CONNECTION BETWEEN TANKS

- 1 ALL FLANGED DN 250 GATE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
- 2 DN 250 FERROUS ALL FLANGED PIPE 2240 mm LONG WITH A PADDLE FLANGE
- 3 DN 250 FERROUS ALL FLANGED 90° SHORT RADIUS BEND WITH A PADDLE
- 4 DN 250 FERROUS SINGLE FLANGED SPIGOT PIPE 1735 mm LONG WITH PADDLE FLANGES
- 5 PUMP AS PER SPECIFICATIONS
- 6 SPINDLE TO MANUFACTURER'S DETAIL
- A ALL FLANGED NON-RETURN VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
- B ALL FLANGED GATE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
- C CHLORINE DOSING METER
- D OUTLET PIPE TO CONSUMER
- E CHAMBER DIMENSIONS TO MANUFACTURERS REQUIREMENTS

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, filter systems and to install vent pipes with mosquito gauge.
5. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

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Client:					
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Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK PUMP & PUMP HOUSE SECTION					
Drawing title:					
TWIN TANK PUMP & PUMP HOUSE SECTION DETAILS					
Contract No.:					
KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 16					



FOUNDATION SLAB LAYOUT PLAN

SCALE 1:250

- NOTES
- 1 COMPARTMENT A – WORKS INCLUDE TO COMPLETE JOINTS PENDING WORKS
 - 2 COMPARTMENT B – WORKS ENTAILS REPAIRS FOR THE LABELLED JOINTS

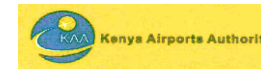
LEGEND:

- GRID
- WALL PANEL
- - - CONTRACTION JOINTS
- EMBEDDED PIPEWORK
- 20MM Ø DOWEL BARS
- C1 B1300X300mm COLUMN ON 1500X1500X300mm BASE
- JOINTS REQUIRING REPAIR WORKS
- DETAIL 1 (Joint at Wall Panel Type 1)
- DETAIL 2 (Joints at the floor and wall foundation)
- DETAIL 3 (Joints on the walls)

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Project:
 THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS

Phase:
 TENDER DRAWINGS

Subject:
 TWIN TANK LEAKAGE REPAIRS

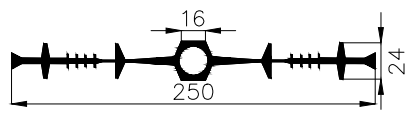
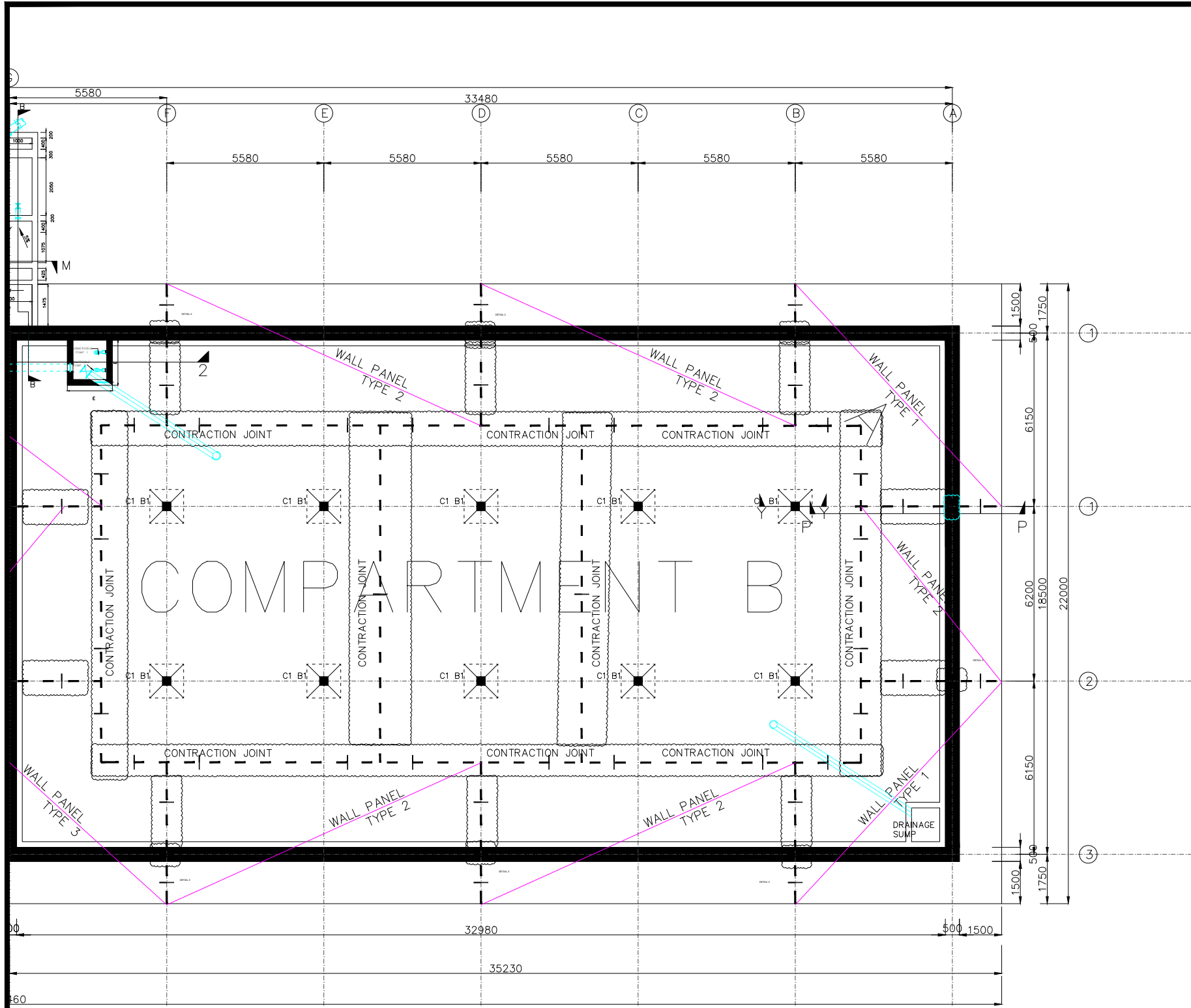
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 TWIN TANK LEAKAGE REPAIRS LAYOUT

Contract No.: KAA/OT/MIA/0226/2022-2023

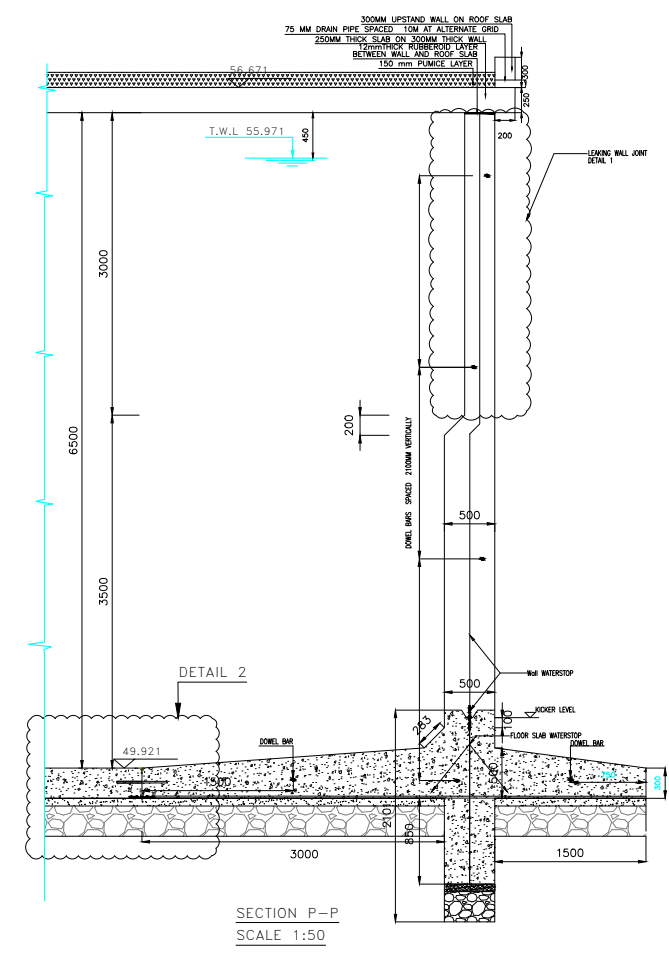
Date: JUNE 2023 Scale: AS SHOWN

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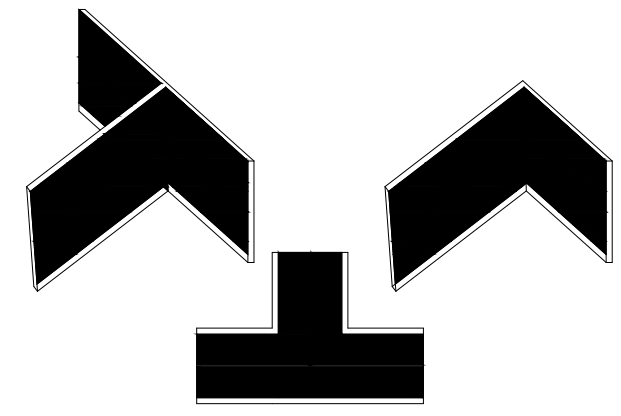
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 17



WATER STOP
SCALE 1:5



SECTION P-P
SCALE 1:50



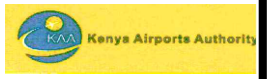
WALL JOINT INTERSECTION DETAILS
SCALE 1:25

- NOTES**
- 1 COMPARTMENT A – WORKS INCLUDE TO COMPLETE JOINTS PENDING WORKS
 - 2 COMPARTMENT B – WORKS ENTAILS REPAIRS FOR THE LABELLED JOINTS

- LEGEND:**
- GRID
 - WALL PANEL
 - - - CONTRACTION JOINTS
 - EMBEDDED PIPEWORK
 - 20MM Ø DOWEL BARS
 - C1 B1 1300X300mm COLUMN ON 1500X1500X300mm BASE
 - JOINTS REQUIRING REPAIR WORKS
 - DETAIL 1 (Joint at Wall Panel Type 1)
 - DETAIL 2 (Joints at the floor and wall foundation)
 - DETAIL 3 (Joints on the

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
TWIN TANK LEAKAGE REPAIRS

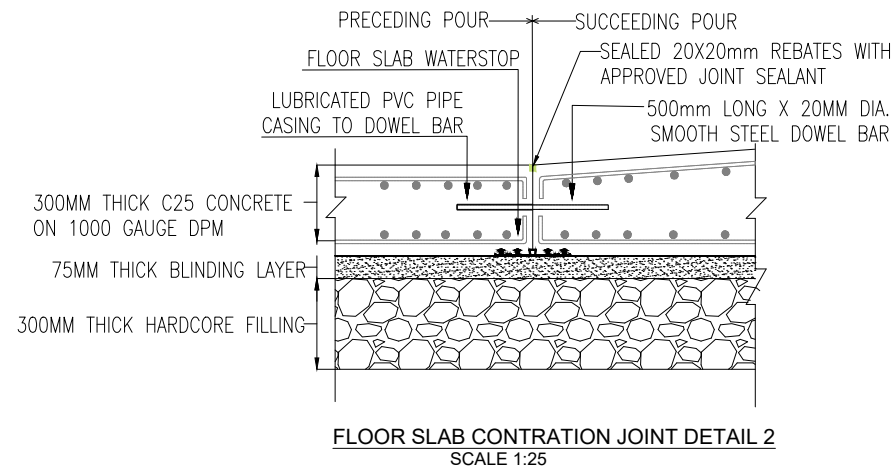
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TWIN TANK LEAKAGE REPAIRS WALL SECTION DETAIL

Contract No.: **KAA/OT/MIA/0226/2022-2023**

Date: **JUNE 2023** Scale: **AS SHOWN**

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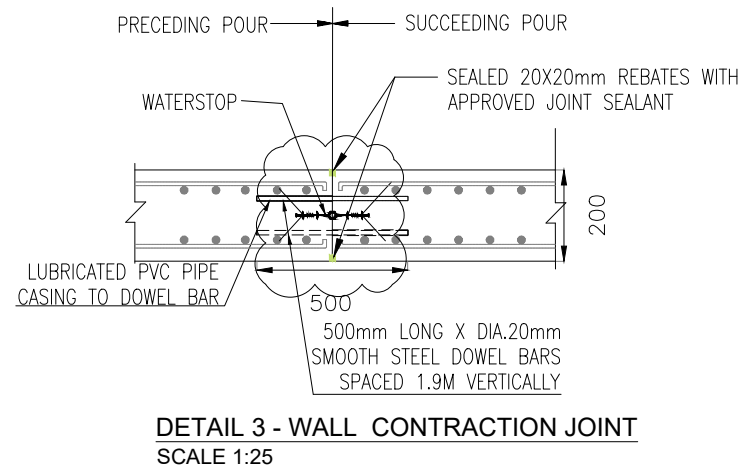
Dwg No.: **KAA/OT/MIA/0226/2022-2023/ RWH-TT 18**



STEP 1

EXISTING FLOOR SLAB JOINTS PREPARATION AND REPAIR

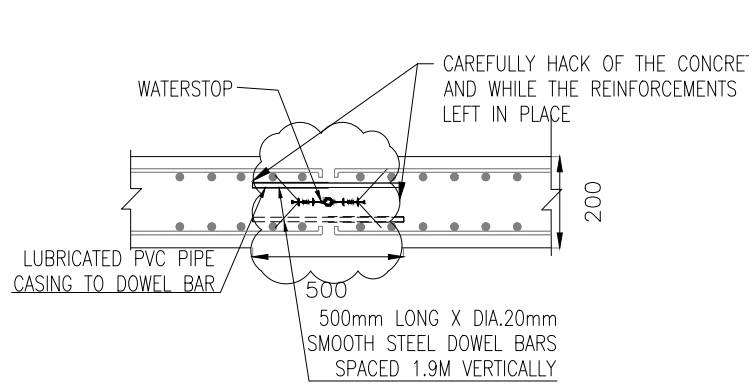
- 1 CAREFULLY REMOVE THE EXISTING JOINT SEALANTS THAT WERE PUT IN PLACE
- 2 CARRY OUT JOINT PREPARATION FOR READINESS TO APPLY THE JOINT SEALANT
- 3 APPLY THE APPROVED JOINT SEALANTS



STEP 1

EXISTING INTERNAL WALLS JOINTS PREPARATION AND REPAIR

- 1 CAREFULLY REMOVE THE EXISTING JOINT SEALANTS THAT WERE PUT IN PLACE
- 2 CARRY OUT JOINT PREPARATION FOR READINESS TO APPLY THE JOINT SEALANT
- 3 APPLY THE APPROVED JOINT SEALANTS

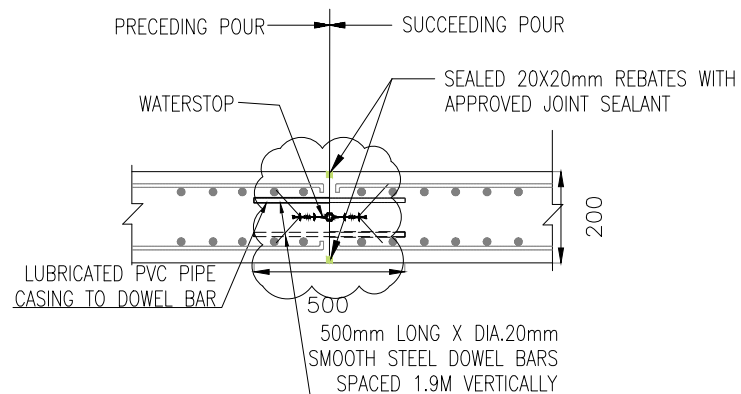


DETAIL 1 - WALL CONTRACTION JOINT
SCALE 1:25

STEP 1

EXISTING JOINT INVESTIGATIONS & DESTRUCTION PROCESS

- 1 CARRY OUT FERROS SCANNING INVESTIGATIONS AND PRODUCE A REPORTING
- 2 CAREFULLY BREAK THE EXISTING REINFORCED CONCRETE ON BOTH SIDES OF THE JOINT
- 3 CAREFULLY ENSURE TO EXPOSE RE-BARS WITHOUT BREAKAGE
- 4 PREPARE THE OLD CONCRETE FOR NEW CONCRETE

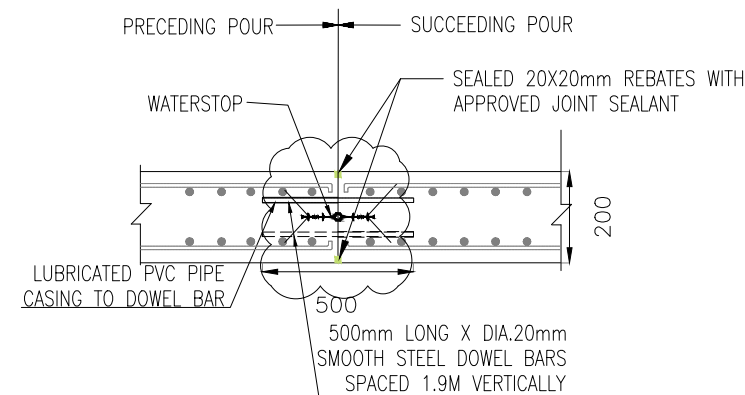


DETAIL 1 - WALL CONTRACTION JOINT
SCALE 1:25

STEP 2

NEW JOINT RECONSTRUCTION PROCESS

- 1 CAREFULLY CLEAN THE EXPOSED SECTIONS OF THE REINFORCED CONCRETE ON BOTH SIDES
- 2 FIX DOWEL BARS AND REINFORCEMENT BARS
- 3 FIT IN PLACE WATERSTOPS AND MAKE SUBSEQUENT CONCRETE POURS AS REQUIRED, WHILE IN PLACE FORMWORK WITH F1 FINISH AND JOINT REBATES



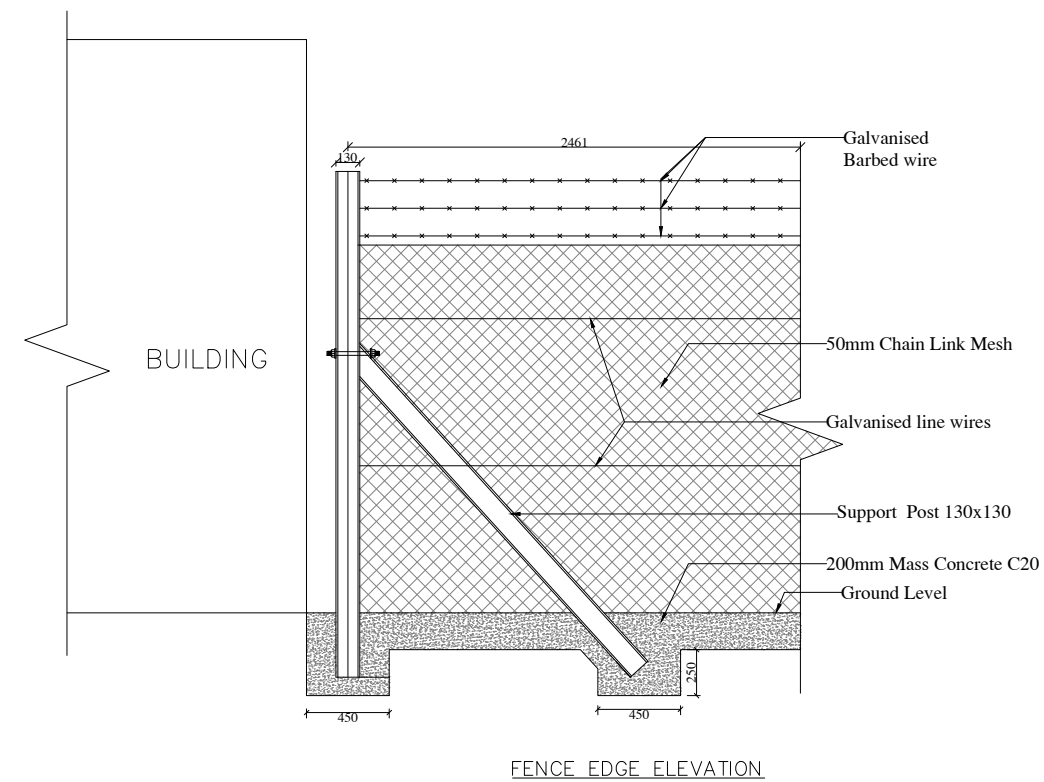
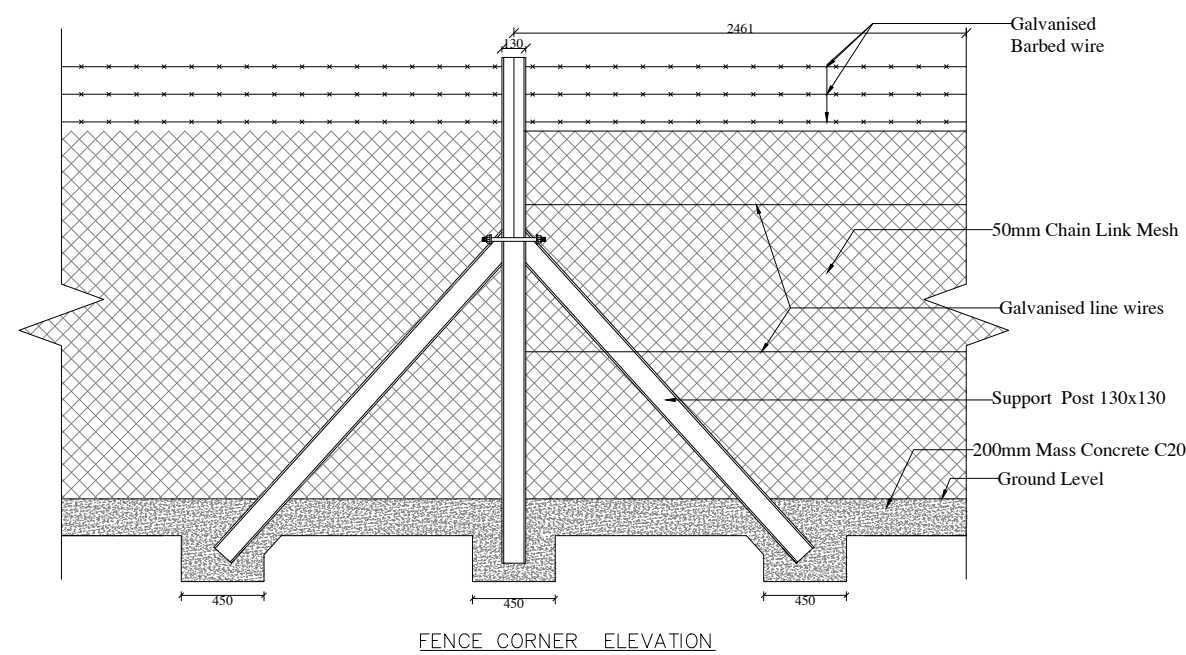
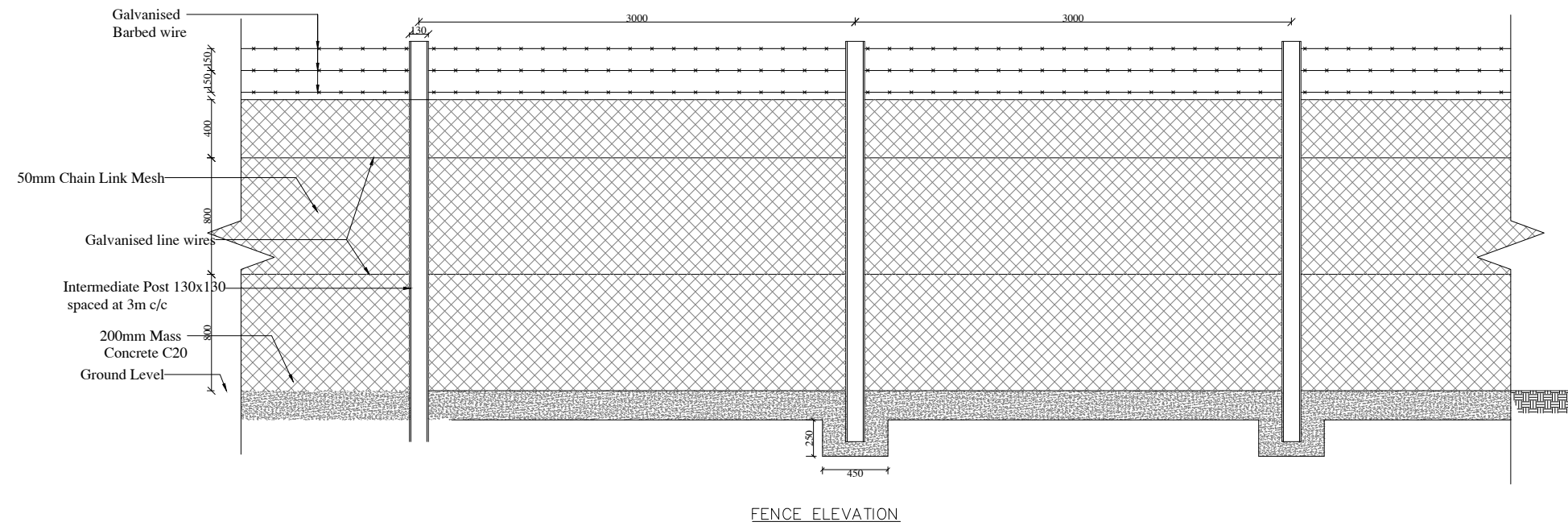
DETAIL 1 - WALL CONTRACTION JOINT
SCALE 1:25

STEP 3

NEW JOINT FINISHING WORKS PROCESS

- 1 CAREFULLY REMOVE IN PLACE ALL REBATES AND THE PLACED FORMWORKS
- 2 POUR AS REQUIRED THE SPECIFIED AND APPROVED JOINT SEALANT
- 3 CARRY OUT WATER TIGHTNESS TESTS

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Client:					
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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK LEAKAGE REPAIRS					
Drawing title:					
TWIN TANK LEAKAGE REPAIRS JOINT DETAIL AND DESCRIPTION OF WORK					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 19					

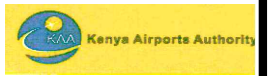



NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. Construction materials should be approved by the Engineer before purchase or commencement of the works in accordance with the Technical Specifications

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
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Client:
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Consultant:

 APEC CONSORTIUM LTD
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Project:
 THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS

Phase:
 TENDER DRAWINGS

Subject:
 TWIN TANK FENCE ELEVATION

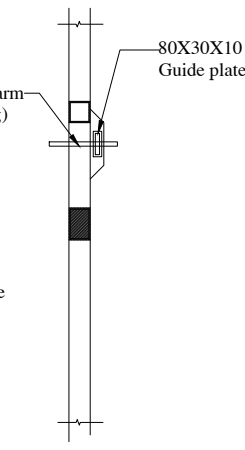
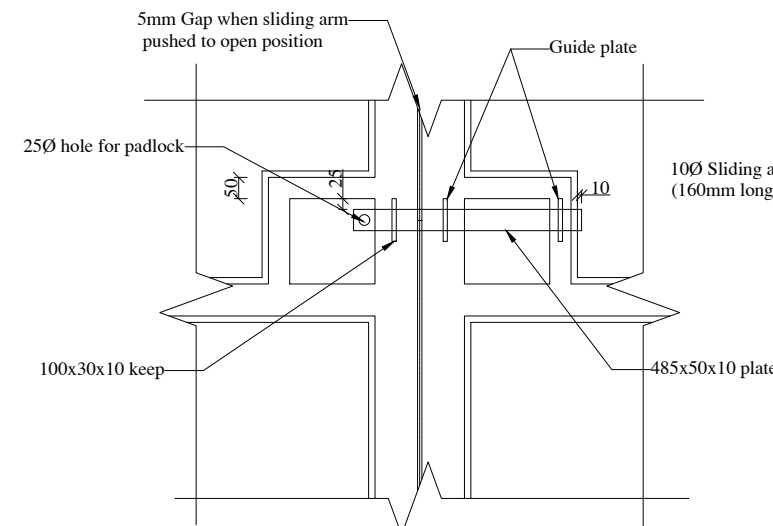
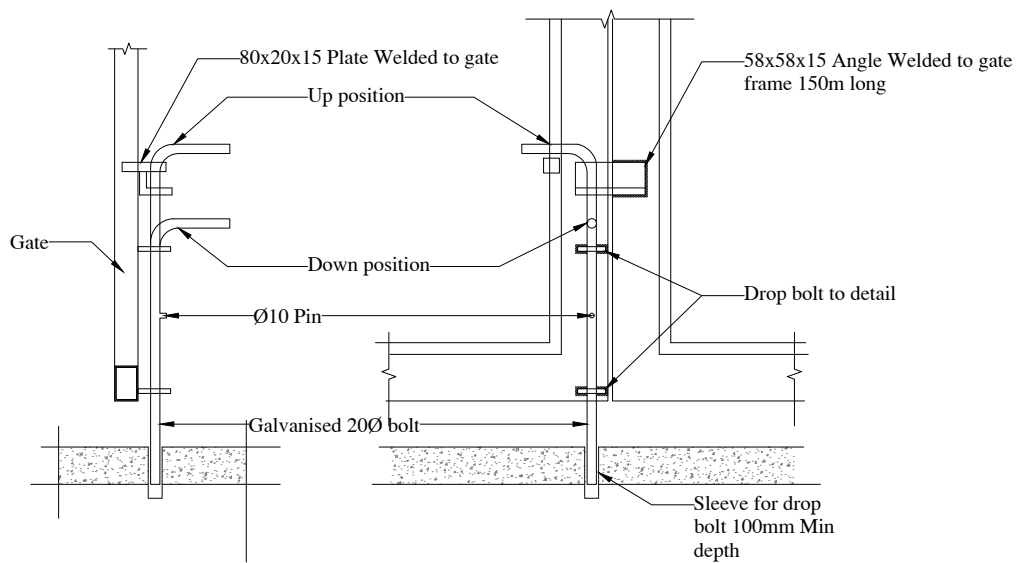
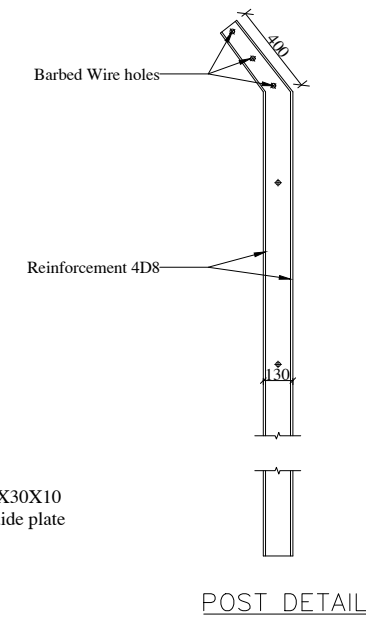
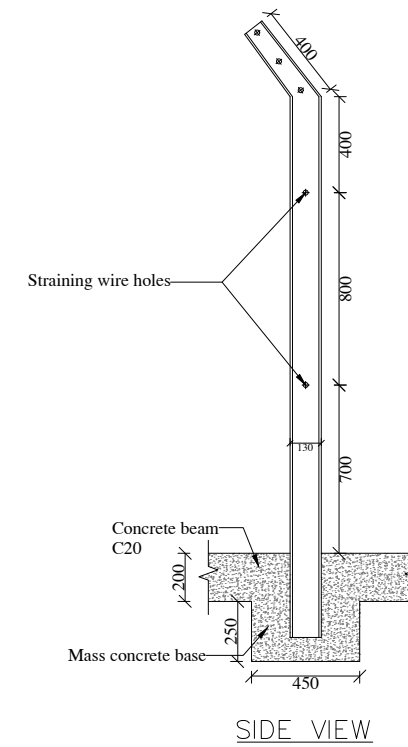
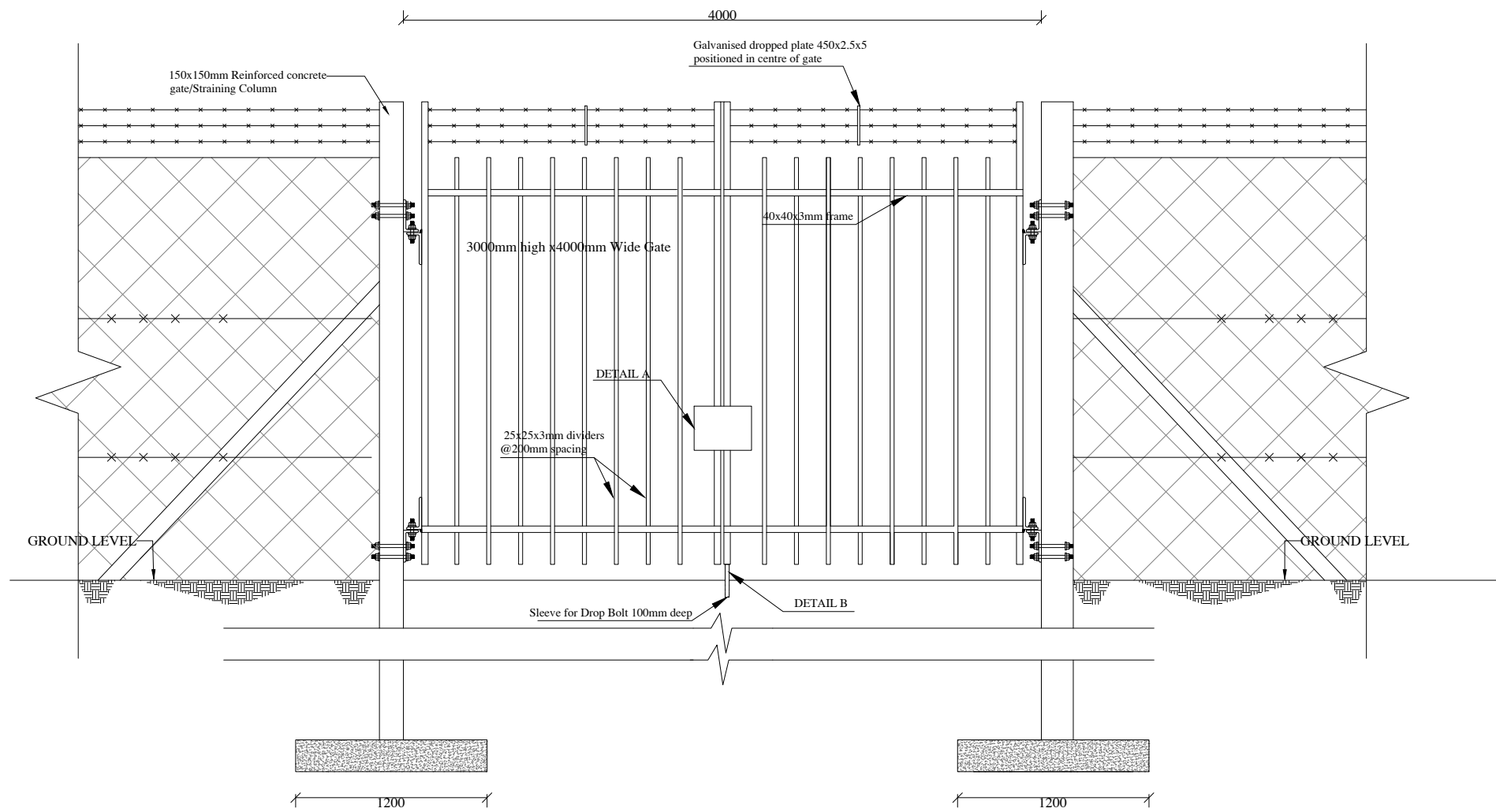
Drawing title:
 TWIN TANK FENCE ELEVATION DETAILS FOR
 CORNER & CENTER POSTS

Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023 Scale: AS SHOWN

Paper size: A3 Rev No.: 1

Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-TT 20



SECTION DETAILS B
Scale 1:15

ELEVATION DETAILS B
Scale 1:15

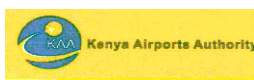

DETAIL A
Scale 1:15

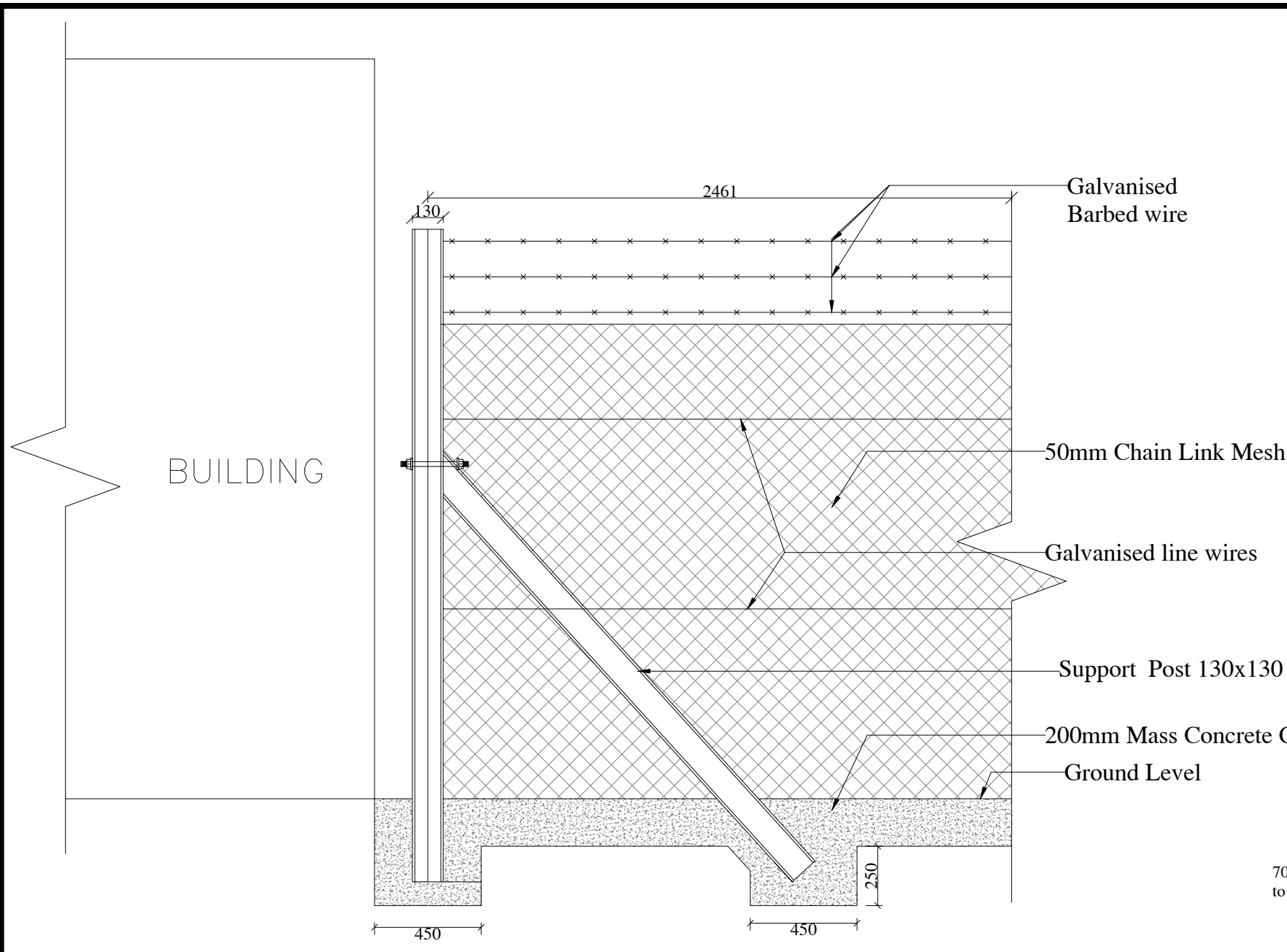
SECTION
Scale 1:15

POST DETAILS

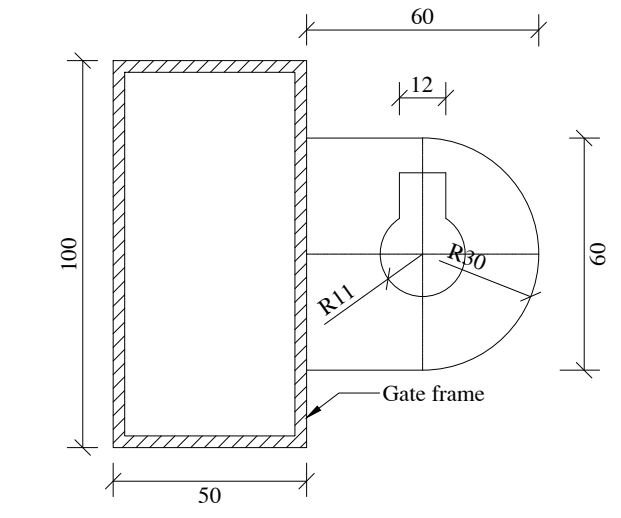
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Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION GATE AND POST DETAILS					
Drawing title:					
GENERAL AVIATION TANK GATE, DATE, POSTS, AND FENCE SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-GA 21					

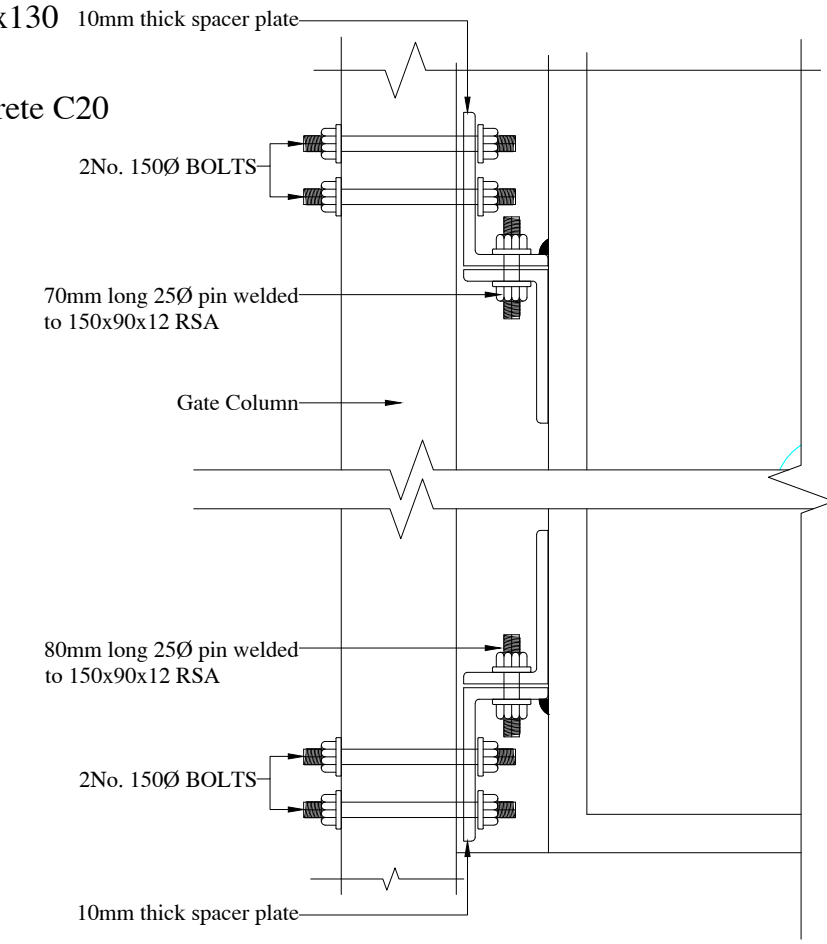


FENCE EDGE ELEVATION



DROP BOLT GUIDE DETAILS

Scale 1:2




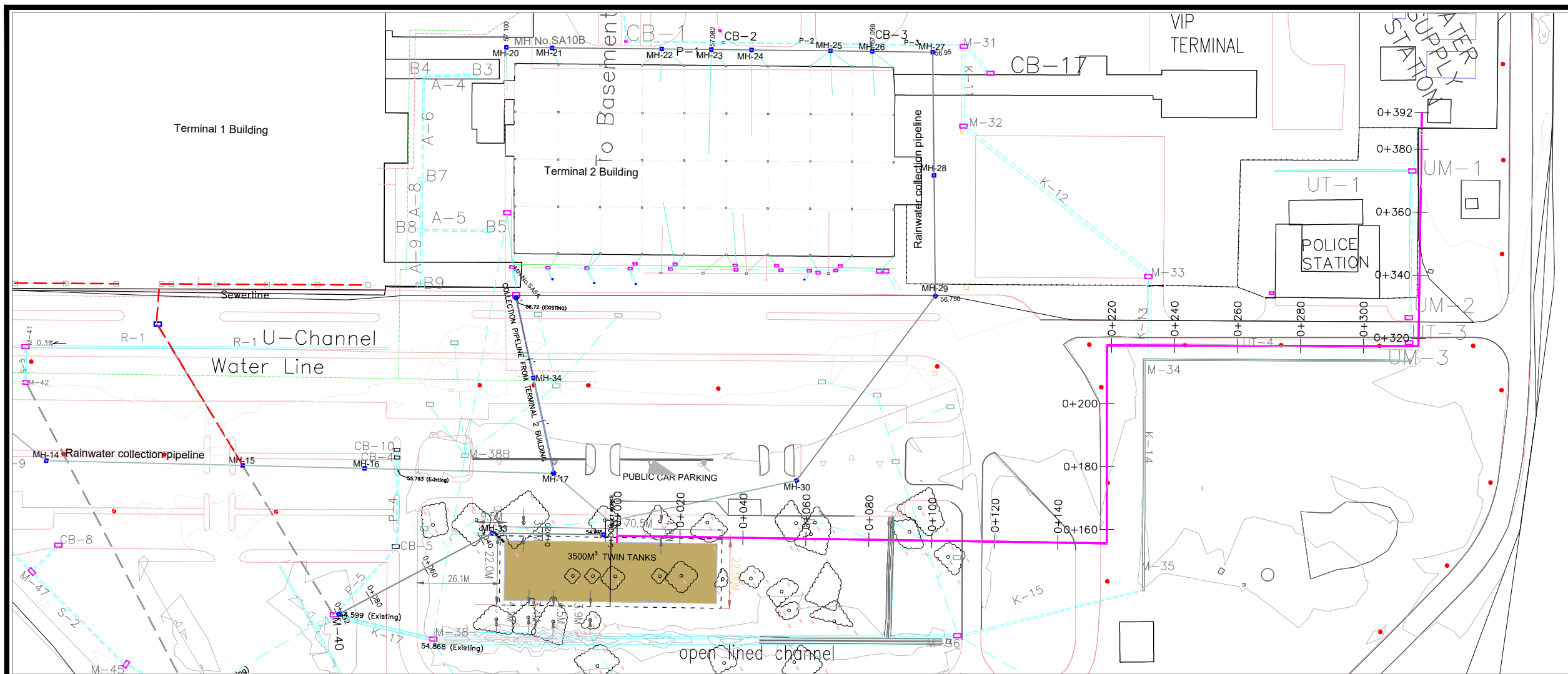
GATE HINGE DETAILS

Scale 1:10

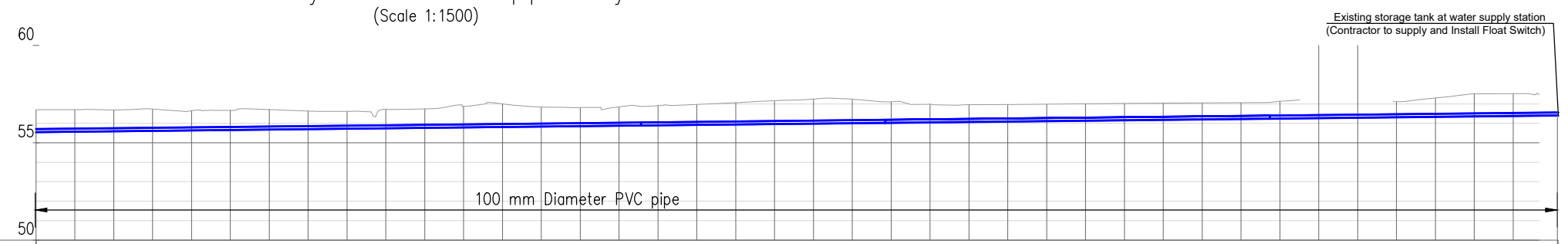
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
TWIN TANK GATE AND POST DETAILS					
Drawing title:					
TWIN TANK GATE JOINTING BOLTS SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	AS SHOWN		
Paper size:	A3	Rev No.:	1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-GA 22					



Plan layout of collection pipeline system
(Scale 1:1500)



STATION	EXISTING GROUND LEVELS	PIPE LENGTH SLOPE	PIPE INVERT LEVELS
0+000	56.70	L=155.61 S=-0.22%	IN 55.551
0+010	56.69		
0+020	56.73		
0+030	56.65		
0+040	56.66		
0+050	56.71		
0+060	56.63		
0+070	56.61		
0+080	56.72		
0+090	56.74		
0+100	56.86	L=62.87 S=-0.22%	O 55.890
0+110	57.00		
0+120	56.83		
0+130	56.81		
0+140	56.84		
0+150	56.91		
0+160	56.97		
0+170	57.06		
0+180	57.16		
0+190	57.25		
0+200	57.24	L=98.96 S=-0.22%	IN 55.890
0+210	57.11		
0+220	56.98		
0+230	56.95		
0+240	56.97		
0+250	56.98		
0+260	57.00		
0+270	57.02		
0+280	57.04		
0+290	57.05		
0+300	57.06	L=74.15 S=-0.22%	O 56.243
0+310	57.14		
0+320	57.11		
0+330	57.30		
0+340	57.52		
0+350	57.52		
0+360	57.52		
0+370	57.52		
0+380	57.52		
0+390	57.52		
0+392	56.404		O 56.404

Long profile of Pumping main from twin tanks to existing storage tank
(Scale 1:1500)

LEGEND

- Proposed 4" G.I rainwater pumping Pipeline
- Existing rainwater collection Pipeline
- Existing rain water drainage pipeline
- Existing Proposed Underground Reinforced concrete Water Tanks
- Extent Of Tree canopy
- Tree trunk

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APEC CONSORTIUM LTD
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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
WATER RETICULATION DETAILS FOR THE RAIN WATER HARVESTING SYSTEMS

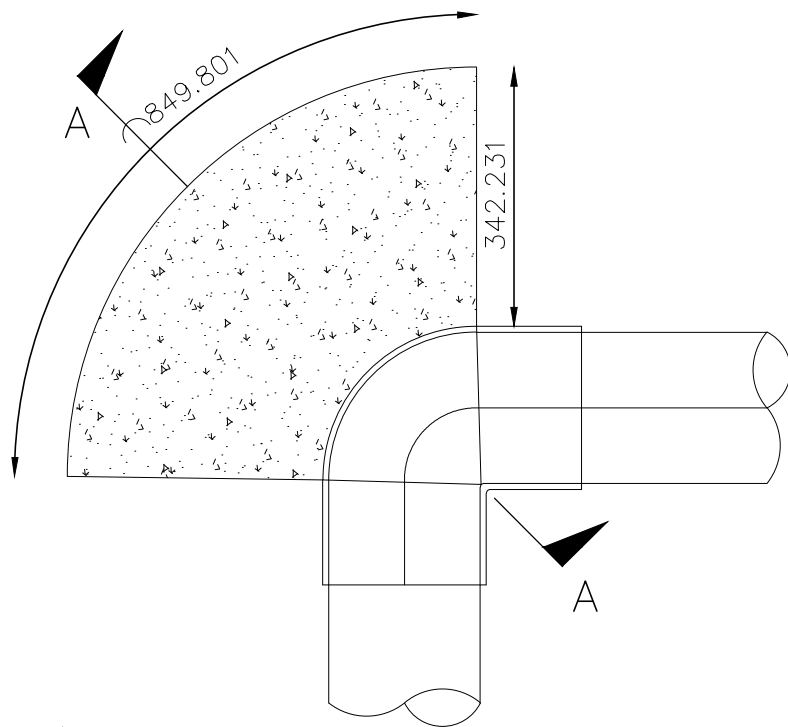
Drawing title:
PLAN AND PROFILE LAYOUT OF PROPOSED RAINWATER PUMPING SYSTEM

Contract No.: **CAA/OT/MIA/0226/2022-2023**

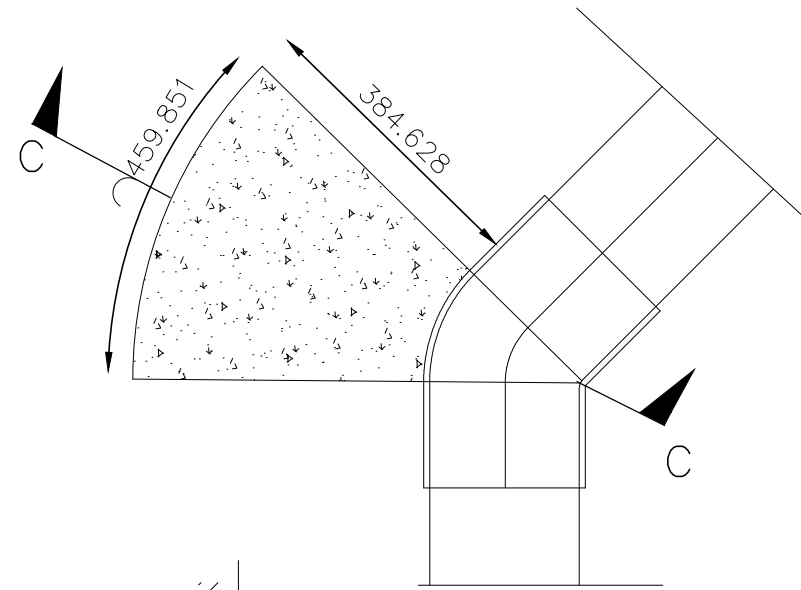
Date: **JUNE 2023** Scale: **AS SHOWN**

Paper size: **A3** Rev No.: **1**

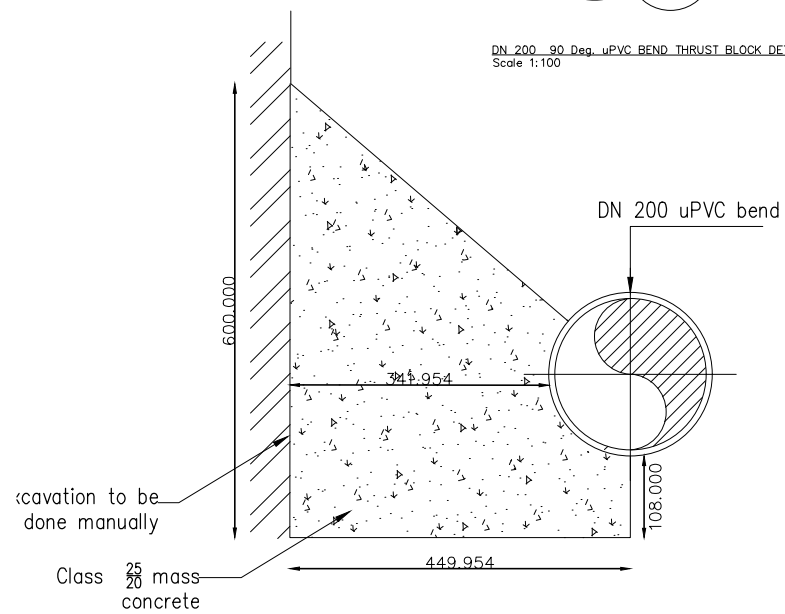
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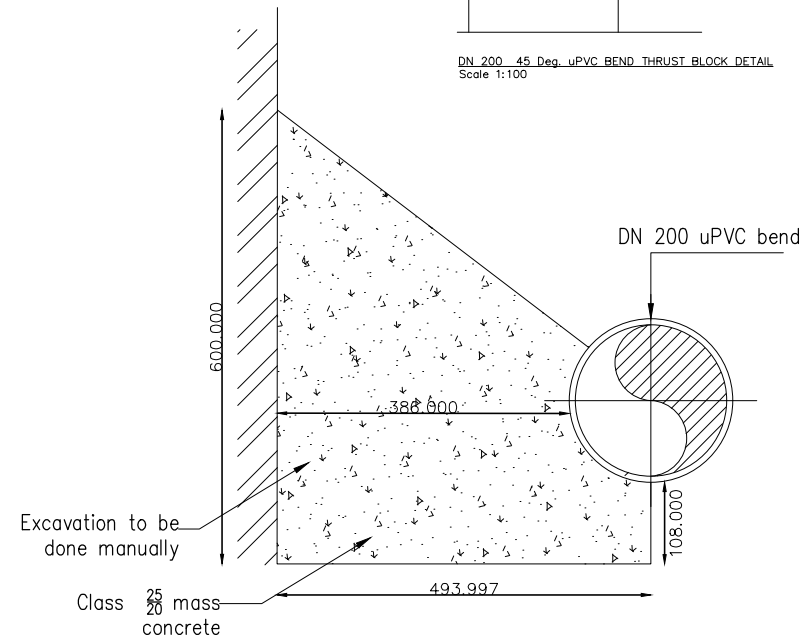
DN 200 90 Deg. uPVC BEND THRUST BLOCK DETAIL
Scale 1:100



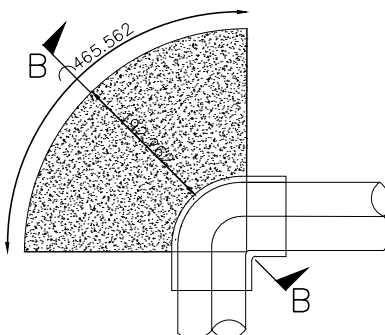
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Scale 1:100



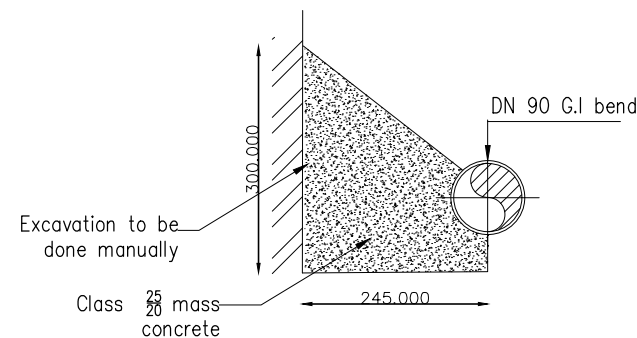
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Scale 1:100



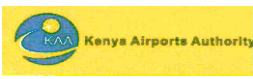
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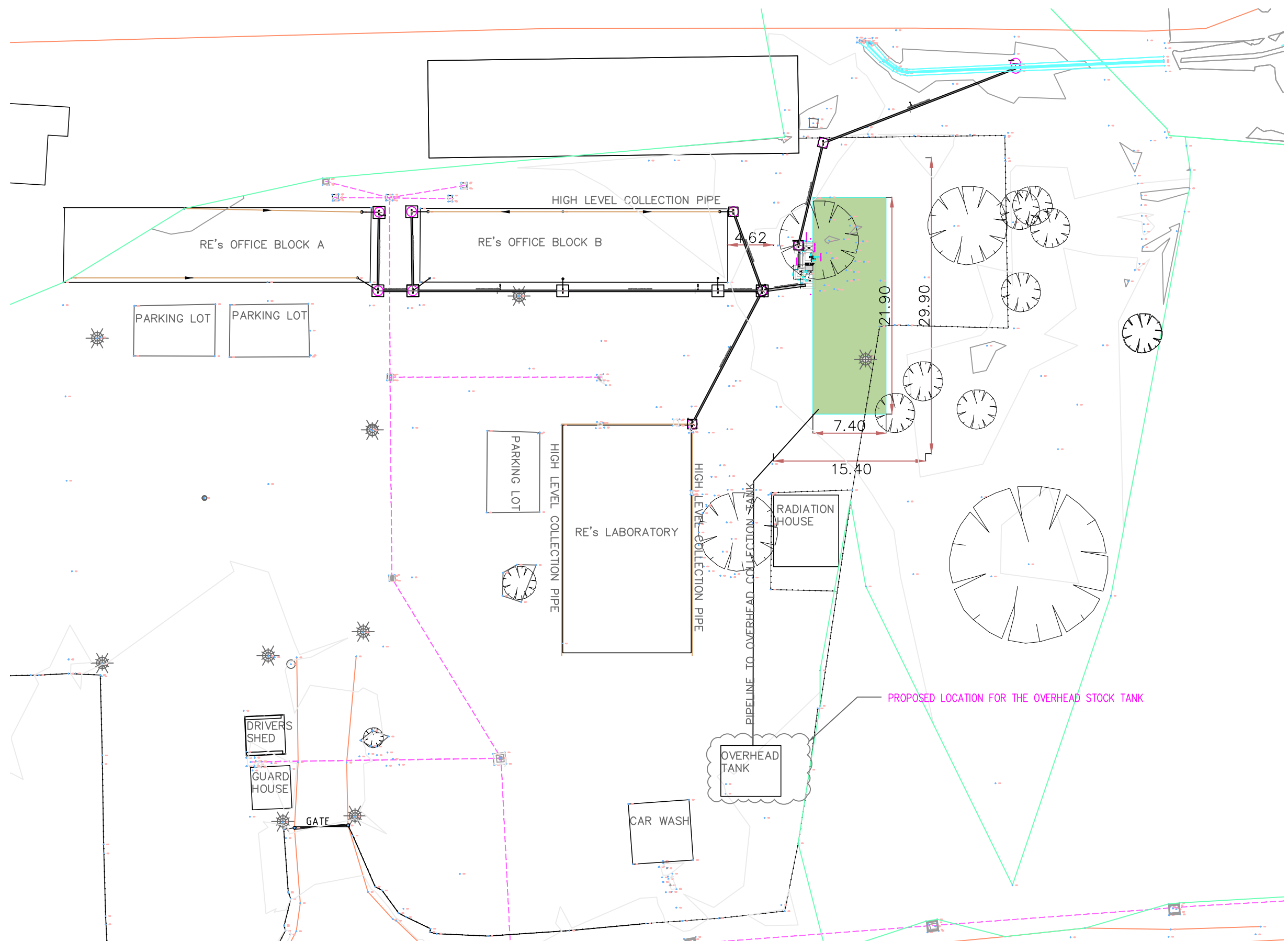
DN 90 Deg. G.I. BEND THRUST BLOCK DETAIL
Scale 1:100



Section B-B
Scale 1:100

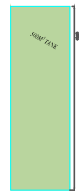




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Client:					
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Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
WATER RETICULATION DETAILS FOR THE RAIN WATER HARVESTING SYSTEMS					
Drawing title:					
TYPICAL DETAIL FOR WATER PIPELINE THRUST BLOCK					
Contract No.:					
KAA/OT/MIA/0226/2022-2023					
Date:		JUNE 2023		Scale: AS SHOWN	
Paper size:		A3		Rev No.: 1	
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH/24					

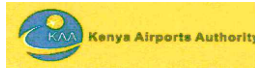

2) SITE OFFICE TANK DRAWINGS



General layout
(Scale 1:750)

LEGEND

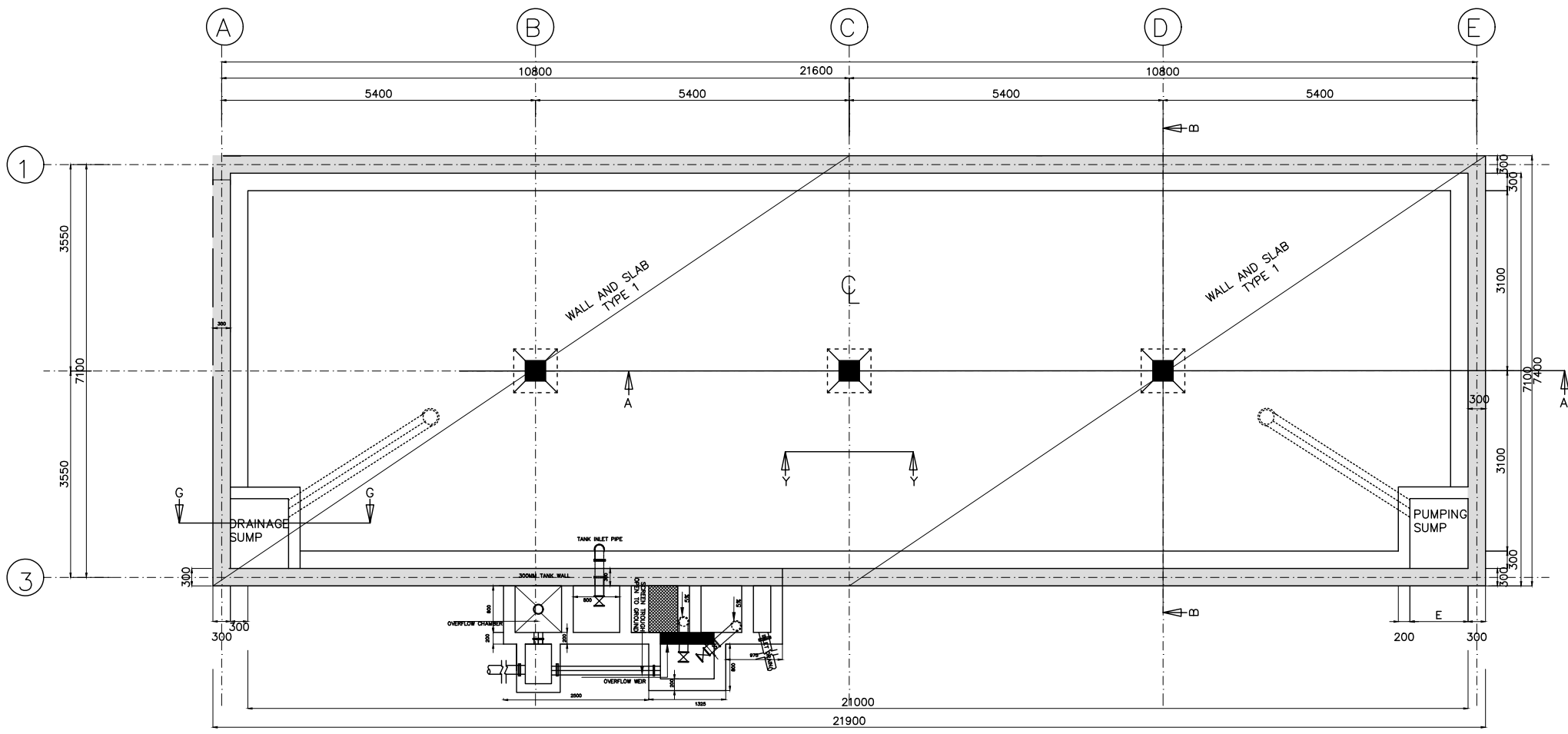
-  Existing Site Office Tank
-  EXISTING TREES
-  EXISTING SEWERLINE
-  EXISTING LIGHTING POLES
-  EXISTING OPEN CHANNEL

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Consultant:  APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project: THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase: TENDER DRAWINGS					
Subject: SITE OFFICE TANK GENERAL LAYOUT					
Drawing title: SITE OFFICE TANK LAYOUT SITE OFFICE TANK GENERAL LAYOUT FOR OUTSTANDING WORKS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-GL01					

SITE OFFICE TANK 550M³ RWH TANKS - OUTSTANDING WORKS MATRIX

No.	Description of Work	Status
General Items		
1	Cleansing and sterilization of reservoir in accordance with specifications	Outstanding
2	Pressuring testing, cleansing and sterilization of pipework in accordance to specification	Outstanding
3	General clearance, removal of all bushes, grass, shrubs e.t.c grub up roots and cart away to tip, identified by the contractor in liaison with Local Authority.	Outstanding
Formwork for Chambers/ Inlet Works		
4	Provide formwork that shall include fixing shuttering, propping, strutting and striking as specified for sides of the inlet work, and overflow chambers as specified.	Outstanding
5	Carry out specified boxing out in concrete wall for the tank for inlet and outlet pipework, overflow chamber, pipe installations, access manholes	Outstanding
6	Provide rebates in walls of overflow chamber for precast concrete slabs	Outstanding
7	Provide rebates for manhole covers	Outstanding
8	Provide fillet to form chamfer for all roof upstands and manhole upstands	Outstanding
9	Provide Precast Reinforced Concrete class 20/20 finished fair on all surfaces and reinforced with one layer steel mesh fabric reinforcement BRC No. A142 and high steel reinforcement complete with special lock and handling mechanism for the overflow chambers, inlet works openings, tank openings, and washout chamber.	Outstanding
Pipework		
10	The Contractor shall supply lay and joint pipes includes for excavation backfilling of pipe trenches Including where there is pavement and the associated reconstruction works. All diameters are nominal for the section leading to the overhead stock tank within the premises of the Site Office	Outstanding
Miscellaneous Works		
11	Supply, and install an access ladder of galvanized mild steel internal ladders with stringers returned to form hand rails as per detail on drawing	Outstanding
12	Supply and install vent pipes in roof slab complete with a mosquito gauze.	Outstanding
13	Supply and install step iron to chambers with excess of 1 meter depth.	Outstanding
14	Supply and install valves, screen gratings, troughs as prescribed in the drawings	Outstanding
15	Supply and place a layer of pumice on roof slab.	Outstanding
16	Supply, install, test, and commission sump pumps, and pipes. The provision and installation of pump system includes 2 pumps (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system including the pump controls, and float switch to be integrated at the overhead stock tank within the premises of Site Office for a seamless automated operation.	Outstanding
17	Supply, install, test and commission chlorine feeding machines. The provision and installation of the Chlorine gas system should be as prescribed and the system shall include 2 No (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system. Allow for all design requirements to the Engineer's approval.	Outstanding
18	Construct 6 metres high overhead uPVC Water Tank of 10m ³ placed, complete with inlet pipe connections from the pump house to be located within the Site Office. This work should include all details prescribed in the drawings.	Outstanding

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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE OUTSTANDING WORKS MATRIX					
Drawing title:					
OUTSTANDING WORKS MATRIX					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-SOT 02					



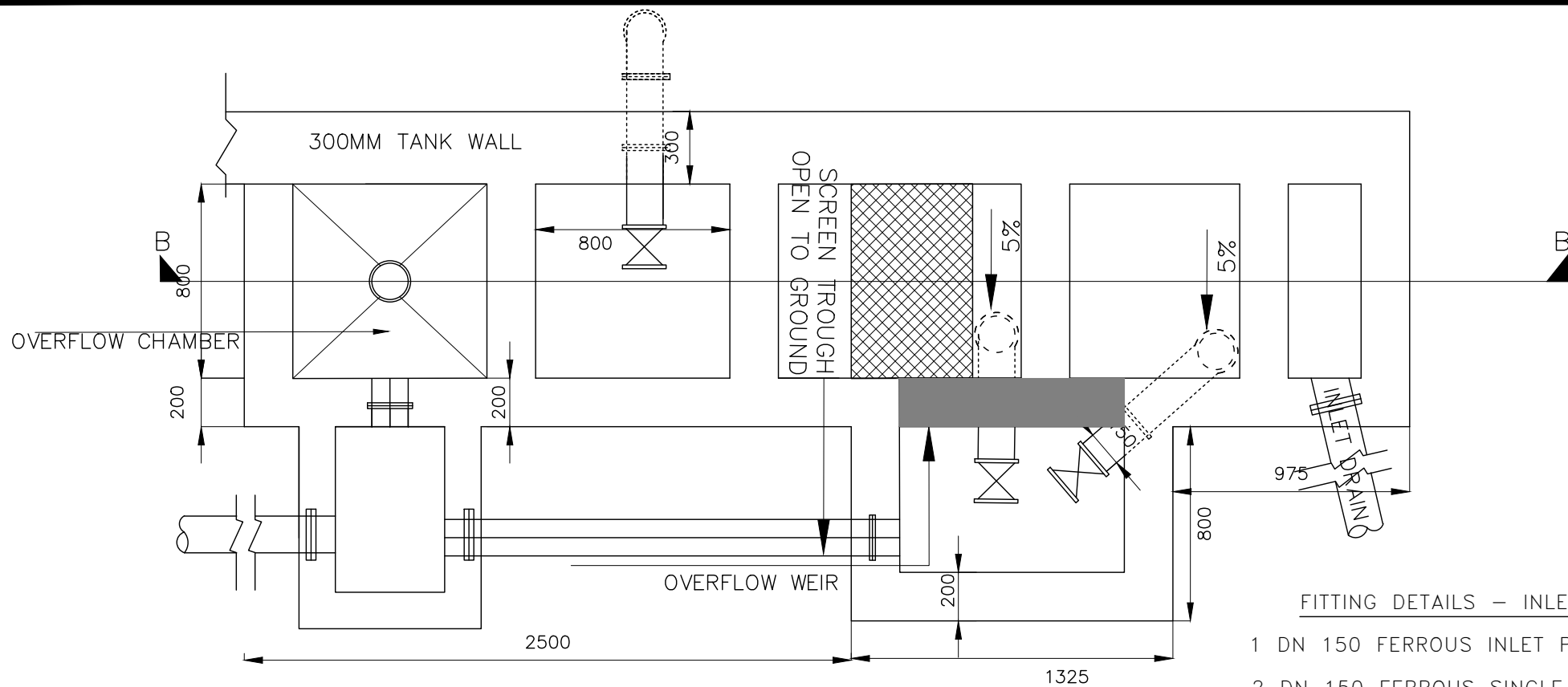
- LEGEND:**
- GRID
 - WALL PANEL
 - - - CONTRACTION JOINTS
 - - - EMBEDDED PIPEWORK
 - 20MM Ø DOWEL BARS

FOUNDATION LAYOUT PLAN OF 500M3 CLEAR WATER TANK

NOTES:

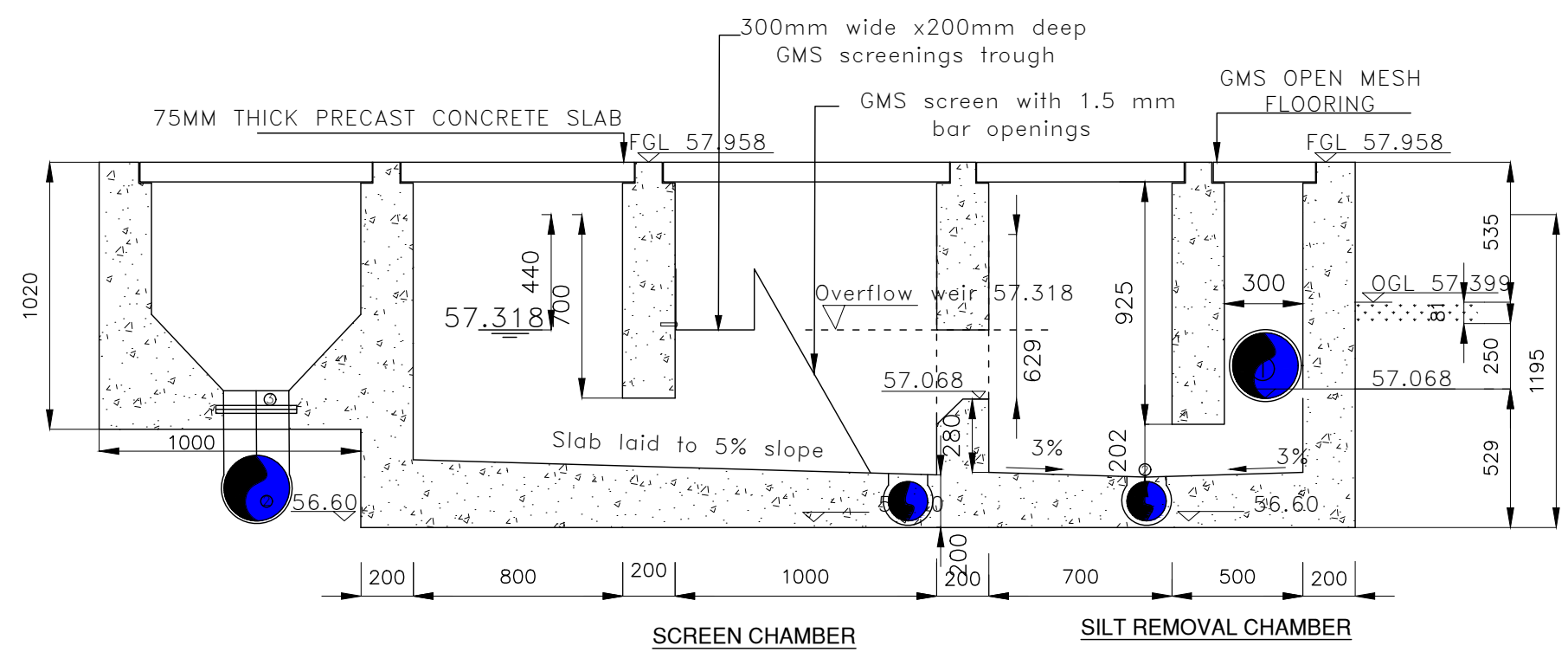
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3. The Contractor is required to read the section details with relation to the layouts.

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Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE TANK LAYOUT					
Drawing title:					
SITE OFFICE TANK GENERAL FOUNDATION LAYOUT					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-SOT 03					



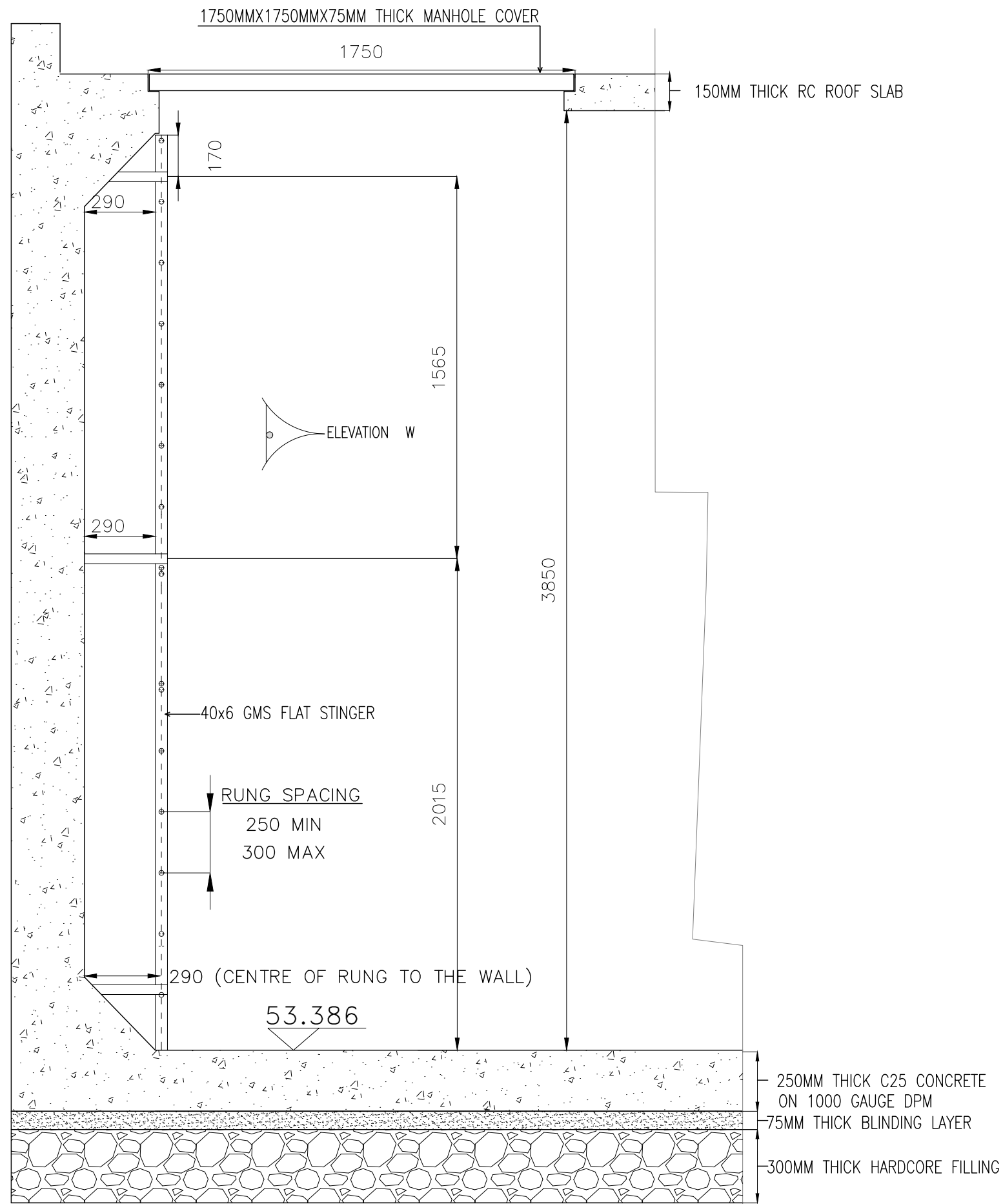
- FITTING DETAILS – INLET PIPE WORK**
- 1 DN 150 FERROUS INLET PIPE WITH A PUDDLE FLANGE
 - 2 DN 150 FERROUS SINGLE FLANGED 90° SHORT RADIUS BEND WITH A PUDDLE FLANGE
 - 3 DN 150 FERROUS OVERFLOW PIPE WITH A PUDDLE FLANGE

- NOTES:**
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
 2. All dimensions are in MM unless otherwise specified
 3. The Contractor is required to read the section details with relation to the layouts.
 4. The contractor is required to complete the pending inlet works that include; installation of galvanized mild screen, installation of valves, installation of screening troughs, overflow chambers, and supply and fix of precast concrete slabs.

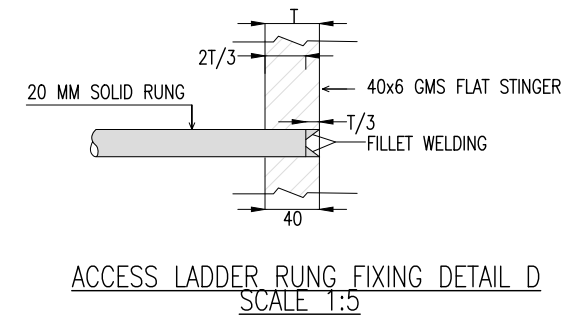
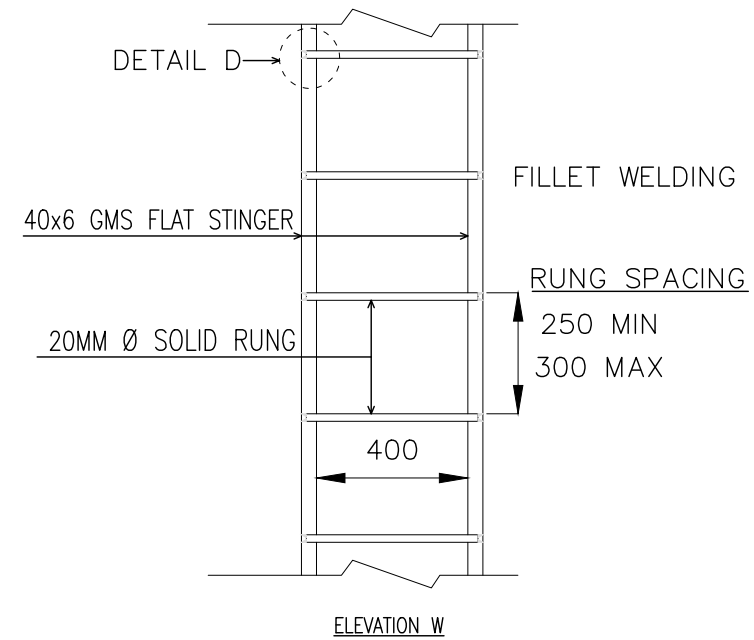


SECTION B-B
Scale 1:40

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE TANK INLET WORKS PLAN AND SECTION					
Drawing title:					
SITE OFFICE TANK INLET WORKS PLAN AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	AS SHOWN		
Paper size:	A3	Rev No.:	1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-SOT 04					



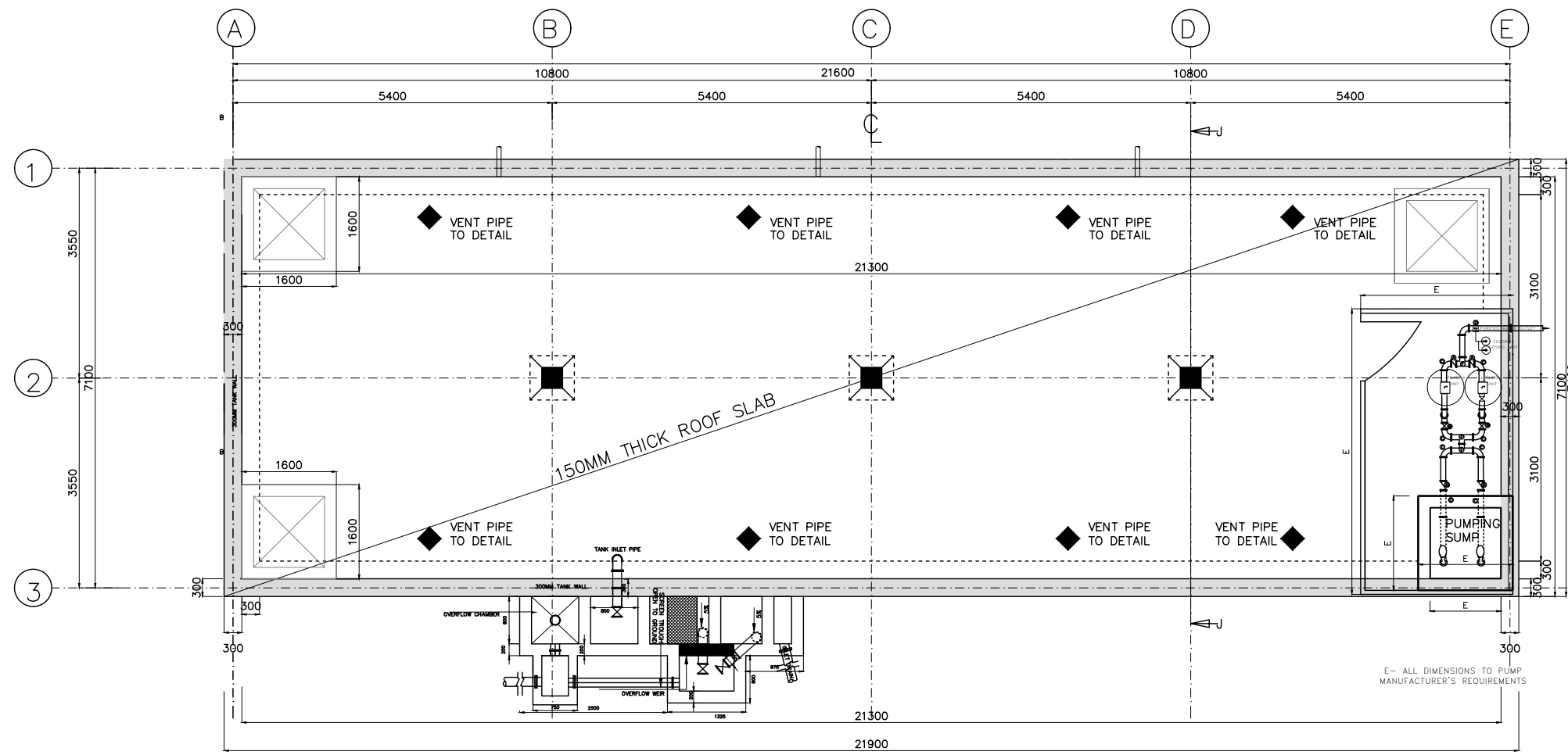
ACCESS LADDER DETAILS



NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to supply and fix and place the ladder in place.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE TANK LADDER DETAILS					
Drawing title:					
SITE OFFICE TANK LADDER PLAN AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-SOT 05					




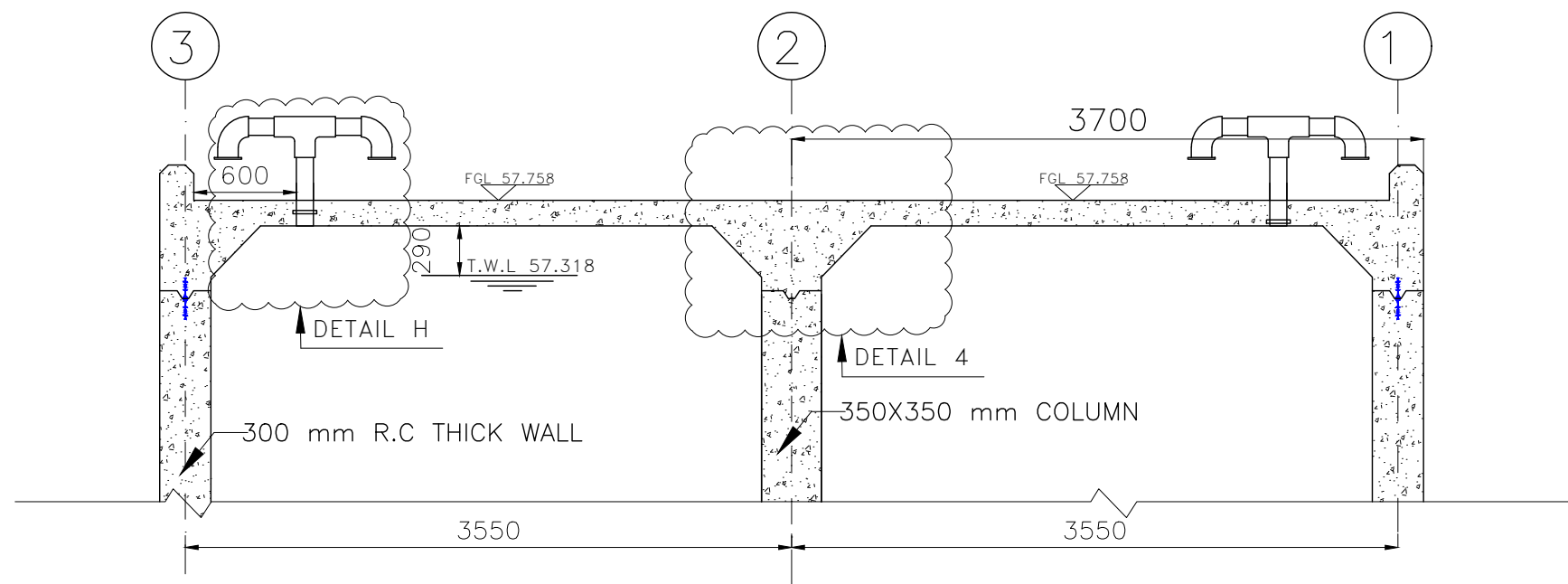
ROOF LAYOUT PLAN OF 500M3 CLEAR WATER TANK

- GRID
- ◆ VENT PIPE TO DETAIL
- ROOF DRAIN PIPE
- 1600X1600MM ACCESS CHAMBER

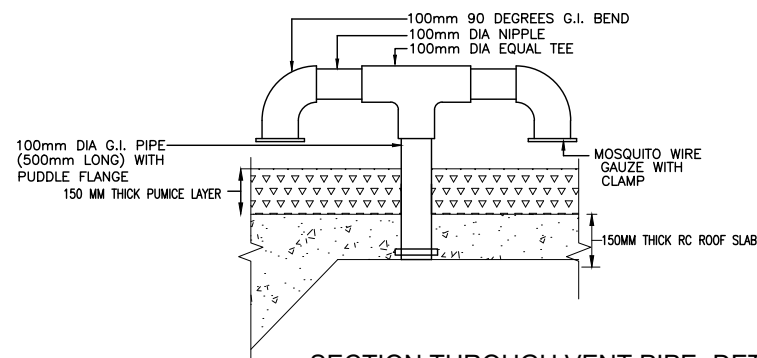
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required to supply and fix precast reinforced concrete covers complete with opening and closing mechanisms.
5. The Contractor is required to supply and install vent pipes with mosquito gauze.
6. The Contractor is required to supply and place pumice layer.
7. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

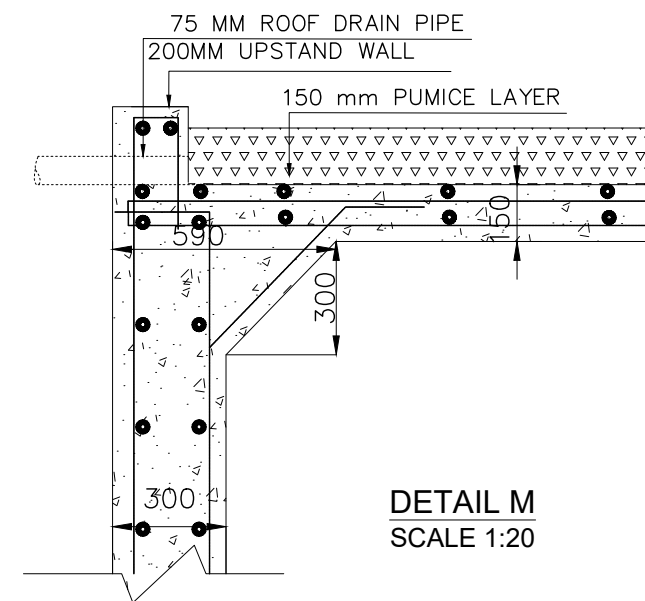
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Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE TANK ROOF LAYOUT					
Drawing title:					
SITE OFFICE TANK ROOF PLAN AND PUMPING PLAN					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/RWH-SOT06					



SECTION J-J
(SCALE: 1:50)




SECTION THROUGH VENT PIPE -DETAIL H
SCALE 1:25

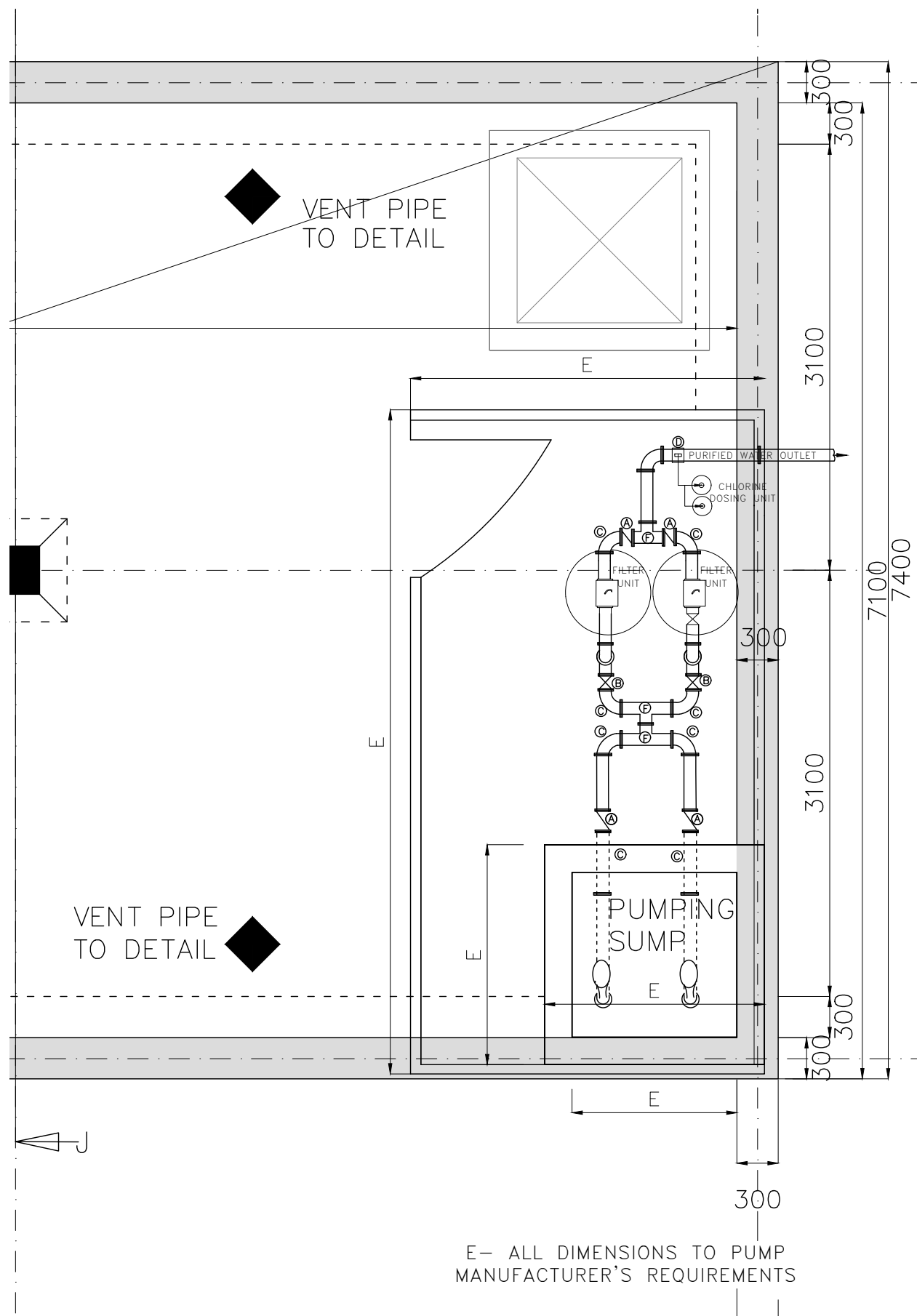


DETAIL M
SCALE 1:20

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required to install vent pipes with mosquito gauge.
5. The Contractor is required to place pumice layer.
6. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

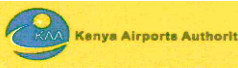
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE TANK ROOF SECTION					
Drawing title:					
SITE OFFICE TANK ROOF SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-SOT07					

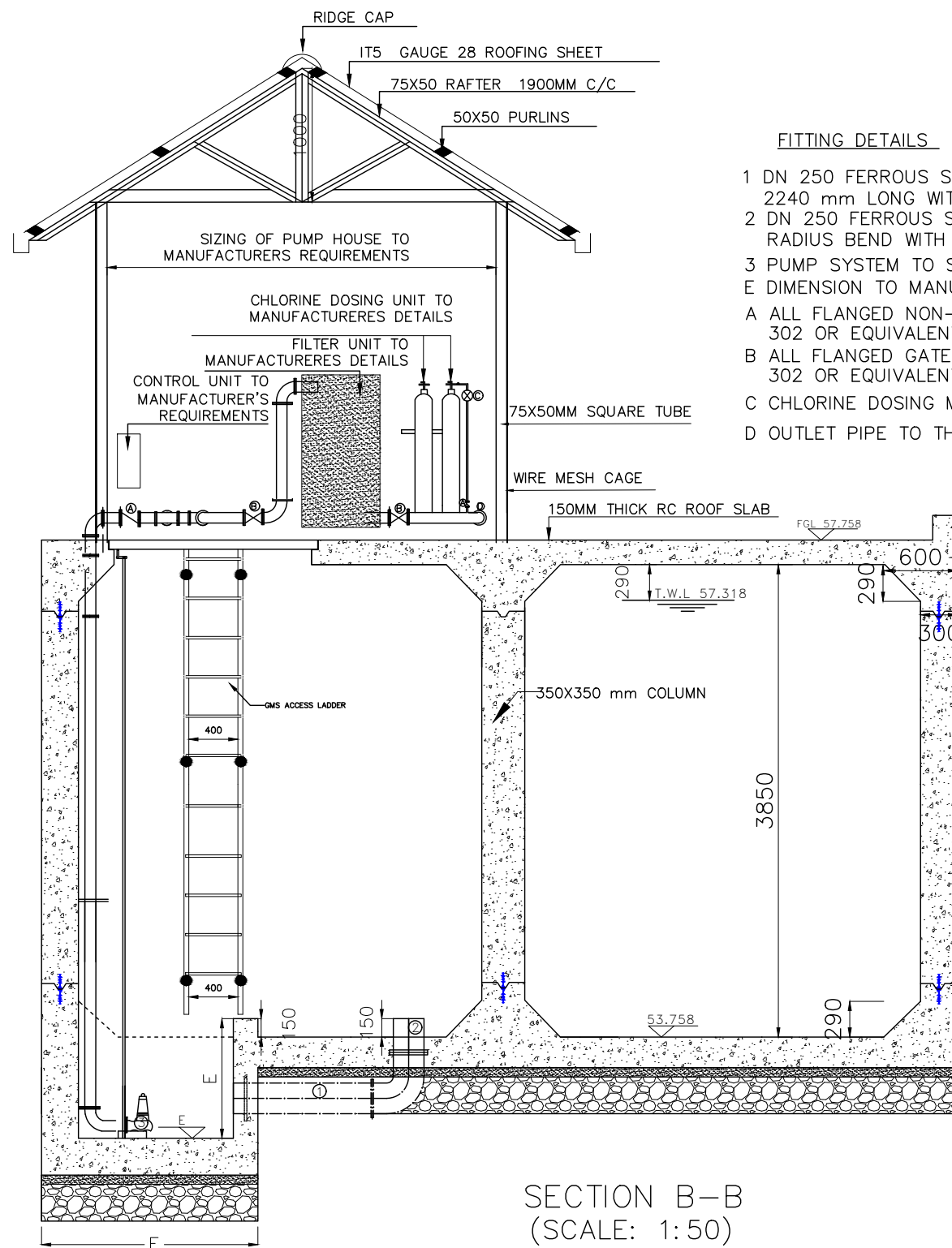


E- ALL DIMENSIONS TO PUMP MANUFACTURER'S REQUIREMENTS

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, filter systems and to install vent pipes with mosquito gauge.
5. The Contractor is required to place pumice layer.
6. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

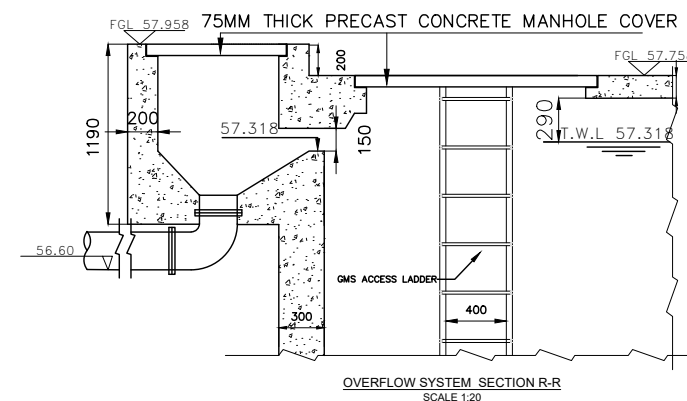
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE TANK PUMP LAYOUT					
Drawing title:					
SITE OFFICE TANK PUMP LAYOUT TO BE TO MANUFACTURER'S REQUIREMENTS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	AS SHOWN		
Paper size:	A3	Rev No.:	1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-SOT 08					



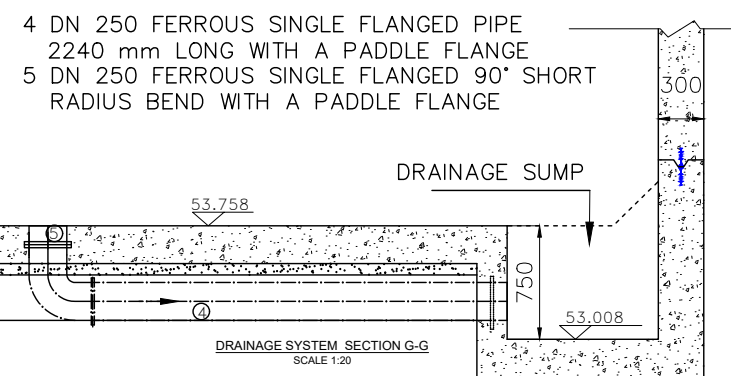
SECTION B-B
(SCALE: 1:50)

FITTING DETAILS

- 1 DN 250 FERROUS SINGLE FLANGED PIPE 2240 mm LONG WITH A PADDLE FLANGE
- 2 DN 250 FERROUS SINGLE FLANGED 90° SHORT RADIUS BEND WITH A PADDLE FLANGE
- 3 PUMP SYSTEM TO SPECIFICATION
- E DIMENSION TO MANUFACTURERS REQUIREMENTS
- A ALL FLANGED NON-RETURN VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
- B ALL FLANGED GATE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
- C CHLORINE DOSING METER
- D OUTLET PIPE TO THE OVERHEAD TANK AT THE SITE OFFICE PREMISES



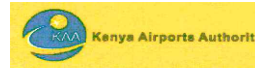

OVERFLOW SYSTEM SECTION R-R
SCALE 1:20

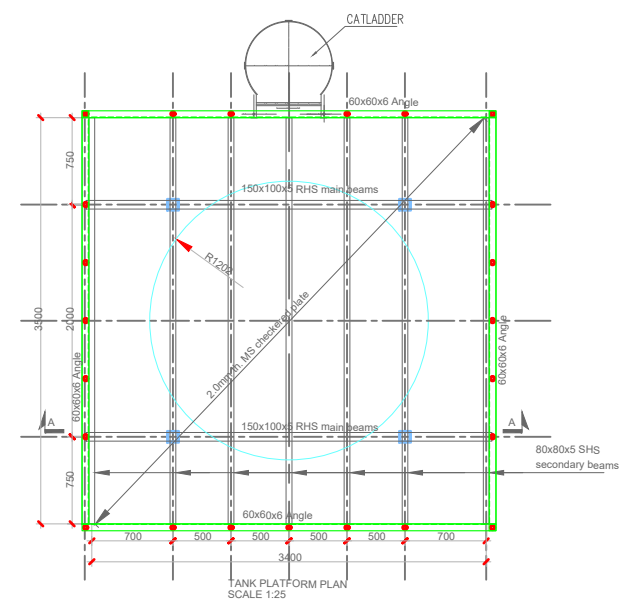
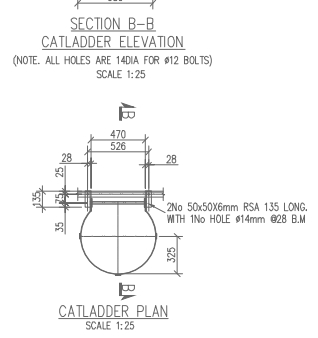
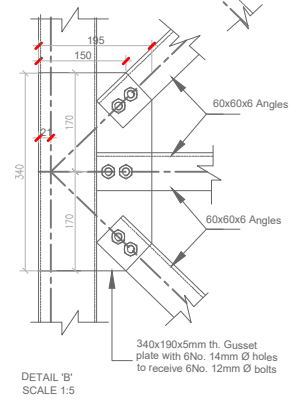
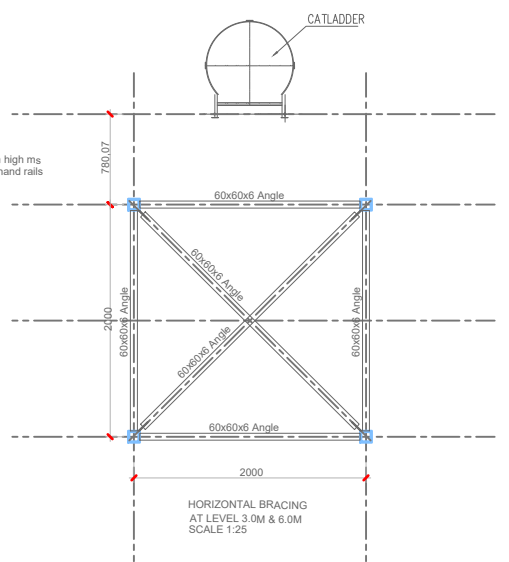
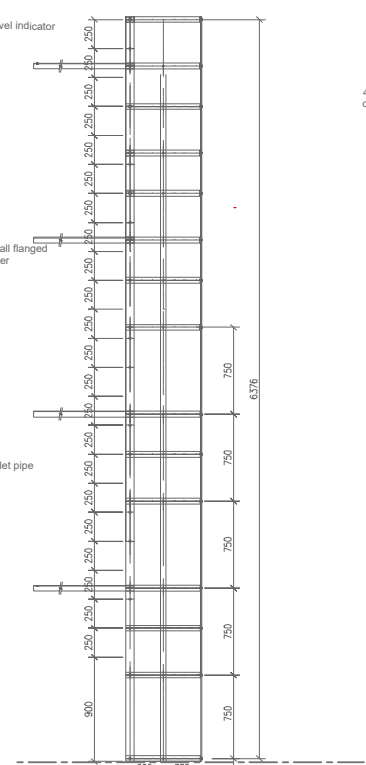
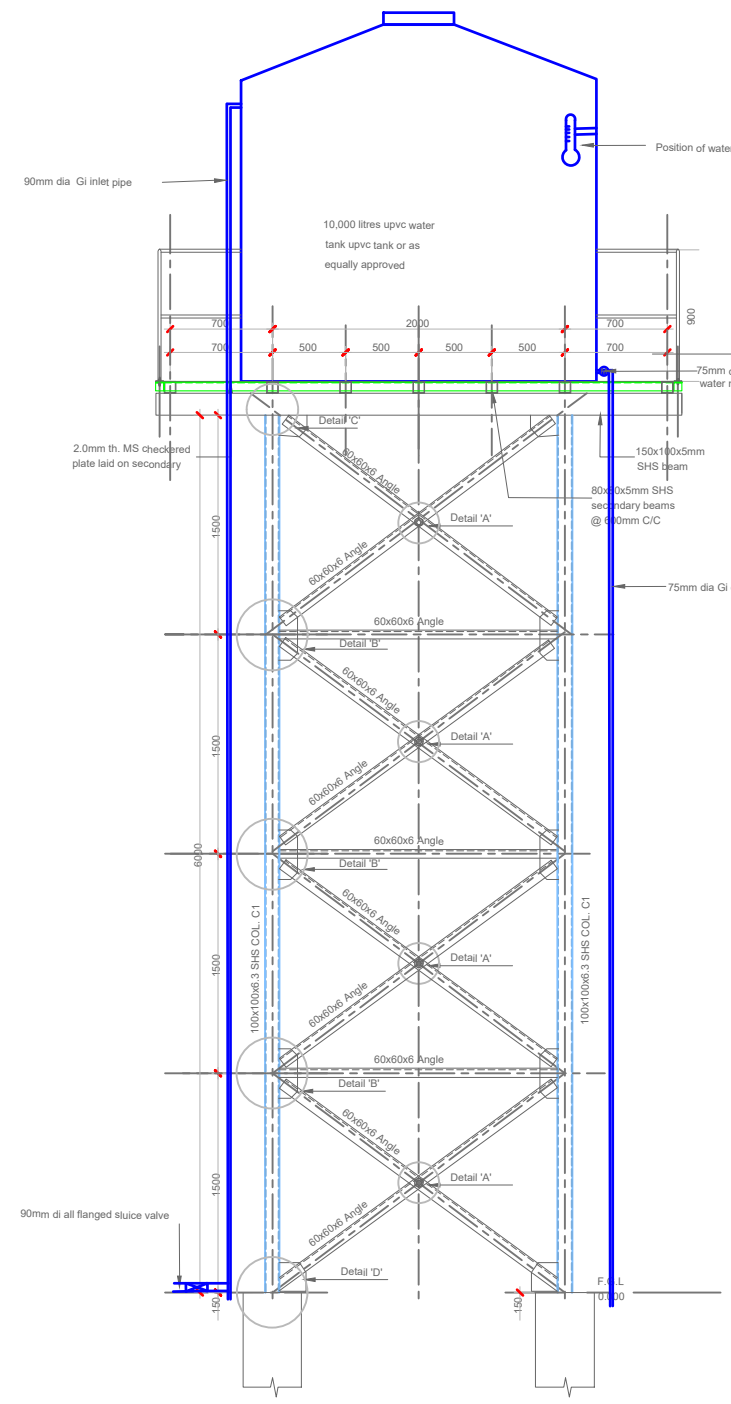
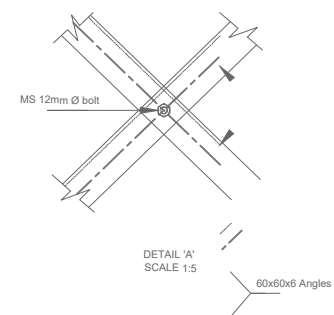
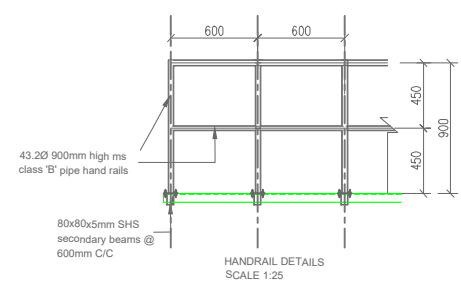
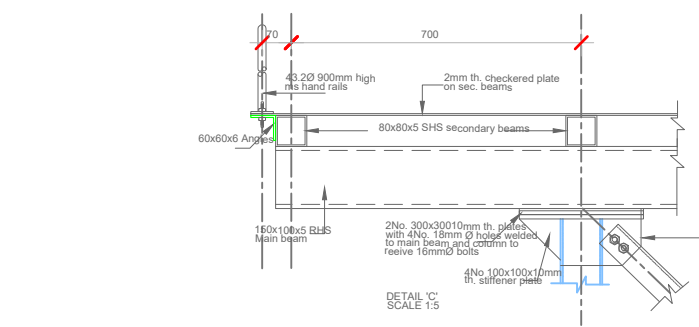


DRAINAGE SYSTEM SECTION G-G
SCALE 1:20

NOTES:

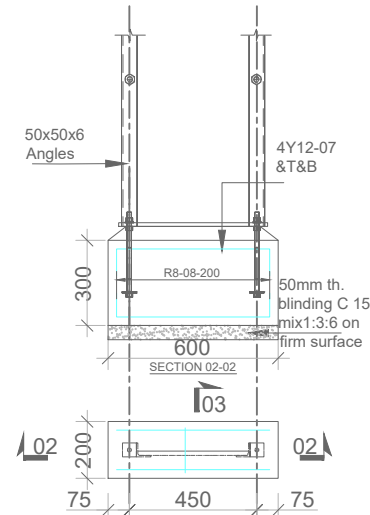
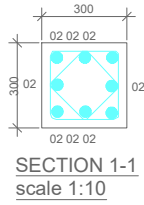
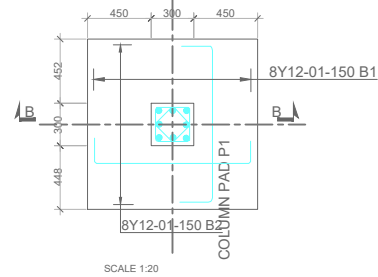
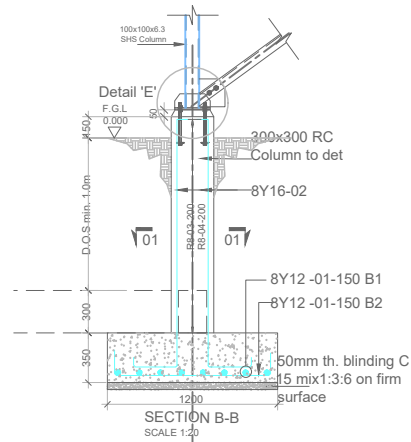
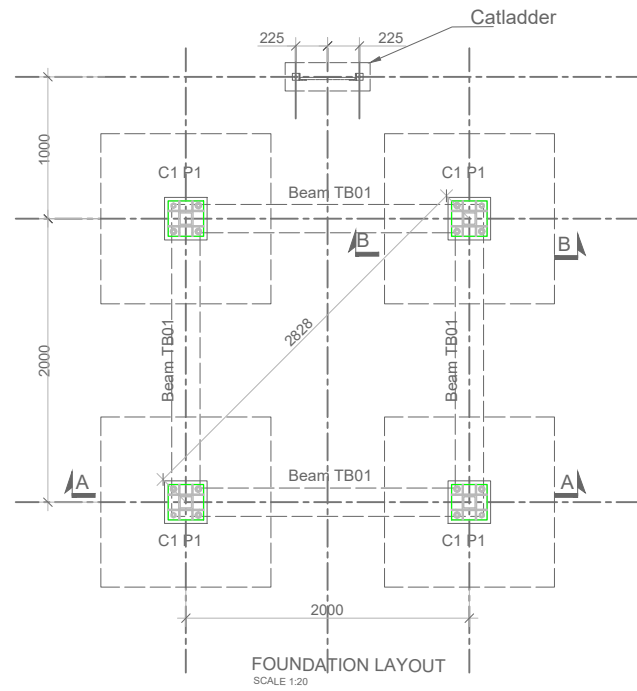
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, filter systems and to install vent pipes with mosquito gauge.
5. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE TANK PUMP HOUSE SECTION					
Drawing title:					
SITE OFFICE TANK ROOF PUMP HOUSE SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	AS SHOWN		
Paper size:	A3	Rev No.:	1		
Dwg No.:KAA/OT/MIA/0226/2022-2023/ RWH-SOT 09					

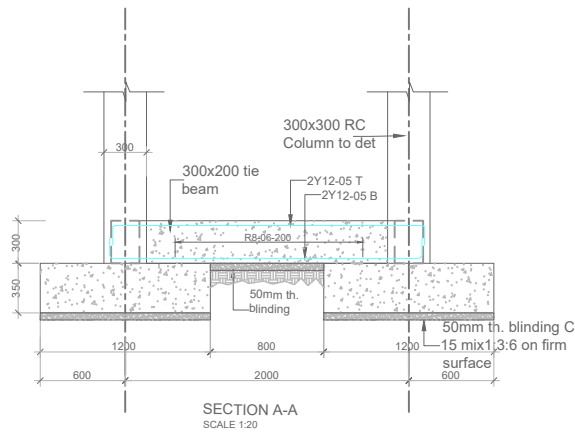
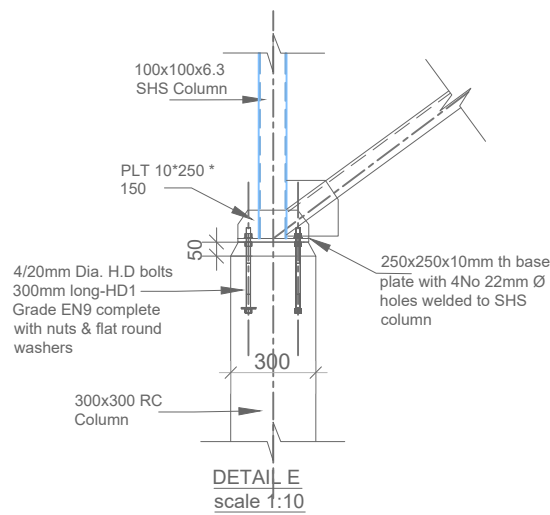
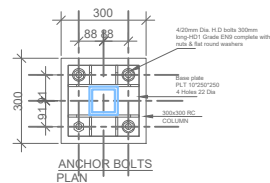


- NOTES
1. All dimensions are in millimeters unless otherwise stated
 2. All dimensions to be checked and confirmed on site before commencement of any work
 3. Written dimensions override scaled dimensions, thus all dimensions are to be read and not at any time scaled from the drawing
 4. Any discrepancy to be reported to the Engineer promptly before proceeding

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
SITE OFFICE OVERHEAD TANK					
Drawing title:					
SITE OFFICE OVERHEAD TANK PLAN AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-SOT 10					



CATLADDER FOUNDATION DETAILS scale 1:10



BAR BENDING SCHEDULE TO BS4466-1

BAR MARK	BAR SIZE	TOTAL NO OF BARS	SIZE CODE	BENDING	TOTAL LENGTH (M)	TOTAL WEIGHT (KG)
01	Y12	64	35		89.60	79.56
02	Y16	32	54		57.60	91.0
03	R8	32	61		37.80	14.93
04	R8	32	61		37.80	14.93
05	Y12	16	35		40.0	35.52
06	R8	44	61		43.10	17.0
07	Y12	4	35		3.20	2.84
08	R8	4	61		27.20	10.74
					TOTAL	266.50

NOTES

- All dimensions are in millimeters unless otherwise stated
- All dimensions to be checked and confirmed on site before commencement of any work
- Written dimensions override scaled dimensions, thus all dimensions are to be read and not at any time scaled from the drawing
- Any discrepancy to be reported to the Engineer promptly before proceeding

CONCRETE

- Blinding under pad foundation shall be 1:3:6 mix
- All reinforced concrete for columns to be grade 25 mix (1:1.5:3) giving a minimum crushing strength of 25N/mm² of 28 days
- Cement shall be portland cement to comply with BS 12
- Maximum aggregates size shall be 20mm unless otherwise stated

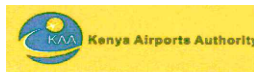
REINFORCEMENT

- R indicate hot rolled mild steel to BS 4449
- Y indicate cold rolled high tensile steel to BS 4461
- Fabric reinforcement shall be to BS 4483
- All reinforcement shall be presented to the Engineer for inspection prior to concreting

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

Client:

P.O. BOX 19001 00501
NAIROBI KENYA.
TEL : +254-20-822400
FAX : +254-20-822078
www.kenyaairports.co.ke



Consultant:



APEC CONSORTIUM LTD
P.O BOX 3786-00100
NAIROBI KENYA.

Project:

THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:

TENDER DRAWINGS

Subject:

SITE OFFICE OVERHEAD TANK FOUNDATION DETAILS

Drawing title:

SITE OFFICE OVERHEAD TANK FOUNDATION, BAR BENDING SCHEDULE

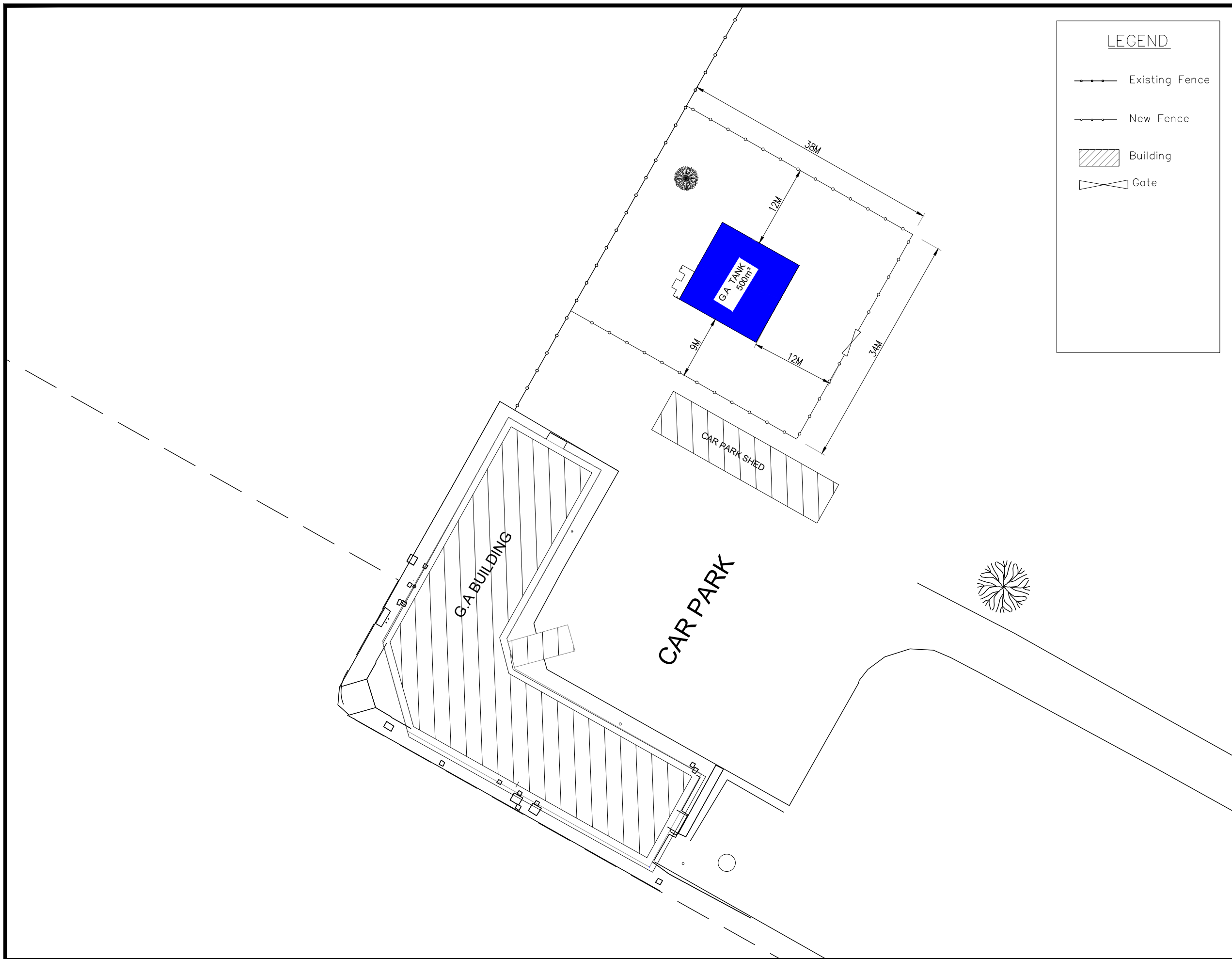
Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023 Scale: AS SHOWN

Paper size: A3 Rev No.: 1

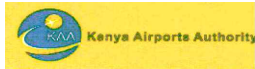

Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-SOT 11

3) GENERAL AVIATION DRAWINGS



LEGEND

- Existing Fence
- New Fence
- Building
- Gate

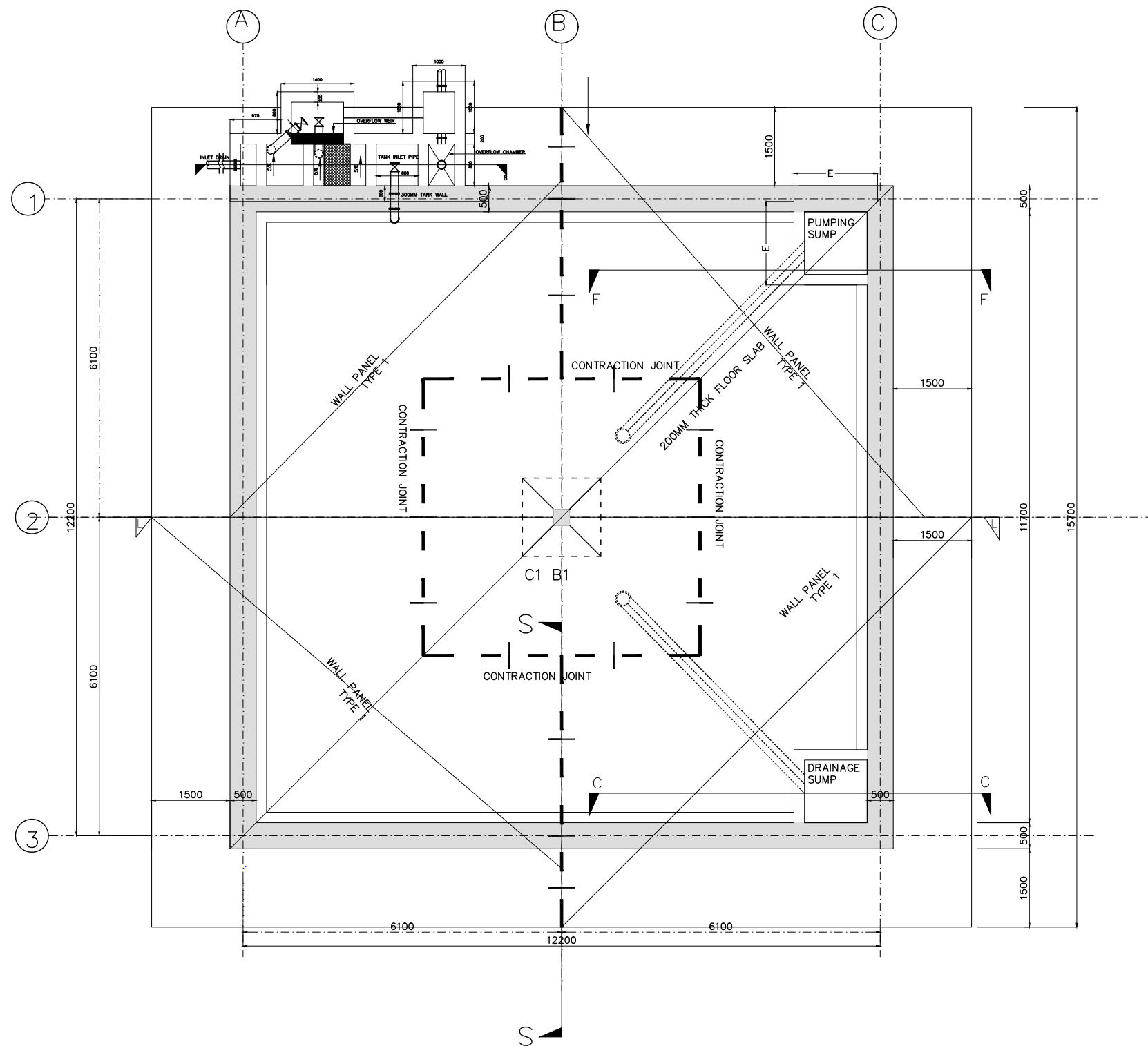
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION TANK					
Drawing title:					
GENERAL AVIATION TANK GENERAL LAYOUT					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 01					

GENERAL AVIATION TANK 500M ³ RWH TANKS - OUTSTANDING WORKS		
No.	Description of Work	Status
General Items		
1	Cleansing and sterilization of reservoir in accordance with specifications	Outstanding
2	Pressuring testing, cleansing and sterilization of pipework in accordance to specification	Outstanding
3	General clearance, removal of all bushes, grass, shrubs e.t.c grub up roots and cart away to tip, identified by the contractor in liaison with Local Authority.	Outstanding
Formwork and Chambers		
4	Provide formwork that shall include fixing shuttering, propping, strutting and striking as specified for sides of the inlet work, and overflow chambers as specified.	Outstanding
5	Carry out specified boxing out in concrete wall for the tank for outlet pipework, overflow chamber, pipe installations, access	Outstanding
6	Provide rebates in walls of overflow chamber for precast concrete slabs	Outstanding
7	Provide rebates for manhole covers	Outstanding
8	Provide fillet to form chamfer for all roof upstands and manhole upstands	Outstanding
9	Provide Precast Reinforced Concrete class 20/20 finished fair on all surfaces and reinforced with one layer steel mesh fabric reinforcement BRC No. A142 and high steel reinforcement complete with special lock and handling mechanism for the overflow chambers, inlet works openings, tank openings, and washout chamber.	Outstanding
Pipework		
10	The Contractor shall supply lay and joint pipes includes for excavation backfilling of pipe trenches Including where there is pavement and the associated reconstruction works. All diameters are nominal for the section leading to the inlet works, for the overflow pipe, and for the reticulation to the Water Tank near the Police Station building as prescribed in the drawings.	Outstanding
Miscellaneous Works		
11	Supply, and install an access ladder of galvanized mild steel internal ladders with stringers returned to form hand rails as per detail on drawing	Outstanding
12	Supply and install vent pipes in roof slab complete with a mosquito gauze.	Outstanding
13	Supply and install step iron to chambers with excess of 1 meter depth.	Outstanding
14	Supply and place a layer of pumice on roof slab.	Outstanding
15	Supply and install valves, screen gratings, troughs as prescribed in the drawings	Outstanding
16	Construct a fire hydrant system that shall be extended from the existing system. The Tee hydrants shall be placed at the vicinity of the General aviation buildings	
17	Supply and construct fencing and gate around the tank as prescribed.	Outstanding
18	Supply, install, test, and commission sump pumps, and pipes. The provision and installation of pump system includes 2 pumps (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system including the pump controls, and float switch to be integrated at the Water Tank near the Police Station premises for a seamless automated operation.	Outstanding
19	Supply, install, test and commission chlorine feeding machines. The provision and installation of the Chlorine gas system should be as prescribed and the system shall include 2 No (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system. Allow for all design requirements to the Engineer's approval.	Outstanding

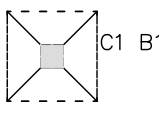
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to complete the pending inlet works that include and not limited to; installation of galvanized mild screen, installation of valves, installation of screening troughs, overflow chambers, and precast concrete slabs.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION TANK OUTSTANDING WORKS MATRIX					
Drawing title:					
OUTSTANDING WORKS MATRIX					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 02					



LEGEND:

- - - - - GRID
- WALL PANEL
- - - - - CONTRACTION JOINTS
- - - - - EMBEDDED PIPEWORK
- 20MM Ø DOWEL BARS
-  C1 B1 300X300mm COLUMN ON 1500X1500X300mm BASE
- - - - - PARTIAL CONTRACTION JOINT

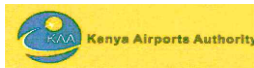
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to complete the pending inlet works that include and not limited to; installation of galvanized mild screen, installation of valves, installation of screening troughs, overflow chambers, and precast concrete slabs.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

Client:

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 NAIROBI KENYA.
 TEL : +254-20-822400
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 www.kenyaairports.co.ke



Consultant:



APEC CONSORTIUM LTD
 P.O BOX 3786-00100
 NAIROBI KENYA.

Project:

THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS

Phase:

TENDER DRAWINGS

Subject:

GENERAL AVIATION TANK LAYOUT

Drawing title:

GENERAL AVIATION TANK FOUNDATION LAYOUT

Contract No.:

CAA/OT/MIA/0226/2022-2023

Date: JUNE 2023

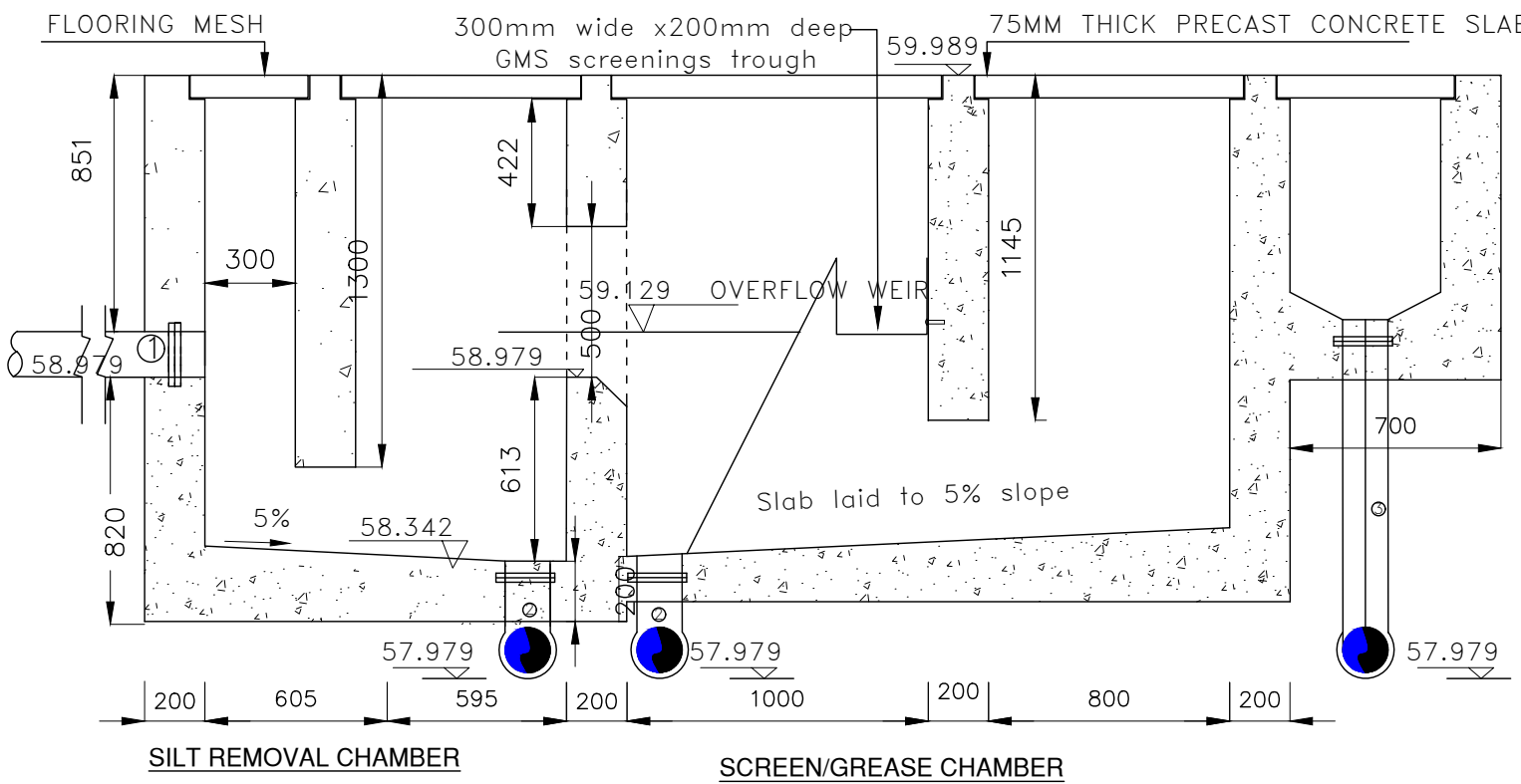
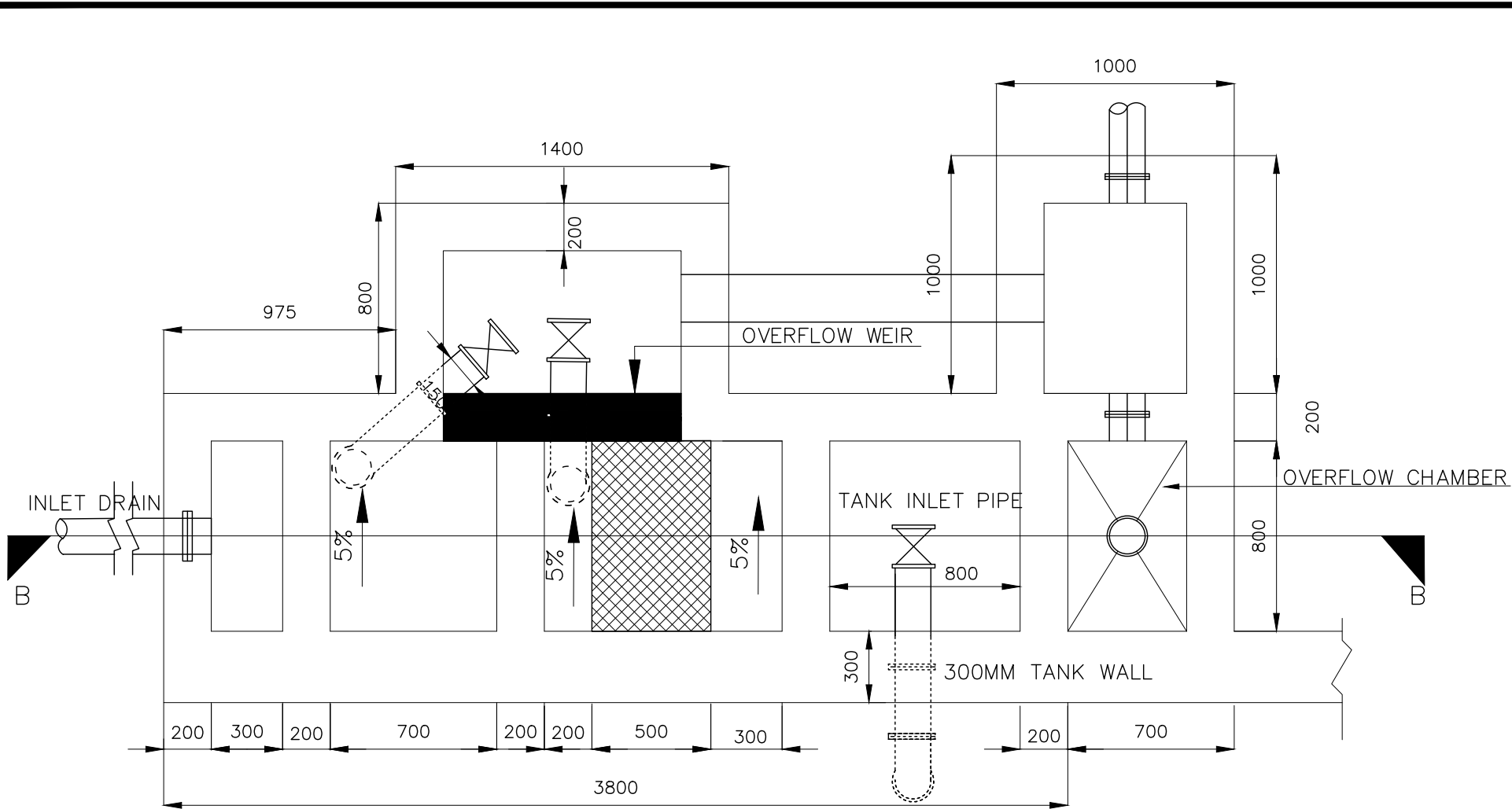
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Rev No.: 1

Dwg No.:CAA/OT/MIA/0226/2022-2023 RWH-GA 03

FLOOR PLAN OF 500M3 CLEAR WATER TANK
 SCALE 1:100



SECTION B-B
Scale 1:40

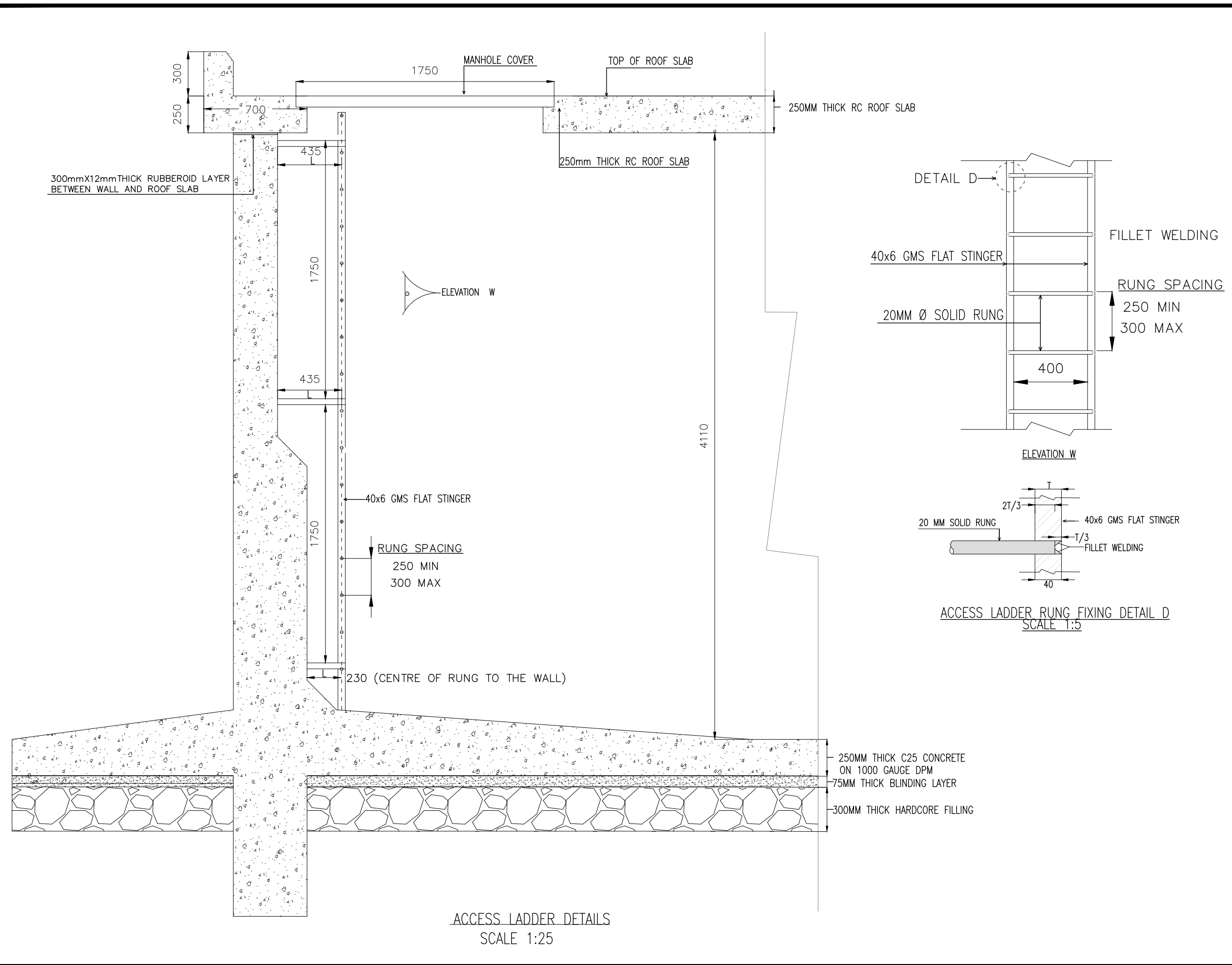
FITTING DETAILS – INLET PIPE WORK

- 1 DN 150 FERROUS INLET PIPE WITH A PUDDLE FLANGE
- 2 DN 150 FERROUS SINGLE FLANGED 90° SHORT RADIUS BEND WITH A PUDDLE FLANGE
- 3 DN 150 FERROUS OVERFLOW PIPE WITH A PUDDLE FLANGE

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to complete the pending inlet works that include and not limited to; installation of galvanized mild screen, installation of valves, installation of screening troughs, overflow chambers, and precast concrete slabs.

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Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION TANK INLET WORKS PLAN AND SECTION					
Drawing title:					
GENERAL AVIATION TANK INLET WORKS PLAN AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 4					

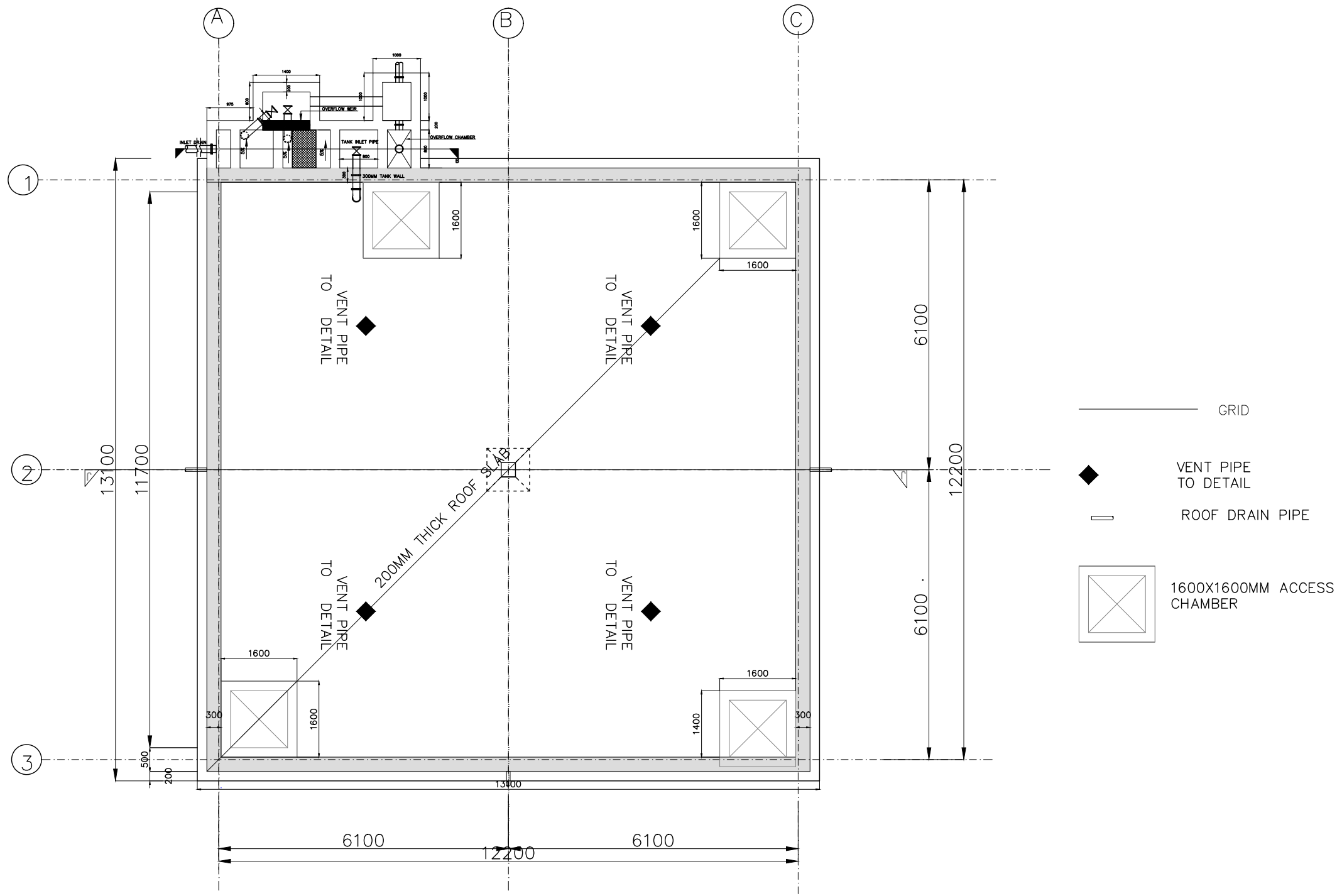


ACCESS LADDER DETAILS
SCALE 1:25

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to supply and fix and place the ladder in place.
5. The Contractor is required to fix the manholes precast reinforced covers complete with opening and closing mechanisms.

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Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LIMITED APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION TANK LADDER DETAILS					
Drawing title:					
GENERAL AVIATION TANK LADDER PLAN AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 05					



ROOF PLAN OF 500M3 CLEAR WATER TANK
Scale 1:100

NOTES:

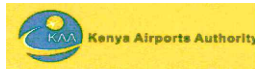

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required to fix the manholes precast reinforced covers complete with opening and closing mechanisms.
5. The Contractor is required to install vent pipes with mosquito gauge.
6. The Contractor is required to place pumice layer.
7. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

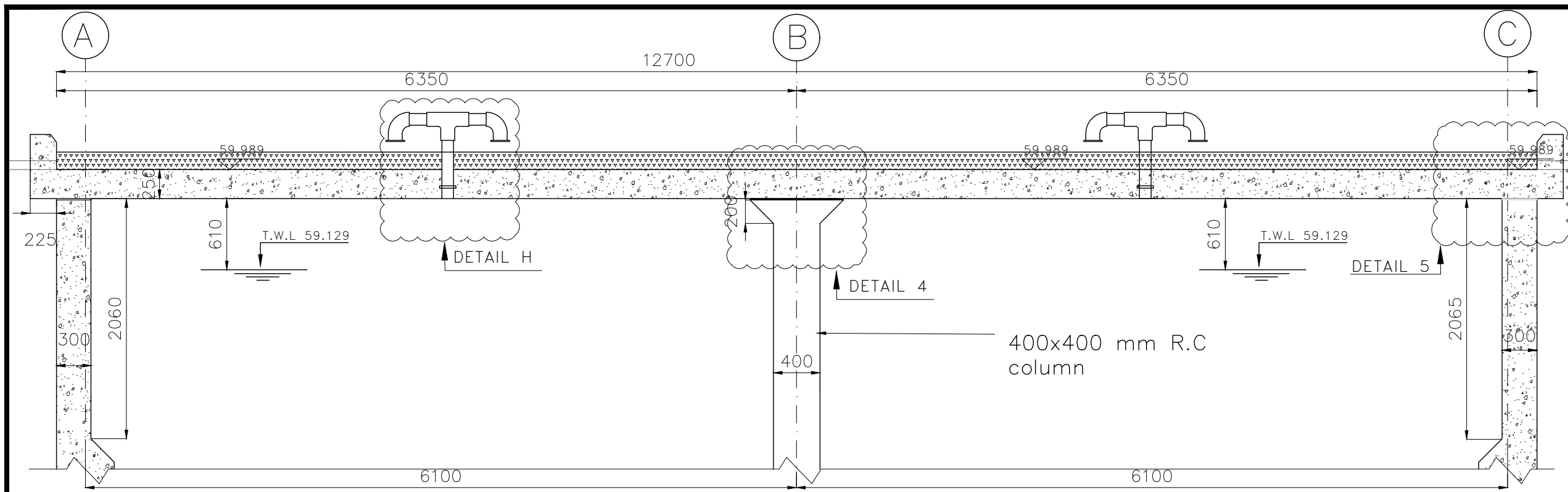
— GRID

◆ VENT PIPE TO DETAIL

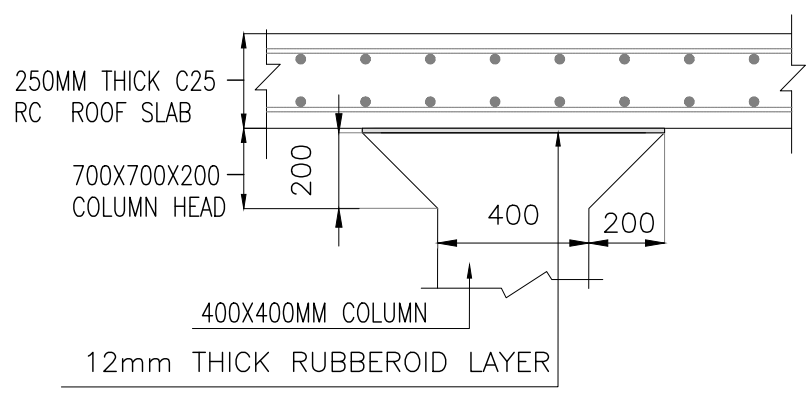
— ROOF DRAIN PIPE

□ 1600X1600MM ACCESS CHAMBER

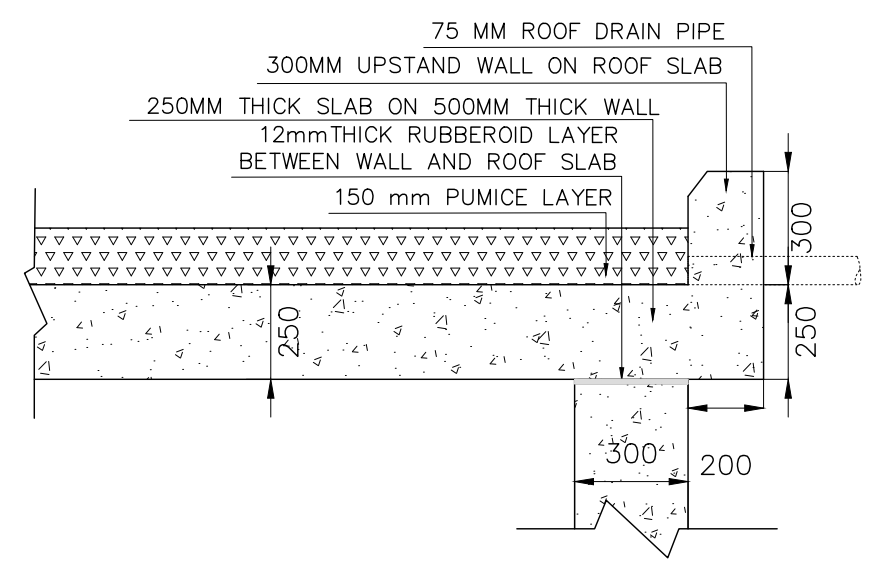
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION TANK ROOF LAYOUT					
Drawing title:					
GENERAL AVIATION TANK ROOF PLAN AND INLET WORKS PLAN					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	AS SHOWN		
Paper size:	A3	Rev No.:	1		
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 06					



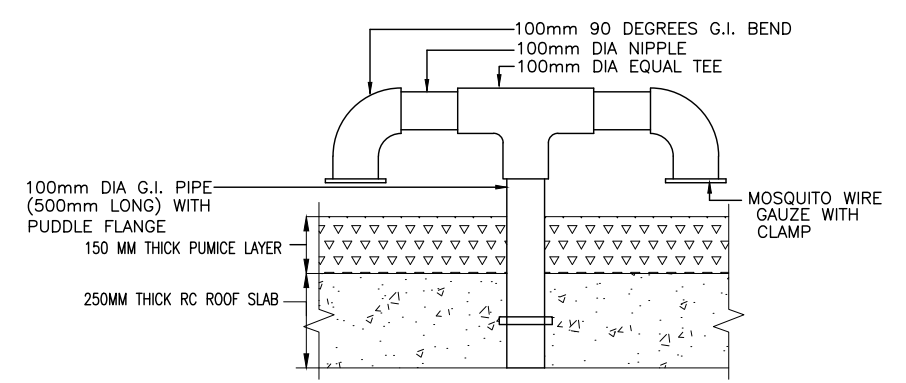
- NOTES:**
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
 2. All dimensions are in MM unless otherwise specified
 3. The Contractor is required to read the section details with relation to the layouts.
 4. The Contractor is required to install vent pipes with mosquito gauze
 5. The Contractor is required to place pumice layer.




DETAIL 4
SCALE 1:20

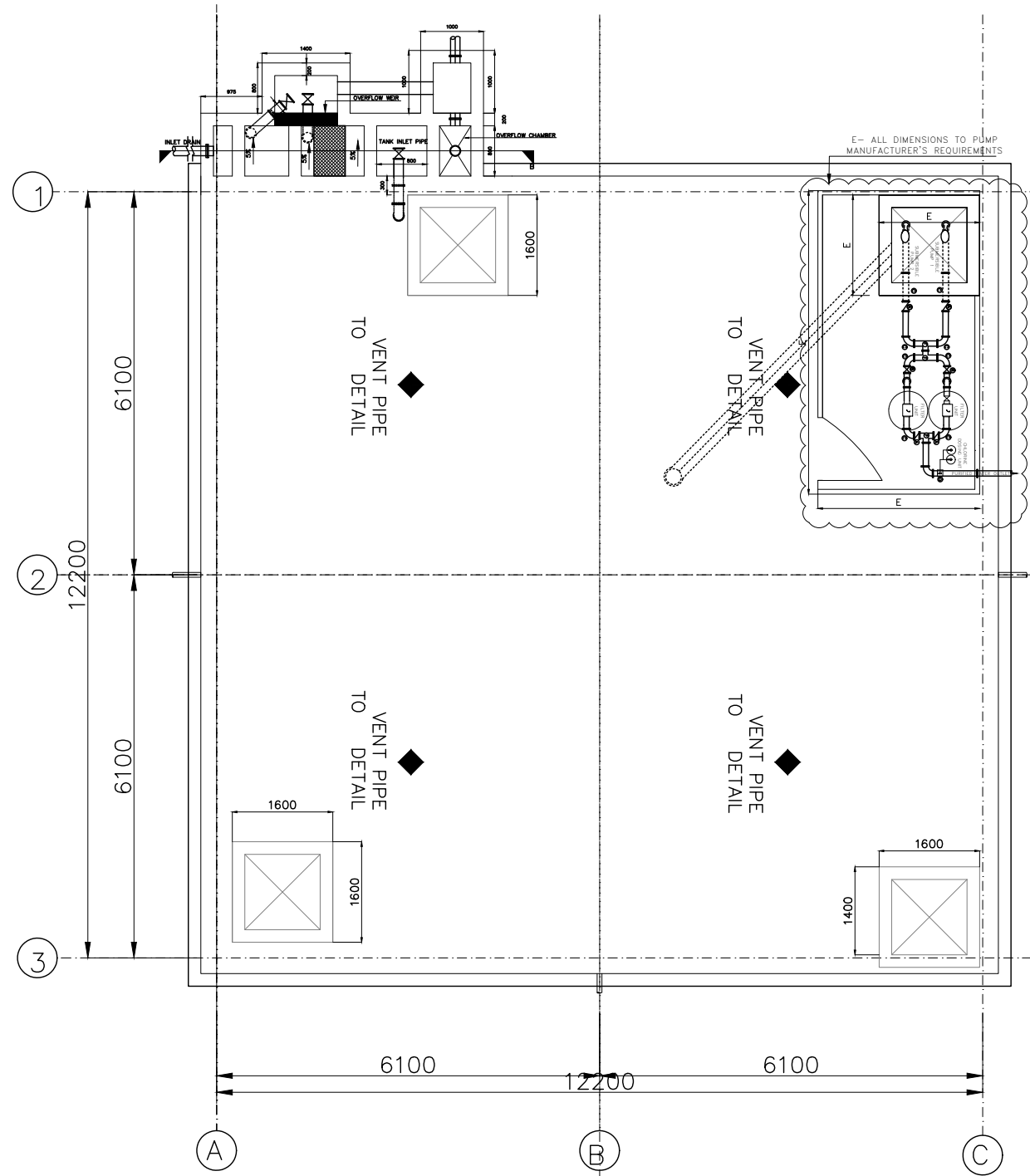


DETAIL 5
SCALE 1:20



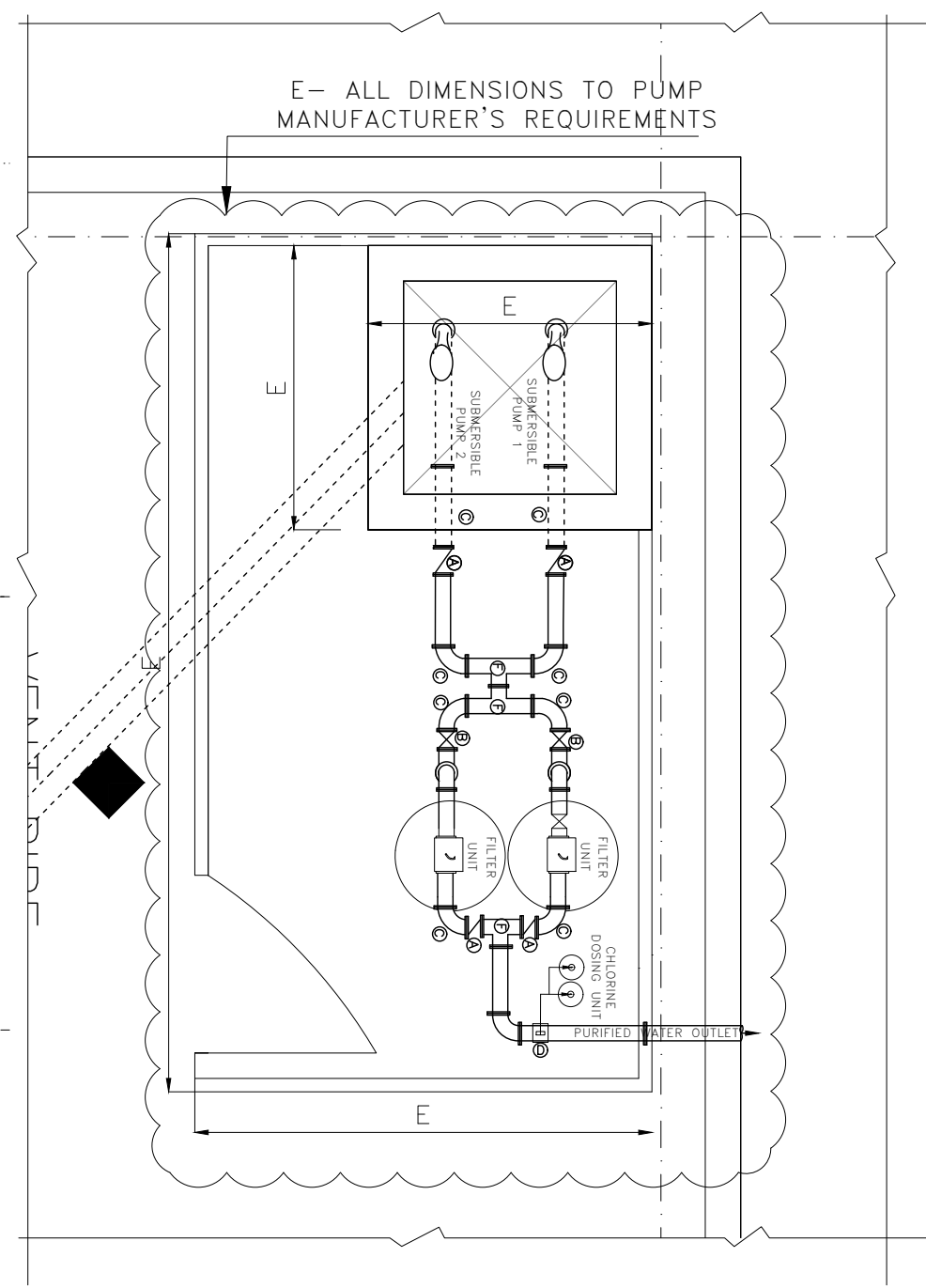
SECTION THROUGH VENT PIPE -DETAIL H
SCALE 1:20

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Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION TANK ROOF SECTION					
Drawing title:					
GENERAL AVIATION TANK ROOF SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 07					



PUMP SYSTEM LAYOUT PLAN OF 500M3 CLEAR WATER TANK

Scale 1:100




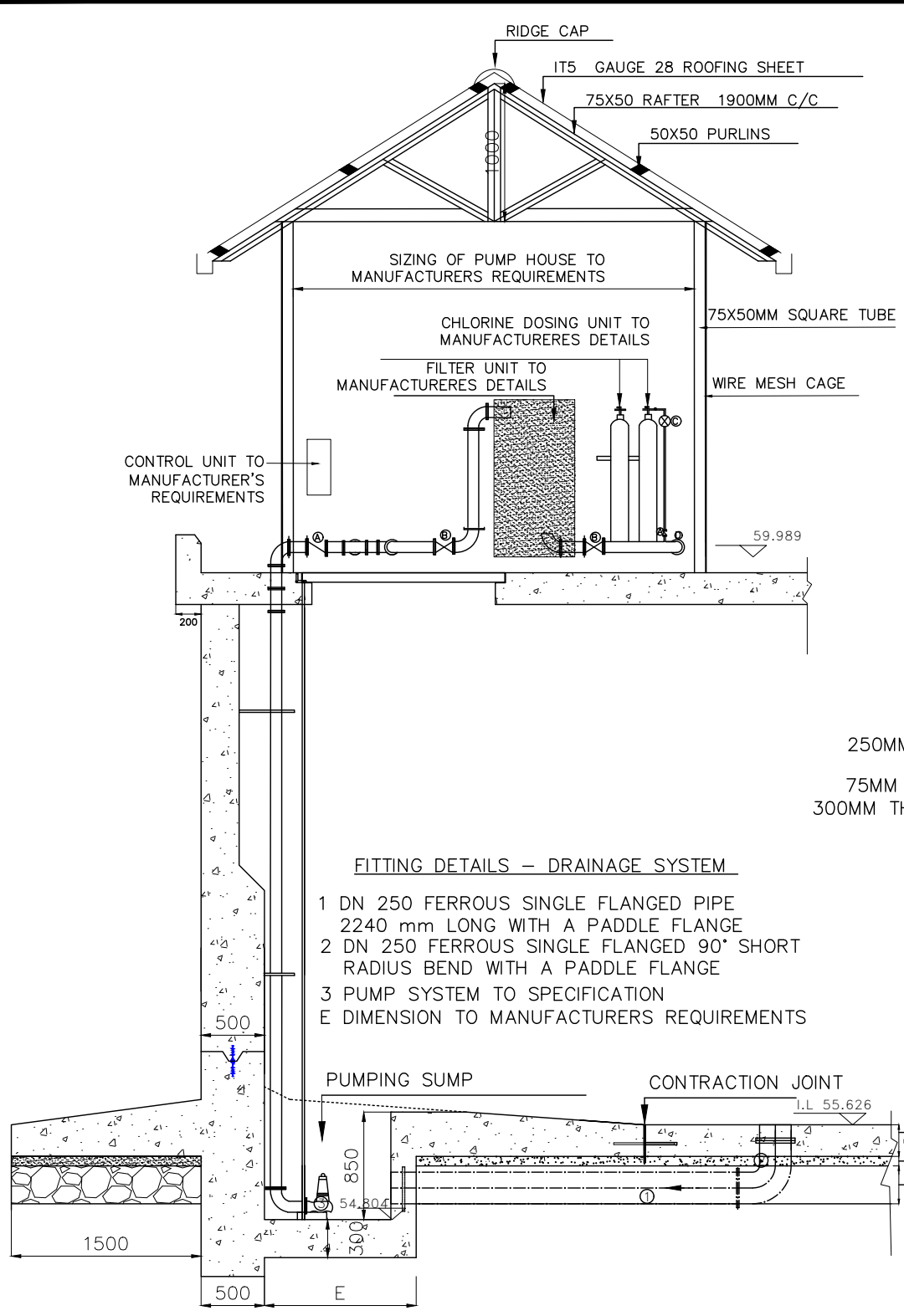
PUMP SYSTEM LAYOUT PLAN

(Scale 1:40)

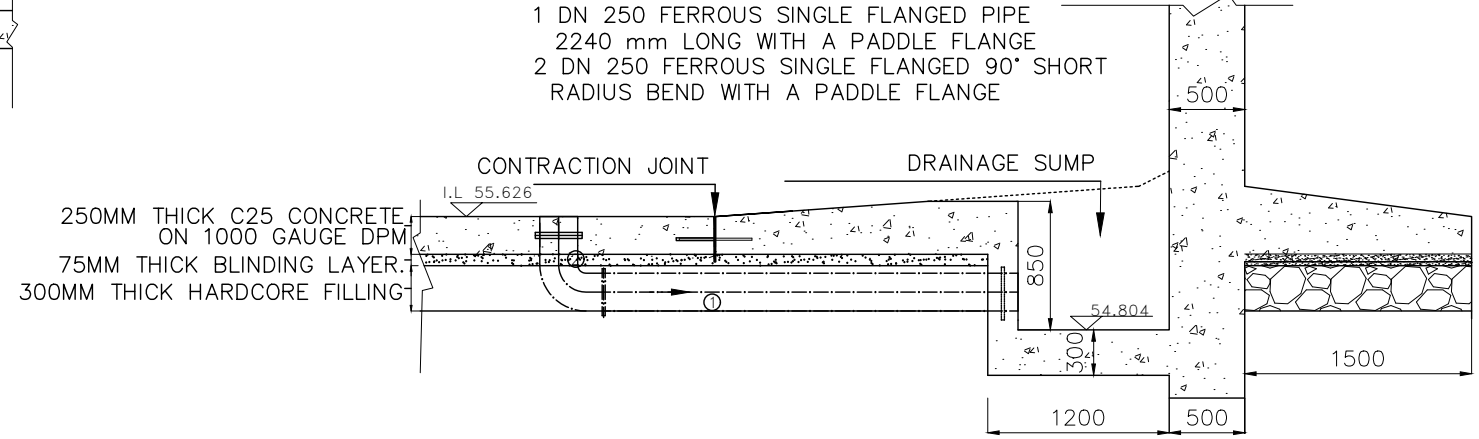
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, and filter systems.
5. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LIMITED APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION TANK PUMP PLAN					
Drawing title:					
GENERAL AVIATION TANK PUMP SYSTEM PUMP					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 08					



PUMPING SYSTEM SECTION F-F
SCALE 1:50



DRAINAGE SYSTEM SECTION C-C
SCALE 1:50

FITTING DETAILS – DRAINAGE SYSTEM
 1 DN 250 FERROUS SINGLE FLANGED PIPE
 2240 mm LONG WITH A PADDLE FLANGE
 2 DN 250 FERROUS SINGLE FLANGED 90° SHORT
 RADIUS BEND WITH A PADDLE FLANGE
 3 PUMP SYSTEM TO SPECIFICATION
 E DIMENSION TO MANUFACTURERS REQUIREMENTS

1 DN 250 FERROUS SINGLE FLANGED PIPE
 2240 mm LONG WITH A PADDLE FLANGE
 2 DN 250 FERROUS SINGLE FLANGED 90° SHORT
 RADIUS BEND WITH A PADDLE FLANGE

250MM THICK C25 CONCRETE
 ON 1000 GAUGE DPM
 75MM THICK BLINDING LAYER
 300MM THICK HARDCORE FILLING


NOTES:

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2. All dimensions are in MM unless otherwise specified
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4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, and filter systems.
5. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

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Consultant:

APEC CONSORTIUM LTD
 P.O BOX 3786-00100
 NAIROBI KENYA.

Project:
**THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS**

Phase:
 TENDER DRAWINGS

Subject:
 GENERAL AVIATION PUMP HOUSE SECTION

Drawing title:
 GENERAL AVIATION TANK PUMP HOUSE SECTION
 AND DETAILS

Contract No.: KAA/OT/MIA/0226/2022-2023

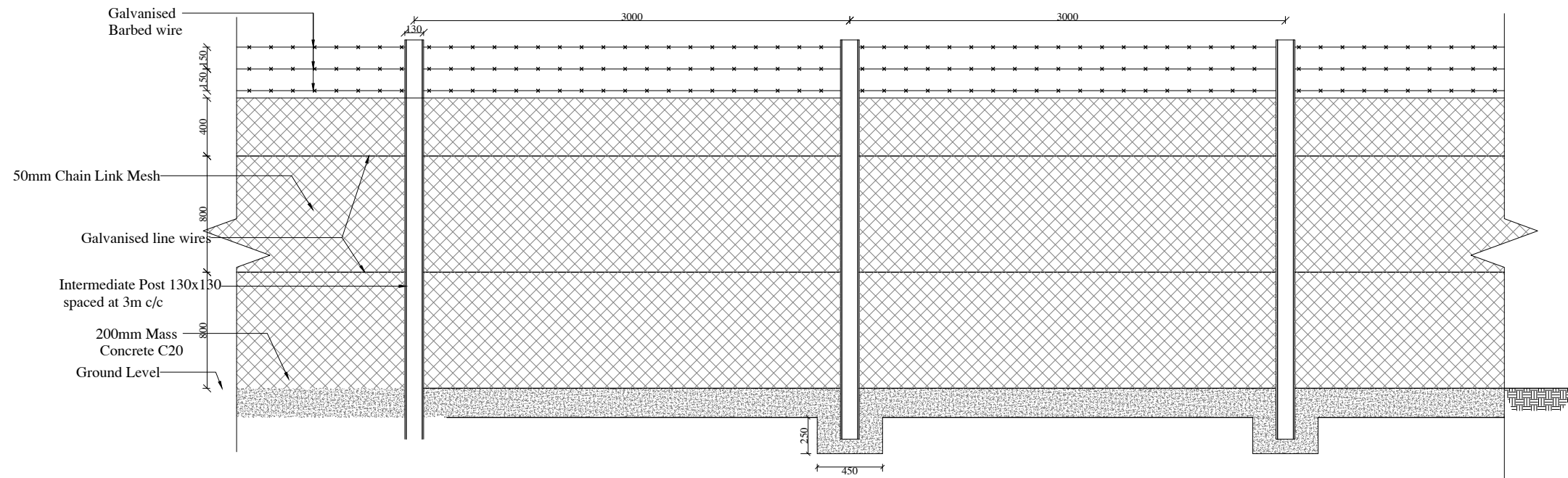
Date: JUNE 2023 Scale: AS SHOWN

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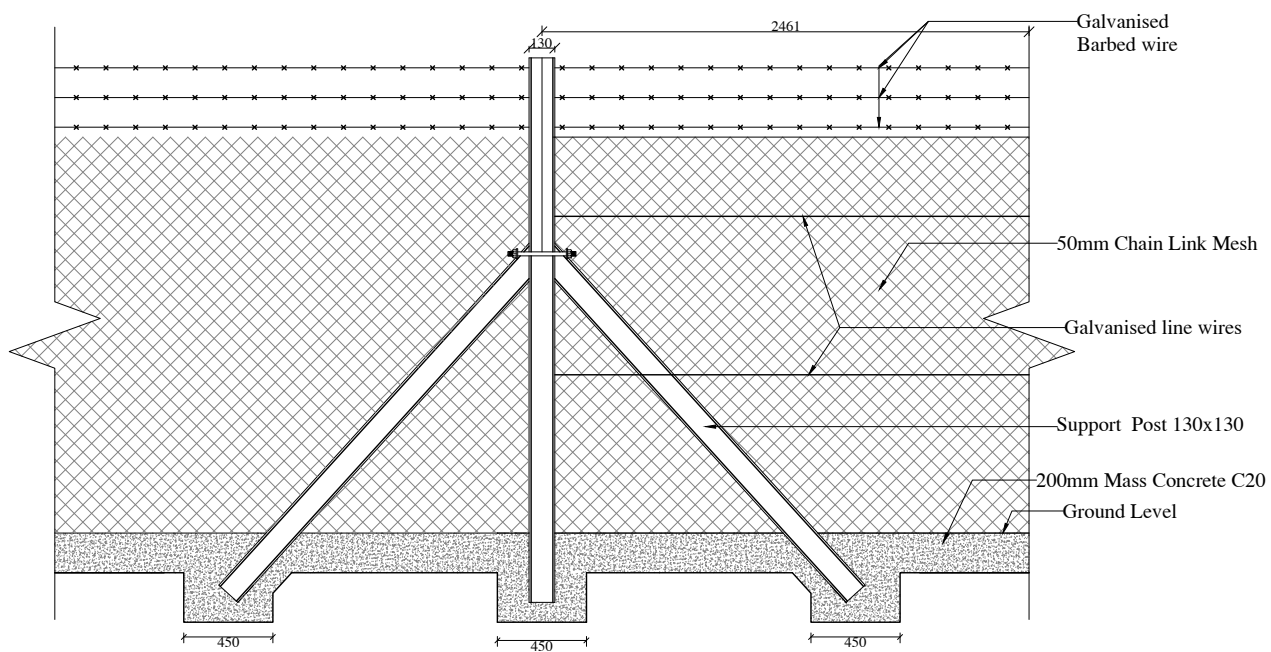
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 09

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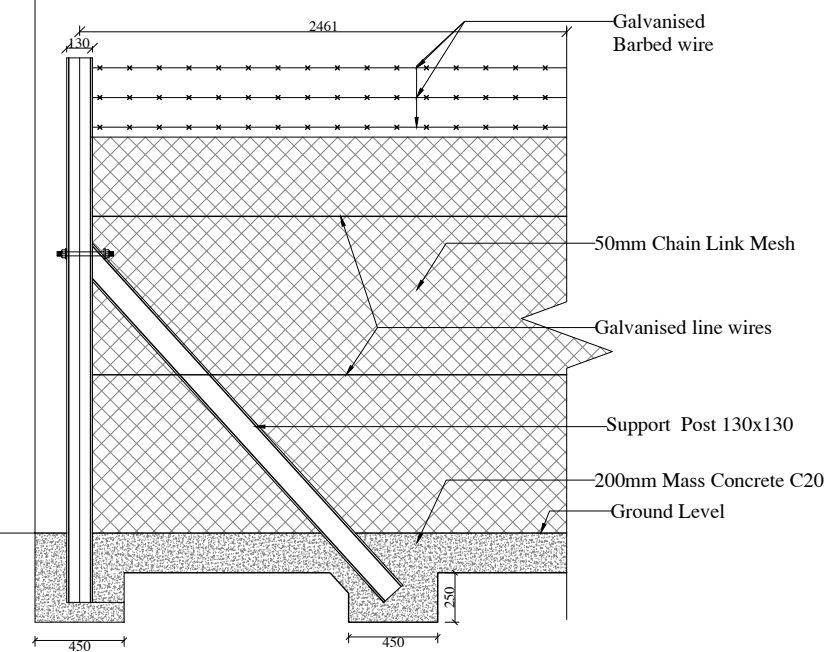
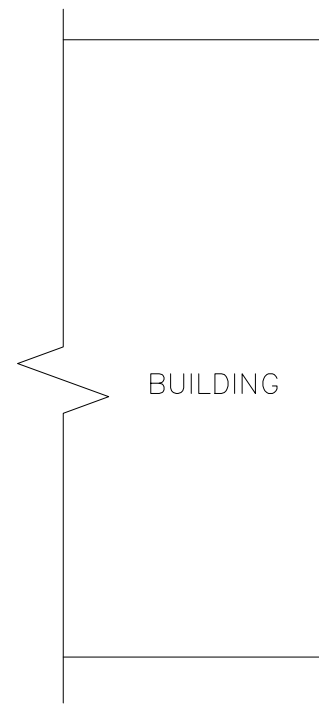
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. Construction materials should be approved by the Engineer before purchase or commencement of the works in accordance with the Technical Specifications



FENCE ELEVATION

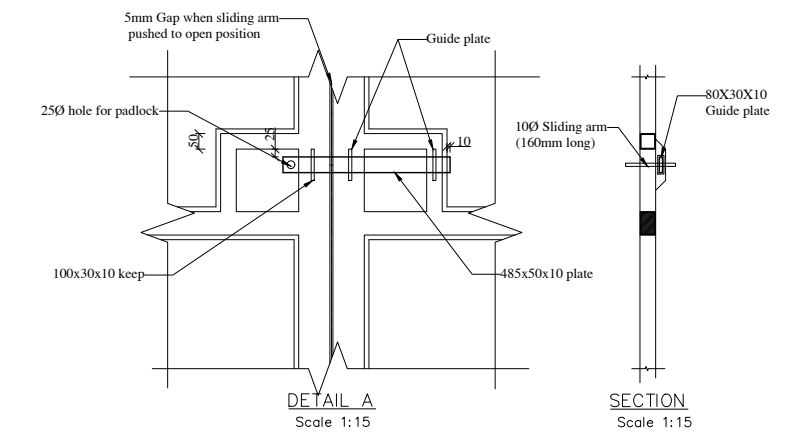
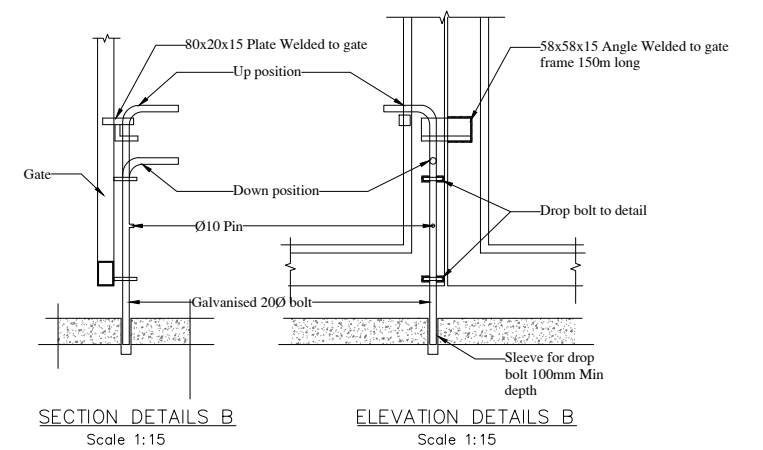
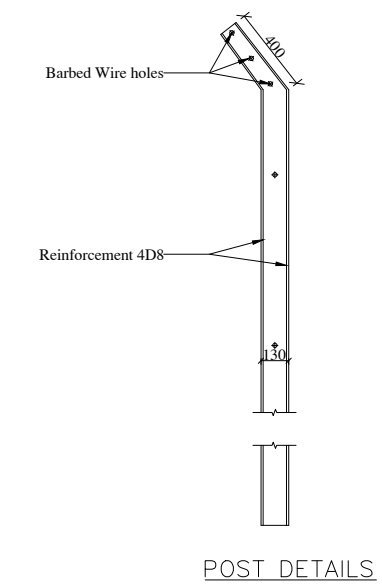
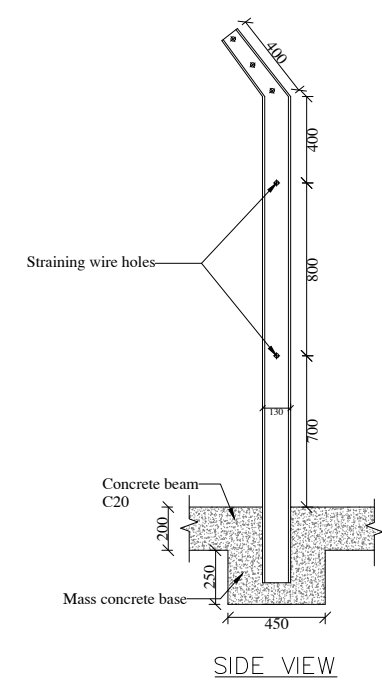
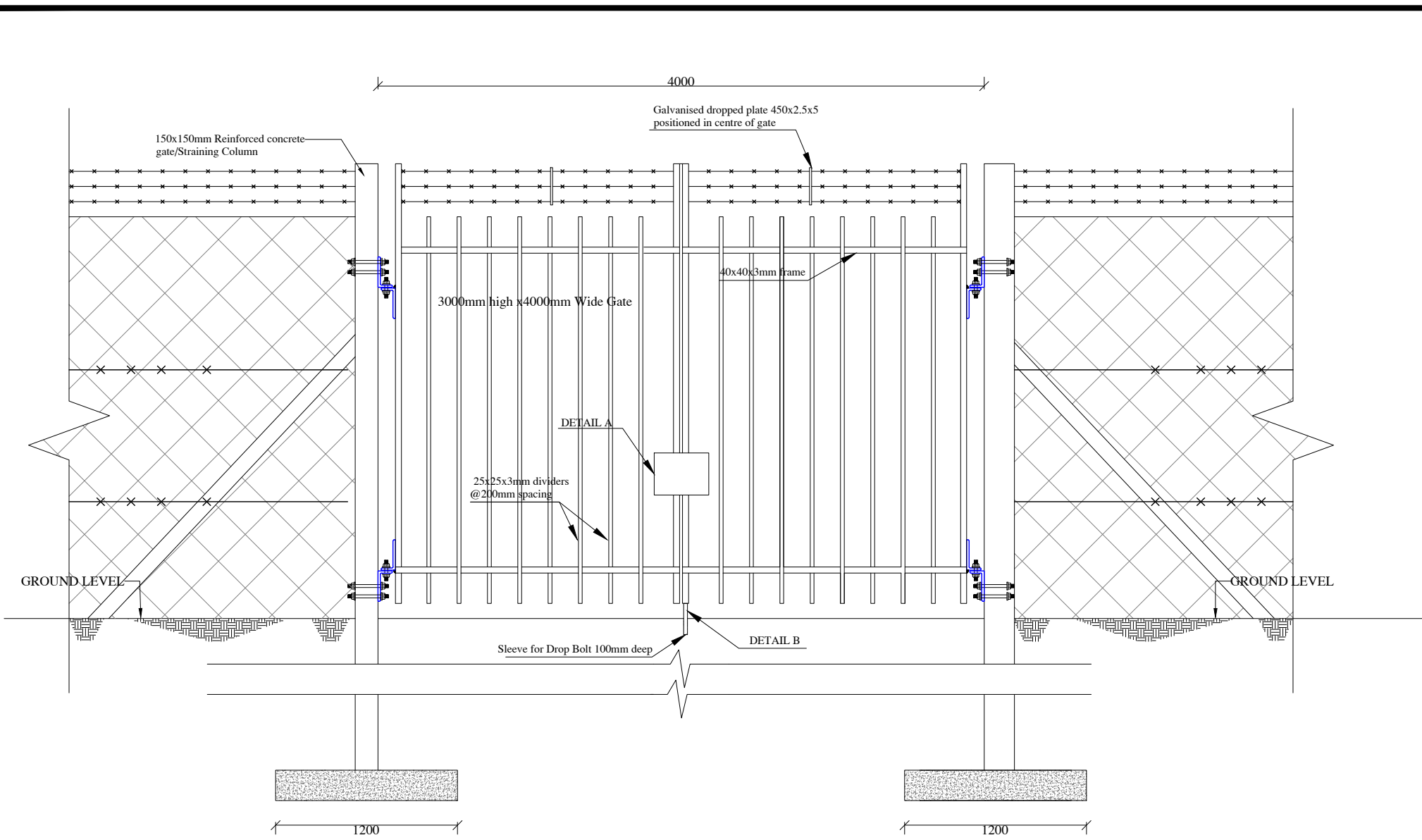


FENCE CORNER ELEVATION



FENCE EDGE ELEVATION

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION FENCE ELEVATION					
Drawing title:					
GENERAL AVIATION TANK FENCE ELEVATION DETAILS FOR CORNER & CENTER POSTS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023/RWH-GA 10					

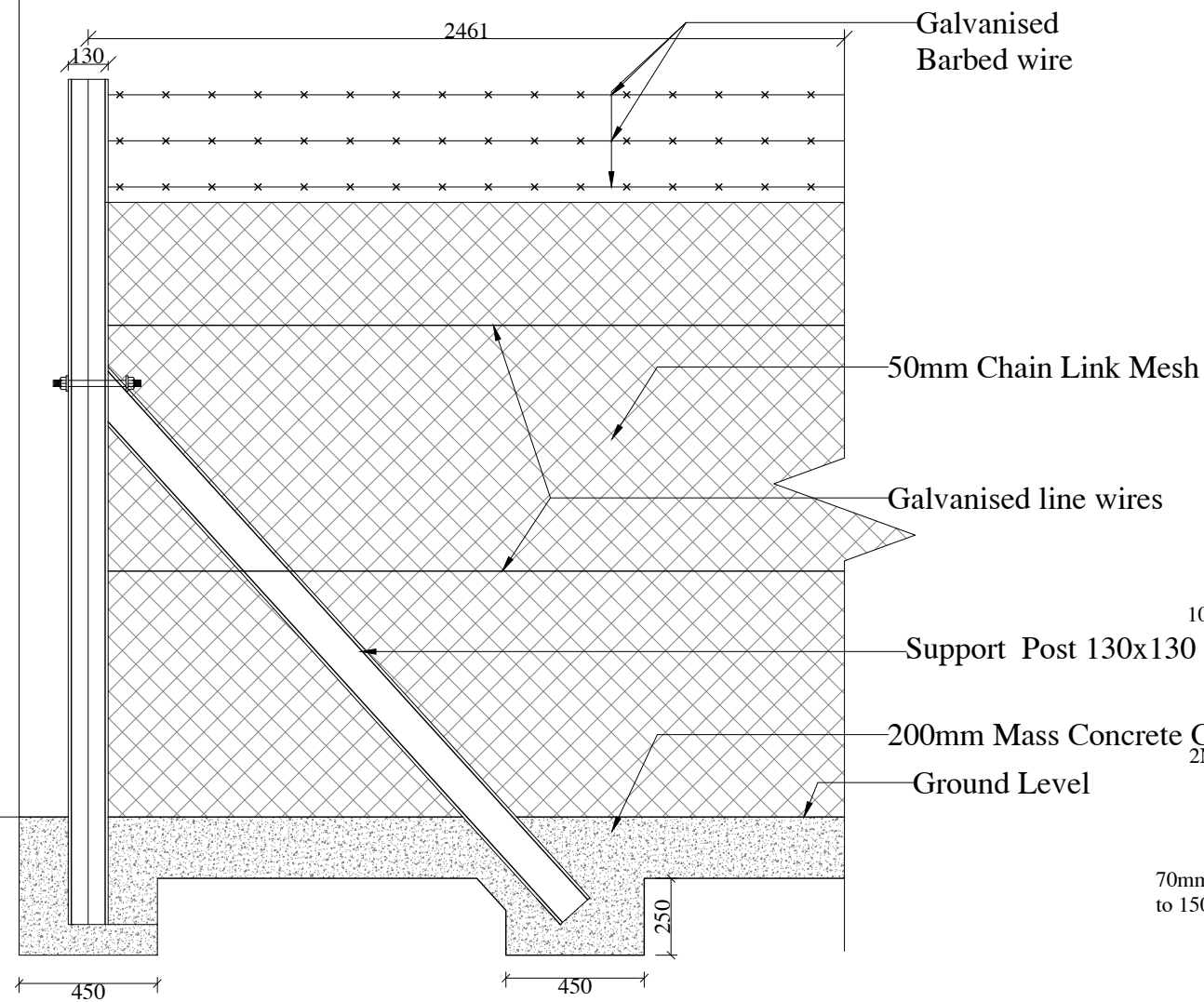


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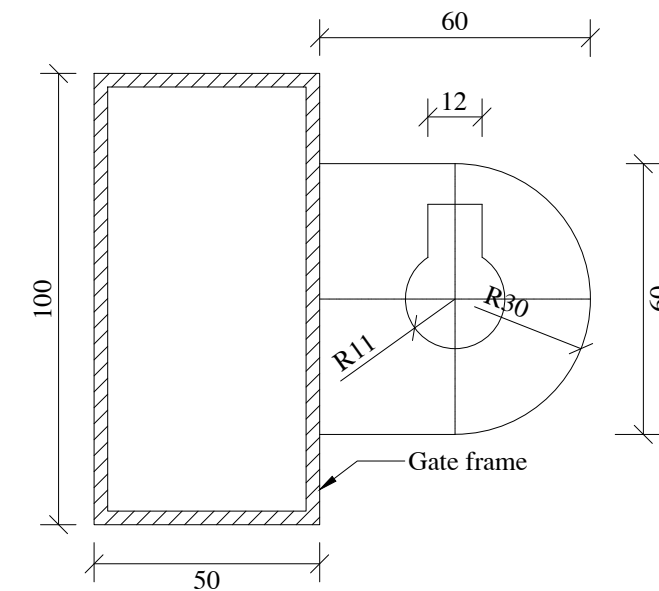
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. Construction materials should be approved by the Engineer before purchase or commencement of the works in accordance with the Technical Specifications

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
GENERAL AVIATION GATE AND POST DETAILS					
Drawing title:					
GENERAL AVIATION TANK GATE, DATE, POSTS, AND FENCE SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 11					

BUILDING

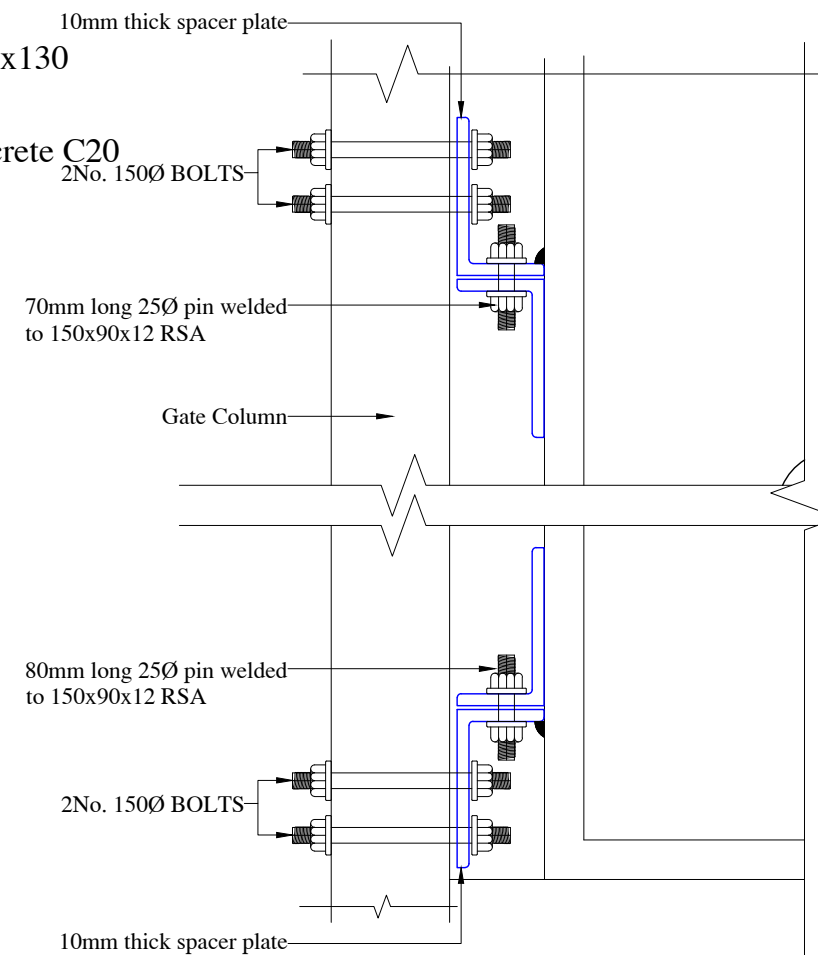


FENCE EDGE ELEVATION



DROP BOLT GUIDE DETAILS

Scale
1:2



GATE HINGE DETAILS

Scale 1:10

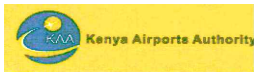
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. Construction materials should be approved by the Engineer before purchase or commencement of the works in accordance with the Technical Specifications

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Consultant:



APEC CONSORTIUM LTD
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NAIROBI KENYA.

Project:

THE REHABILITATION OF AIRCRAFT
PAVEMENTS AND AGL SYSTEM AT MOI
INTERNATIONAL AIRPORT - OUTSTANDING
WORKS

Phase:

TENDER DRAWINGS

Subject:

GENERAL AVIATION GATE AND POST DETAILS

Drawing title:

GENERAL AVIATION TANK GATE JOINTING BOLTS
SECTION DETAILS

Contract No.:

KAA/OT/MIA/0226/2022-2023

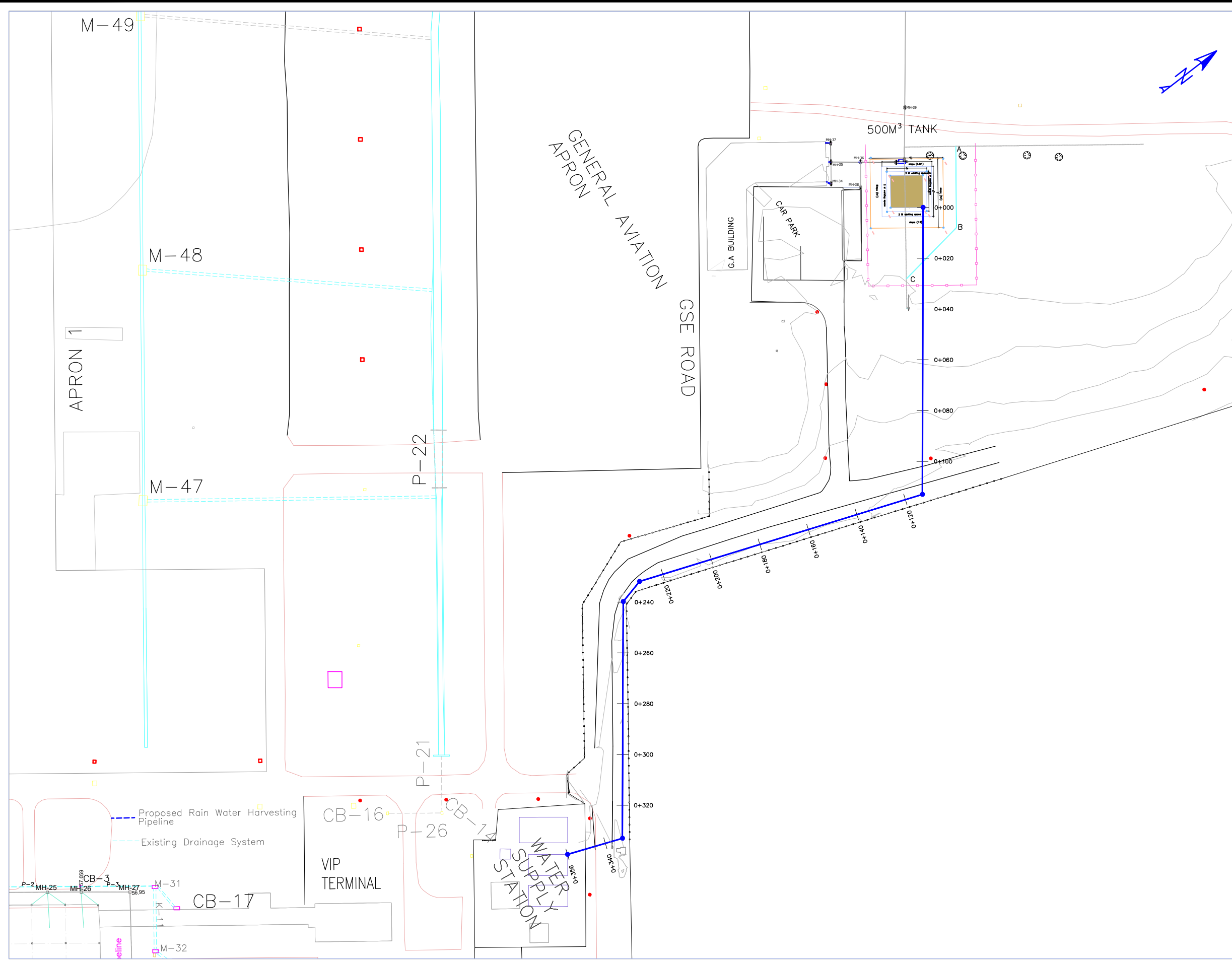
Date: JUNE 2023

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Paper size: A3

Rev No.: 1

Dwg No.:KAA/OT/MIA/0226/2022-2023 RWH-GA 12

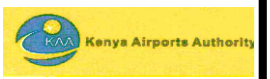


LEGEND

- Proposed water Pipeline
- Proposed fence
- New Underground Reinforced concrete Water Tanks
- Existing Perimeter fence
- Existing Open Drains

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

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Consultant:
APEC CONSORTIUM LTD
 P.O BOX 3786-00100
 NAIROBI KENYA.



Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
WATER RETICULATION DETAILS FOR THE RAIN WATER HARVESTING SYSTEMS

Drawing title:
GENERAL AVIATION LAYOUT OF PROPOSED RAINWATER PUMPING SYSTEM

Contract No.: **CAA/OT/MIA/0226/2022-2023**

Date: **JUNE 2023** Scale: **AS SHOWN**

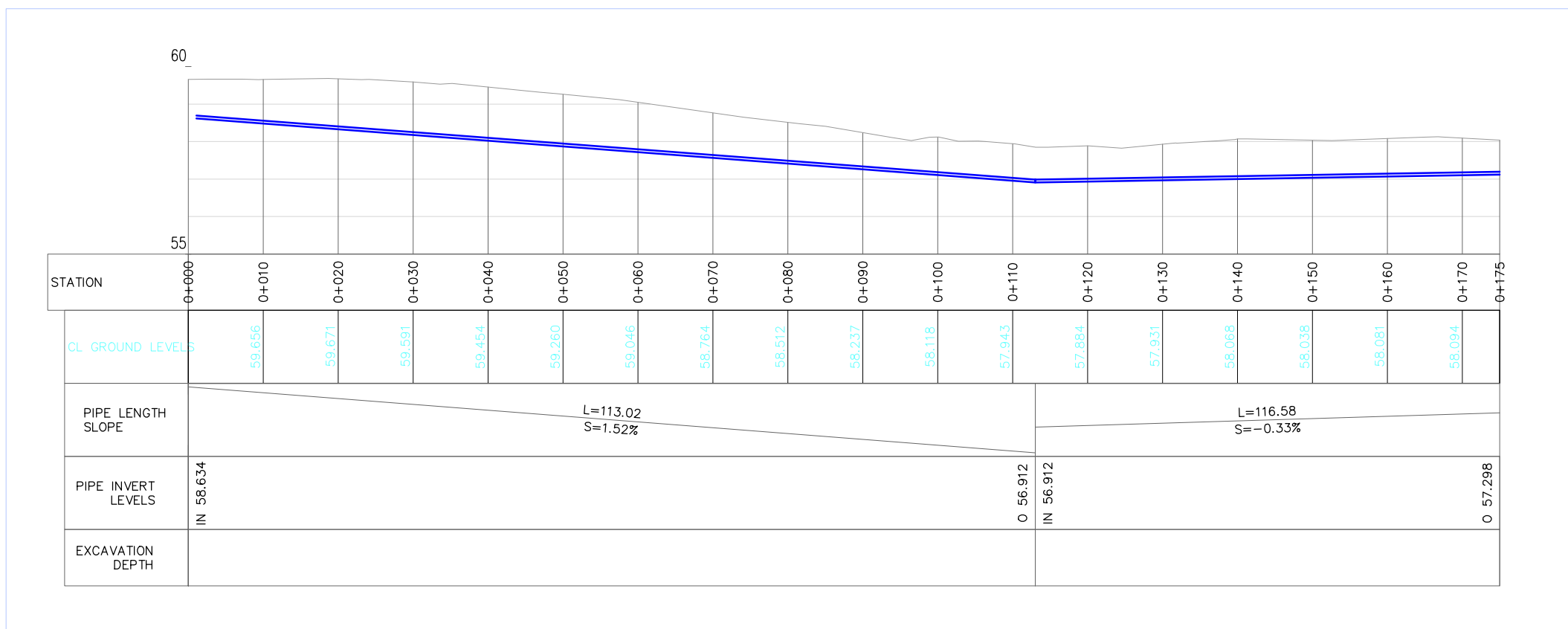
Paper size: **A3** Rev No.: **1**

Dwg No.: **CAA/OT/MIA/0226/2022-2023/ RWH/13**



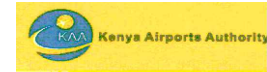
LEGEND

- Proposed water Pipeline
- Proposed fence
- New Underground Reinforced concrete Water Tanks
- Existing Perimeter fence
- Existing Open Drains



REV	DATE	REVISION DESCRIPTION	IG	SA	HK

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
WATER RETICULATION DETAILS FOR THE RAIN WATER HARVESTING SYSTEMS

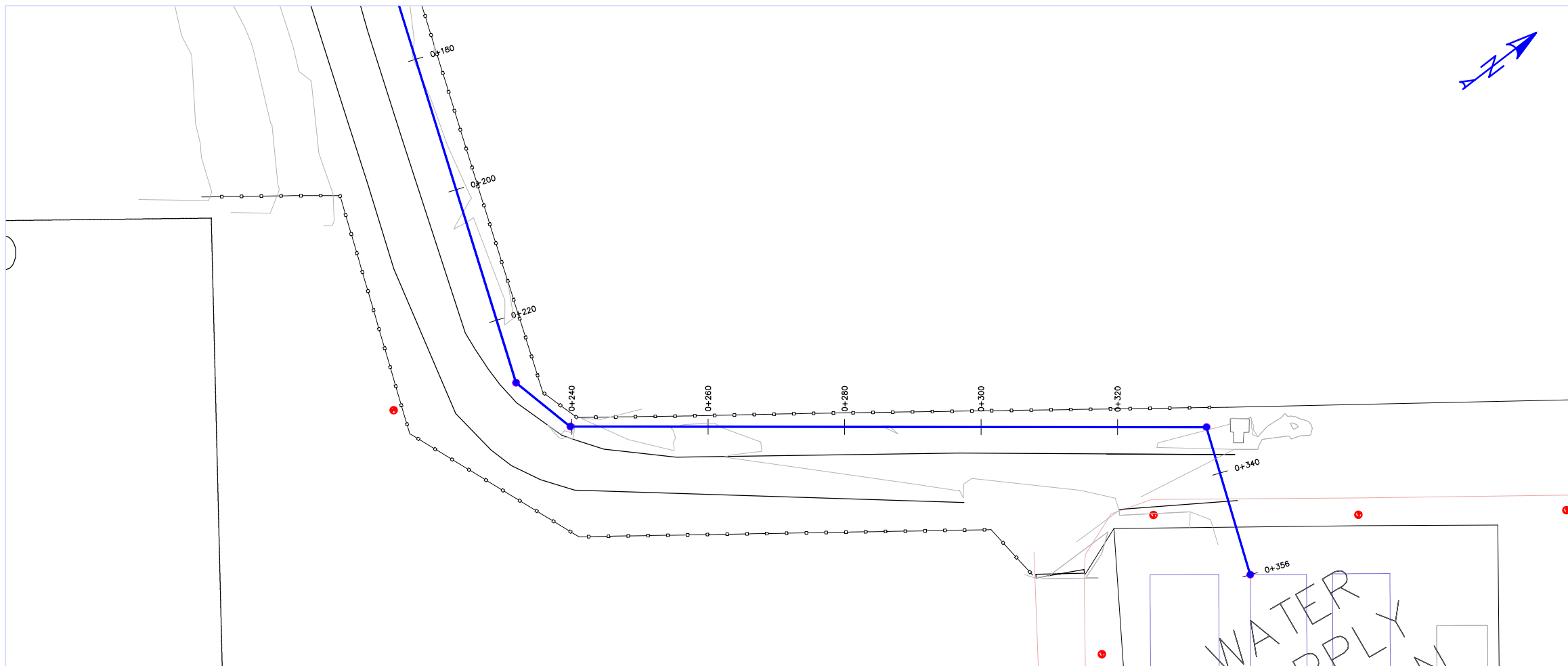
Drawing title:
GENERAL AVIATION LAYOUT AND PROFILE OF PROPOSED RAINWATER PUMPING SYSTEM

Contract No.: **CAA/OT/MIA/0226/2022-2023**

Date: **JUNE 2023** Scale: **AS SHOWN**

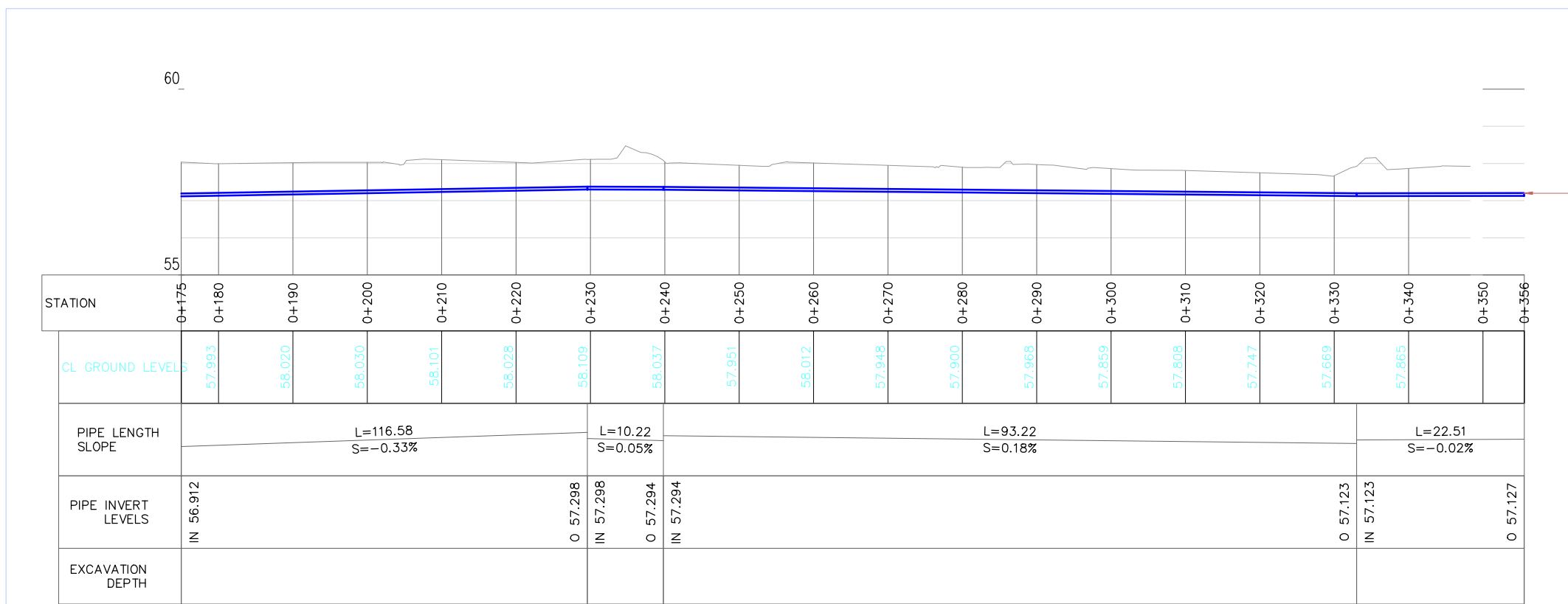
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Dwg No.: **CAA/OT/MIA/0226/2022-2023/ RWH/14**



LEGEND

- Proposed water Pipeline
- Proposed fence
- New Underground Reinforced concrete Water Tanks
- Existing Perimeter fence
- Existing Open Drains



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Kenya Airports Authority

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase:
 TENDER DRAWINGS

Subject:
 WATER RETICULATION DETAILS FOR THE RAIN WATER HARVESTING SYSTEMS

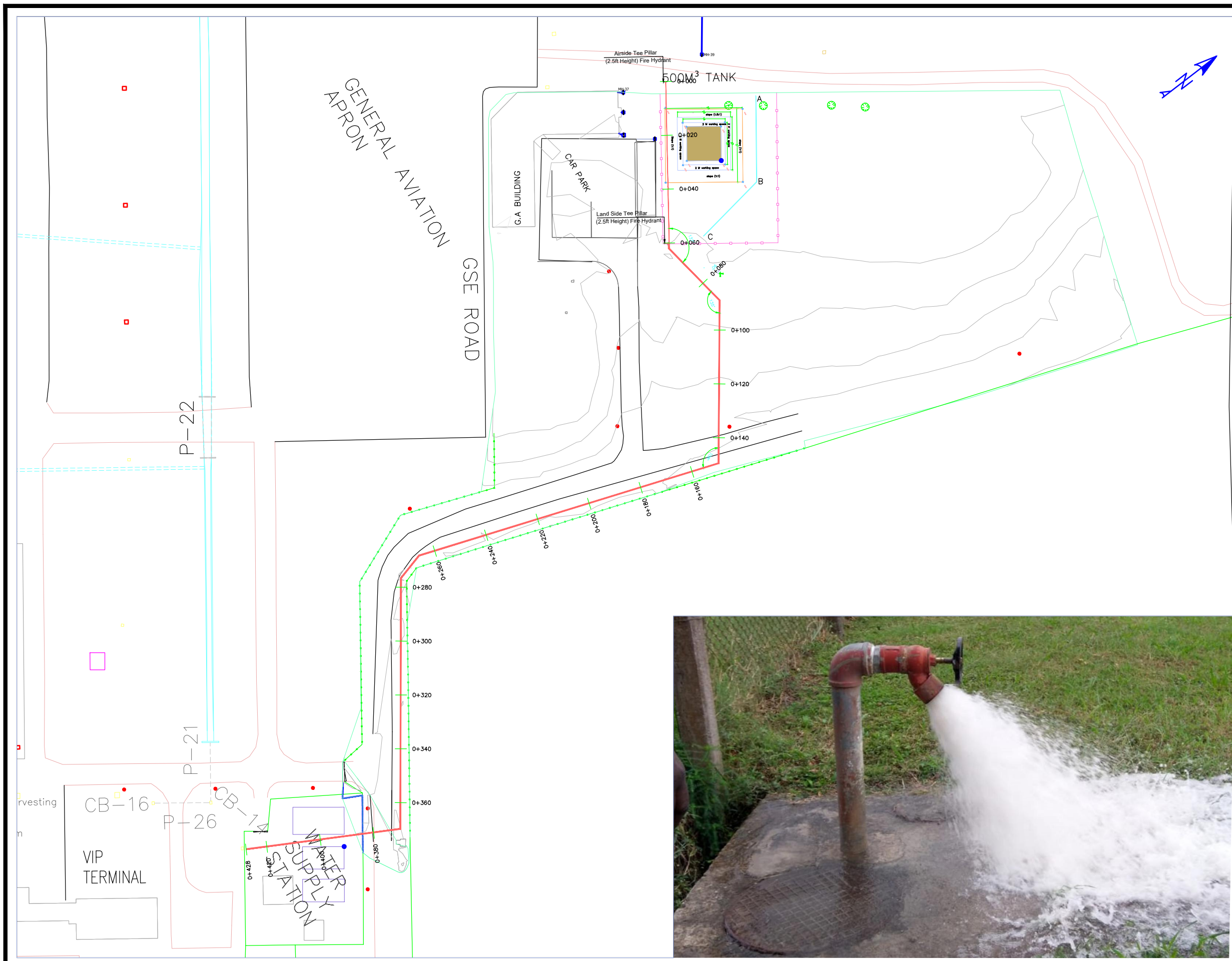
Drawing title:
 GENERAL AVIATION LAYOUT AND PROFILE OF PROPOSED RAINWATER PUMPING SYSTEM

Contract No.: **CAA/OT/MIA/0226/2022-2023**

Date: **JUNE 2023** Scale: **AS SHOWN**

Paper size: **A3** Rev No.: **1**

Dwg No.: **CAA/OT/MIA/0226/2022-2023/ RWH/15**



LEGEND

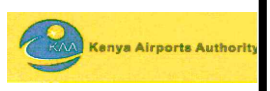
- Proposed Fire Hydrant Pipelines (Two 63 mm PVC Pipes)
- Proposed fence
- Underground Reinforced concrete Water Tanks
- Existing Perimeter fence

NOTES

1. PROVIDED MANHOLE COVER TO BE HEAVY DUTY AND LOCKABLE
2. TEE FIRE HYDRANT STAND TO BE PAINTED RED
3. ADJACENT GROUND FROM THE CHAMBER TO BE COMPACTED TO 90% MDD
4. THRUST BLOCK TO BE INSTALLED AS APPROPRIATE ON PILLAR HYDRANT BEND
5. INVERT LEVELS TO BE ADJUSTED AS SHOP DRAWINGS AND APPROVED BY THE ENGINEER AFTER EXPOSURE AND DETERMINATION OF THE CONNECTION POINT.
6. TRENCH TO BE SHARED WHERE FIRE HYDRANT PIPELINE RUNS PARALLEL WITH THE WATER PIPELINE FROM GENERAL AVIATION.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase: TENDER DRAWINGS

Subject:
PROPOSED FIRE HYDRANT EXTENSION TO THE GENERAL AVIATION BUILDING AREA

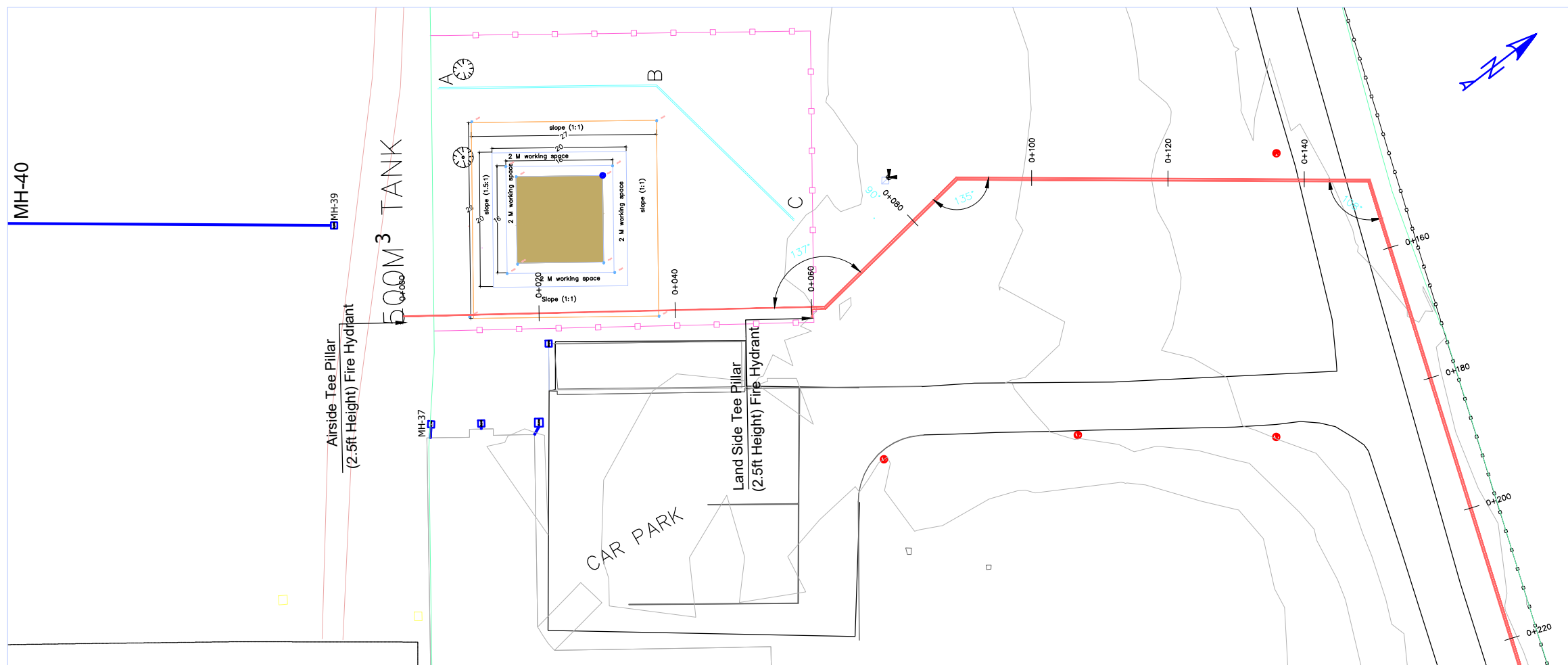
Drawing title:
PLAN AND PROFILE FOR GENERAL AVIATION BUILDING LANDSIDE AND AIRSIDE FIRE HYDRANT SYSTEM

Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023 Scale: 1:1000

Paper size: A3 Rev No.: 1

Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH/16



- LEGEND**
- Proposed Fire Hydrant Pipelines (Two 63 mm PVC Pipes)
 - Proposed fence
 - Underground Reinforced concrete Water Tanks
 - Existing Perimeter fence

- NOTES**
1. PROVIDED MANHOLE COVER TO BE HEAVY DUTY AND LOCKABLE
 2. TEE FIRE HYDRANT STAND TO BE PAINTED RED
 3. ADJACENT GROUND FROM THE CHAMBER TO BE COMPACTED TO 90% MDD
 4. THRUST BLOCK TO BE INSTALLED AS APPROPRIATE ON PILLAR HYDRANT BEND
 5. INVERT LEVELS TO BE ADJUSTED AS SHOP DRAWINGS AND APPROVED BY THE ENGINEER AFTER EXPOSURE AND DETERMINATION OF THE CONNECTION POINT.
 6. TRENCH TO BE SHARED WHERE FIRE HYDRANT PIPELINE RUNS PARALLEL WITH THE WATER PIPELINE FROM GENERAL AVIATION.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase: TENDER DRAWINGS

Subject:
PROPOSED FIRE HYDRANT EXTENSION TO THE GENERAL AVIATION BUILDING AREA

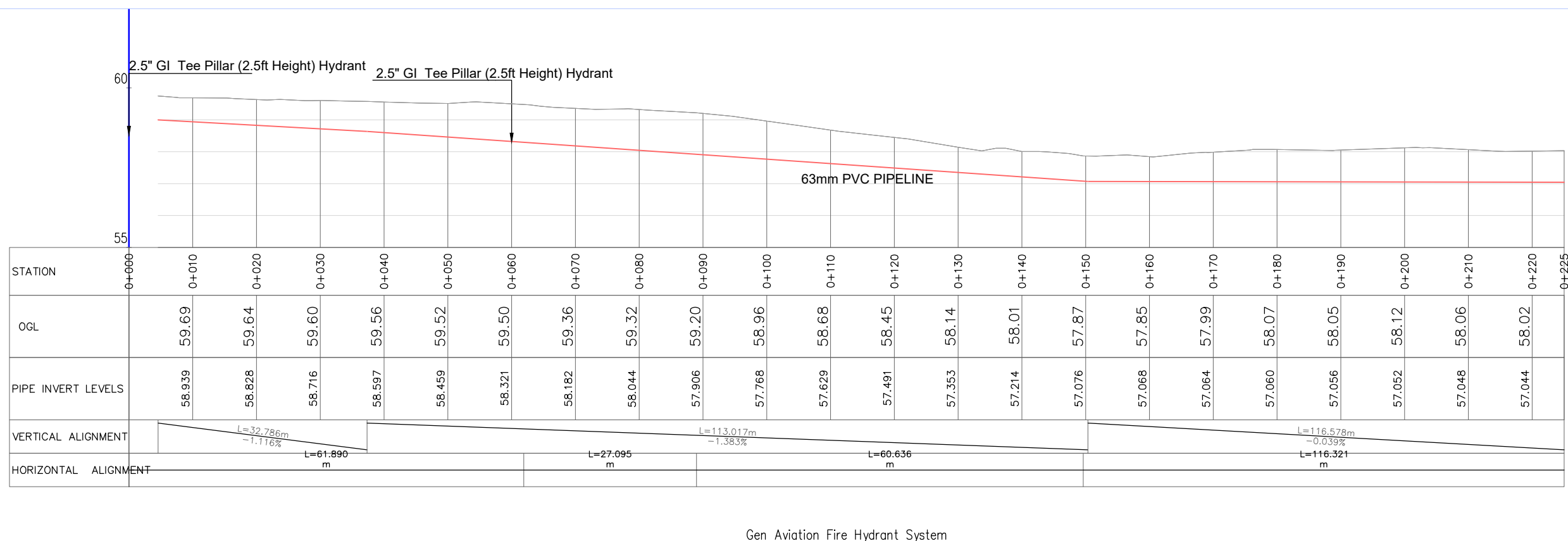
Drawing title:
PLAN AND PROFILE FOR GENERAL AVIATION BUILDING LANDSIDE AND AIRSIDE FIRE HYDRANT SYSTEM

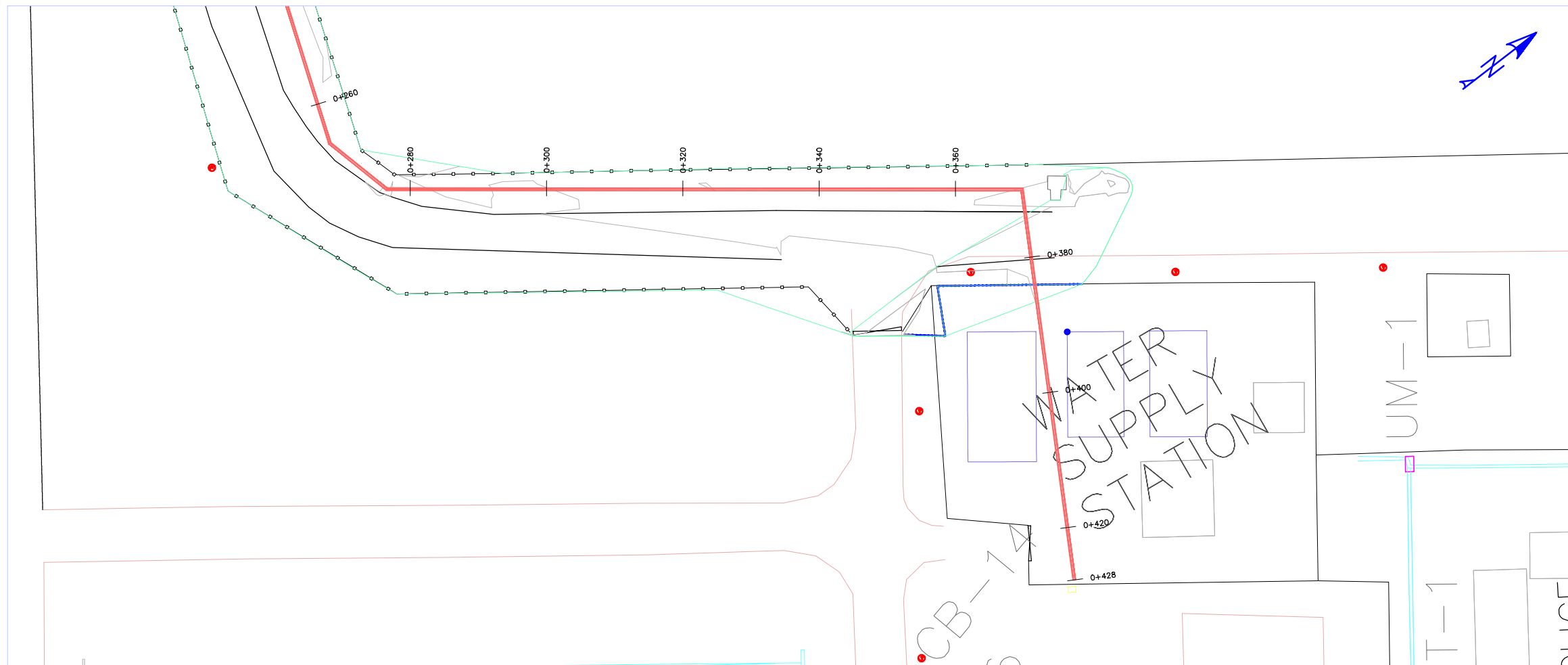
Contract No.: **CAA/OT/MIA/0226/2022-2023**

Date: JUNE 2023 Scale: 1:1000

Paper size: A3 Rev No.: 1

Dwg No.: **CAA/OT/MIA/0226/2022-2023/ RWH/17**





LEGEND

- Proposed Fire Hydrant Pipelines (Two 63 mm PVC Pipes)
- Proposed fence
- Underground Reinforced concrete Water Tanks
- Existing Perimeter fence

NOTES

1. PROVIDED MANHOLE COVER TO BE HEAVY DUTY AND LOCKABLE
2. TEE FIRE HYDRANT STAND TO BE PAINTED RED
3. ADJACENT GROUND FROM THE CHAMBER TO BE COMPACTED TO 90% MDD
4. THRUST BLOCK TO BE INSTALLED AS APPROPRIATE ON PILLAR HYDRANT BEND
5. INVERT LEVELS TO BE ADJUSTED AS SHOP DRAWINGS AND APPROVED BY THE ENGINEER AFTER EXPOSURE AND DETERMINATION OF THE CONNECTION POINT.
6. TRENCH TO BE SHARED WHERE FIRE HYDRANT PIPELINE RUNS PARALLEL WITH THE WATER PIPELINE FROM GENERAL AVIATION.

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Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase: **TENDER DRAWINGS**

Subject:
PROPOSED FIRE HYDRANT EXTENSION TO THE GENERAL AVIATION BUILDING AREA

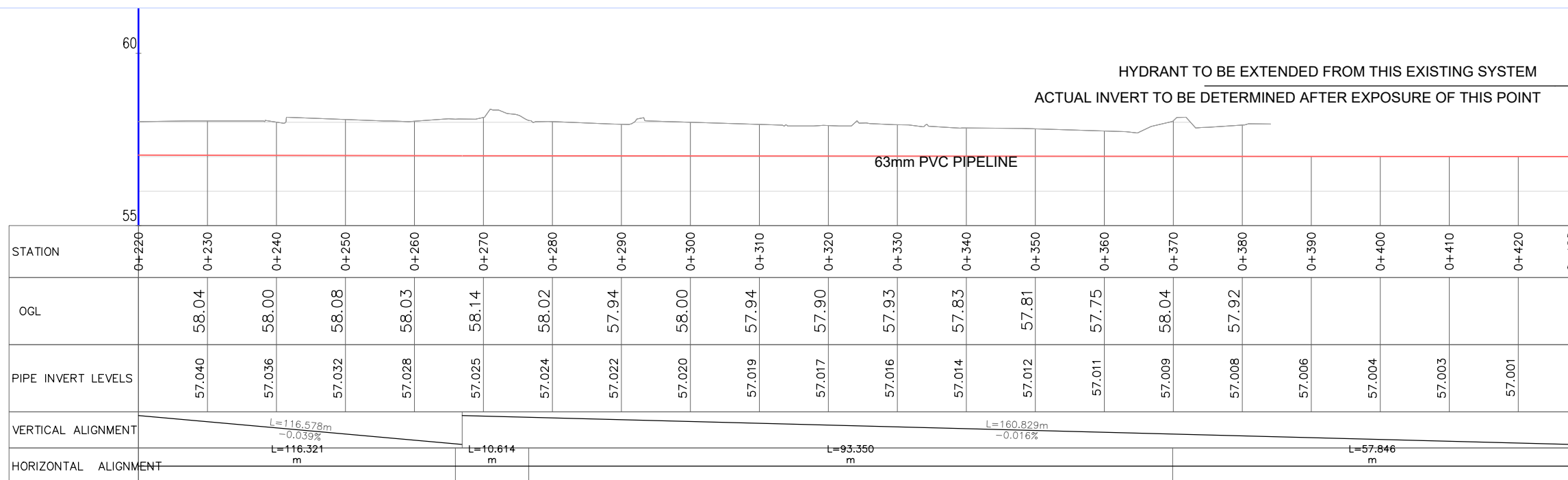
Drawing title:
PLAN AND PROFILE FOR GENERAL AVIATION BUILDING LANDSIDE AND AIRSIDE FIRE HYDRANT SYSTEM

Contract No.: **CAA/OT/MIA/0226/2022-2023**

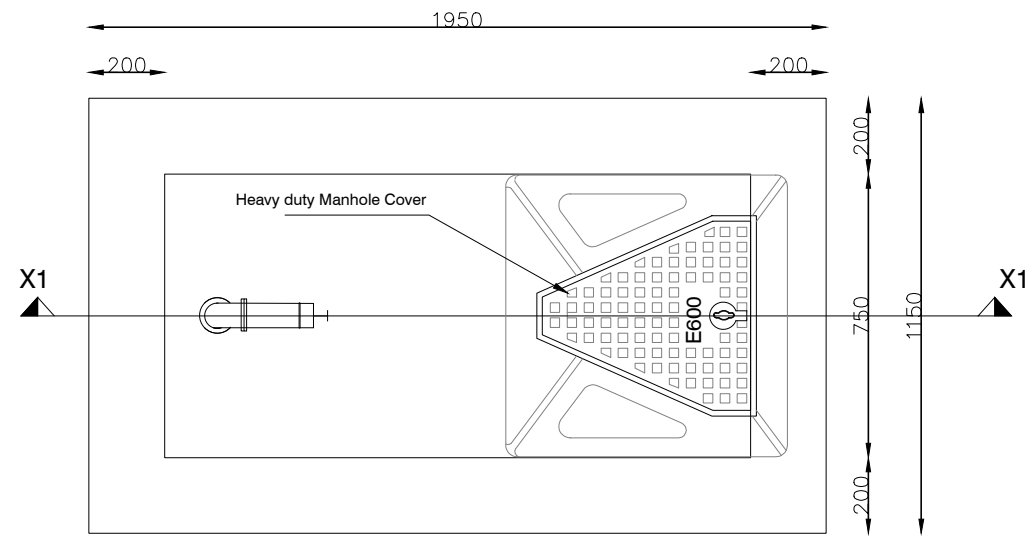
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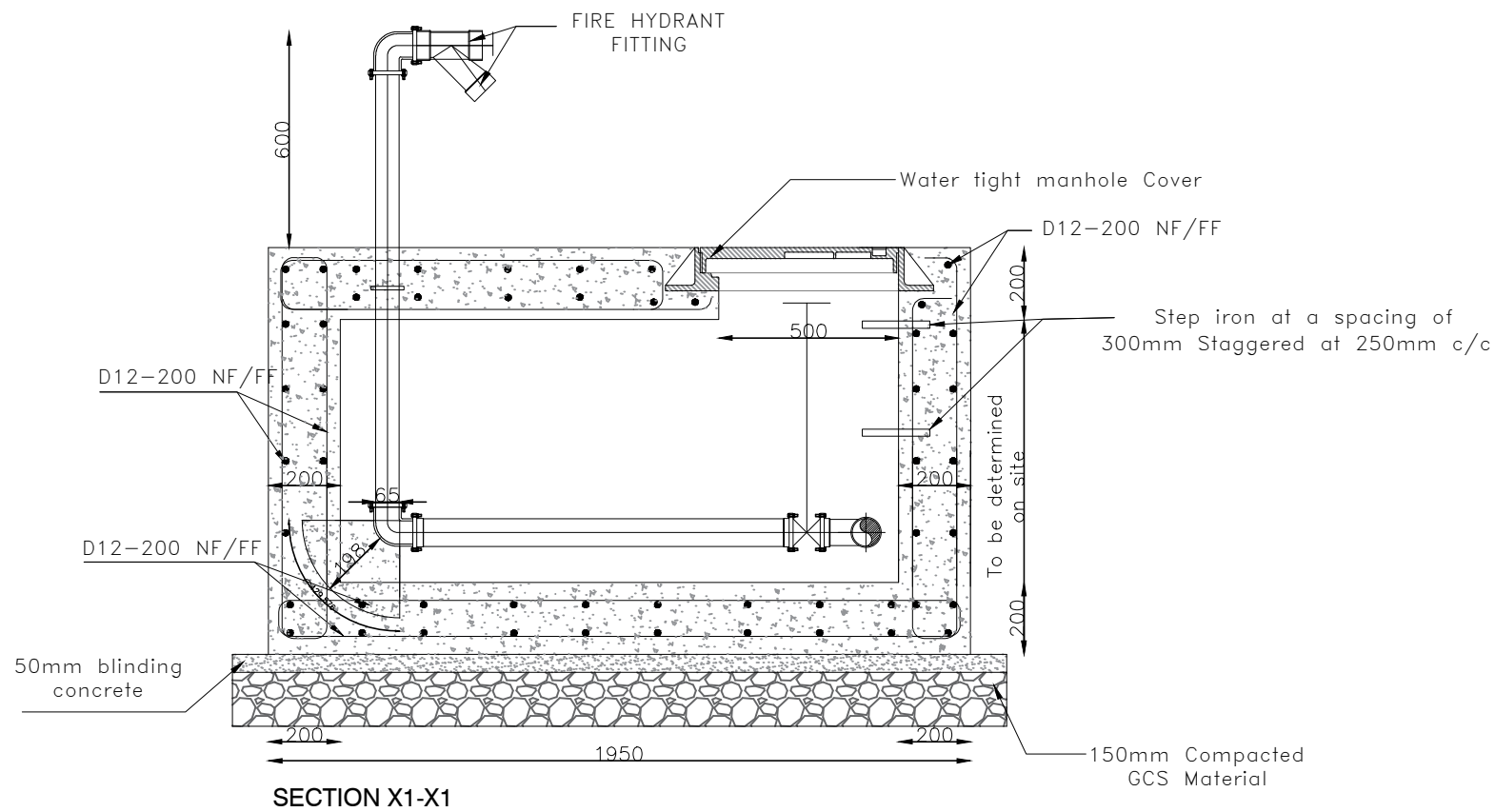
Dwg No.: **CAA/OT/MIA/0226/2022-2023/ RW/18**



Gen Aviation Fire Hydrant System



HYDRANT LAYOUT PLAN



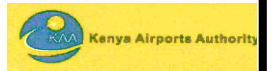
SECTION X1-X1

NOTES

1. PROVIDED MANHOLE COVER TO BE HEAVY DUTY AND LOCKABLE
2. TEE FIRE HYDRANT STAND TO BE PAINTED RED
3. ADJACENT GROUND FROM THE CHAMBER TO BE COMPACTED TO 90% MDD
4. THRUST BLOCK TO BE INSTALLED AS APPROPRIATE ON PILLAR HYDRANT BEND
5. INVERT LEVELS TO BE ADJUSTED AS SHOP DRAWINGS AND APPROVED BY THE ENGINEER AFTER EXPOSURE AND DETERMINATION OF THE CONNECTION POINT.
6. PROGRAMME, METHOD OF CONSTRUCTION AND SETTING OUT OF WORK TO BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORKS
7. REINFORCEMENT:
 - (a) REINFORCEMENT TO BE HIGH YIELD BARS TO B.S 4461
 - (b) BENDING DIMENSIONS TO BS 4466
 - (c) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVISION OF SPACER BLOCKS, CHAIRS AND TYING WIRE
7. DESIGN CRITERIA
 - (a) DESIGN CODES B.S. 8007 & B.S. 8110
 - (d) CONCRETE CLASSES TO BE AS FOLLOWS
BLINDING MIX CLASS 15/20
REINFORCED CONCRETE CLASS 25/20
 - (e) MINIMUM COVER TO ALL REINFORCEMENT TO BE 40mm UNLESS OTHERWISE SPECIFIED FOUNDATIONS & FOOTINGS-50mm

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Project:
 THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS

Phase: TENDER DRAWINGS

Subject:
 PROPOSED FIRE HYDRANT EXTENSION TO THE GENERAL AVIATION BUILDING AREA

Drawing title:
 PLAN AND SECTION DETAILS FOR GENERAL AVIATION BUILDING LANDSIDE AND AIRSIDE FIRE HYDRANT SYSTEM

Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023 Scale: 1:1000

Paper size: A3 Rev No.: 1

Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH/19

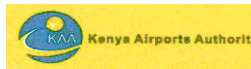

4) FIRE STATION TANKS

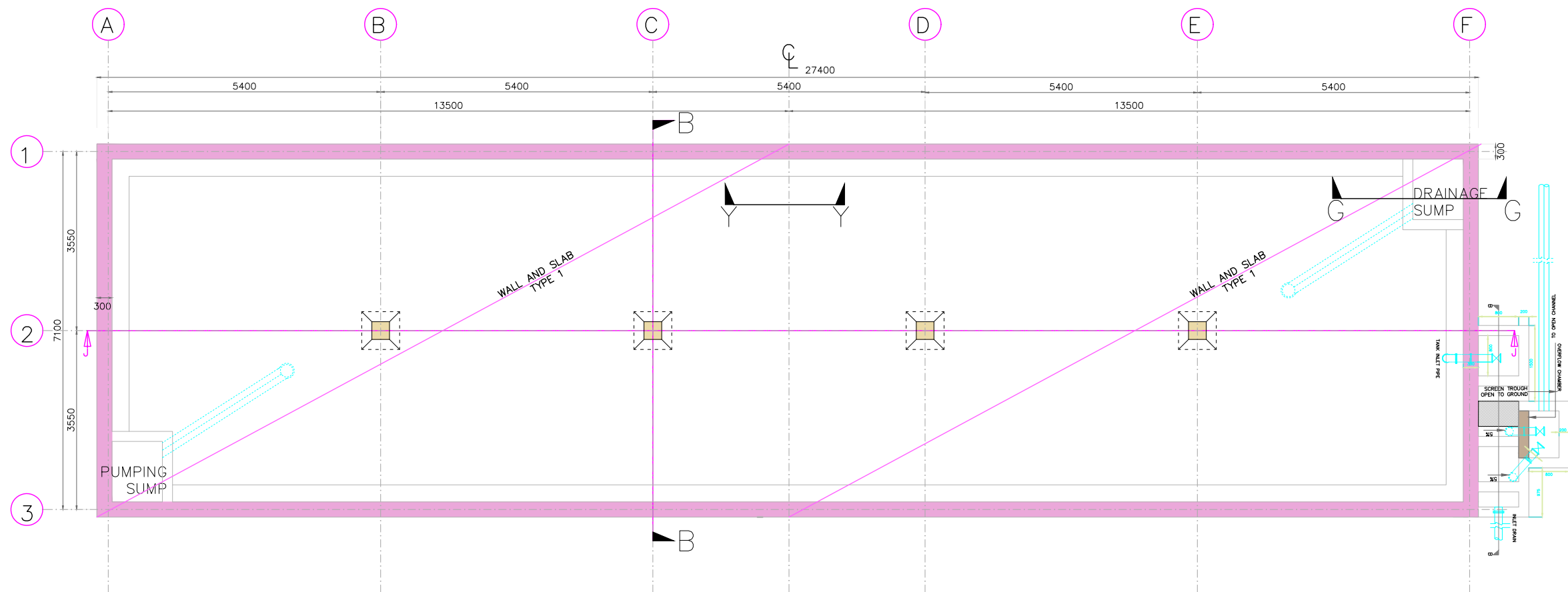
FIRE STATION TANK 550M³ RWH TANKS - OUTSTANDING WORKS

No.	Description of Work	Status
General Items		
1	Cleansing and sterilization of reservoir in accordance with specifications	Outstanding
2	Pressuring testing, cleansing and sterilization of pipework in accordance to specification	Outstanding
3	General clearance, removal of all bushes, grass, shrubs e.t.c grub up roots and cart away to tip, identified by the contractor in liaison with Local Authority.	Outstanding
Formwork and Chambers		
4	Provide formwork that shall include fixing shuttering, propping, strutting and striking as specified for sides of the inlet work, and overflow chambers as specified.	Outstanding
5	Carry out specified boxing out in concrete wall for the tank for outlet pipework, overflow chamber, pipe installations, access manholes	Outstanding
6	Provide rebates in walls of overflow chamber for precast concrete slabs	Outstanding
7	Provide rebates for manhole covers	Outstanding
8	Provide fillet to form chamfer for all roof upstands and manhole upstands	Outstanding
9	Provide Precast Reinforced Concrete class 20/20 finished fair on all surfaces and reinforced with one layer steel mesh fabric reinforcement BRC No. A142 and high steel reinforcement complete with special lock and handling mechanism for the overflow chambers, inlet works openings, tank openings, and washout chamber.	Outstanding
Pipework		
10	The Contractor shall supply lay and joint pipes includes for excavation backfilling of pipe trenches Including where there is pavement and the associated reconstruction works. All diameters are nominal for the section leading to the inlet works, for the overflow pipe, and for the reticulation to the overhead tank at the premises of the Fire Station building as prescribed in the drawings.	Outstanding
Miscellaneous Works		
11	Supply, and install an access ladder of galvanized mild steel internal ladders with stringers returned to form hand rails as per detail on drawing	Outstanding
12	Supply and install vent pipes in roof slab complete with a mosquito gauze.	Outstanding
13	Supply and install step iron to chambers with excess of 1 meter depth.	Outstanding
14	Supply and place a layer of pumice on roof slab.	Outstanding
15	Supply and install valves, screen gratings, troughs as prescribed in the drawings	Outstanding
17	Supply, install, test, and commission sump pumps, and pipes. The provision and installation of pump system includes 2 pumps (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system including the pump controls, and float switch to be integrated at the overhead stock tank at the vicinity of the fire station premises for a seamless automated operation.	Outstanding
18	Supply, install, test and commission chlorine feeding machines. The provision and installation of the Chlorine gas system should be as prescribed and the system shall include 2 No (1 duty + 1 standby). The system should be complete with supply, all installation and adjustments to ensure fully operational system. Allow for all design requirements to the Engineer's approval.	Outstanding
19	Carefully remove asbestos roof materials at the Police and Fire Station buildings, and construct new roofs as prescribed in the drawings.	Outstanding

NOTES:

- The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
- All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
- The Contractor is required to read the section details with relation to the layouts.
- The contractor is required to complete the pending inlet works that include and not limited to; installation of galvanized mild screen, installation of valves, installation of screening troughs, overflow chambers, and precast concrete slabs.

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Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
FIRE STATION TANK OUTSTANDING WORKS MATRIX					
Drawing title:					
OUTSTANDING WORKS MATRIX					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-FS02					



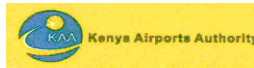

FOUNDATION LAYOUT PLAN OF 550M3 CLEAR WATER TANK

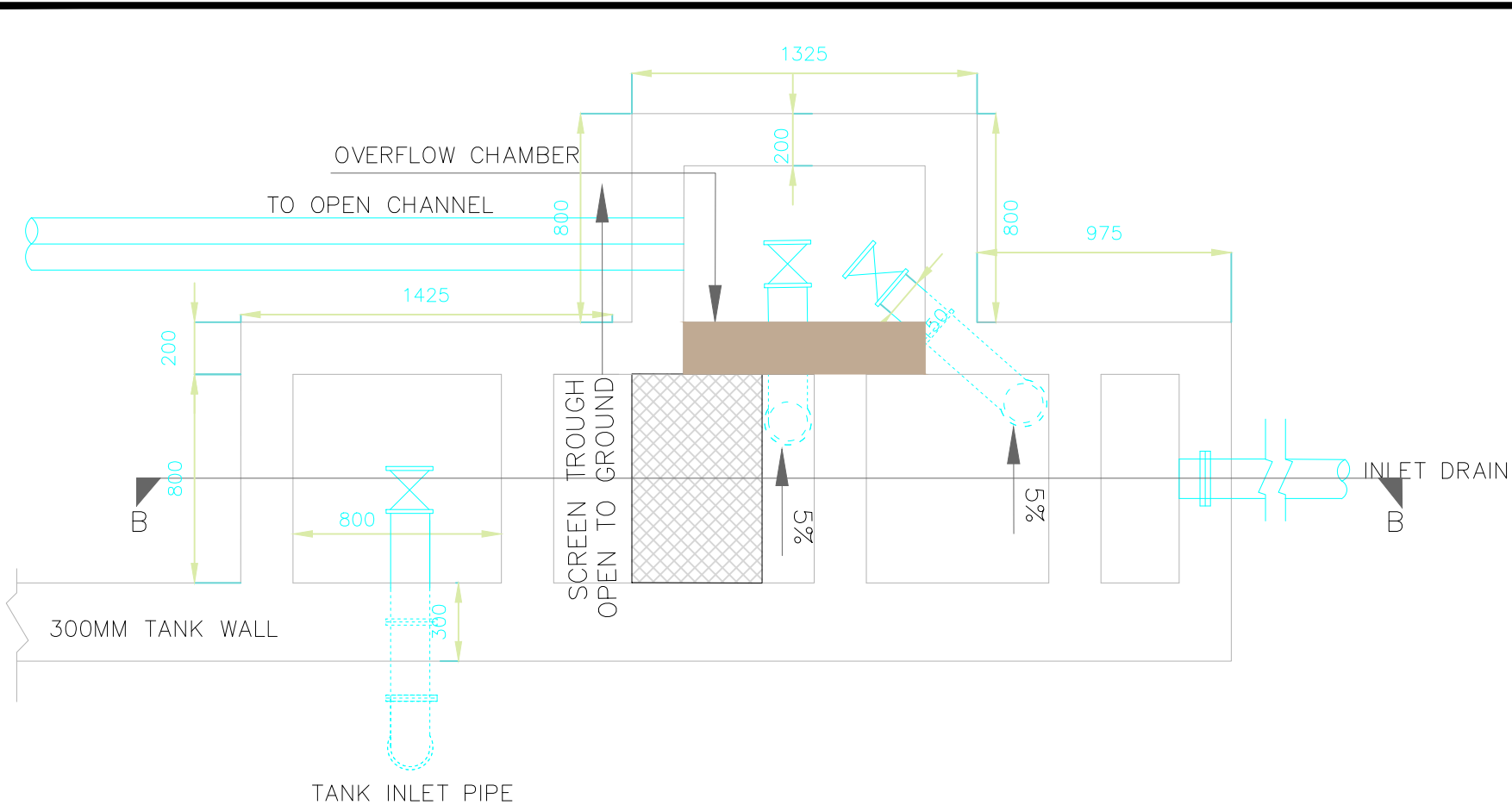
LEGEND:

- GRID
- WALL PANEL
- - - - - CONTRACTION JOINTS
- ==== EMBEDDED PIPEWORK
- 20MM Ø DOWEL BARS

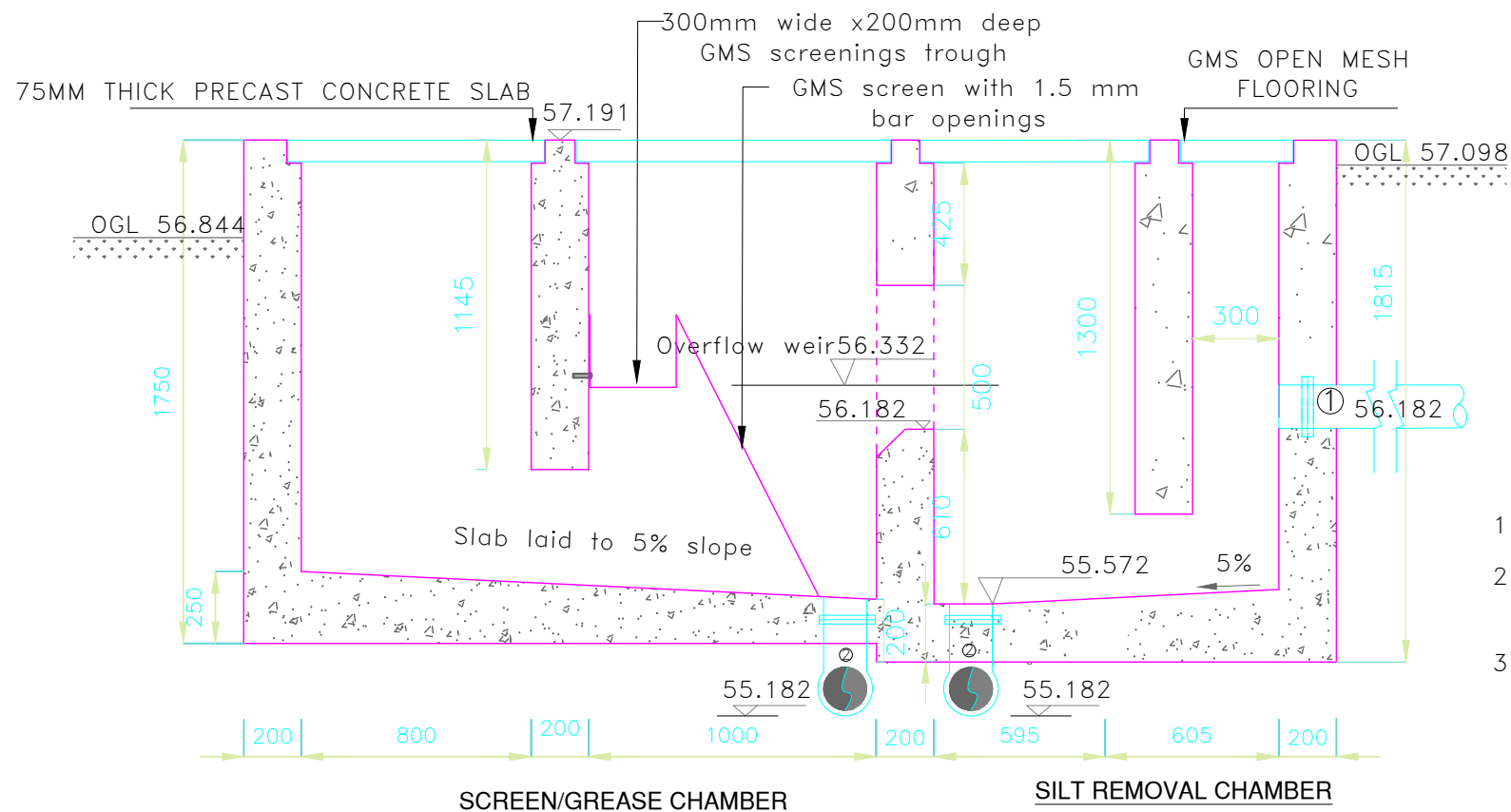
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All materials require appropriate submittals for the approval of the Engineer before purchase or installation in accordance to the Technical Specifications.
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to complete the pending inlet works that include; installation of galvanized mild screen, installation of valves, installation of screening troughs, overflow chambers, and precast concrete covers.

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Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
FIRE STATION TANK LAYOUT					
Drawing title:					
FIRE STATION TANK GENERAL FOUNDATION LAYOUT					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-FS03					



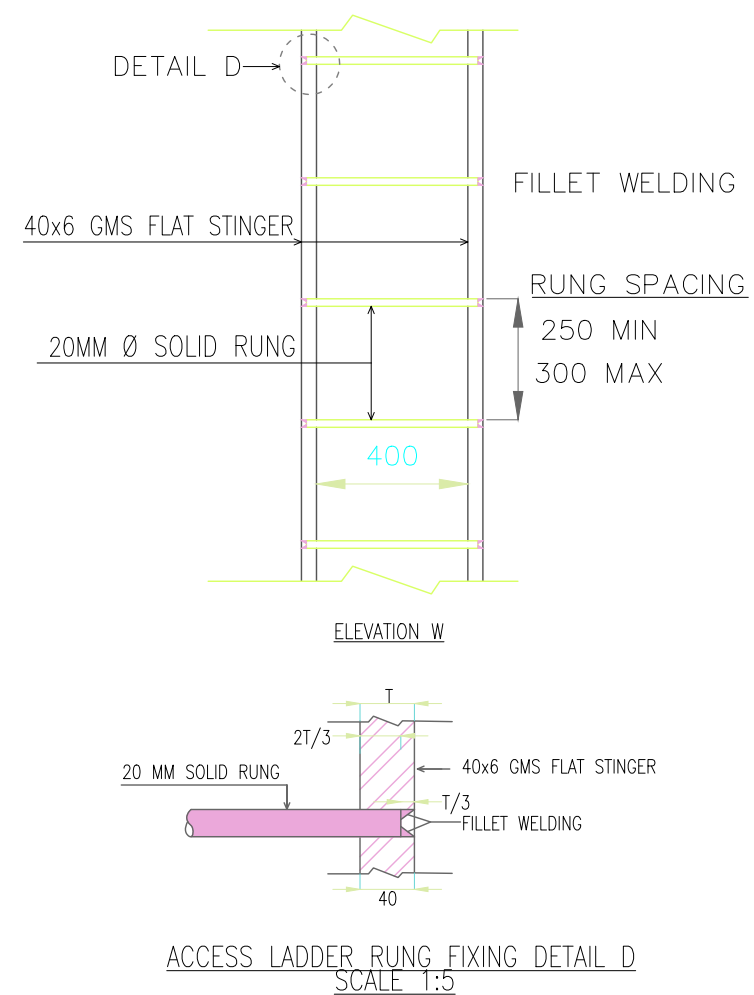
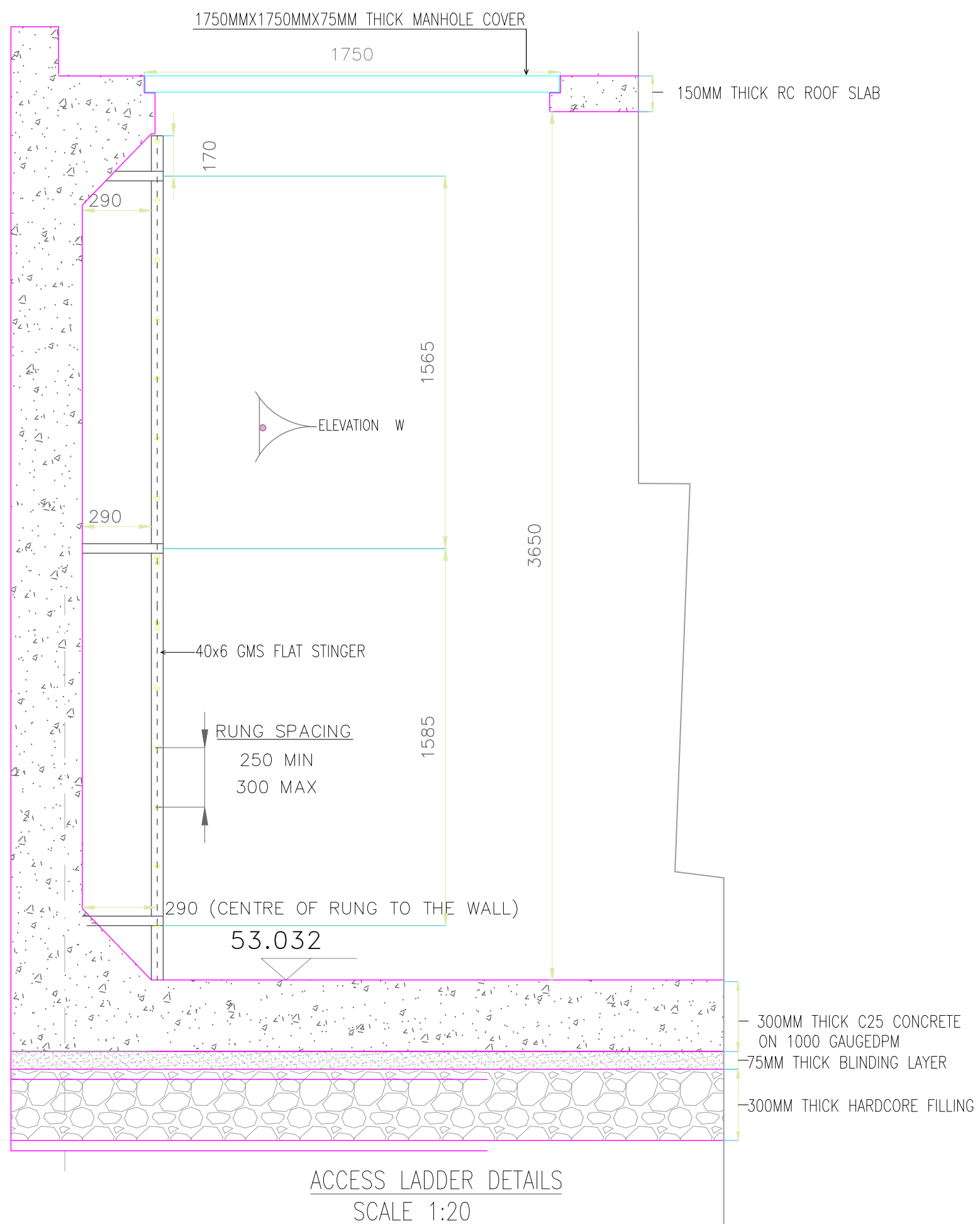
- NOTES:**
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
 2. All dimensions are in MM unless otherwise specified
 3. The Contractor is required to read the section details with relation to the layouts.
 4. The contractor is required to complete the pending inlet works that include and not limited to; installation of galvanized mild screen, installation of valves, installation of screening troughs, overflow chambers, and precast concrete slabs.



FITTING DETAILS – INLET PIPE WORK


- 1 DN 150 FERROUS INLET PIPE WITH A PUDDLE FLANGE
- 2 DN 150 FERROUS SINGLE FLANGED 90° SHORT RADIUS BEND WITH A PUDDLE FLANGE
- 3 DN 150 FERROUS OVERFLOW PIPE WITH A PUDDLE FLANGE

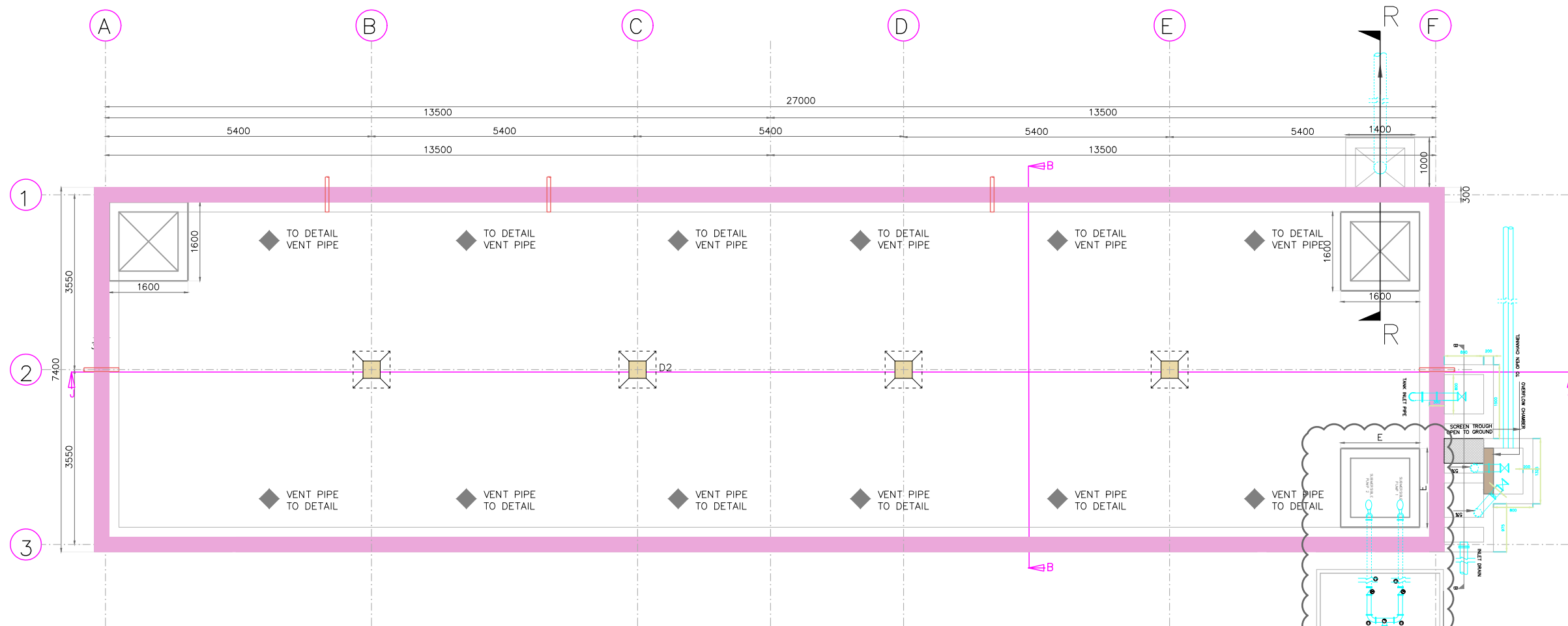
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client: P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:  APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project: THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase: TENDER DRAWINGS					
Subject: FIRE STATION TANK INLET WORKS PLAN AND SECTION					
Drawing title: FIRE STATION TANK INLET WORKS PLAN AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-FS04					



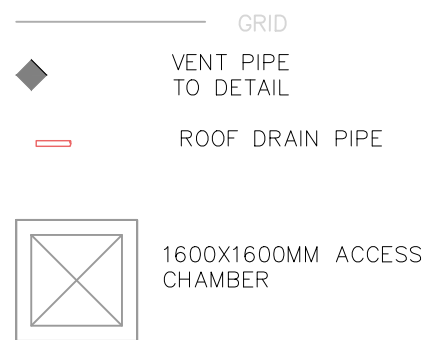
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The contractor is required to supply and fix and place the ladder in place.
5. The Contractor is required to fix the manholes precast reinforced covers complete with opening and closing mechanisms.

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Consultant:					
 APEC CONSORTIUM LIMITED					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
FIRE STATION TANK LADDER DETAILS					
Drawing title:					
FIRE STATION TANK LADDER PLAN AND SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
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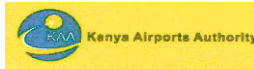



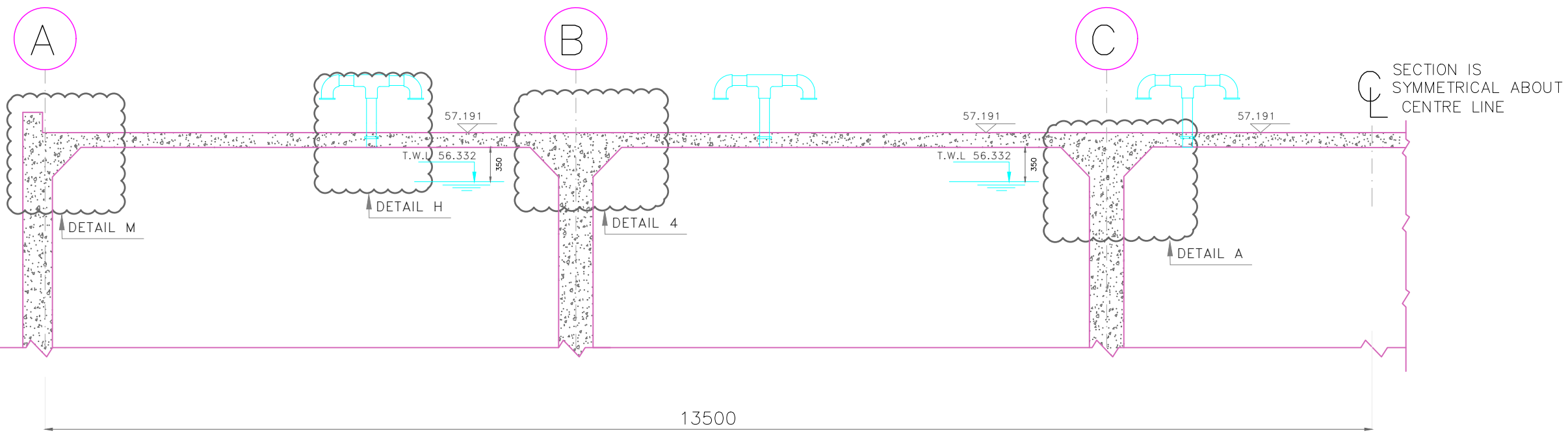
ROOF LAYOUT PLAN OF 550M3 CLEAR WATER TANK



NOTES:

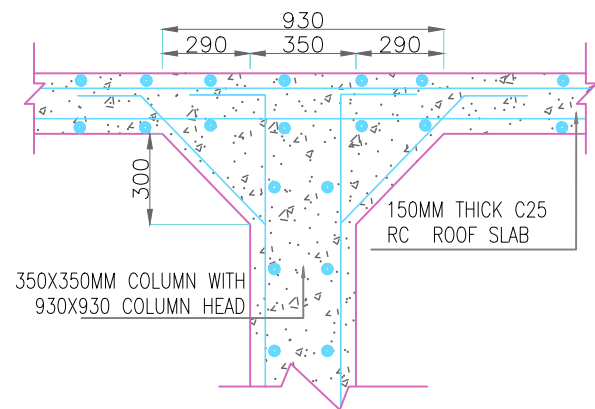
1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required to fix the manholes precast reinforced covers complete with opening and closing mechanisms.
5. The Contractor is required to install vent pipes with mosquito gauge.
6. The Contractor is required to place pumice layer.
7. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
FIRE STATION TANK ROOF LAYOUT					
Drawing title:					
FIRE STATION TANK ROOF PLAN AND PUMPING PLAN					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-FS06					

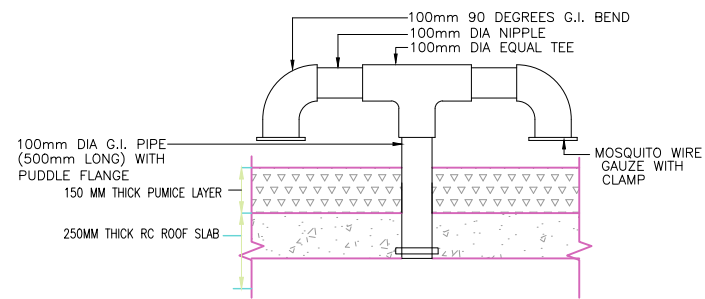


SECTION J-J
(SCALE: 1:50)

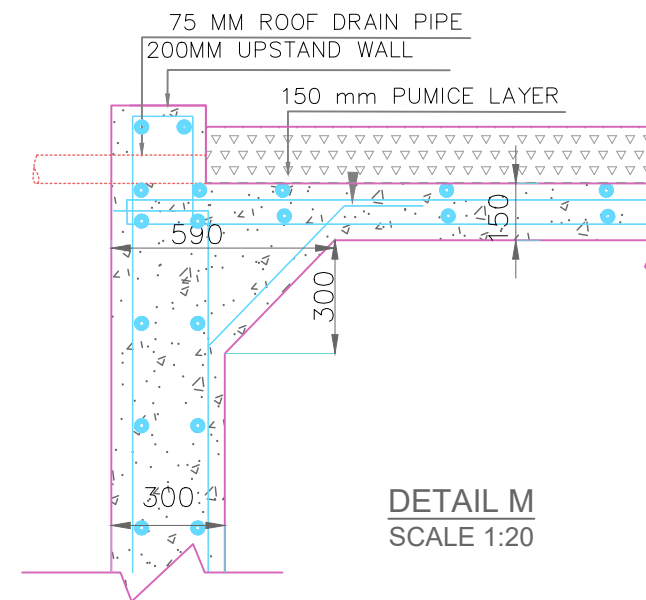
100mm DIA G.I. IN
(500mm LONG) W/
PUDDLE FLANGE
(50 MM HIGH)



DETAIL 4
SCALE 1:25



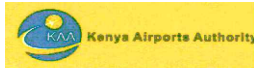

SECTION THROUGH VENT PIPE -DETAIL H
SCALE 1:25

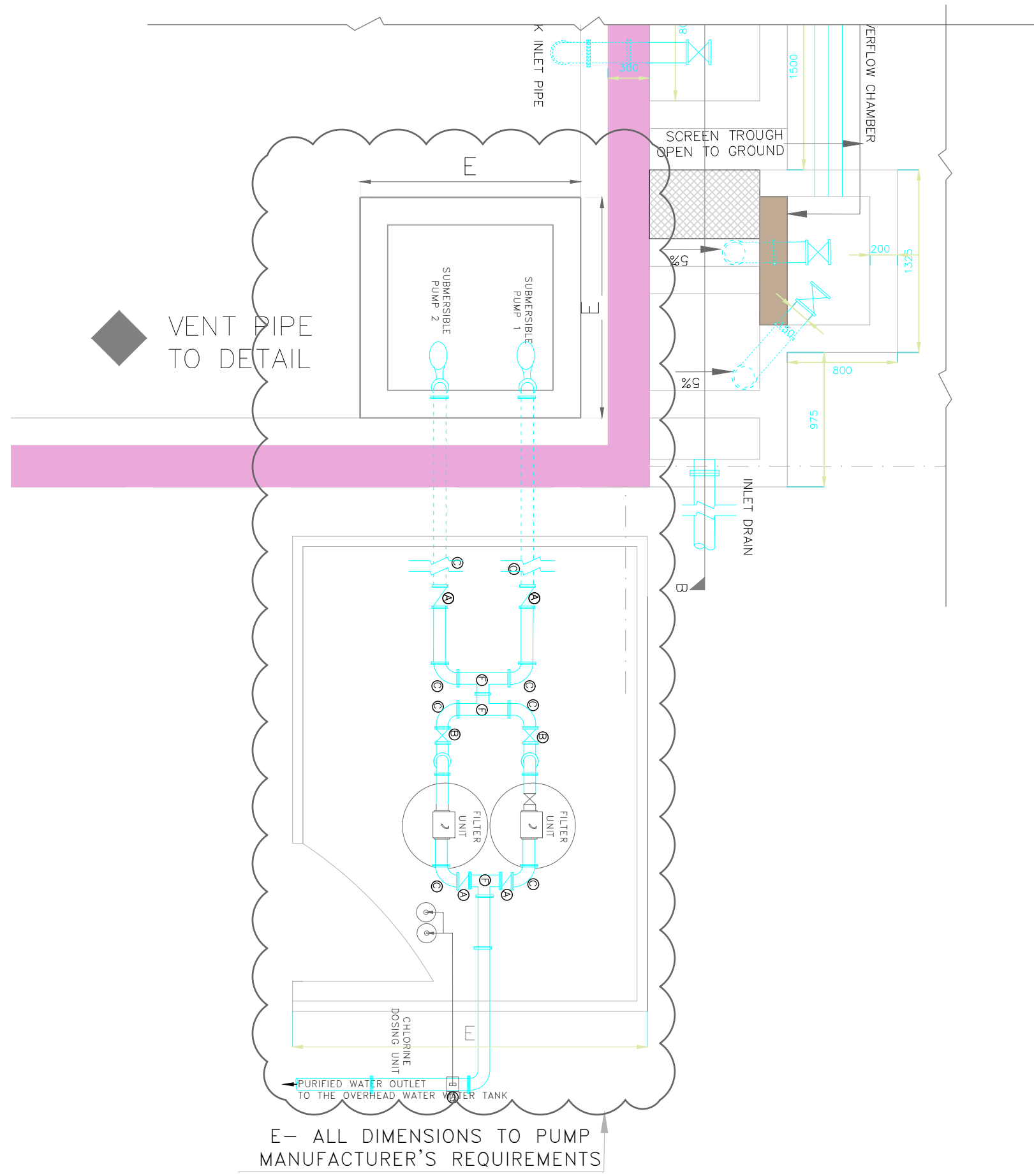


DETAIL M
SCALE 1:20

NOTES:

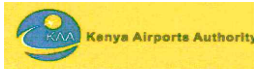

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required to install vent pipes with mosquito gauge.
5. The Contractor is required to place pumice layer.
6. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
FIRE STATION TANK ROOF SECTION					
Drawing title:					
FIRE STATION TANK ROOF SECTION DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-FS07					



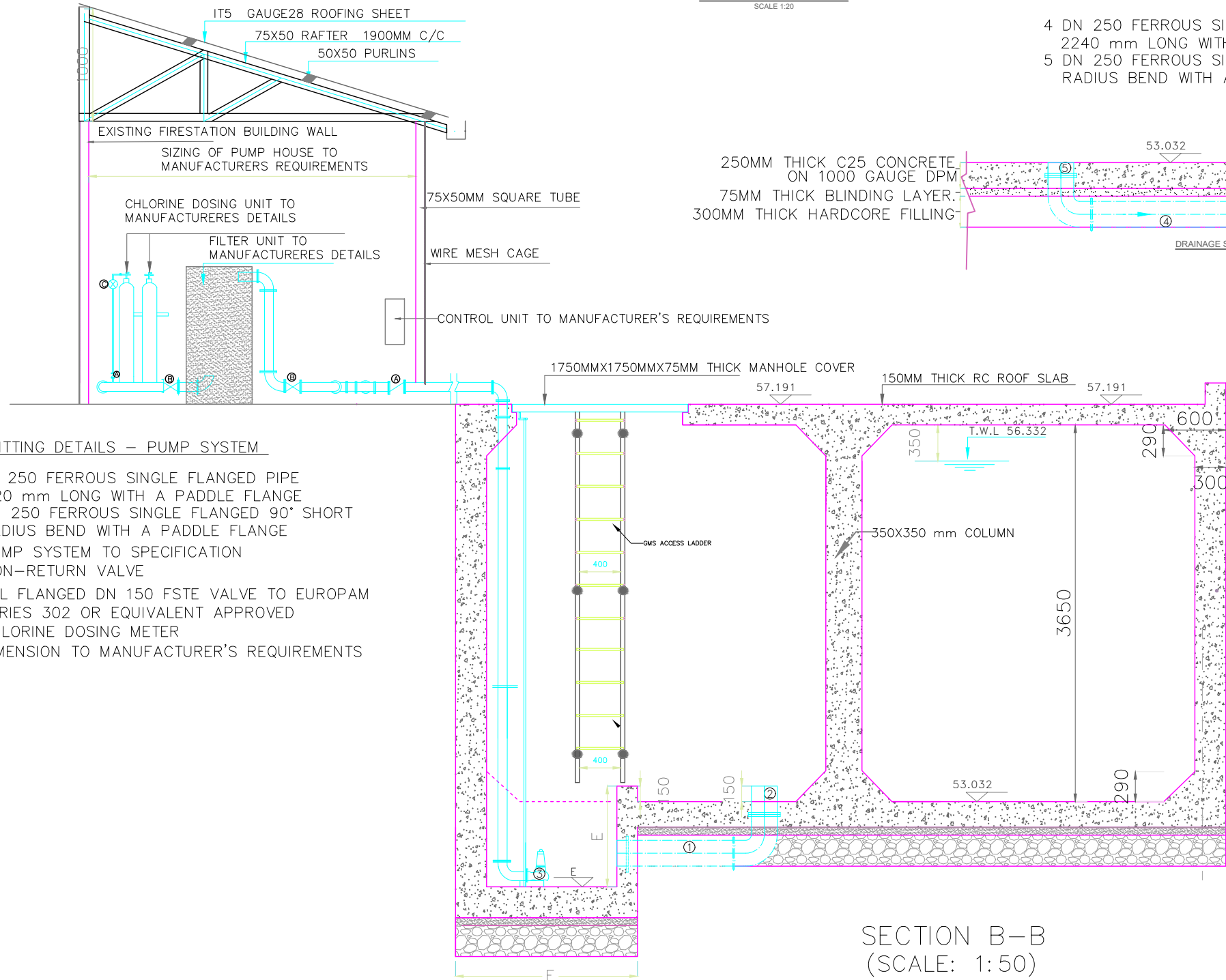
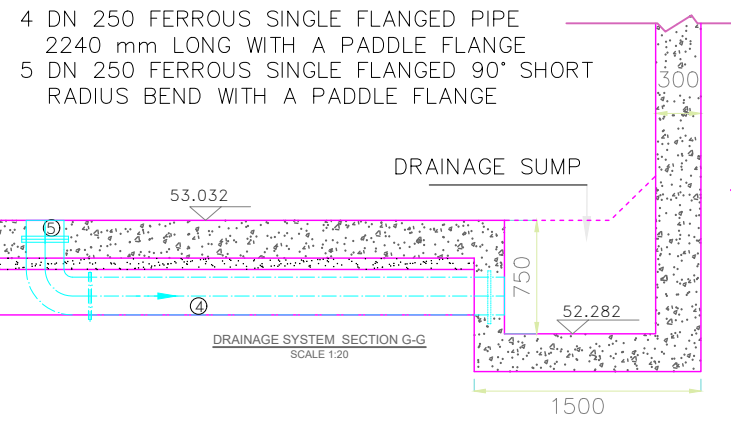
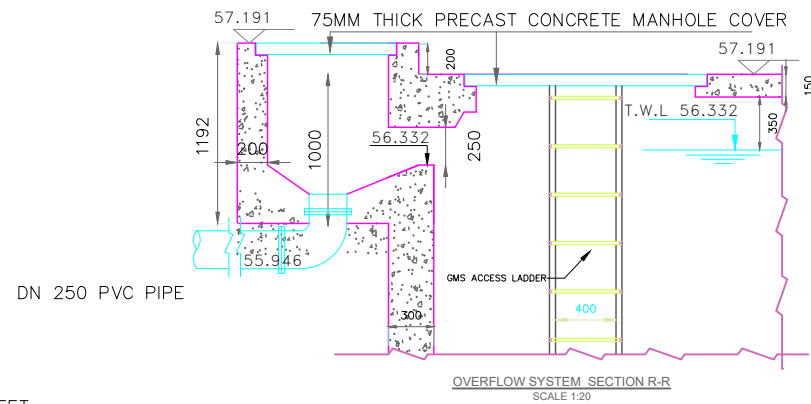
NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, filter systems and to install vent pipes with mosquito gauge.
5. The Contractor is required to place pumice layer.
6. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Phase:					
TENDER DRAWINGS					
Subject:					
FIRE STATION TANK PUMP LAYOUT					
Drawing title:					
FIRE STATION TANK PUMP LAYOUT TO BE TO MANUFACTURER'S REQUIREMENTS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-FS08					

NOTES:

1. The Contractor shall be required to provide shop drawings and work construction methodology for approval by the Engineer before commencement of the works.
2. All dimensions are in MM unless otherwise specified
3. The Contractor is required to read the section details with relation to the layouts.
4. The Contractor is required install the pumps, pumping systems, chlorine feeding machines, filter systems and to install vent pipes with mosquito gauge.
5. Water inlets works, pump house, and chlorine feeding machines to be completed in compliant with Section 80 00 02 and 80 00 03 of the Technical Specifications and the Bills of Quantities.




FITTING DETAILS – PUMP SYSTEM

- 1 DN 250 FERROUS SINGLE FLANGED PIPE 1120 mm LONG WITH A PADDLE FLANGE
- 2 DN 250 FERROUS SINGLE FLANGED 90° SHORT RADIUS BEND WITH A PADDLE FLANGE
- 3 PUMP SYSTEM TO SPECIFICATION
- A NON-RETURN VALVE
- B ALL FLANGED DN 150 FSTE VALVE TO EUROPAM SERIES 302 OR EQUIVALENT APPROVED
- C CHLORINE DOSING METER
- E DIMENSION TO MANUFACTURER'S REQUIREMENTS

REV	DATE	REVISION DESCRIPTION	IG	SA	HMK
1					

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www.kenyaairports.co.ke

Consultant:


Project:
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT.- OUTSTANDING WORKS

Phase:
TENDER DRAWINGS

Subject:
FIRE STATION TANK PUMP HOUSE SECTION

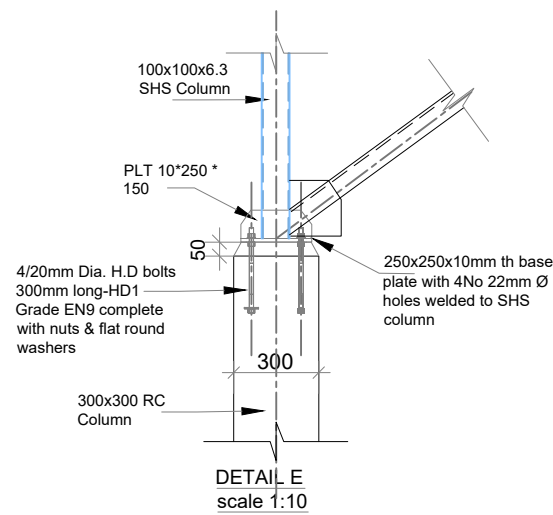
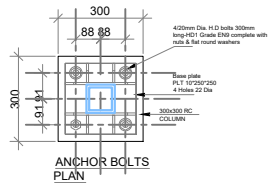
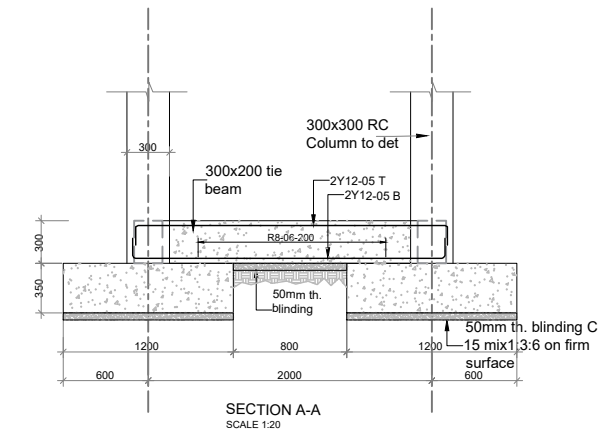
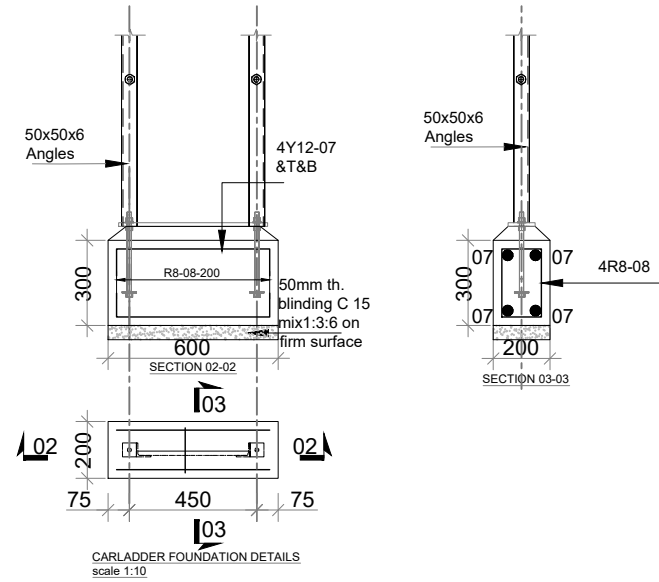
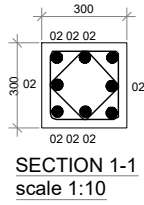
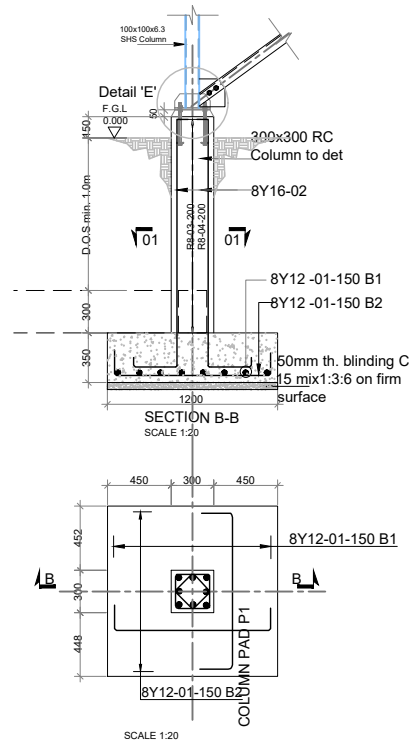
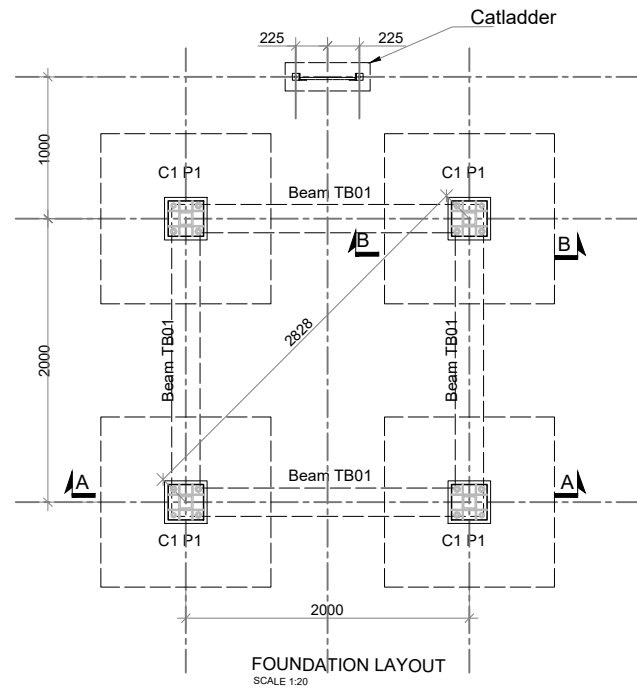
Drawing title:
PUMP SYSTEM AND CHLORINATION SYSTEM.

Contract No.: KAA/OT/MIA/0226/2022-2023

Date: JUNE 2023 Scale: 1:50

Paper size: Rev No.: 1

Dwg No.: KAA/OT/MIA/0226/2022-2023/RWH-FS09



BAR BENDING SCHEDULE TO BS4466-1

BAR MARK	BAR SIZE	TOTAL NO OF BARS	SIZE CODE	BENDING	TOTAL LENGTH (M)	TOTAL WEIGHT (KG)
01	Y12	64	35		89.60	79.56
02	Y16	32	54		57.60	91.0
03	R8	32	61		37.80	14.93
04	R8	32	61		37.80	14.93
05	Y12	16	35		40.0	35.52
06	R8	44	61		43.10	17.0
07	Y12	4	35		3.20	2.84
08	R8	4	61		27.20	10.74
					TOTAL	266.50

NOTES

- All dimensions are in millimeters unless otherwise stated
- All dimensions to be checked and confirmed on site before commencement of any work
- Written dimensions override scaled dimensions, thus all dimensions are to be read and not at any time scaled from the drawing
- Any discrepancy to be reported to the Engineer promptly before proceeding

CONCRETE

- Blinding under pad foundation shall be 1:3:6 mix
- All reinforced concrete for columns to be grade 25 mix (1:1.5:3) giving a minimum crushing strength of 25N/mm² of 28 days
- Cement shall be portland cement to comply with BS 12
- Maximum aggregate size shall be 20mm unless otherwise stated

REINFORCEMENT

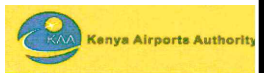
- R indicate hot rolled mild steel to BS 4449
- Y indicate cold rolled high tensile steel to BS 4461
- Fabric reinforcement shall be to BS 4483
- All reinforcement shall be presented to the Engineer for inspection prior to concreting

REVISIONS:

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Client:

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Consultant:

APEC CONSORTIUM LTD
 P.O BOX 3786-00100
 NAIROBI KENYA.

Project:

THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS

Phase:

TENDER DRAWINGS

Subject:

FIRE STATION OVERHEAD TANK

Drawing title:

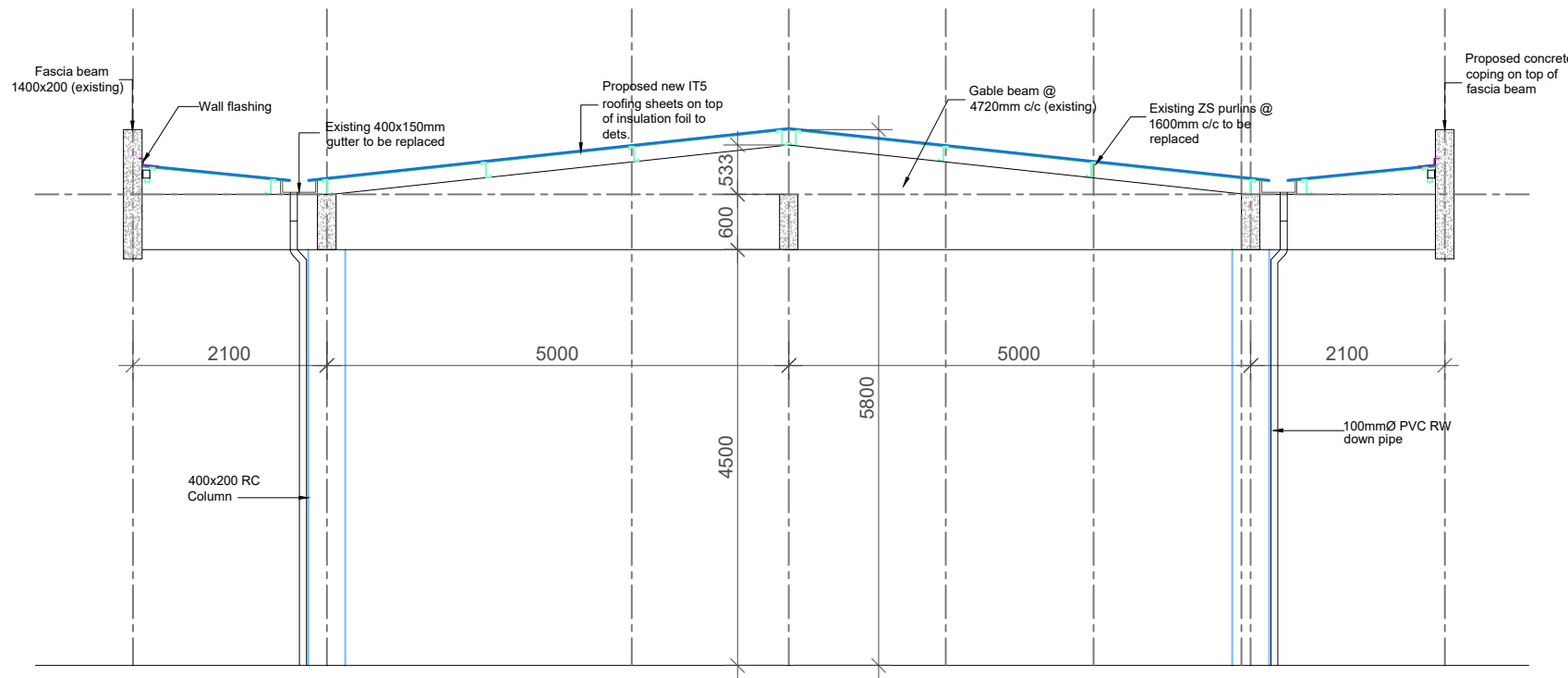
FIRE STATION OVERHEAD TANK PLAN AND
 SECTION DETAILS

Contract No.: KAA/OT/MIA/0226/2022-2023

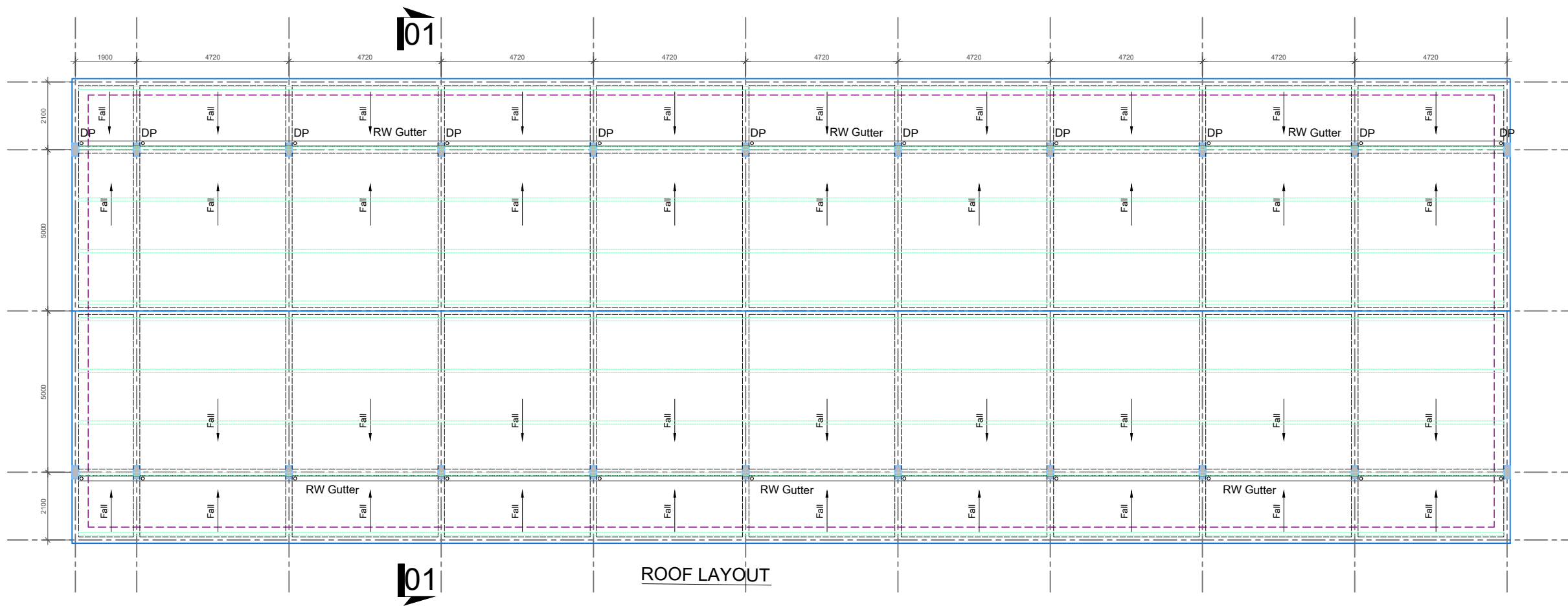
Date: JUNE 2023 Scale: AS SHOWN

Paper size: A3 Rev No.: 1

Dwg No.: KAA/OT/MIA/0226/2022-2023/ RWH-FS 11



SECTION 1-1



ROOF LAYOUT

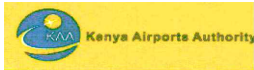
NOTES

1. DIMENSIONS IN mm UNLESS OTHERWISE SPECIFIED.
2. ALL DIMENSIONS TO BE CHECKED AND CONFIRMED ON SITE BEFORE COMMENCEMENT OF ANY WORK.
3. WRITTEN DIMENSIONS OVER RIDE SCALED DIMENSIONS THUS ALL DIMENSIONS ARE TO BE READ AND NOT AT ANY TIME SCALED FROM THE DRAWING
4. ANY DISCREPANCY TO BE REPORTED TO THE ENGINEER PROMPTLY BEFORE PROCEEDING

REV	DATE	REVISION DESCRIPTION	IG	SA	HK

Client:

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 NAIROBI KENYA.
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Consultant:



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 P.O BOX 3786-00100
 NAIROBI KENYA.

Project:

THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS

Phase:

TENDER DRAWINGS

Subject:

FIRE STATION BUILDING ROOF LAYOUT AND
 SECTION

Drawing title:

FIRE STATION BUILDING ASBESTOS REMOVAL,
 ROOF LAYOUT AND SECTION DETAILS

Contract No.:

KAA/OT/MIA/0226/2022-2023

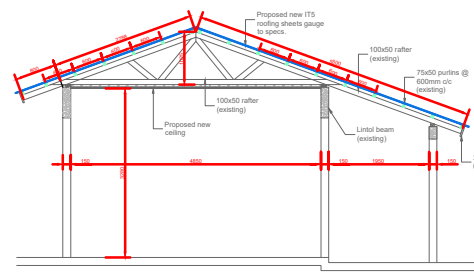
Date: JUNE 2023

Scale: AS SHOWN

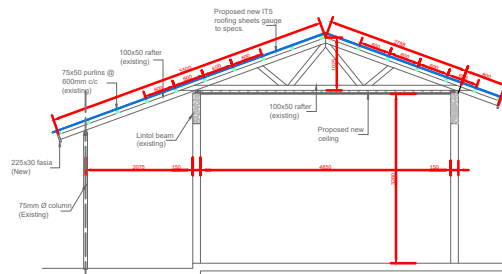
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Rev No.: 1

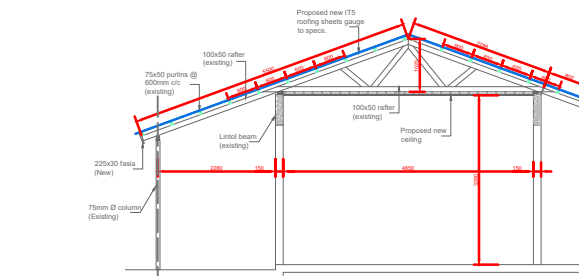
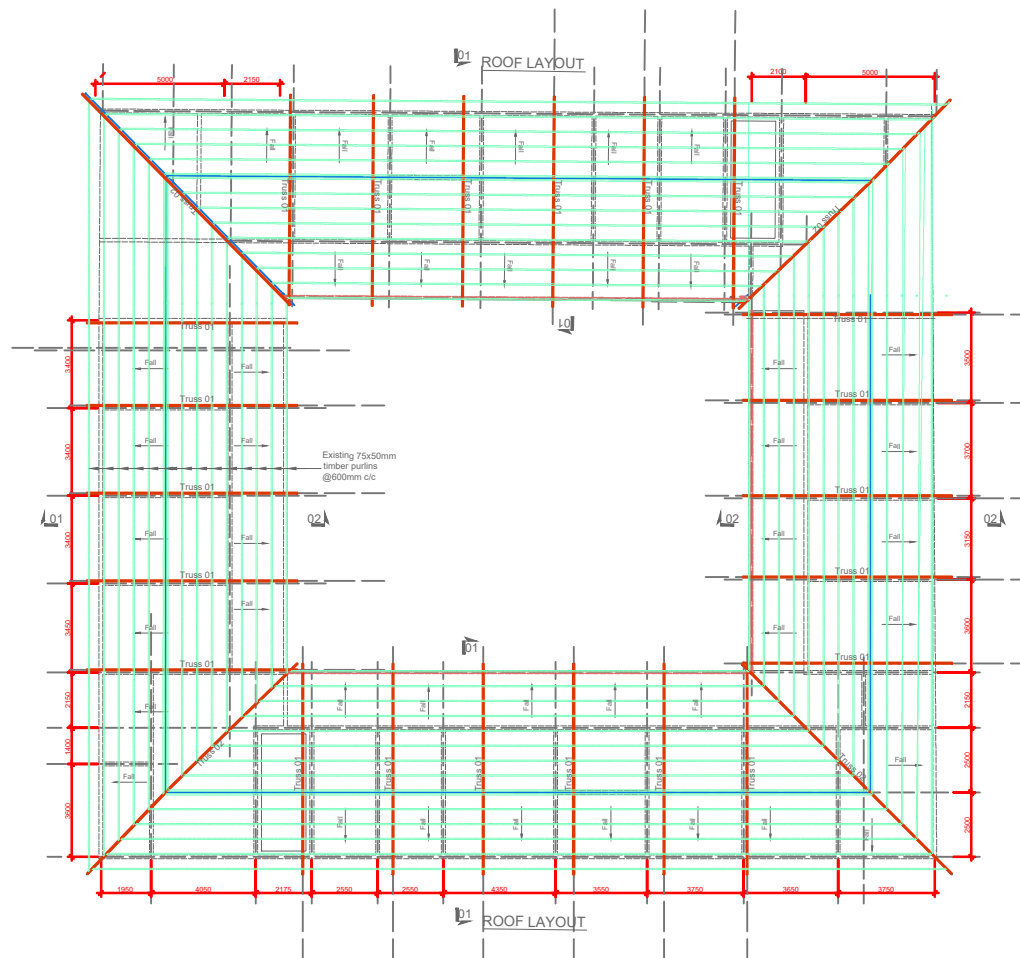
Dwg No.:KAA/OT/MIA/0226/2022-2023/RWH-FS- 12



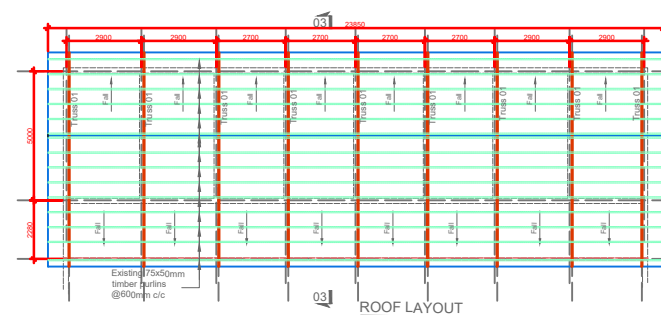
SECTION 1-1



SECTION 2-2



SECTION 3-3



ROOF LAYOUT

NOTES

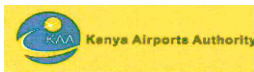
1. All dimensions are in millimeters unless otherwise stated
2. All dimensions to be checked and confirmed on site before commencement of any work
3. Written dimensions override scaled dimensions, thus all dimensions are to be read and not at any time scaled from the drawing
4. Any discrepancy to be reported to the Engineer promptly before proceeding

REVISIONS:

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
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Client:

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 www.kenyaairports.co.ke



Consultant:



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 P.O BOX 3786-00100
 NAIROBI KENYA.

Project:

THE REHABILITATION OF AIRCRAFT
 PAVEMENTS AND AGL SYSTEM AT MOI
 INTERNATIONAL AIRPORT - OUTSTANDING
 WORKS

Phase:

TENDER DRAWINGS

Subject:

POLICE STATION BUILDING ASBESTOS
 REMOVAL AND NEW ROOFS CONSTRUCTION

Drawing title:

POLICE STATION BUILDING REMOVAL ASBESTOS
 PLAN AND SECTION DETAIL

Contract No.:

CAA/OT/MIA/0226/2022-2023

Date: JUNE 2023

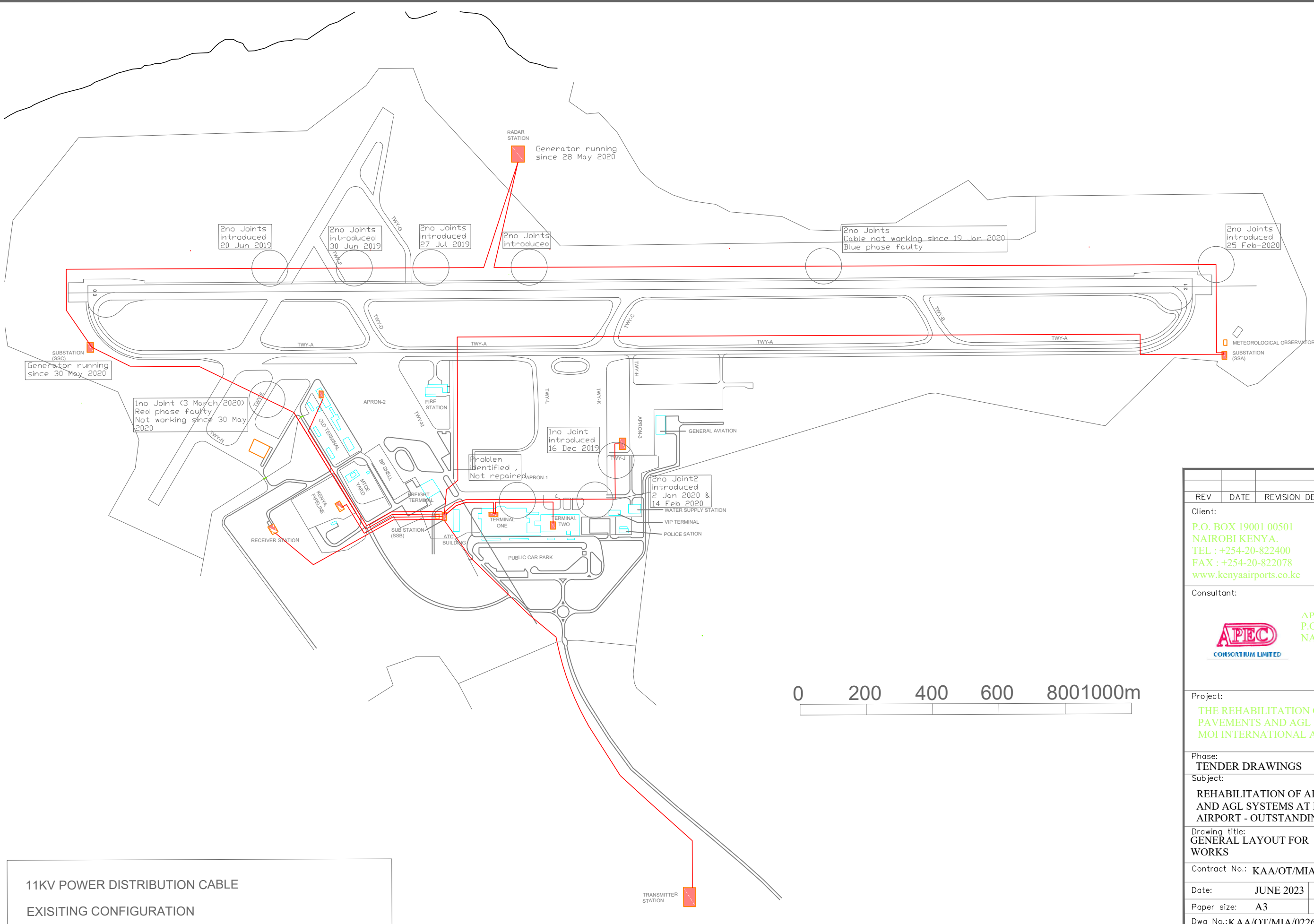
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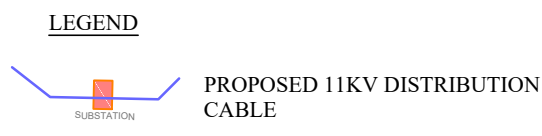
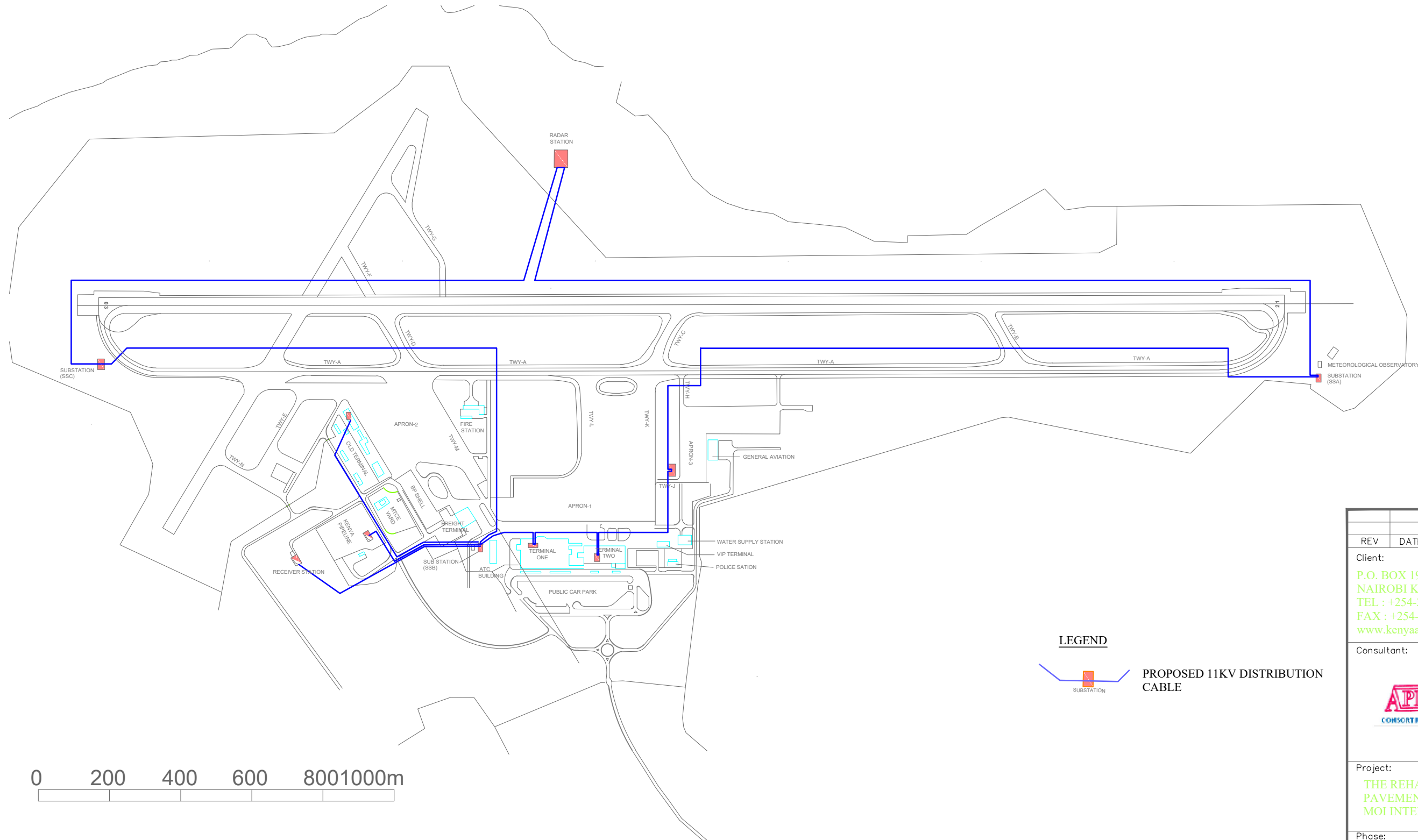
Rev No.: 1

Dwg No.:CAA/OT/MIA/0226/2022-2023/RWH-PS 13

ELECTRICAL DRAWINGS



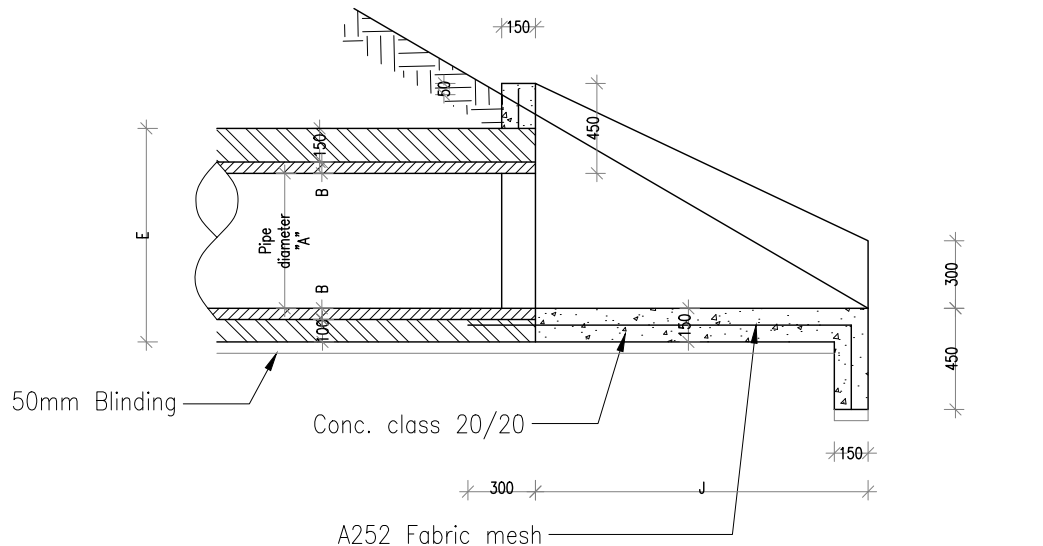
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:					
 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Drawing title:					
GENERAL LAYOUT FOR EXISTING ELECTRICAL WORKS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	1:10,000		
Paper size:	A3	Rev No.:	1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/ELE/GL-01					



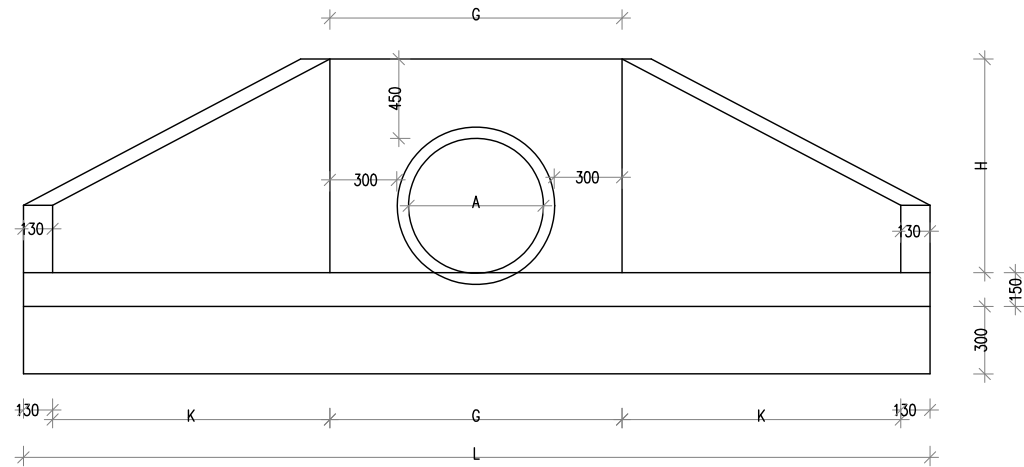
PROPOSED ELECTRICAL WORKS GENERAL LAYOUT
SCALE 1:10000

REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT					
Phase:					
TENDER DRAWINGS					
Subject:					
REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEMS AT MOI INTERNATIONAL AIRPORT - OUTSTANDING WORKS					
Drawing title:					
GENERAL LAYOUT FOR PROPOSED ELECTRICAL WORKS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date:	JUNE 2023	Scale:	1:10,000		
Paper size:	A3	Rev No.:	1		
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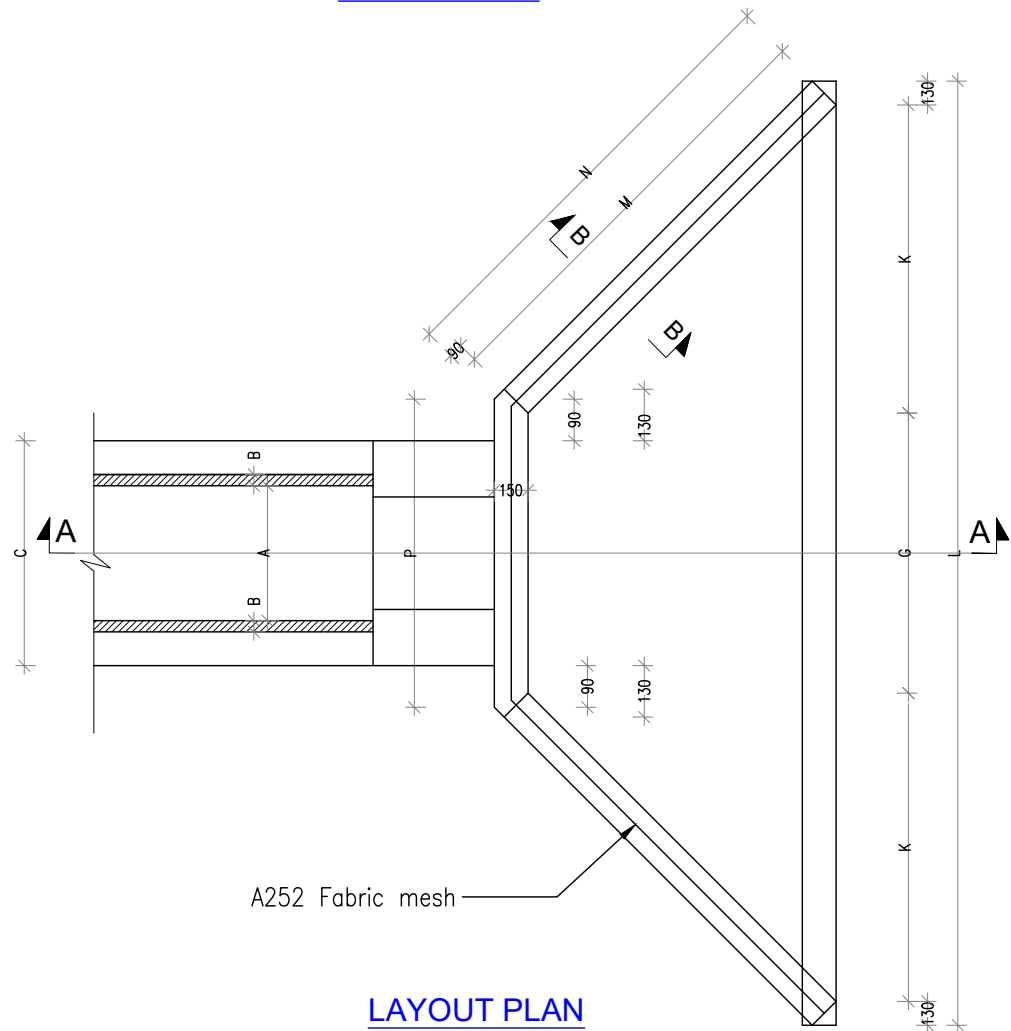
STANDARD DRAWINGS



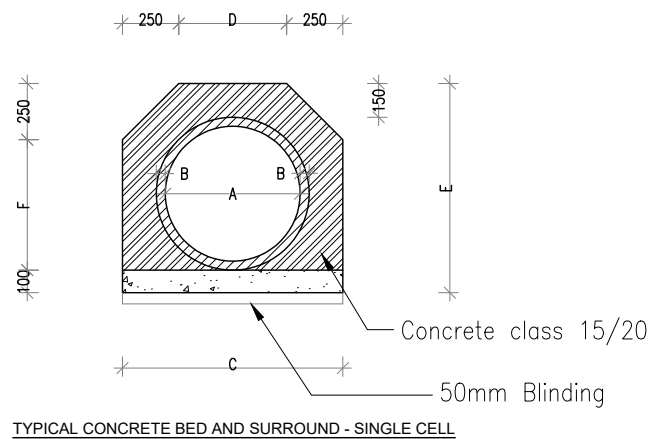
SECTION A-A



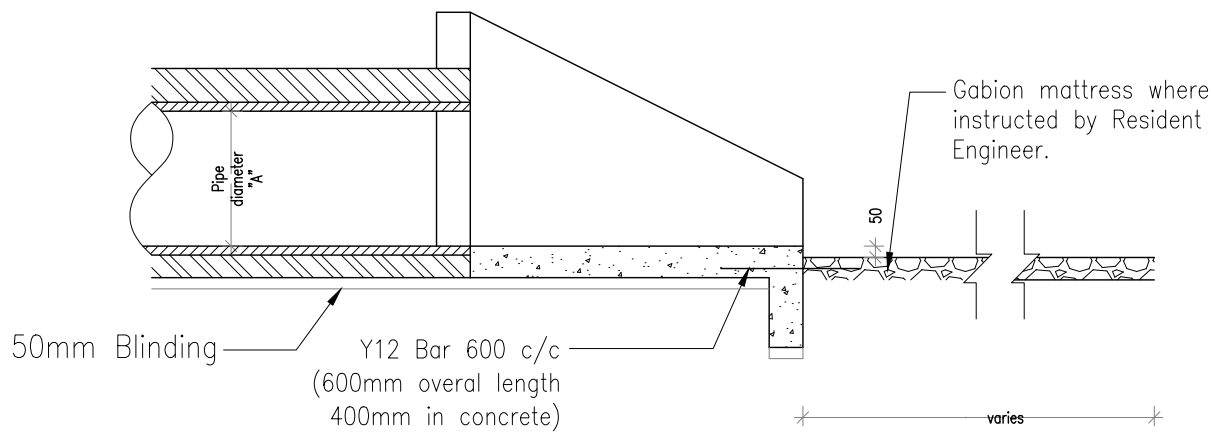
FRONT ELEVATION-SINGLE CELL



LAYOUT PLAN



TYPICAL CONCRETE BED AND SURROUND - SINGLE CELL




SECTION A-A (with gabion mattress shown)

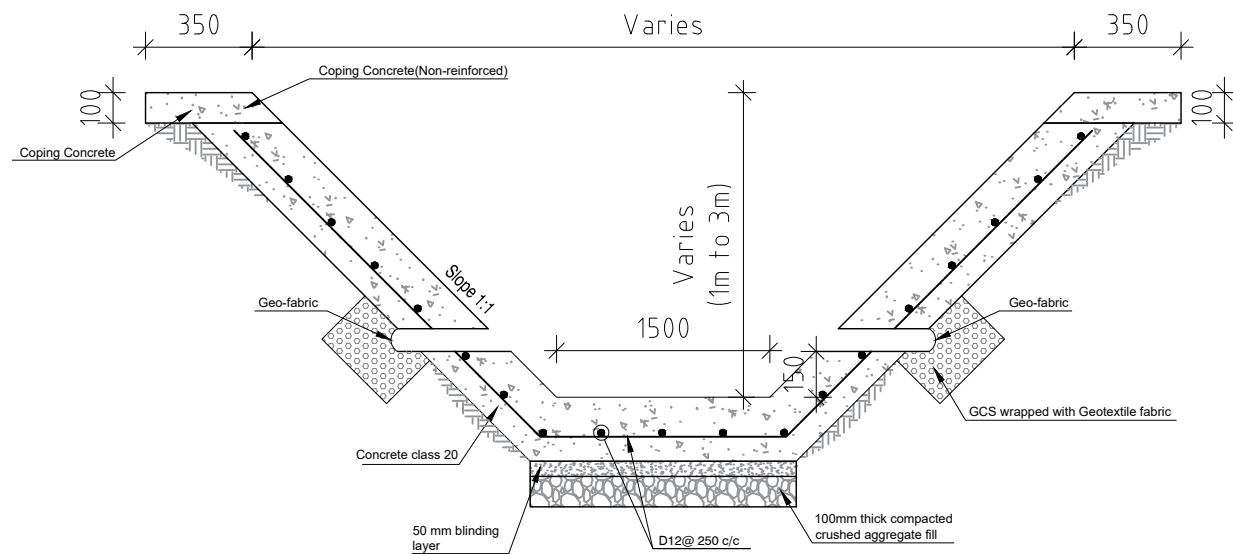
NOTES

- DIMENSIONS IN mm UNLESS OTHERWISE SPECIFIED
- THE STRUCTURAL DESIGN TO BE CONFIRMED BY THE CONTRACTOR AFTER ESTABLISHING GROUND CONDITIONS. PROGRAMME ,METHOD OF CONSTRUCTION AND SETTING OUT OF WORK TO BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORKS
- DESIGN CRITERIA
 - DESIGN CODES B.S. 8007 & B.S. 8110
 - CONCRETE AGGREGATE TO COMPLY WITH B.S 882
 - WATER IN CONCRETE MIXES TO BS 3148
 - CONCRETE CLASSES TO BE AS FOLLOWS
MASS CONCRETE FILL AND BLINDING MIX CLASS 15/20
REINFORCED CONCRETE CLASS 25/20
 - MINIMUM COVER TO ALL REINFORCEMENT TO BE 40mm UNLESS AS SPECIFIED BELOW FOR BUILDING MEMBERS OF BUILDING
-SLABS-20mm
-BEAMS-25mm
-COLUMNS-40mm-
-FOUNDATIONS & FOOTINGS-50mm
- WALLS/COLUMNS SHOULD BE POURED IF POSSIBLE IN A FULL HEIGHT POUR AS SOON AS POSSIBLE AFTER THE BASE HAS BEEN CONCRETED (2 TO 3 DAYS)
- 1000 GAUGE DPM TO BE PROVIDED ON THE ENTIRE TOP OF BLINDING LAYER
- REINFORCEMENT:
 - REINFORCEMENT TO BE HIGH YIELD RIBBED BARS TO B.S 4461
 - BENDING DIMENSIONS TO BS 4466
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SPACER BLOCKS ,CHAIRS AND TYING WIRE
- ALL CONCRETE EDGES ARE REQUIRED TO BE CHAMFERED
- THE CONTRACTOR IS REQUIRED TO PROVIDE SHOP DRAWINGS BEFORE COMMENCEMENT OF THE WORKS
- THE EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE

TABLE A - 1-CELL CONCRETE PIPE CULVERTS

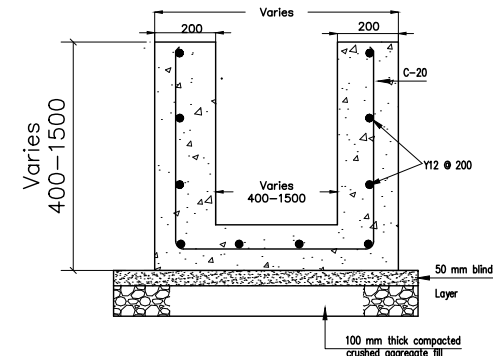
CULVERT	A (m)	B (m)	C (m)	D (m)	E (m)	F (m)	G (m)	H (m)	J (m)	K (m)	L (m)	M (m)	N (m)	P (m)	CONCRETE CLASS 25/20 Inlet & Outlet	CONCRETE CLASS 15/20 Surround & Bed per running m
Diameter 0.60m	0.60	0.05	1.00	0.50	0.95	0.60	1.20	0.95	1.25	0.72	3.00	1.44	1.53	1.18	1.58m ³	0.50m ³

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Client: P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
Consultant:  APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project: THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
Phase: TENDER DRAWINGS					
Subject: STANDARD DRAWINGS					
Drawing title:STORM WATER DRAINAGE WORKS TYPICAL DETAIL600MM SINGLE PIPE CULVERT					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023			Scale: AS SHOWN		
Paper size: A3			Rev No.: 1		
Dwg No.: KAA/OT/MIA/0226/2022-2023/ MIA/SD 01					



TYPICAL TRAPEZOIDAL DRAIN (1000mm Depth)

SCALE 1:25

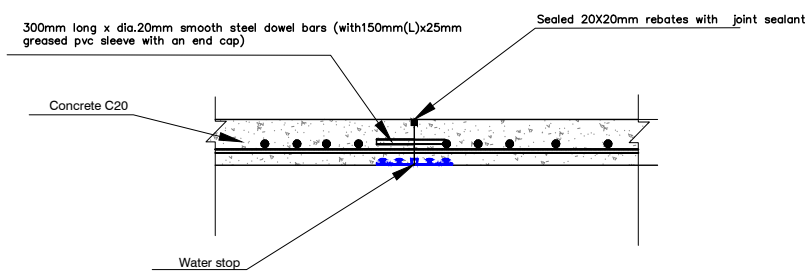


U DRAIN TYPICAL DETAILS

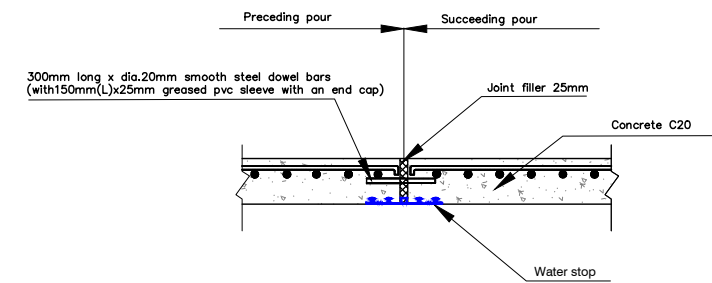
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NOTES

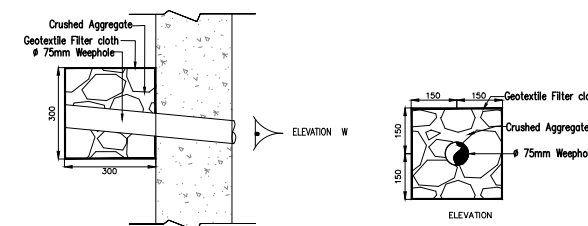
1. DIMENSIONS IN mm UNLESS OTHERWISE SPECIFIED
2. THE STRUCTURAL DESIGN TO BE CONFIRMED BY THE CONTRACTOR AFTER ESTABLISHING GROUND CONDITIONS. PROGRAMME, METHOD OF CONSTRUCTION AND SETTING OUT OF WORK TO BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORKS
3. DESIGN CRITERIA
 - (a) DESIGN CODES B.S. 8007 & B.S. 8110
 - (b) CONCRETE AGGREGATE TO COMPLY WITH B.S 882
 - (c) WATER IN CONCRETE MIXES TO BS 3148
 - (d) CONCRETE CLASSES TO BE AS FOLLOWS
MASS CONCRETE FILL AND BLINDING MIX CLASS 15/20
REINFORCED CONCRETE CLASS 25/20
 - (e) MINIMUM COVER TO ALL REINFORCEMENT TO BE 40mm UNLESS AS SPECIFIED BELOW FOR BUILDING MEMBERS OF BUILDING
-SLABS-20mm
-BEAMS-25mm
-COLUMNS-40mm-
-FOUNDATIONS & FOOTINGS-50mm
 - (f) WALLS/COLUMNS SHOULD BE POURED IF POSSIBLE IN A FULL HEIGHT POUR AS SOON AS POSSIBLE AFTER THE BASE HAS BEEN CONCRETED (2 TO 3 DAYS)
 - (g) 1000 GAUGE DPM TO BE PROVIDED ON THE ENTIRE TOP OF BLINDING LAYER
4. REINFORCEMENT:
 - (a) REINFORCEMENT TO BE HIGH YIELD RIBBED BARS TO B.S 4461
 - (b) BENDING DIMENSIONS TO BS 4466
 - (c) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SPACER BLOCKS, CHAIRS AND TYING WIRE
5. ALL CONCRETE EDGES ARE REQUIRED TO BE CHAMFERED
6. THE CONTRACTOR IS REQUIRED TO PROVIDE SHOP DRAWINGS BEFORE COMMENCEMENT OF THE WORKS
7. THE EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE CONSTRUCTED AT INTERVALS OF EVERY 8 METRES ALTERNATE.



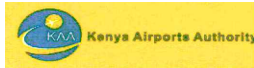

TYPICAL CONTRACTION JOINT
SCALE 1:15

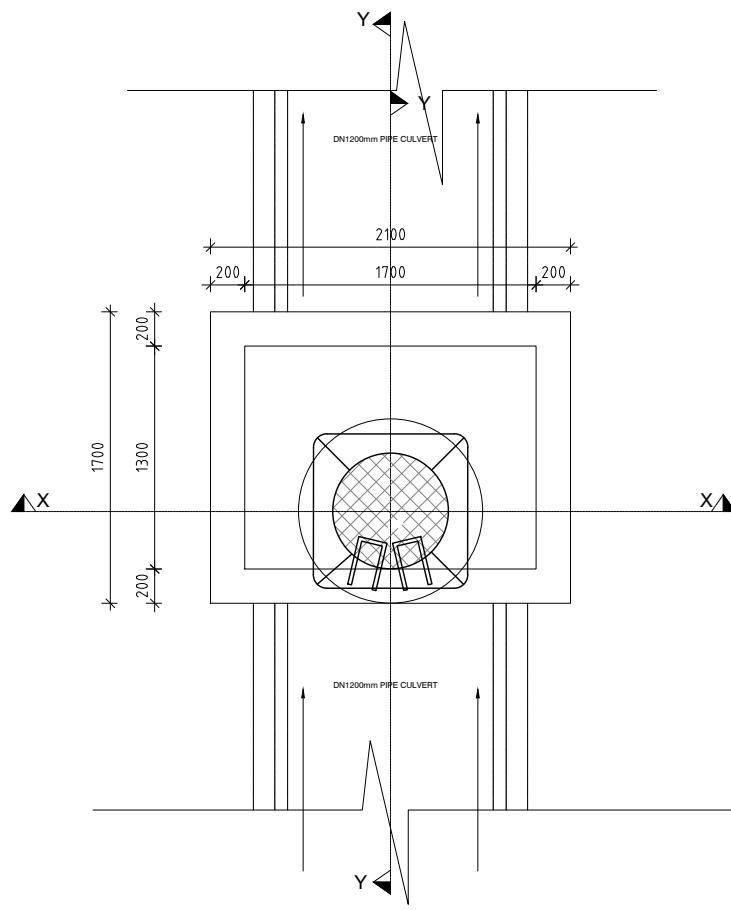


TYPICAL EXPANSION JOINT
SCALE 1:15

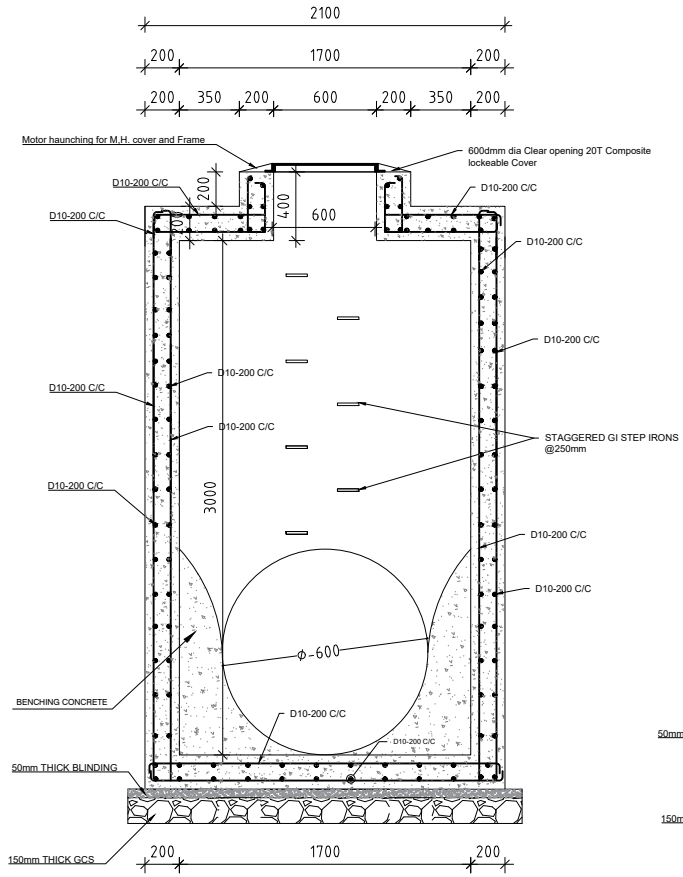


TYPICAL WEEP-HOLE DETAILS
SCALE 1:15

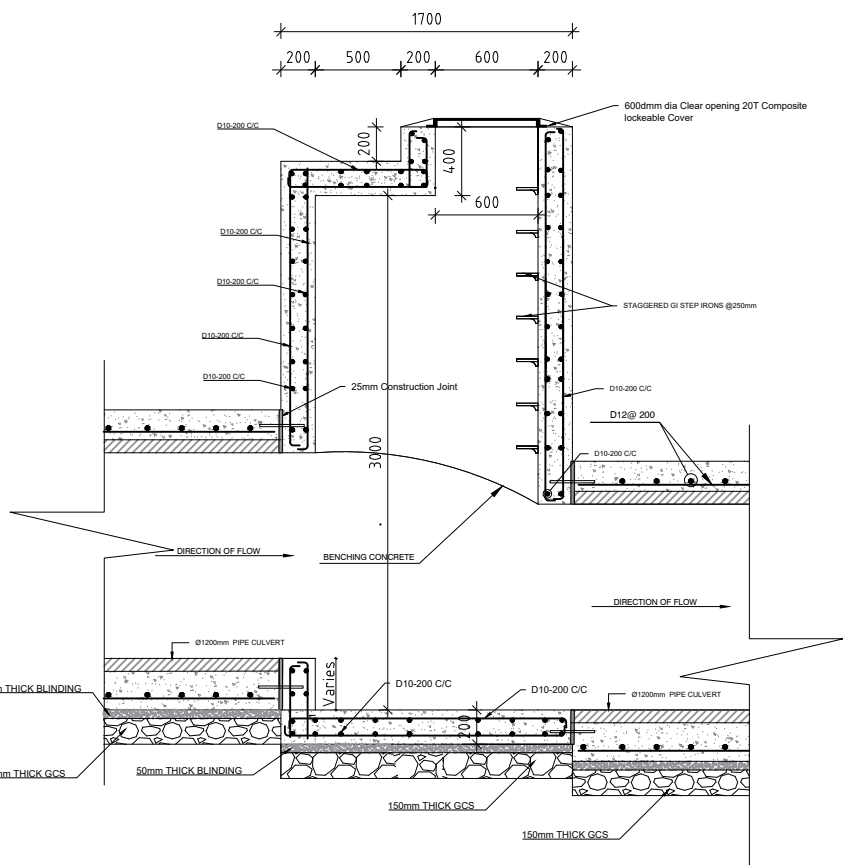
REV	DATE	REVISION DESCRIPTION	IG	SA	HK
Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
					
Consultant:					
					
APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
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TENDER DRAWINGS					
Subject:					
STANDARD DRAWINGS					
Drawing title:					
STORM WATER DRAINAGE TYPICAL DETAILS TRAPEZOIDAL U-DRAIN, JOINT DETAILS & WEEP HOLE DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ MIA/SD 02					



PLAN VIEW



SECTION X-X




SECTION Y-Y

TYPICAL MANHOLE DETAILS
1:50

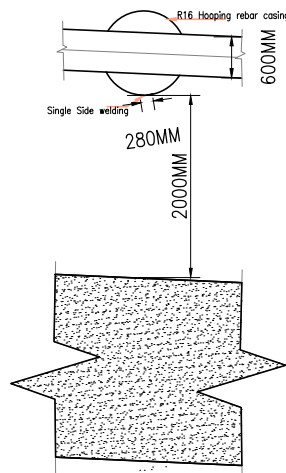
NOTES

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5. ALL CONCRETE EDGES ARE REQUIRED TO BE CHAMFERED
6. THE CONTRACTOR IS REQUIRED TO PROVIDE SHOP DRAWINGS BEFORE COMMENCEMENT OF THE WORKS
7. THE EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE CONSTRUCTED AT INTERVALS OF EVERY 8 METRES ALTERNATE.

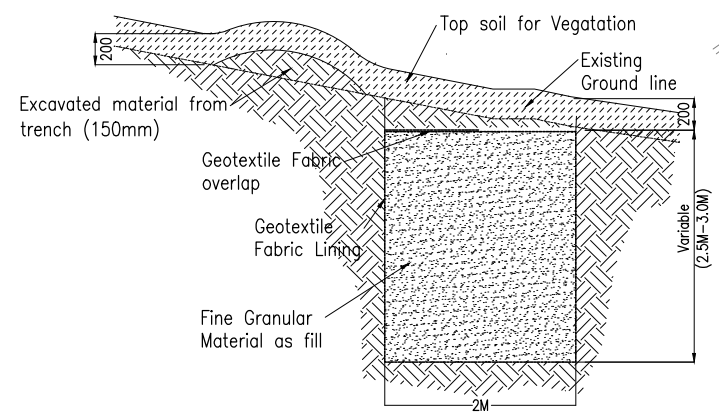
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Client:					
P.O. BOX 19001 00501 NAIROBI KENYA. TEL : +254-20-822400 FAX : +254-20-822078 www.kenyaairports.co.ke					
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 APEC CONSORTIUM LTD P.O BOX 3786-00100 NAIROBI KENYA.					
Project:					
THE REHABILITATION OF AIRCRAFT PAVEMENTS AND AGL SYSTEM AT MOI INTERNATIONAL AIRPORT					
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TENDER DRAWINGS					
Subject:					
STANDARD DRAWINGS					
Drawing title:STORM WATER DRAINAGE WORKS TYPICAL DETAILS TYPICAL MANHOLE DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ MIA/SD 03					

NOTES

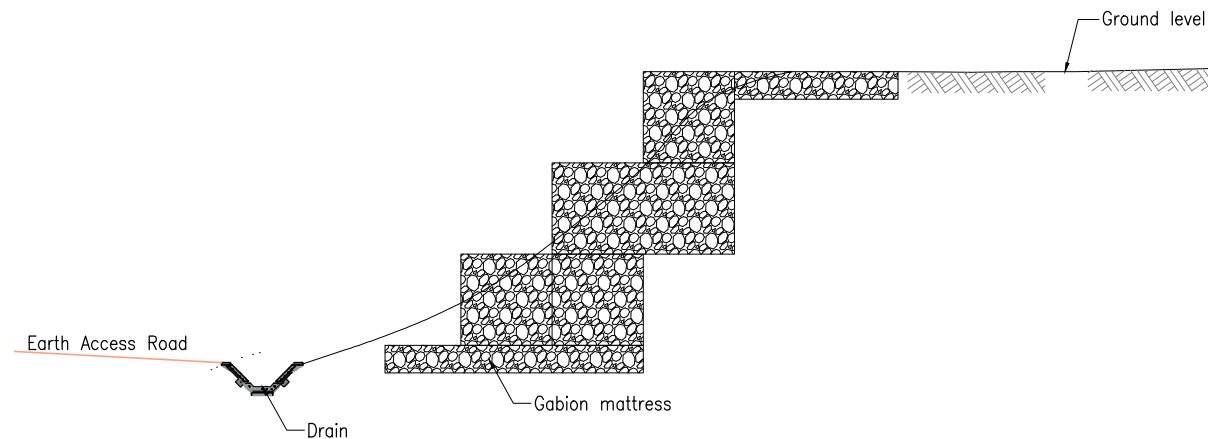
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7. THE EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE



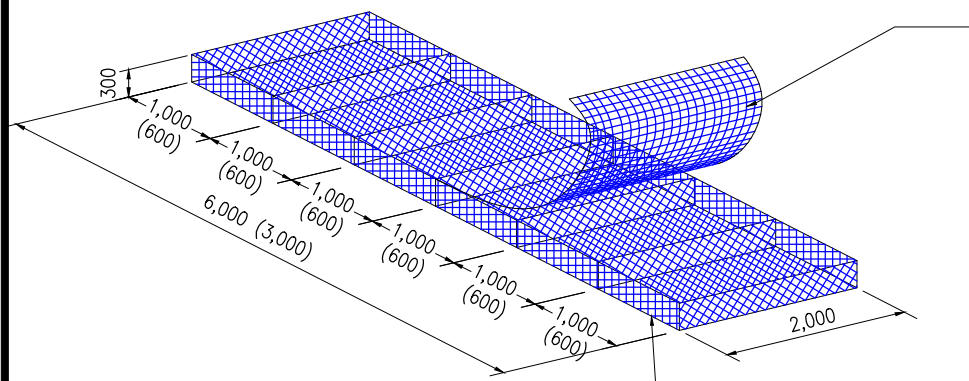
TYPICAL PILES AND SAND BREAK PLAN DETAIL
(PILE HEAD AND TIE BEAM SECTION WITH SAND BREAK)
SCALE 1:20



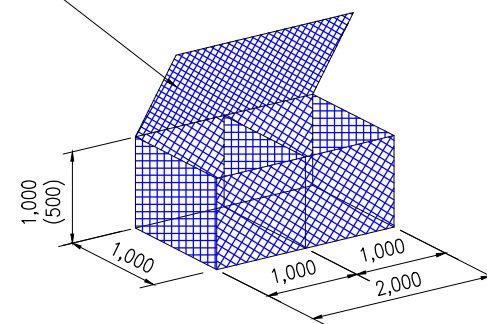
DETAILS OF SAND BREAK FOR SLOPE
STABILIZATION
Scale 1:100




TYPICAL GABION ARRANGEMENT DETAIL
(STEPPED EMBANKMENT)



TYPICAL GABION MATRESS DETAILS
SCALE 1:50



TYPICAL GABION DETAILS

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Phase:					
TENDER DRAWINGS					
Subject:					
STANDARD DRAWINGS					
Drawing title: TYPICAL DETAILS FOR STONE FILLED GABION BOX AND GABION MATRESS DETAILS					
Contract No.: KAA/OT/MIA/0226/2022-2023					
Date: JUNE 2023		Scale: AS SHOWN			
Paper size: A3		Rev No.: 1			
Dwg No.: KAA/OT/MIA/0226/2022-2023/ MIA/SD 04					

