

資料 1 調査団員氏名、所属

(1) 現地調査 1 (2016年11月12日-12月4日)

Name 氏名	Specialty 担当	Title / Organization 所属
Mr. Kenichi ITO 伊藤 賢一	Leader 総括	Director, Health Division 1, Health Group 1, Human Development Department, JICA JICA 人間開発部保健第一グループ 第一チーム 課長
Dr. Hiroshi TAKENAKA 竹中 裕	Technical Advisor 技術参与	JICA Senior Advisor JICA 国際協力専門員
Mr. Mikuni YAMAE 山江 海邦	Cooperation Planning 計画管理	Health Division 1, Health Group 1, Human Development Department, JICA JICA 人間開発部保健第一グループ 第一チーム
Mr. Keiichi IDE 井出 経一	Project Manager / Architectural Planning 業務主任／建築計画	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Mr. Koki MASUMI 真角 広樹	Assistant Project Manager / Architectural Design 副業務主任／建築設計	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Mr. Yasumichi DOI 土井 保道	Equipment Planning 1 / Maintenance 機材計画1／維持管理	INTEM Consulting, Inc. インテムコンサルティング株式会社
Dr. Kyo HANADA 花田 恭	Health and Medical Planning 保健医療計画	Estrella INC. 有限会社 エストレージャ
Ms. Misato OHARA 大原 みさと	Equipment Planning 2 / QS (Voluntary) 機材計画2／積算 (自主補強)	INTEM Consulting, Inc. インテムコンサルティング株式会社
Mr. Kazufumi UCHIDA 内田 一史	Health and Medical Planning Assistance (Voluntary) 保健医療計画補助 (自主補強)	Estrella INC. 有限会社 エストレージャ

(2) 現地調査2 (2017年2月7日-3月12日)

Name 氏名	Specialty 担当	Title / Organization 所属
Mr. Kenichi ITO 伊藤 賢一	Leader 総括	Director, Health Division 1, Health Group 1, Human Development Department, JICA JICA 人間開発部保健第一グループ 第一チーム 課長
Dr. Hiroshi TAKENAKA 竹中 裕	Technical Advisor 技術参与	JICA Senior Advisor JICA 国際協力専門員
Mr. Mikuni YAMAE 山江 海邦	Cooperation Planning 計画管理	Health Division 1, Health Group 1, Human Development Department, JICA JICA 人間開発部保健第一グループ 第一チーム
Mr. Keiichi IDE 井出 経一	Project Manager / Architectural Planning 業務主任/建築計画	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Mr. Koki MASUMI 真角 広樹	Assistant Project Manager / Architectural Design 副業務主任/建築設計	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Mr. Yasumichi DOI 土井 保道	Equipment Planning 1 / Maintenance 機材計画1/維持管理	INTEM Consulting, Inc. インテムコンサルティング株式会社
Mr. Satoru KATO 加藤 悟	Health and Medical Planning 保健医療計画	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Mr. Shoichi TASHIRO 田代 正一	Construction Planning/QS 施工計画/積算	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Ms. Misato OHARA 大原 みさと	Equipment Planning 2 / QS (Voluntary) 機材計画2/積算 (自主補強)	INTEM Consulting, Inc. インテムコンサルティング株式会社

(3) 概略設計説明 (2017年8月19日-8月27日)

Name 氏名	Specialty 担当	Title / Organization 所属
Mr. Shintaro TAKANO 高野 晋太郎	Leader 総括	Deputy Director, Grant Aid Project Management Division 2, Financial Cooperation Implementation Department, JICA JICA 資金協力業務部 実施監理第二課 主任調査役
Mr. Mikuni YAMAE 山江 海邦	Cooperation Planning 計画管理	Health Division 1, Health Group 1, Human Development Department, JICA JICA 人間開発部保健第一グループ 第一チーム
Mr. Keiichi IDE 井出 経一	Project Manager / Architectural Planning 業務主任/建築計画	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Mr. Koki MASUMI 真角 広樹	Assistant Project Manager / Architectural Design 副業務主任/建築設計	Yokogawa Architects & Engineers, Inc. 株式会社 横河建築設計事務所
Mr. Yasumichi DOI 土井 保道	Equipment Planning 1 / Maintenance 機材計画1 /維持管理	INTEM Consulting, Inc. インテムコンサルティング株式会社

資料2 調査行程

(1) 現地調査1

日順	月日	曜日	官団員			ア	イ	オ	キ	自主補強(力)	自主補強
			総括	計画管理	技術参与	業務主任 / 建築計画	副業務主任 / 建築設計	機材計画1 / 維持管理	保健医療 計画	機材計画2 / 積算	保健医療 計画補助
			伊藤 賢一	山江 海邦	竹中 裕	井出 経一	真角 広樹	土井 保道	花田 恭	大原 みさと	内田 一史
調査日数			8	21	21	21	21	19	23	13	23
1	11/12	土				成田 22:20→				アに同行	
2	11/13	日	羽田→エンテベ			(ドーハ)→エンテベ 14:15				アに同行	
3	11/14	月				JICA事務所表敬/協議、保健省表敬/協議				アに同行	
4	11/15	火				8:00カンバラ発→(4.5時間:休憩0.5時間含む)12:30ムバララ >着、昼食(約1時間)、13:30~15:30ムバララ病院視察、15:30ムバララ発 >→(約2時間)17:30マサカ着(マサカ泊)				アに同行	
5	11/16	水				8:00~10:00マサカ病院視察、10:00マサカ発→(7.5時間、昼 食休憩1時間含む)17:30リラ着(リラ泊)				アに同行	
6	11/17	木				リラ病院視察・調査(リラ泊)				アに同行	
7	11/18	金				リラ病院視察・調査(リラ泊)				アに同行	
8	11/19	土				AM: リラ病院調査のまとめ及び同調査結果の病院への報告 PM: リラ(4時間)→アルア(アルア泊)				アに同行	
9	11/20	日				団内会議/資料整理(アルア泊)			アルアで 合流	アに同行	
10	11/21	月				アルア病院視察・調査(アルア泊)					
11	11/22	火				アルア病院視察・調査(アルア泊)					
12	11/23	水				AM: アルア病院調査のまとめ及び同調査結果の病院への報告 アルア(4時間)→グル(グル泊)					
13	11/24	木				グル病院調査(グル泊)					
14	11/25	金				グル病院視察・調査(グル泊)					
15	11/26	土	羽田→エンテベ			AM: グル病院調査のまとめ及び同調査結果の病院への報告 PM: グル(5時間)→カンバラ(カンバラ泊)					
16	11/27	日				団内会議: 3病院比較検討表の作成					
17	11/28	月				AM: 保健省へ3病院の調査結果報告 PM: ミニッツ案作成					
18	11/29	火	ミニッツ協議			エンテベ 19:10→	補足調査 (カンバラ)	官団員に 同行		キに同行	
19	11/30	水	ミニッツ署名、ドナー(SUSTAIN)協議			(ドーハ)→ 成田19:00	補足調査 (カンバラ)	ドナー協議		キに同行	
20	12/1	木	AM: 保健省協議 PM: 大使館報告、JICA報告				補足調査 (カンバラ)	エンテベ→		キに同行	
21	12/2	金	エンテベ→			AM: カンバラ(6時間)→カバレ PM: カバレ病院調査(カバレ泊)	補足調査 (カンバラ)	(ドバイ)→ 日本		キに同行	
22	12/3	土	→ハイチ	→日本	→ザンビア	西部医療計画の瑕疵検査 ~12/8			エンテベ 19:10→	キに同行	
23	12/4	日					(ドーハ)→ 成田 19:00			キに同行	

(2) 現地調査 2

日 順	月 日	曜 日	官団員			ア	イ	ウ	エ	オ	カ			
			総括	計画管理	技術参与	業務主任/ 建築計画	副業務主任/ 建築設計	設備計画	施工計画/積算	機材計画1/ 維持管理	機材計画2/積算			
			伊藤 賢一	山江 海邦	竹中 裕	井出 経一	真角 広樹	加藤 悟	田代 正一	土井 保道	大原 みさと			
調査日数			7	12	15	33	33	22	29	33	33			
1	2/7	火				成田 22:00→			成田 22:00→					
2	2/8	水				ドーハ経由 → エン テベ 13:15			成田 22:00→		ドーハ経由→エンテベ13:15			
3	2/9	木				JICA事務所表敬、 保健省表敬/協議			ドーハ経由 → エン テベ 13:15	保健省表敬/協議		アに同行		
4	2/10	金				保健省協議、USAID協議			アに同行					
5	2/11	土				資料整理			自然条件調査現地 業者見積り回収	成田 22:00→		資料整理		
6	2/12	日				カンバラからアルア へ移動(7時間)			資料整理	ドーハ経由→エンテベ 13:15		カンバラからアルアへ移動(7時間)		
7	2/13	月				アルア病院調査			自然条件調査現地 業者発注	現地ゼネコン訪問調査		アルア病院調査		
8	2/14	火				アルア病院調査			カンバラからアルアへ移動(7時間)			アルア病院調査		
9	2/15	水				アルア病院調査			アルア病院調査			アルア病院調査		
10	2/16	木				アルアからグルへ移 動(4.5時間)			アルア病院調査			アルアからグルへ移動(4.5時間)		
11	2/17	金				グル病院調査			アルア病院調査			グル病院調査		
12	2/18	土				羽田→(ドバイ) →エンテベ			グル病院調査	アルアからグルへ移動(4.5時間)		グル病院調査		
13	2/19	日				エンテベ→グル			団内協議/資料整理					
14	2/20	月				グル病院調査								
15	2/21	火				羽田→エンテベ			グル病院調査					
16	2/22	水				エンテベ→リラ			AM: グル病院調査 PM: グルからリラへ移動(2時間)	グル病院調査				
17	2/23	木				リラ病院調査			AM: グルからリラへ移動(2時間) PM: リラ病院調査					
18	2/24	金				リラ病院調査								
19	2/25	土				リラ病院調査								
20	2/26	日	羽田→ドバイ経由 →エンテベ	リラからホイマへ移動	団内協議/資料整理									
21	2/27	月	AM: カンバラ→ホイマ	ホイマ病院調査	リラ病院調査									
22	2/28	火	AM: ホイマからカンバラへ移動 PM: 団内協議: 3病院調査結果のまとめ		AM: リラからカンバラへ移動(4.5時間) PM: 団内協議: 3病院調査結果のまとめ									
23	3/1	水	AM: 保健省へ3病院調査報告 PM: ミニッツ案作成											
24	3/2	木	ミニッツ案提示・協議			現地ゼネコン訪問調査		官に同行						
25	3/3	金	JICA報告、大使館報告、エンテベ発→		官に同行		エンテベ18:30→	現地ゼネコン訪問 調査	アに同行	機材調達調査/ 代理店調査				
26	3/4	土	→イラン	→モルドバ	協力対象病院の計画案の検討その他		ドーハ→成田17:35	建設資材調査	機材調達調査/代理店調査					
27	3/5	日	資料整理			資料整理								
28	3/6	月	保健省とミニッツ修正案協議/ ミニッツ署名			建設資材調査		アに同行						
29	3/7	火	Uganda Cancer Institute訪問調査	協力対象病院の計 画案の検討その他		建設資材調査		アに同行	機材調達調査/ 代理店調査					
30	3/8	水	International Women's Day 資料整理			現地ゼネコン訪問 調査		International Women's Day 資料整理						
31	3/9	木	保健省と協議/テクニカルノート署名			現地ゼネコン訪問 調査		アに同行	機材調達調査/ 代理店調査					
32	3/10	金	エンテベ 18:30→		自然条件調査の測 量図受領その他		エンテベ 18:30→							
33	3/11	土	ドーハ経由→成田 17:45		エンテベ 18:30→		ドーハ経由→成田 17:45							
34	3/12	日			ドーハ経由→成田 17:45									

(3) 概略設計説明

日 順	月 日	曜 日	官団員		ア	イ	オ
			総括	計画管理	業務主任/建築計画	副業務主任/建築設計	機材計画1/維持管理
			高野 晋太郎	山江 海邦	井出 経一	真角 広樹	土井 保道
調査日数			8	8	9	9	9
1	8/19	土			成田 21:25→		
2	8/20	日	羽田 01:00 → ドーハ経由 → エンテベ 14:45		ドーハ経由 → エンテベ 14:45		
3	8/21	月	JICA表敬/協議、大使館表敬、保健省表敬/ドラフトレポート説明・協議				
4	8/22	火	保健省と共に協力対象病院幹部と協議(カンバラにて) ミニッツ案作成				
5	8/23	水	保健省と共に協力対象病院幹部と協議 ミニッツ案検討、保健省に提示				
6	8/24	木	保健省とミニッツ案協議、財務省と協議				
7	8/25	金	ミニッツ署名、財務省・JICA事務所報告、大使館報告				
8	8/26	土	エンテベ 16:15→				
9	8/27	日	ドーハ経由 → 成田19:05		ドーハ経由 → 成田19:05		

資料3 相手国関係者リスト

氏名	所属・職務
保健省 Ministry of Health	
Dr. Aceng Jane Ruth	Minister
Dr. Diana Atwine	Permanent Secretary
Dr. Olaro Charles	Director, Clinical Services
Dr. Jackson Amone	Commissioner, Curative Services
Dr. Henry Mwebesa	Director Health Services, Planning & Development
Eng. Priscilla Nakiboneka	Assistant Commissioner
Eng. Paul Kaliba	Civil Engineer, Infrastructure Dept.
Eng. Tusbira Samuel	Civil Engineer, Infrastructure Dept.
Eng. Kataaha Edward	Electrical Engineer, Infrastructure Dept.
Eng. Sitra Mulepo	Equipment Engineer, Infrastructure Dept.
グル地域中核病院 Gulu Regional Referral Hospital	
Dr. James Elima	Director
Dr. Onyachi Nathan	Ex. Director
Tibemanya David	Principal Hospital Administrator
Mubiru Muhammed	Ex. Principal Hospital Administrator
Lanyero Agnes Patricia	PPT
Omara Julius	AMRO
Odyek Beatrice	SNO90
Dr. Arach Milly	MO
Chebet Juliet	SMSW
Bermas Henry	PMCO
Opio George Pius	AMRO
Ochorog Gabriel	AMRO
Opio Larubi Micheal	Electrician
Dr. Ssenfuka Samuel	MO
Saad Waigonda	Biomedical engineer
Emeru James	Inventory Officer
Lukwiya Geoffrey	Electrician
Ekou Edson E	Plumber
Tolit James	SAS Laroo Division
リラ地域中核病院 Lira Regional Referral Hospital	
Dr. Odu Bernard	Director
Dr. James Elima	Ex. Director
Michael Odur	Ex. Principal Hospital Administrator
Ogwal Walter	W/S Eng.
Oyang William	Cons. Paed.
Dralada Thomas Opeli	Psych. NO
Acan Ruth Lucy	SNO
Apio Stella	SNO
Evalyn Abongo	NO
Margaret Odongwen	PNO
Odepe Simon	Head Accts.
Urassa Johnathan G.	S. Radio
Sangadi Justine	PCO
Aciro Rose	SNO
Akuno Doreen Ruth	NO
Opota Walter	SEC

氏名	所属・職務
アルア地域中核病院 Arua Regional Referral Hospital	
Dr. Adakau Alex	Ag. Director
Dr. Odu Bernard	Ex. Director
Okello Odeke Peter	Ex. Principal Hospital Administrator
Ezati Ezaruku	Chairperson Hospital Member of Board
Obeti Francis	BMET
Anite Joyce	N/O
Alezuyo Janet A	AC SPNO
Emudu Abosolom	Ag. Engineering Officer
Dr. Candia Robert	Dental Surgeon
Ogen-Mungu Ronald	Asst. Engineering Officer
USAID/SUSTAIN	
Gladyst Tugume	Deputy Chief of Party
Kiwanuka Paul	Director for Operations
Hillary Alima	Care & Treatment Advisor
Julien Natulauria	Communication Specialist
Kayita Crolgry	QI-TA
UNHCR Arua Office	
Ezati Erzaruku	Chairperson HMB
Omed Aiyoub	Associate Field Officer
Anchinesh Mahotome	Protection Officer
Uganda Cancer Institute	
Dr. Jackson Orem	Director
Ministry of Finance , Planning & Economic Development	
Maris Wanyera	Ag. Director, Directorate Debt & Cash Policy

資料4 討議議事録 (M/D)

(1) 現地調査1

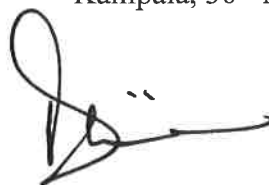
**Minutes of Discussions
on the Preparatory Survey I for the Project for
Rehabilitation and Re-Equipping of Hospitals in Northern Uganda,
in the Republic of Uganda**

In response to the request from the Government of the Republic of Uganda (hereinafter referred to as “Uganda”), Japan International Cooperation Agency (hereinafter referred to as “JICA”) dispatched the Preparatory Survey Team (hereinafter referred to as “the Team”) for the Outline Design of “the Project for Rehabilitation and Re-Equipping of Hospitals in Northern Uganda” (hereinafter referred to as “the Project”), to Uganda, headed by Mr. Kenichi Ito, Director of Health Team 1, Health Group 1, Human Development Department, JICA, from 13th November to 3rd December, 2016. The Team held a series of discussions with the officials of the Government of Uganda and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Kampala, 30th November, 2016



Mr. Kenichi Ito
Leader, Preparatory Survey Team
Japan International Cooperation Agency
Japan



Dr. Diana Atwiine
Permanent Secretary
Ministry of Health
Republic of Uganda

Witness



Ms. Maris Wanyera
For: Permanent Secretary/Secretary to the
Treasury
Ministry of Finance, Planning and
Economic Development
Republic of Uganda

ATTACHMENT

1. Objective of the Project

The objective of the Project is to strengthen the functions of the selected Regional Referral Hospitals (hereinafter referred to as “RRH”) in the northern region of Uganda, through construction of facilities and procurement of equipment, thereby contributing to improving access to and quality of health care services in Northern Uganda.

2. Title of the Preparatory Survey

Both sides agreed to amend the title of the Preparatory Survey as “the Preparatory Survey for the Project for Improvement of Regional Referral Hospitals in Northern Uganda,” to reflect the content of the Project more clearly. The final title will be decided by the Government of Japan.

3. Project sites

The Project sites will be selected from Gulu RRH, Lira RRH, and Arua RRH. The location map of the candidate Project sites is shown in Annex 1. All of these sites are in legal possession of the Ministry of Health (hereinafter referred to as “MOH”) as shown in Annex 2-1, 2-2 and 2-3.

4. Responsible authorities for the Project

Both sides confirmed the authorities responsible for the Project are as follows:

The Health Infrastructure Division under the Department of Clinical Services of MOH and the RRHs to be covered by the Project will be the executing agencies for the Project (hereinafter referred to as “the Executing Agencies”). The Executing Agencies shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be managed by relevant authorities properly and on time. The current organograms of MOH, the Health Infrastructure Division, and the RRHs are shown in Annex 3-1, 3-2, 3-3 and 3-4.

5. Items requested by the Government of Uganda

5-1-1. As a result of discussions, both sides confirmed the facilities requested by the Government of Uganda, with findings by the Team and priorities agreed by both

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sides, which are shown in Annex 4.

5-1-2. Each RRH submitted the priority department list for equipment (Annex 5). The revised priority department list and the requested equipment list with priority in sequential number by each department shall be finalized and submitted to JICA Uganda Office by the end of December, 2016.

5-2. JICA will assess the feasibility of the items in Annex 4, 5 and the requested equipment list through the Preparatory Survey, and JICA will report the findings to the Government of Japan. Both sides will elaborate and refine the scope of the Project during the Preparatory Survey II. The final scope of the Project will be decided by the Government of Japan.

6. Procedures and Basic Principles of Japanese Grant

6-1. The Ugandan side agreed that the procedures and basic principles of Japanese Grant as described in Annex 6 shall be applied to the Project. As for the monitoring of the implementation of the Project, JICA requires Ugandan side to submit the Project Monitoring Report, the form of which is attached as Annex 7.

6-2. The Ugandan side agreed to take the necessary measures, as described in Annex 8, for smooth implementation of the Project. The contents of Annex 8 will be elaborated and refined in the Preparatory Survey II and be agreed in the mission dispatched for explanation of the Draft Preparatory Survey Report. The contents of Annex 8 will be used as an attachment to the Grant Agreement.

7. Schedule of the Survey

7-1. JICA will dispatch a mission as the Preparatory Survey II around February, 2017, in order to further discuss the details of the scope of the Project.

7-2. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Uganda in order to explain its contents around August, 2017.

7-3. When the contents of the draft Preparatory Survey Report are accepted and the undertakings for the Project are fully agreed by the Ugandan side, JICA will finalize the Preparatory Survey Report and send it to the Ugandan side around October, 2017.

7-4. The above schedule is tentative and subject to change.

8. Environmental and Social Considerations

8-1. The Ugandan side confirmed to give due environmental and social considerations before and during implementation, and after completion of the Project, in



accordance with the JICA Guidelines for Environmental and Social Considerations (April, 2010).

8-2. The Project is categorized as “C” from the following considerations: not located in a sensitive area, nor has it sensitive characteristics, nor falls it into sensitive sectors under the Guidelines, and its potential adverse impacts on the environment are not likely to be significant.

9. Other Relevant Issues

9-1. The Ugandan side agreed to allocate budget (operational and maintenance costs) and human resources (health service providers and any other personnel) necessary for the proper and sustainable operation and maintenance of the facilities and the equipment under the Project.

9-2. The Ugandan side expressed their needs for Soft Component under the Japan's Grant Aid. The contents will be discussed during the Preparatory Survey II. The Team will convey the request to the Government of Japan.

9-3. The Ugandan side will submit the future plans of the assistance from other development partners towards the three RRHs, especially the project of procurement of medical imaging equipment for Gulu RRH by Italian Cooperation and the project of renovation of neonatal intensive care unit of Lira RRH by UNICEF, to JICA Uganda Office by the end of December, 2016.

9-4. Both sides confirmed that the followings would be the undertakings of the Government of Uganda;

- 1) demolition of existing facilities and land leveling to construct new facilities and
- 2) providing alternative space and functions of demolished facilities during construction period.

9-5. Both sides noted that treatment of taxes and duties for the Project shall be in accordance with the agreement to be concluded between the Government of Uganda and the Government of Japan. MOH shall take necessary measures according to the agreement.



Annex 1 Location map of the candidate Project sites

Annex 2-1, 2-2, 2-3 Ownership of land

Annex 3-1, 3-2, 3-3 and 3-4 Organograms of MOH, the Health Infrastructure Division and 3 RRHs

Annex 4 Requested facilities list

Annex 5 Priority department list for equipment

Annex 6 Japan Grant Aid

Annex 7 Project Monitoring Report (template)

Annex 8 Major Undertakings to be taken by the Government of Uganda





GULU DISTRICT LOCAL GOVERNMENT
DEPARTMENT OF NATURAL RESOURCES
LAND MANAGEMENT SECTOR

P.O. Box 2,


Date: 5th October, 2016

The Chief Representative
Japan International Cooperation Agency (JICA)


RE: GULU REGIONAL REFERRAL HOSPITAL LAND

This letter serves to confirm that plot nos 4 – 10 Dr. Mathew Lukwiya Road – on Sheet No. 22/21/NE/4 is gazetted as Land belonging to Gulu Regional Referral Hospital.

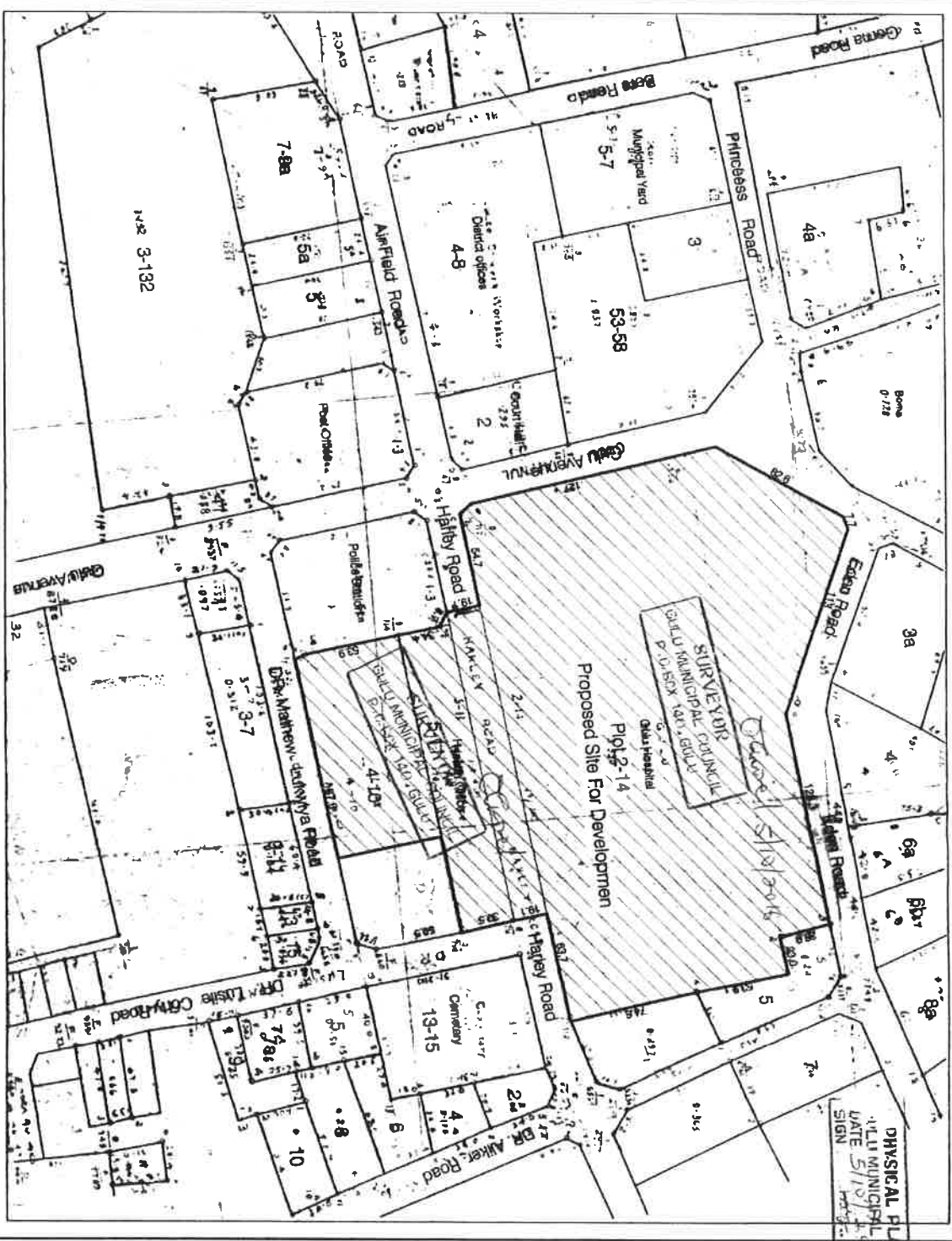
The Board has received an application from the Hospital Management for acquiring a land title over the said plot and upon the acquisition of the land title, a copy shall be forwarded to your office.


Ojera Alex
District Land officer/Gulu

Cc Director Gulu Regional Referral Hospital
Cc The Hospital Administrator/ Gulu Regional Referral Hospital
Cc File.



107



Dwg
 Site location Plan (Deed Plan)

SCALE 1:2500 [Cadastral Map]

Detailed Map

Title:	PROPOSED SITE FOR OFFICE AND STAFF QUARTER BLOCK, TO BE BUILT ON PLOT 2-14, ON GULU AVENUE AND, HARLEY ROAD, LAYIBI DIVISION GMC, GULU DISTRICT.
Client:	GOVERNMENT OF THE REPUBLIC OF UGANDA GULU REFERRAL HOSPITAL P.o Box ,GULU. E-Mail :
Sign:

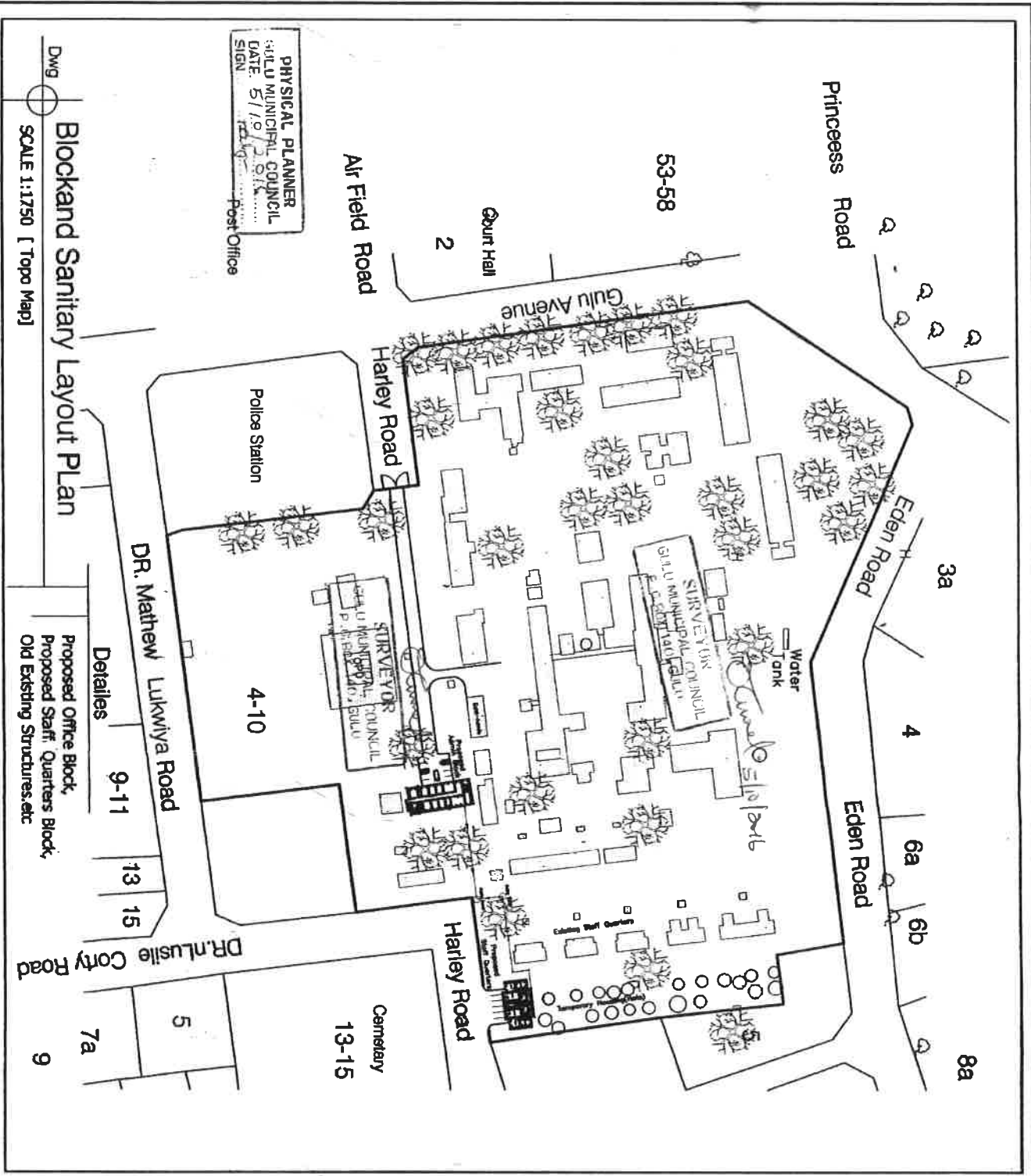
Designed:	OCHORA BERNARD
Drawn:	CAD
Checked:	
Date:	18 . June . 2009
Scale:	1:2500
Sheet No.	1 of 1
Drawing No :	OCH/06/09/003

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5



PHYSICAL PLANNER
GULU MUNICIPAL COUNCIL
DATE: 5/10/09
SIGN: [Signature]

DWG
Blockand Sanitary Layout Plan
SCALE 1:1750 [Topo Map]

DR. Mathew Lukwiya Road
DR. Nluslie Cory Road
Details
Proposed Office Block,
Proposed Staff Quarters Block,
Old Existing Structures, etc

Title:	PROPOSED SITE FOR OFFICE AND STAFF QUARTER BLOCK, TO BE BUILT ON PLOT 2-14, ON GULU AVENUE AND, HARLEY ROAD, LAYIBI DIVISION GMC, GULU DISTRICT.
Client:	GOVERNMENT OF THE REPUBLIC OF UGANDA - - GULU REFERRAL HOSPITAL P.o Box ,GULU. E-Mail :
Sign:

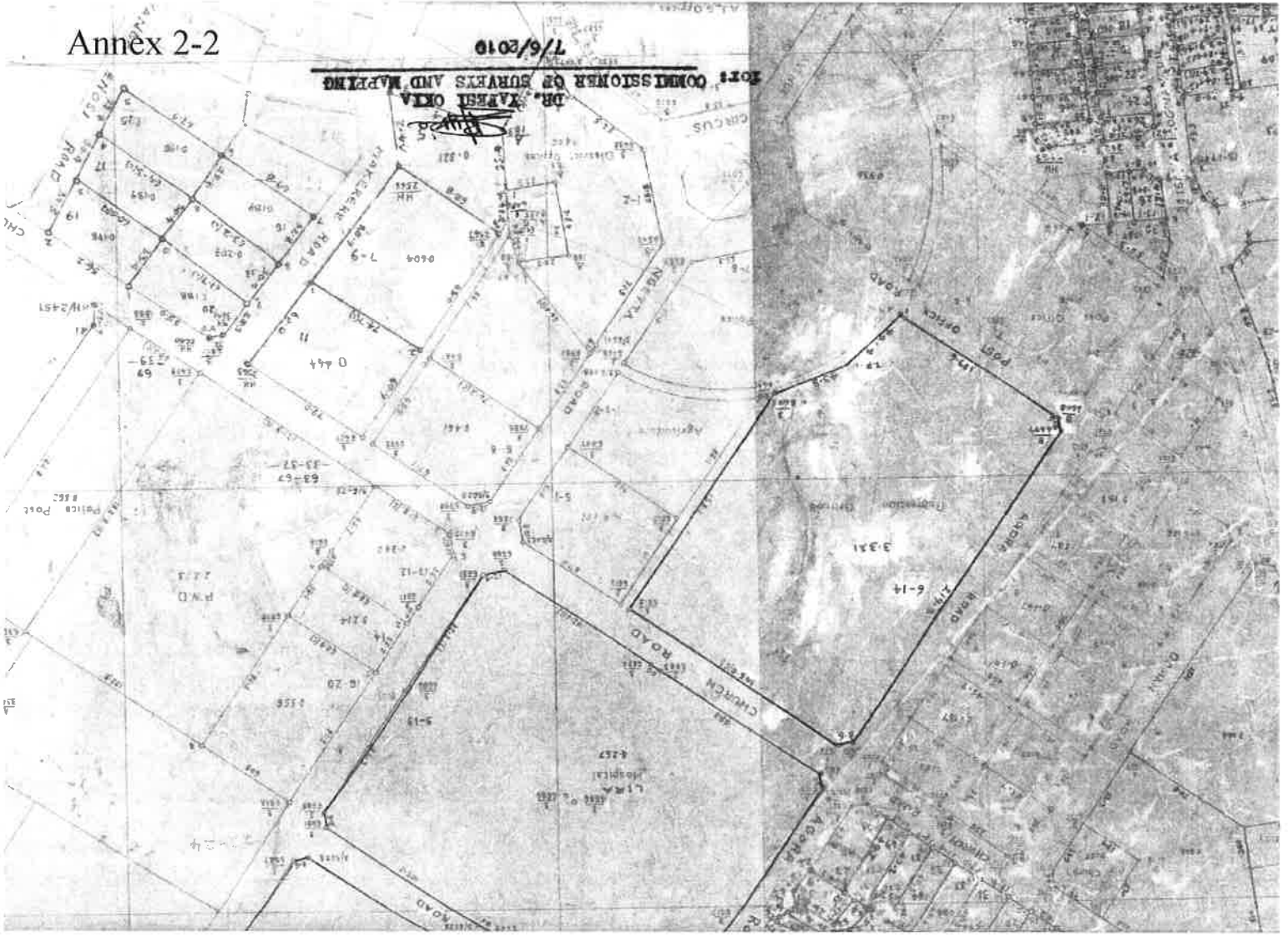
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Drawn:	CAD
Checked:	
Date:	18 . June . 2009
Scale:	1:1750
Sheet No.	2 of 1
Drawing No. :	OCH/06/09/003

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Annex 2-2

7/6/2010

DR. YAKUBI OJIA
COMMISSIONER OF SURVEYS AND MAPPING

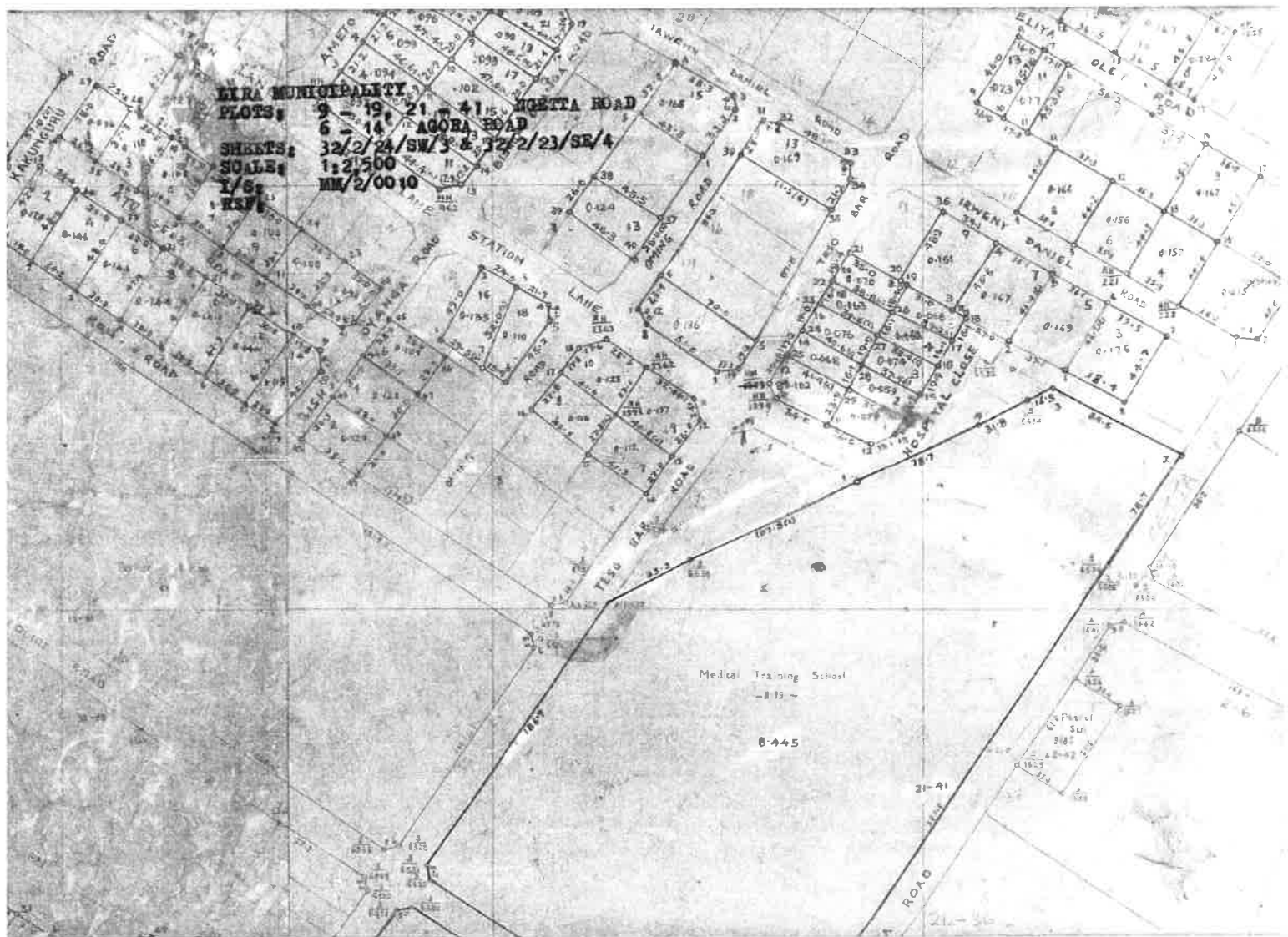


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HIRA MUNICIPALITY
PLOTS: 9 - 19, 21 - 41
6 - 14
SHEETS: 32/2/24/SW/3 & 32/2/23/SE/4
SCALE: 1:2500
1/8"
MM/2/0010
REF:



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ULC/154/1052

THE REPUBLIC OF UGANDA

REGISTRATION OF TITLES ACT

Certificate of Title.

FREEHOLD REGISTER Volume 765 Folio 5

DESCRIPTION OF LAND

ALL THAT piece of land delineated and edged red on the plan hereto annexed containing the following area or thereabouts and situate as follows:-

Area.	County.	District.
16.023 HECTARES	LIRA MUNICIPALITY	LIRA

and known as **PLOTS 9-19, 21 - 41 NGETTA ROAD AND 6-14 AGORA ROAD**

(SUBJECT TO CONDITIONS HEREIN)

OWNERSHIP

UGANDA LAND COMMISSION OF P.O. Box 36408, KAMPALA

Date, time and Inst. No.
REGD. 25.6.2010
AT. 2.10P.M.
INST. 430893

[Signature]
Signature of Registrar

is/are now the proprietors of an estate in fee simple in the land above described subject to the conditions and incumbrances hereinafter set out.

Dated this **2ND** day of **JULY** 20 **10**




[Signature]

[Signature]

[Signature]
Registrar of Titles.

[Signature]

OWNERSHIP—*continued*

Date, time and Inst No	Name and Address of Owner	Signature of Registrar
		 

copy



THE REPUBLIC OF UGANDA

REGISTRATION OF TITLES ACT.

Certificate of Title.

FREEHOLD REGISTER Volume 657 Folio 16

DESCRIPTION OF LAND

ALL THAT piece of land delineated and edged red on the plan hereto annexed containing the following area or thereabouts and situate as follows:-

Area.	County.	District.
9.920 HECTARE	ARUA MUNICIPALITY	ARUA

and known as **PLOT 26-62 AVENUE ROAD - ARUA**

(SUBJECT TO CONDITIONS HEREIN)

OWNERSHIP

UGANDA LAND COMMISSION of P.O. Box 36408, KAMPALA

Signature of Registrar

Date, time and Inst. No.
30.12.6.09
3.20 P.M.
r.414346

is/are now the proprietors of an estate in fee simple in the land above described subject to the conditions and incumbrances hereinafter set out.

Dated this 4TH day of AUGUST 2009

M

Registrar of Titles.

[Handwritten signature]

ARUA MUNICIPALITY

PLOT NO. 26 AVENUE ROAD

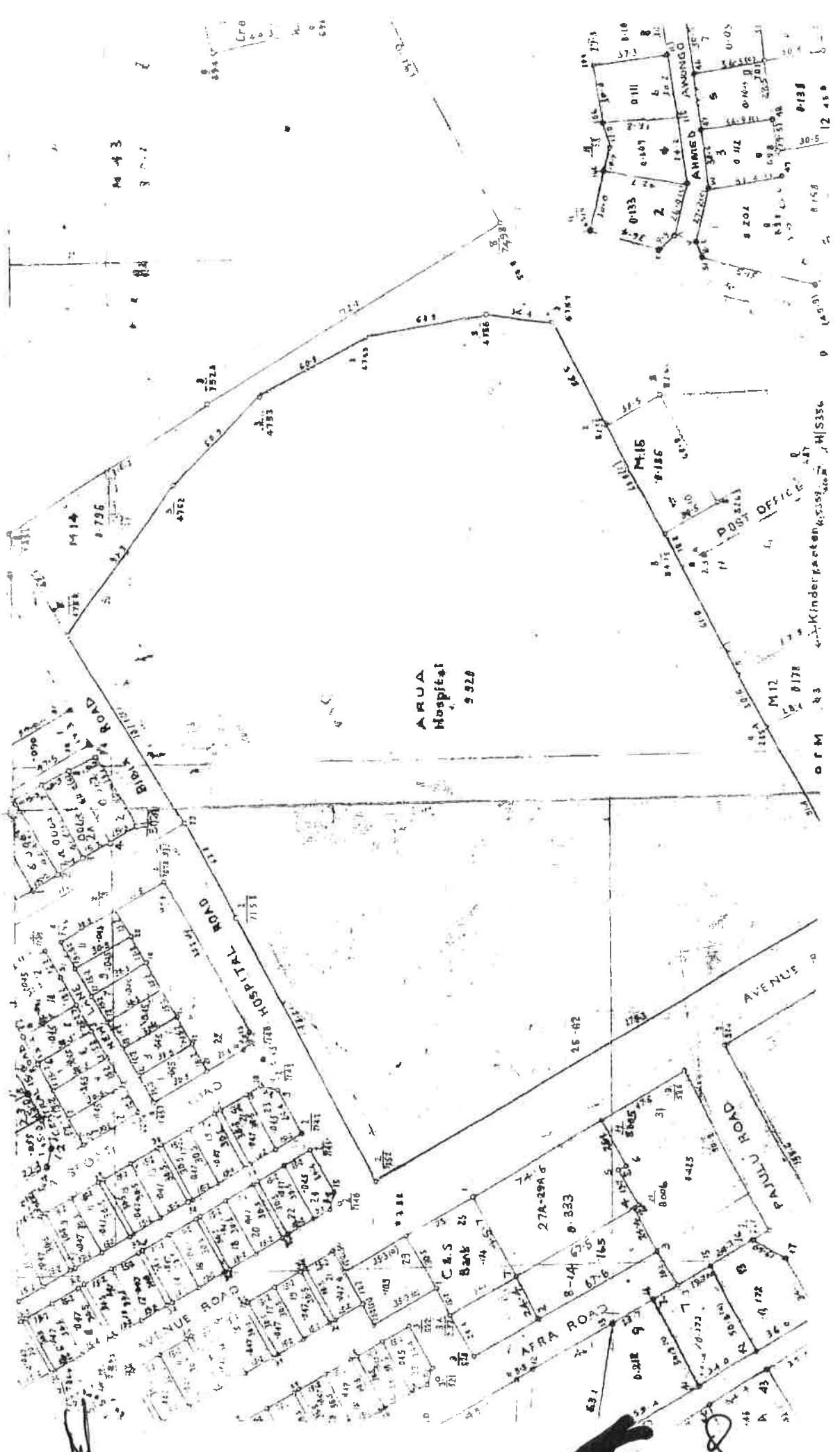
SHEET : 11/4/24/SW/1 & 2

SCALE: 1 : 2,500


REF : ULC/154/522

SHEET 11/4/24/SW/1

SCALE 1:2,500



CONDITIONS
~~RENT~~

Date, time and Inst. No.	Particulars	Signature of Registrar
A)	MINISTRY OF HEALTH (ARUA REGIONAL REFERRAL HOSPITAL)	



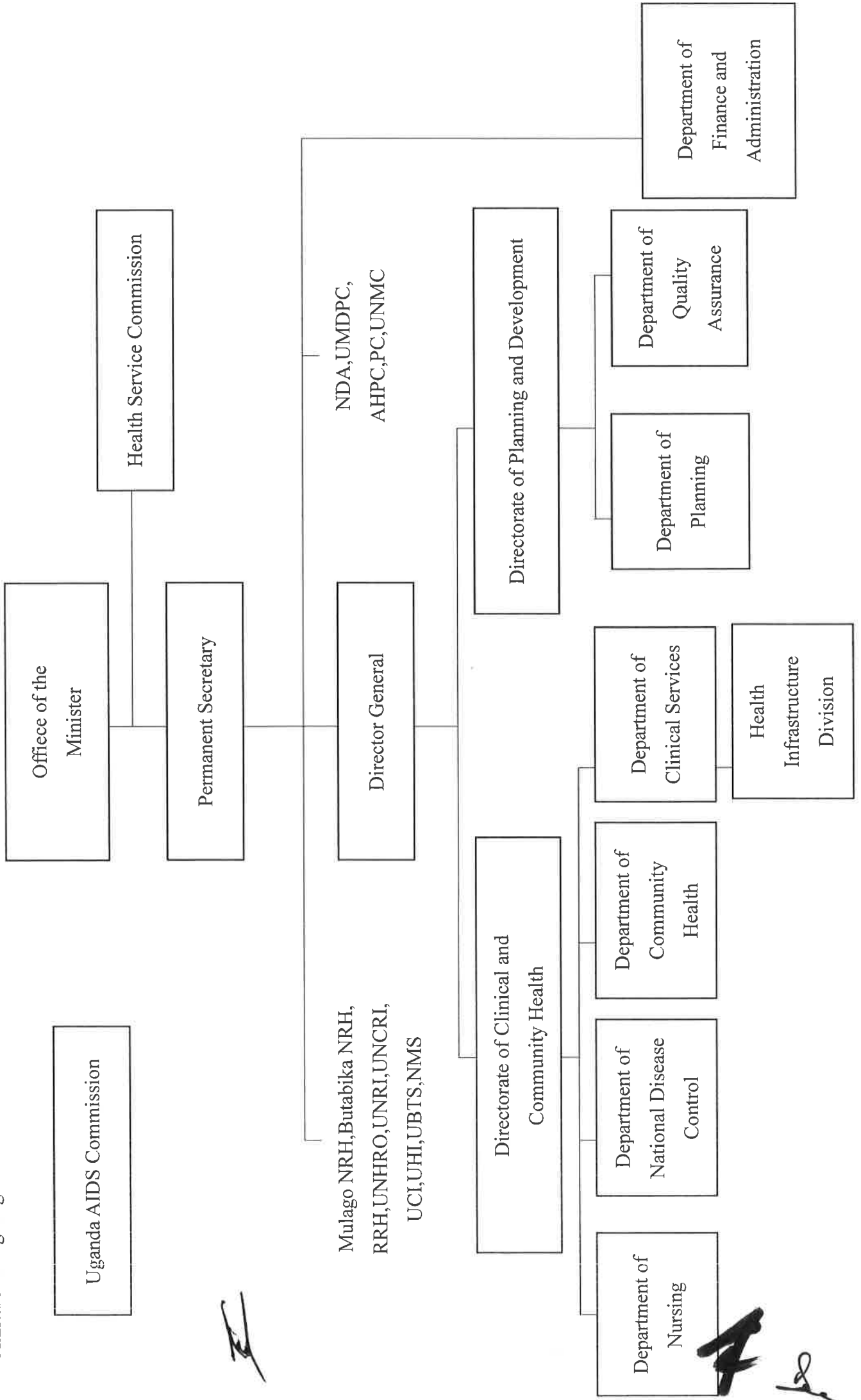
OWNERSHIP—*continued*

Date, time and Inst. No.	Name and Address of Owner	Signature of Registrar

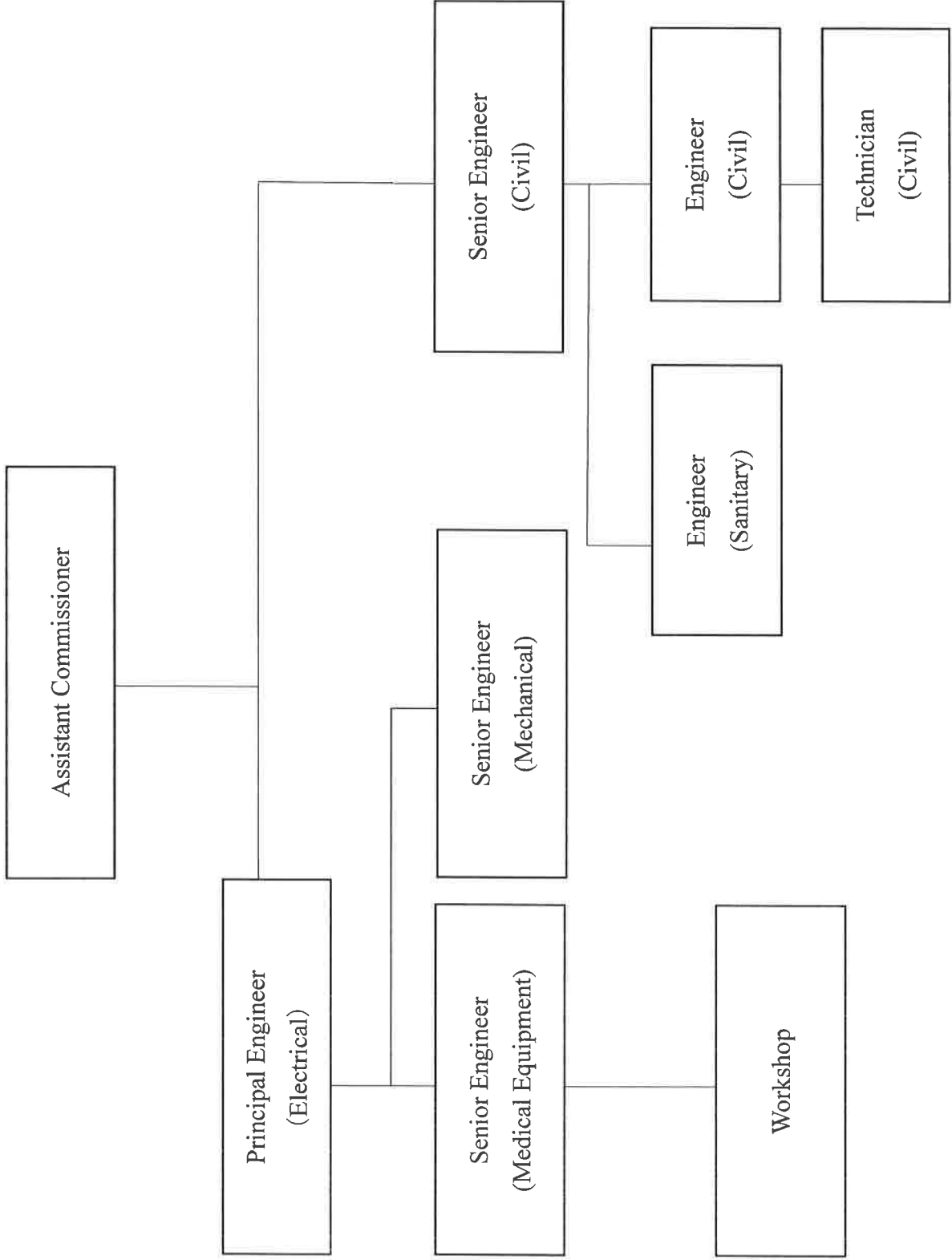
M

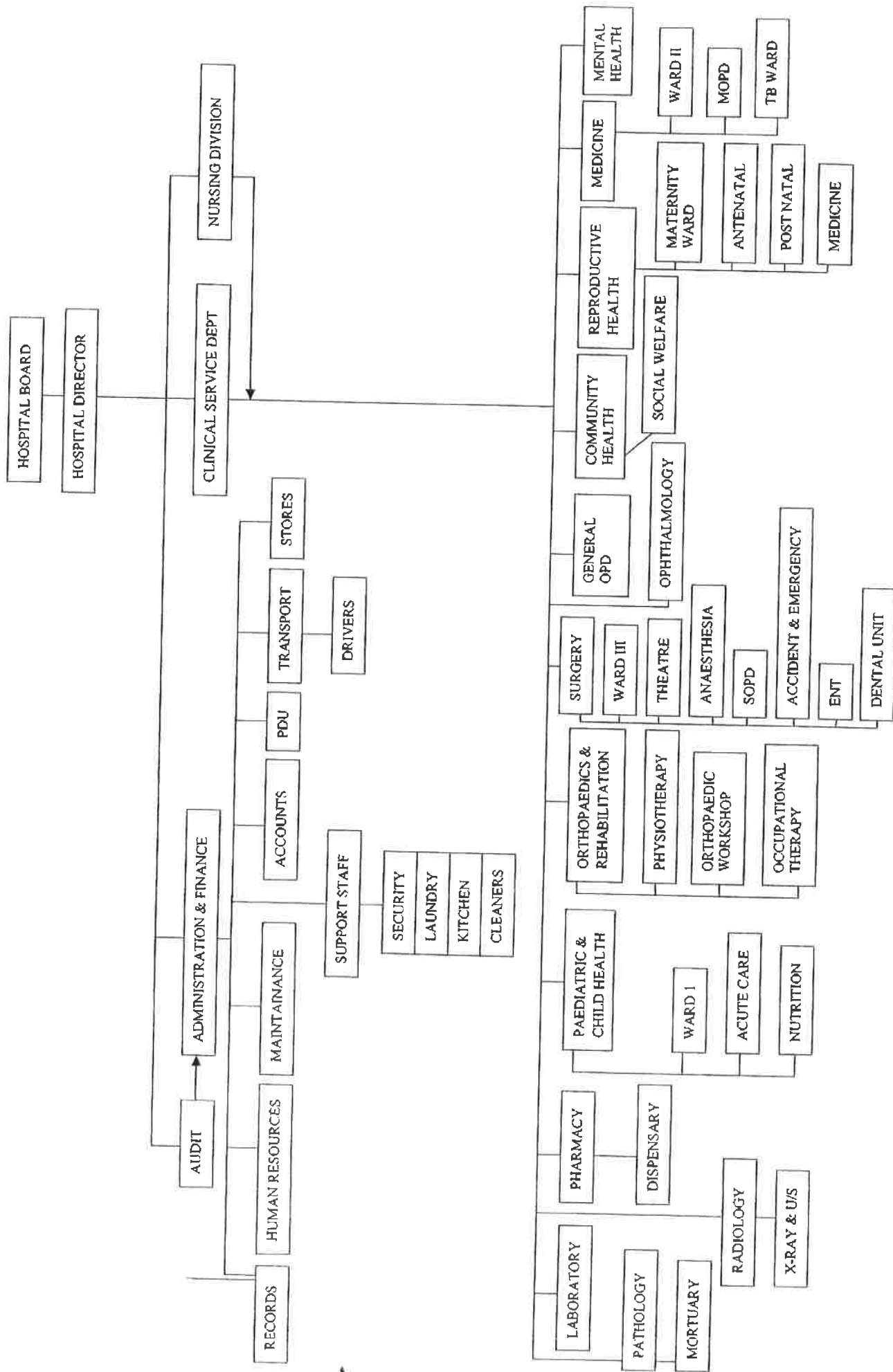
[Signature]

Annex 3-1 Organogram of MOH and Health Infrastructure Division

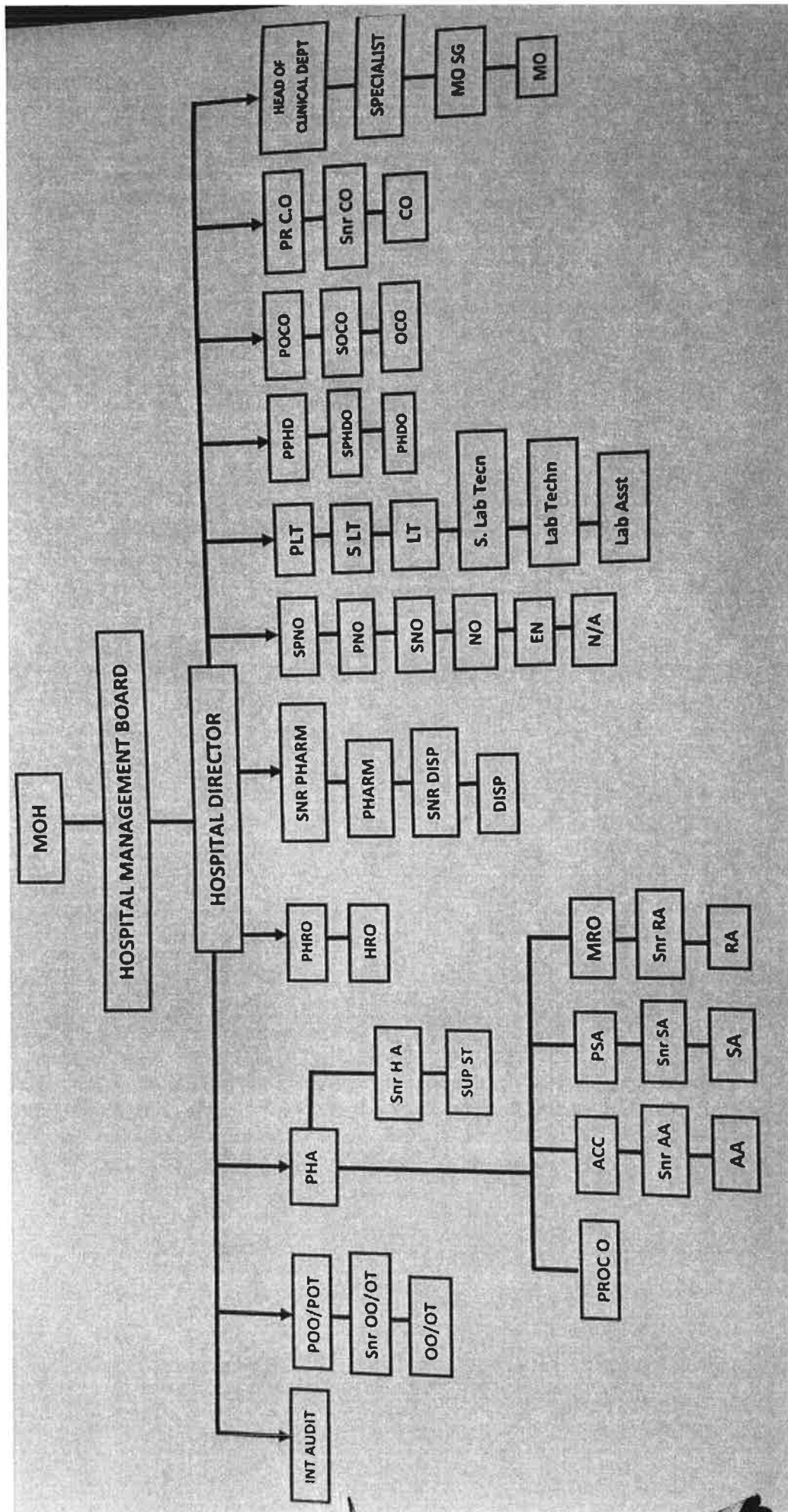


Organogram of the Health Infrastructure Division





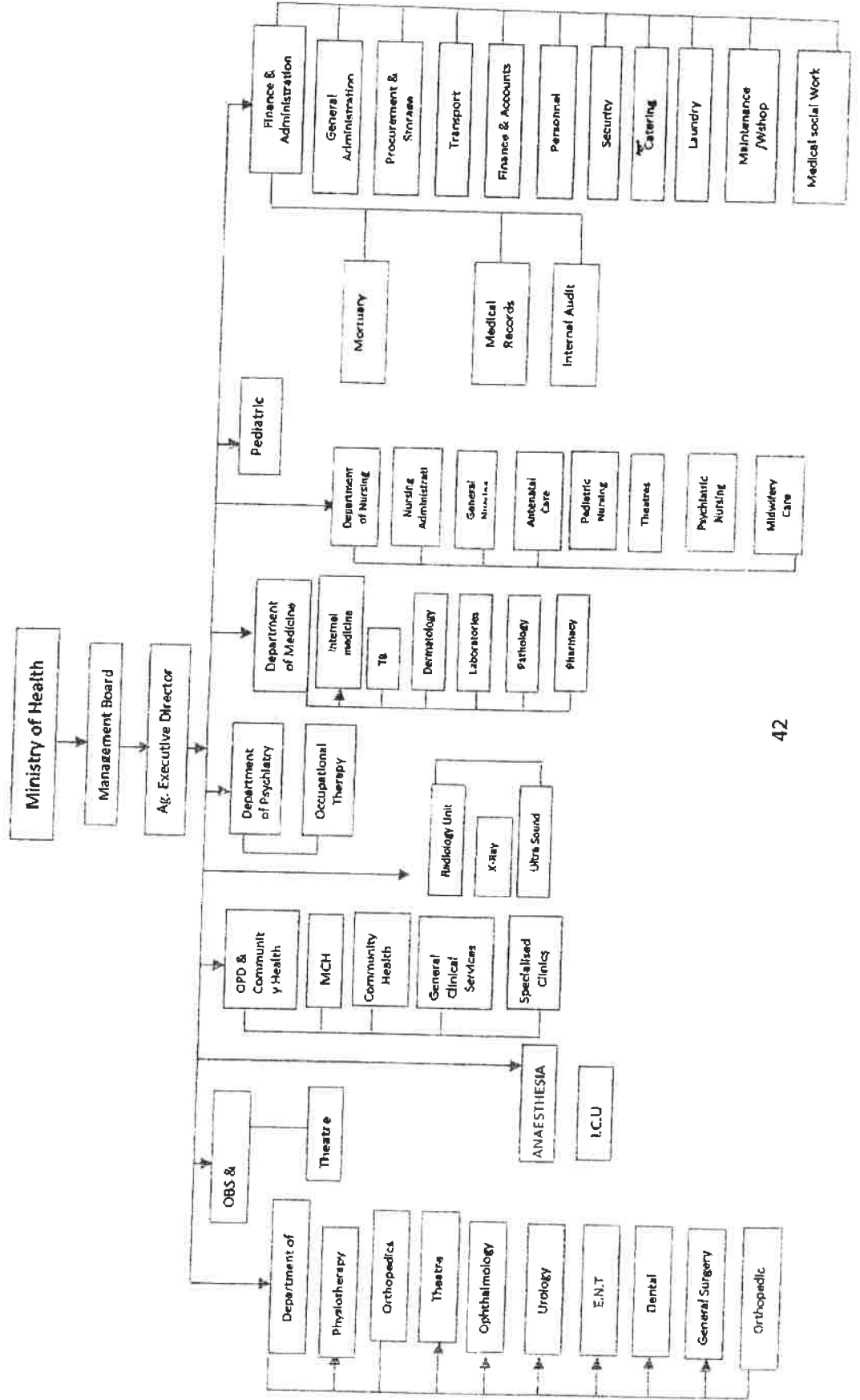
Annex 3-3 Organogram of Lira RRH



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Sep. 2014

Functional Organisation Structure for Arua Regional Referral Hospital



Annex 4 Requested facilities list

Hospital	Gulu				Lira			Arua	
	(1) Maternity, Theatre, Casualty	(2) OPD	(1) OPD + Casualty	(2) Maternity	(1) OPD + Casualty	(2) Maternity	(1) OPD + Casualty	(2) Maternity Ward	
Priority by each hospital	A	B	A	B	A	B	A	B	
Function of the facility	Maternity	OPD	Casualty	OPD	OPD	Ward	OPD + Casualty	Maternity Ward	
	A	C	C	C	A-	A+	B	C	
Aging level of the facility	No good separation of sterile and non-sterile areas. No good function of sterilization room or changing room.	Functioning good, including observation beds.	Functioning but scattered. No good environment regarding waiting space.	Using old main theater. Located in inpatient area, far from OPD.	Concerns regarding nosocomial infection facility and equipment.	Functioning good with necessary facility and equipment.	Main OPD buildings and MCH are separated. Complicated patient flow.	Functioning good including operating theatre. Neonatal ward, 10 delivery beds.	
	A+	A	A	B	A+	A+	A-	C	
Insufficiency of the space	Renovated in 2010, but not in good condition inside.	Built in 1930s. Old.	Built in 1930s. Old.	Built in 1930s. Old.	Built in 1920s. Old.	Built in 1930s. Old.	Built in 1930s. Maintained in good condition.	Built in 1930s. Renovated in recent years with good condition.	
	A+	B	A	A	A+	B	B	C	
Overall assessment by JICA team	Absolute lack of the space, e.g. beds in the corridor.	Currently enough space to accommodate patients.	Absolute lack of space.	Not too congested.	Only 4 delivery beds. Extremely small space between beds.	Lack of space, but not so highly urgent.	Small space in consultation room or corridor. Relatively enough space for waiting area.	Enough space.	
	A	B	A	A-	A	B	B	C	
Tentative Prioritization	A	B	A	B	A	A	B	C	
Remarks	*1				*2				

Findings by JICA Survey team

*1 MOH suggested the need to include ICU in Theatre and Casualty complex of Gulu RRH. The Team pointed out the need for capacity development for ICU operation to be conducted by MOH.
 *2 MOH expressed great need of OPD + Casualty complex of Arua RRH to be included in the Project.



Annex 5 Priority department list for equipment

Hospital	Department		Priority
Gulu RRH	Operation Theatre		1
	Emergency		2
	Imagery		3
	OB/GYN		4
	Outpatient Department		5
	ICU (including Recovery room)		6
	Surgery Ward		7
	Laboratory		8
	Ambulance		9
	Sterilization and Laundry		10
	Dental		11
	ENT		12
	Internal Medicine Ward		13
	Physiotherapy		14
	Pharmacy		15
	Paediatric		16
	Orthopeadic work shop		17
	Maintenance work shop		18
Lira RRH	Out patient		1
	OB/GYN		2
	Imaging		3
	Ambulance		4
	Emergency		5
	Sterilisation & Laundry		6
	Dental		7
	Peadiatric		8
	Operation Theatre		9
	Sugery ward		10
	ENT		11
	Laboratory		12
	Internal Medicine		13
	ICU/Recovery		14
	Internal Medicine Ward		15
	Phamarcy		16
	Medical Equipment W/s		17
Arua RRH	OPD	Including Accident/Emergency, Dental, Phisiotherapy, Imaging Unit, Orthopedics, Laboratory	1
	Martenirty	Including Labour suite, Anetenatal-Post natala ward, Theatre, Neonatal Unit	2
	CSSD		3
	Ambrance		4

Main operating theatre	5
Medical ward	6
Pediatric Ward	7
Surgical Ward	8
Medical Workshop	9



JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as “the Recipient”) to purchase the products and/or services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as “Project Grants”).

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See “PROCEDURES OF JAPANESE GRANT” for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA

(2) Appraisal

- Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

- The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as “the G/A”)

- Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as “the B/A”)

- Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as "the Bank") to receive the grant

Construction works/procurement

- Implementation of the project (hereinafter referred to as “the Project”) on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

- Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of

relevant agencies of the Recipient necessary for the implementation of the Project.

- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes (hereinafter referred to as “the E/N”) will be signed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the “General Terms and Conditions for Japanese Grant (January 2016).”



2) Banking Arrangements (B/A) (See “Financial Flow of Japanese Grant (A/P Type)” for details)

a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.

b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA’s procurement guidelines as stipulated in the G/A.

4) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the Recipient to continue to work on the Project’s implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the “Meeting”) will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the



Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during construction.

(2) Ex-post Monitoring and Evaluation Stage

- 1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.
- 2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.



4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.



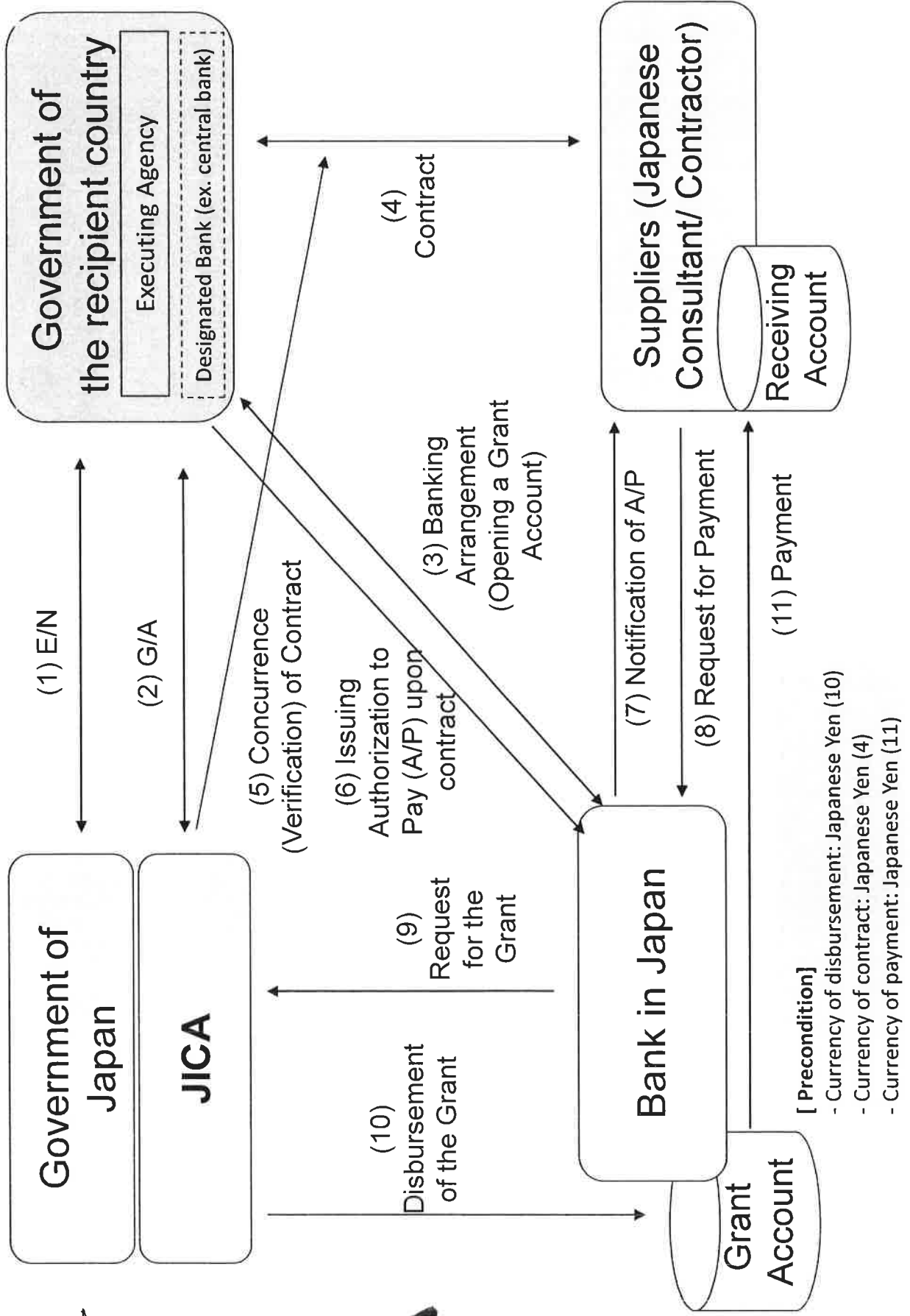
PROCEDURES OF JAPANESE GRANT

Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
2. Appraisal	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x				x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

Financial Flow of Japanese Grant (A/P Type)



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Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXXX
 20XX, Month

Organizational Information

Signer of the G/A (Recipient)	_____ Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
Executing Agency	_____ Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
Line Ministry	_____ Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____

General Information:

Project Title	
E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____





1: Project Description	
-------------------------------	--

1-1 Project Objective

--

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

--

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

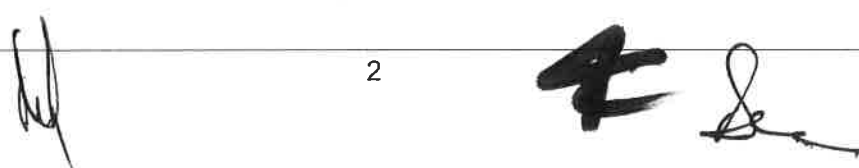
2-2 Scope of the work

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)

2



2-3 Implementation Schedule

Items	Original		Actual
	<i>(proposed in the outline design)</i>	<i>(at the time of signing the Grant Agreement)</i>	

Reasons for any changes of the schedule, and their effects on the project (if any)

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
	1.			
Total				

Note: 1) Date of estimation:
 2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
	1.			

- Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original (at the time of outline design)

name:

role:

financial situation:

institutional and organizational arrangement (organogram):

human resources (number and ability of staff):

Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original (at the time of outline design)

Actual (PMR)

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original (at the time of outline design)

Actual (PMR)

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
Actual Situation and Countermeasures	
(PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.



Attachment

1. Project Location Map
 2. Specific obligations of the Recipient which will not be funded with the Grant
 3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
 - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
 5. Environmental Monitoring Form / Social Monitoring Form
 6. Monitoring sheet on price of specified materials (Quarterly)
 7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final) only)
 8. Pictures (by JPEG style by CD-R) (PMR (final)only)
 9. Equipment List (PMR (final) only)
 10. Drawing (PMR (final) only)
 11. Report on RD (After project)



Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment Price (Decreased) E=C-D	Price (Increased) F=C+D
Item 1	●●t	●	●●	●	●	●
Item 2	●●t	●	●●	●		
Item 3						
Item 4						
Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials	1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
Item 1	●	●	●			
Item 2						
Item 3						
Item 4						
Item 5						

(3) Summary of Discussion with Contractor (if necessary)

.....



Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

Major Undertakings to be taken by the Government of Uganda

Specific obligations of the Government of Uganda which will not be funded with the Grant

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	MOH		
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract	MOH		
3	To provide alternative space and functions of facilities to be demolished during construction period.	before start of demolition	RRHs		
4	To secure and clear the following lands 1) the project site(s) to construct facility(ies) 2) the temporary construction yard and stock yard near to the Project site(s)	before notice of the bidding document	RRHs		
5	To obtain the planning, zoning, building permit	before notice of the bidding document	MOH and RRHs		
6	To clear, level and reclaim the following sites 1) existing facilities	before notice of the bidding document	RRHs		
7	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents	MOH		

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	MOH		
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A		MOH		
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	MOH		
	2) Payment commission for A/P	every payment	MOH		
3	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in recipient country	during the Project	MOH		
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	MOH		
5	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services shall be in accordance with the agreement to be concluded between the Government of Uganda and the Government of Japan. MOH shall take necessary measures according to the agreement	during the Project	MOH		
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MOH and RRHs		
7	To submit Project Monitoring Report	every month	MOH		
	1) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	MOH		
8	To submit a report concerning completion of the Project	within six months after completion of the Project	MOH		
9	To construct access roads	3 months before completion of the construction	RRHs		
	1) Outside the site				
10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites		RRHs		
	1) Electricity The distributing line to the sites	before start of the construction	RRHs		
	2) Water Supply The city water distribution main to the sites	6 months before completion of the construction	RRHs		
	3) Drainage The city drainage main (for storm, sewer and others) to the sites	6 months before completion of the construction	RRHs		
	4) Furniture and Equipment General furniture	1 month before completion of the construction	RRHs		

11	To take necessary measure for safety construction traffic control	during the construction	RRHs		
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See ↑

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction	MOH and RRHs		



(2) 現地調査2

Minutes of Discussions
on the Preparatory Survey 2 for the Project for
Improvement of Regional Referral Hospitals in Northern Uganda,
in the Republic of Uganda

In response to the request from the Government of the Republic of Uganda (hereinafter referred to as “Uganda”), Japan International Cooperation Agency (hereinafter referred to as “JICA”) dispatched the Preparatory Survey Team (hereinafter referred to as “the Team”) for the Outline Design of the Project for Improvement of Regional Referral Hospitals in Northern Uganda (hereinafter referred to as “the Project”), to Uganda, headed by Mr. Kenichi Ito, Director of Health Team 1, Health Group 1, Human Development Department, JICA, from 8th February to 11th March, 2017. The Team held a series of discussions with the officials of the Government of Uganda and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Kampala, 2nd March, 2017



Mr. Kenichi Ito
Leader, Preparatory Survey Team
Japan International Cooperation Agency
Japan



Dr. Diana Atwine
Permanent Secretary
Ministry of Health
Republic of Uganda

Witness



Ms. Maris Wanyera
For: Permanent Secretary/Secretary to the Treasury
Ministry of Finance, Planning and Economic
Development
Republic of Uganda

ATTACHMENT

1. Objective of the Project

The objective of the Project is to strengthen the functions of the selected Regional Referral Hospitals (hereinafter referred to as “RRH”) in the northern region of Uganda, through construction of facilities and procurement of equipment, thereby contributing to improving access to and quality of health care services in Northern Uganda.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey for the Project for Improvement of Regional Referral Hospitals in Northern Uganda”. The final title will be decided by the Government of Japan.

3. Project sites

Both sides confirmed that the sites of the Project are Gulu RRH, Lira RRH and Arua RRH. The location map of the Project sites is shown in Annex 1. All of these sites are in legal possession of the Ministry of Health (hereinafter referred to as “MOH”) as shown in Annex 2-1, 2-2 and 2-3.

4. Responsible authorities for the Project

Both sides confirmed the authorities responsible for the Project are as follows:
The Health Infrastructure Division under the Department of Clinical Services of MOH, planned to be upgraded to the Department of Health Infrastructure from July, 2017, and the RRHs to be covered by the Project will be the executing agencies for the Project (hereinafter referred to as “the Executing Agencies”). The Executing Agencies shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be managed by relevant authorities properly and on time. The current organograms of MOH, the Health Infrastructure Division, and the RRHs are shown in Annex 3-1, 3-2, 3-3 and 3-4.

5. Items requested by the Government of Uganda

5-1. As a result of discussions, both sides confirmed the items requested by the Government of Uganda, which are shown in Annex 4 (facility) and Annex 5 (equipment). Both sides also confirmed the priority of requested equipment within each department in each RRH by the Government of Uganda as shown in

1



Annex 5.

5-2. JICA will assess the feasibility of the items in Annex 4 and 5 through the Preparatory Survey and report the findings to the Government of Japan. The final scope of the Project will be decided by the Government of Japan.

6. Procedures and Basic Principles of Japanese Grant

6-1. The Ugandan side agreed that the procedures and basic principles of Japanese Grant as described in Annex 6 shall be applied to the Project. As for the monitoring of the implementation of the Project, JICA requires the Ugandan side to submit the Project Monitoring Report, the form of which is attached as Annex 7.

6-2. The Ugandan side agreed to take the necessary measures, as described in Annex 8, for smooth implementation of the Project. The contents of Annex 8 will be elaborated and refined during the Preparatory Survey and be agreed in the mission dispatched for explanation of the Draft Preparatory Survey Report. The contents of Annex 8 will be used as an attachment to the Grant Agreement.

6-3. The Ugandan side agreed to allocate the necessary budget for the items in Annex 8 which will be completed in the Ugandan financial year 2017/18 (from July 2017 to June 2018).

7. Schedule of the Survey

7-1. The Team will proceed with further survey in Uganda until 11th March, 2017.

7-2. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Uganda in order to explain its contents around August, 2017.

7-3. When the contents of the draft Preparatory Survey Report are accepted and the undertakings for the Project are fully agreed by the Ugandan side, JICA will finalize the Preparatory Survey Report and send it to the Ugandan side around October, 2017.

7-4. The above schedule is tentative and subject to change.

8. Environmental and Social Considerations

8-1. The Ugandan side confirmed to give due environmental and social considerations before and during implementation, and after completion of the Project, in accordance with the JICA Guidelines for Environmental and Social Considerations (April, 2010).

8-2. The Project is categorized as "C" from the following considerations: not located in a sensitive area, nor has it sensitive characteristics, nor falls into sensitive

sectors under the Guidelines, and its potential adverse impacts on the environment are not likely to be significant.

9. Other Relevant Issues

- 9-1. The Ugandan side agreed to allocate budget (operational and maintenance costs), human resources with skills (health service providers and any other personnel), and goods (spare parts and consumables) necessary for the proper and sustainable operation and maintenance of the facilities and the equipment under the Project. Especially, the Ugandan side agreed to take necessary measures to train and allocate sufficient human resources with adequate skills to functionalize Intensive Care Unit (ICU) requested to be built in Gulu RRH before the completion of the Project. In addition, the Ugandan side confirmed that the oxygen plants will be built in all the target three RRHs by the Government of Uganda in order to make oxygen available at all times by the completion of the Project.
- 9-2. The Ugandan side expressed their needs for Soft Component under the Japan's Grant Aid for clinical operation and maintenance targeting some of procured medical equipment in the Project. The Team will convey the request to the Government of Japan.
- 9-3. Both sides confirmed the tentative plan of the construction site of new facilities and the facilities to be demolished as shown in Annex 9 and 10. Based on this plan, both sides confirmed the followings would be the undertakings of the Government of Uganda;
 - 1) demolition of existing facilities and land leveling to construct new facilities
 - 2) providing alternative space for the services carried out in the demolished facilities during the construction period.
- 9-4. Both sides noted that treatment of taxes and duties for the Project shall be in accordance with the agreement to be concluded between the Government of Uganda and the Government of Japan. MOH shall take necessary measures according to the agreement.
- 9-5. Both sides agreed that the facility plan will be designed in accordance with the following policies.
 - 1) Health Sector Development Plan 2015/16-2019/20 and the provisional facility master plans of Gulu RRH and Lira RRH should be referred. If the master plan or its draft of Arua RRH is established and submitted to JICA Uganda office by the end of March, 2017, this should be referred. The facilities to be constructed in the Project should be planned in consideration

that they will continuously take the central role of medical service delivery in the future.

- 2) The component and grade of facilities will be designed to achieve the objective of the Project.
 - 3) The scale or size of the planned facilities of the target hospitals will be determined based on the present and past performance data on diagnosis and treatment, and also considered forecast population increases in the areas to be covered by these hospitals.
 - 4) The facility plan will be formulated in consideration of the technical and fiscal sustainability of the hospitals, based on their management capabilities (the number of medical and healthcare professionals, their technical levels, financial affordability, state of procurement of consumables and spare parts, etc.) and staff reinforcement plan of the medical staff.
 - 5) The Ugandan standards for earthquake resistance and wind force resistance will be adopted, and the structure of the facilities will be designed to allow the facilities to provide continuous medical activities without disruption in case of natural disasters.
 - 6) The plot plan and construction plan will be designed to enable the provision of sustainable medical service delivery, and to minimize the influence of construction on medical service provision.
- 9-6. Both sides agreed that the equipment will be selected in accordance with the following criteria.
- 1) The equipment listed in the National Medical Equipment Policy (2009, MOH) should be referred to.
 - 2) The equipment plan will be formulated to achieve the objective of the Project.
 - 3) The selection and the number of the equipment to be procured will be determined based on the present and past performance data on diagnosis and treatment, and also on forecast of population increases in the areas to be covered by these hospitals.
 - 4) The equipment plan will be formulated in consideration of the technical and fiscal sustainability of the hospitals, based on their management capabilities (the number of medical and healthcare professionals, their technical levels to properly operate and maintain the equipment, financial affordability, state of procurement of consumables and spare parts, etc.) and staff reinforcement plan of the medical staff.
 - 5) The equipment to be installed to the facilities which will be constructed in

the Project will be prioritized.

- 6) The room in the existing building where the equipment will be installed should be secured, and be made ready to install the equipment.
 - 7) The equipment which will be installed in existing building should not require large scope of construction works for its installation.
 - 8) The equipment for which spare parts and consumables are readily available in Uganda should be selected.
 - 9) The equipment which can be maintained and repaired properly by the agencies in Uganda should be prioritized.
 - 10) The equipment should not be for private use.
 - 11) The equipment should be for clinical use. (General furniture, office equipment, etc. will be excluded.)
 - 12) The equipment that can be easily procured by the Ugandan side will be excluded.
 - 13) The equipment which will overlap the existing ones or will be supplied by other donors or by the budget of the Government of Uganda will be excluded.
- 9-7. The Team explained that the Team does not think of including CT scan in the Project because it requires high technical levels of healthcare professionals, high financial affordability, and highly stabilized infrastructure to operate and maintain. The Ugandan side expressed their strong need for CT scan and their will to take necessary measures to operate and maintain it.
- 9-8. In accordance with the selection criteria of equipment above, both sides agreed that the equipment which will be procured by Italian Cooperation or UNICEF will be excluded. MOH will submit the plan and/or the result of these two partners' projects by the end of March, 2017.
- 9-9. Both sides noted that it is necessary to consider the possibility of including maintenance service contract to some major medical equipment that needs frequent maintenance in the component of the Project.

Annex 1 Location map of the Project sites

Annex 2-1, 2-2, 2-3 Ownership of land

Annex 3-1, 3-2, 3-3 3-4 Organograms of MOH, the Health Infrastructure Division and 3 RRHs

Annex 4 Requested facilities list

Annex 5-1, 5-2, 5-3 Requested equipment list with priority

Annex 6 Japan Grant Aid

Annex 7 Project Monitoring Report (template)

Annex 8 Major Undertakings to be taken by the Government of Uganda

Annex 9-1, 9-2, 9-3 Plot plan of facilities in each RRH

Annex 10-1, 10-2, 10-3 Memorandum of meetings between each RRH and consultant



GULU DISTRICT LOCAL GOVERNMENT
DEPARTMENT OF NATURAL RESOURCES
LAND MANAGEMENT SECTOR

P.O. Box 2,

Date: 5th October, 2016

The Chief Representative
Japan International Cooperation Agency (JICA)

RE: GULU REGIONAL REFERRAL HOSPITAL LAND

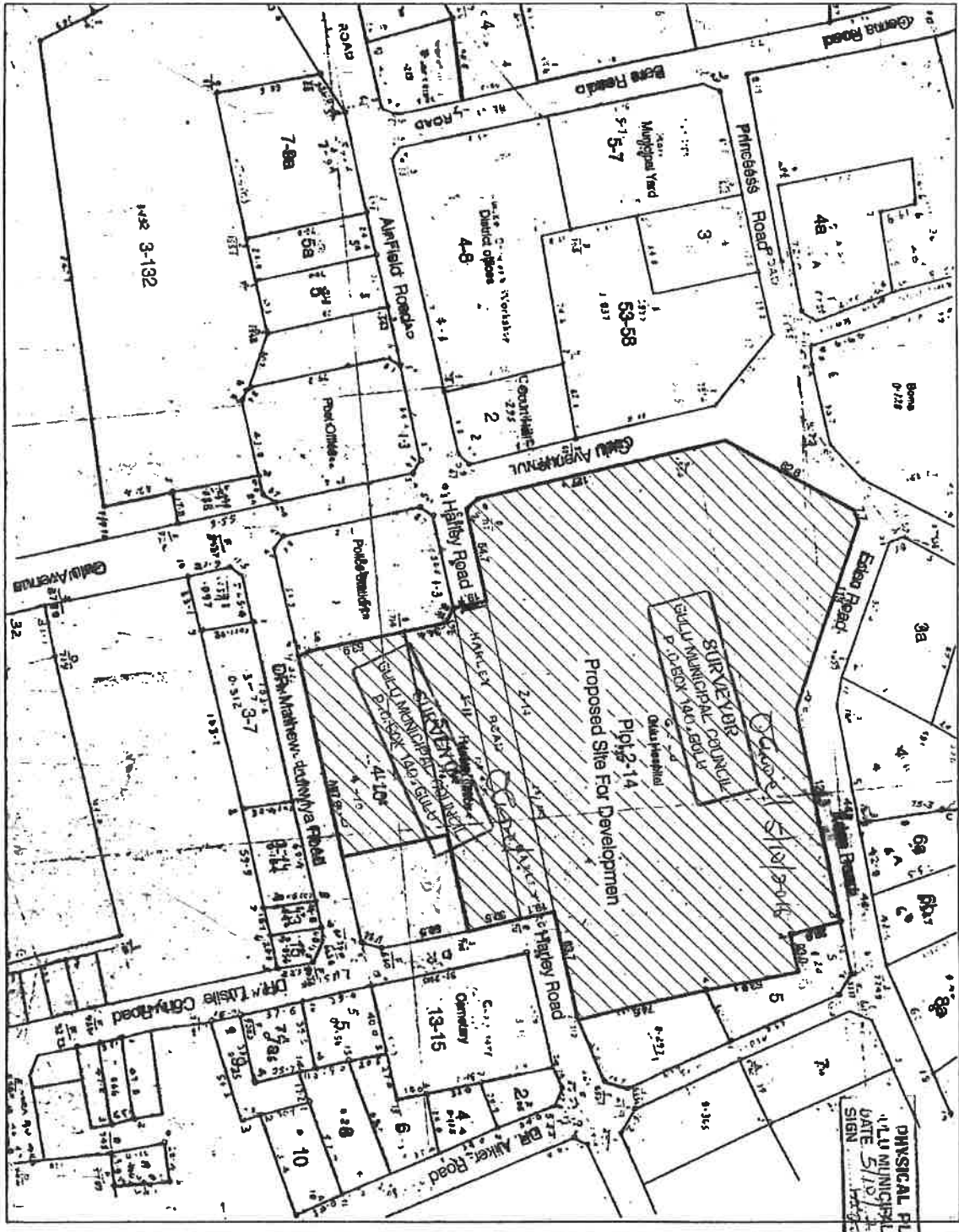
This letter serves to confirm that plot nos 4 – 10 Dr. Mathew Lukwiya Road – on Sheet No. 22/21/NE/4 is gazetted as Land belonging to Gulu Regional Referral Hospital.

The Board has received an application from the Hospital Management for acquiring a land title over the said plot and upon the acquisition of the land title, a copy shall be forwarded to your office.

JICA
Ojera Alex
District Land officer/Gulu

Cc Director Gulu Regional Referral Hospital
Cc The Hospital Administrator/ Gulu Regional Referral Hospital
Cc File.

107



PHYSICAL PLANNER
GULU MUNICIPAL COUNCIL
DATE 5/15/2009
SIGN

DWG
Site location Plan (Deed Plan)

SCALE 1:2500 [Cadastral Map]

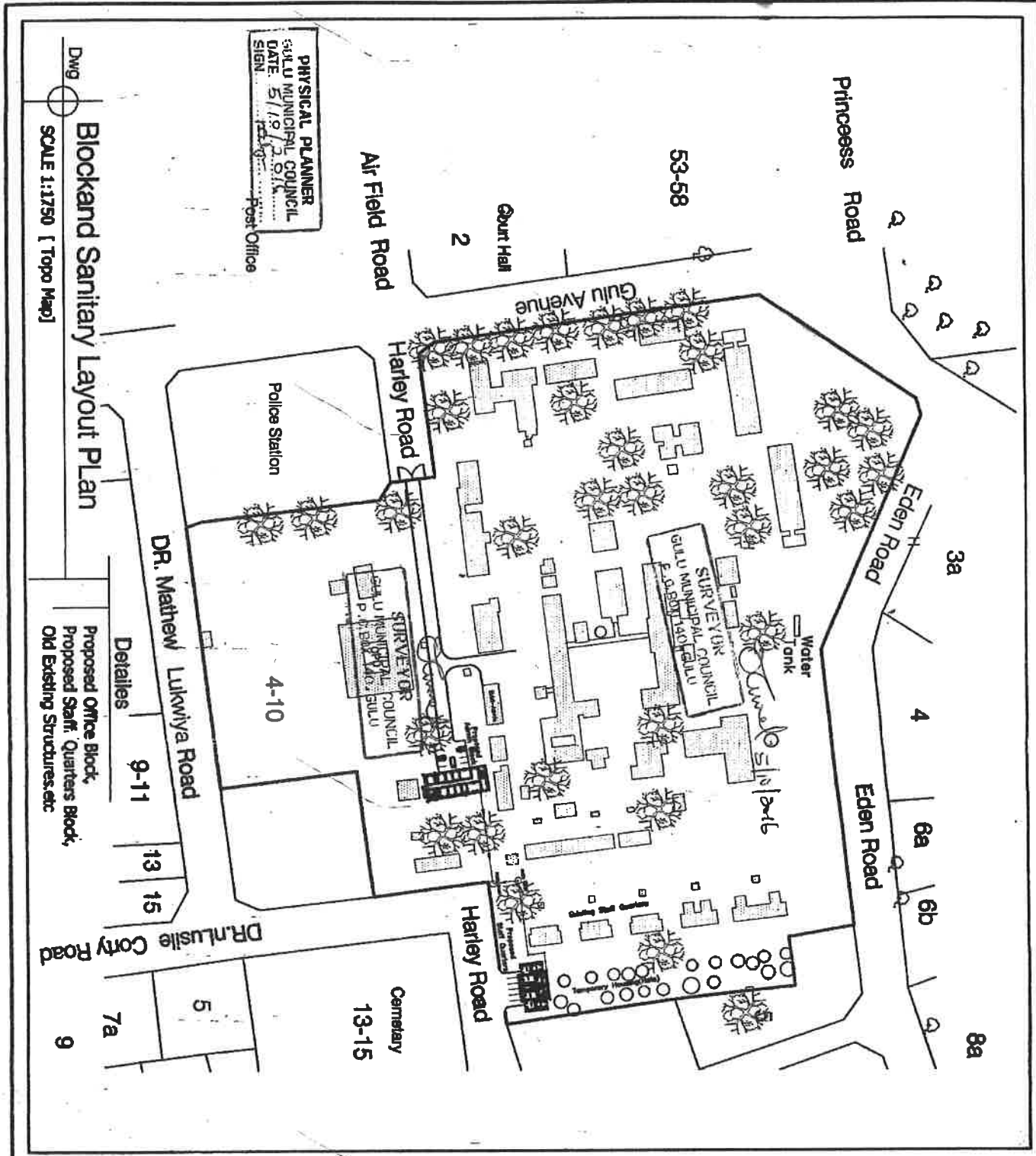
Detailed Map

Title:	PROPOSED SITE FOR OFFICE AND STAFF QUARTER BLOCK, TO BE BUILT ON PLOT 2-14, ON GULU AVENUE AND, HARLEY ROAD, LAYIBI DIVISION GMC, GULU DISTRICT.
Client:	GOVERNMENT OF THE REPUBLIC OF UGANDA GULU REFERRAL HOSPITAL P.o Box ,GULU. E-Mail :
Sign:

Designed:	OCHORA BERNARD
Drawn:	CAD
Checked:	
Date:	18 . June . 2009
Scale:	1:2500
Sheet No.	1 of 1
Drawing No. :	OCH/06/09/003

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PHYSICAL PLANNER
 GULU MUNICIPAL COUNCIL
 DATE: 5/19/2009
 SIGN: [Signature]

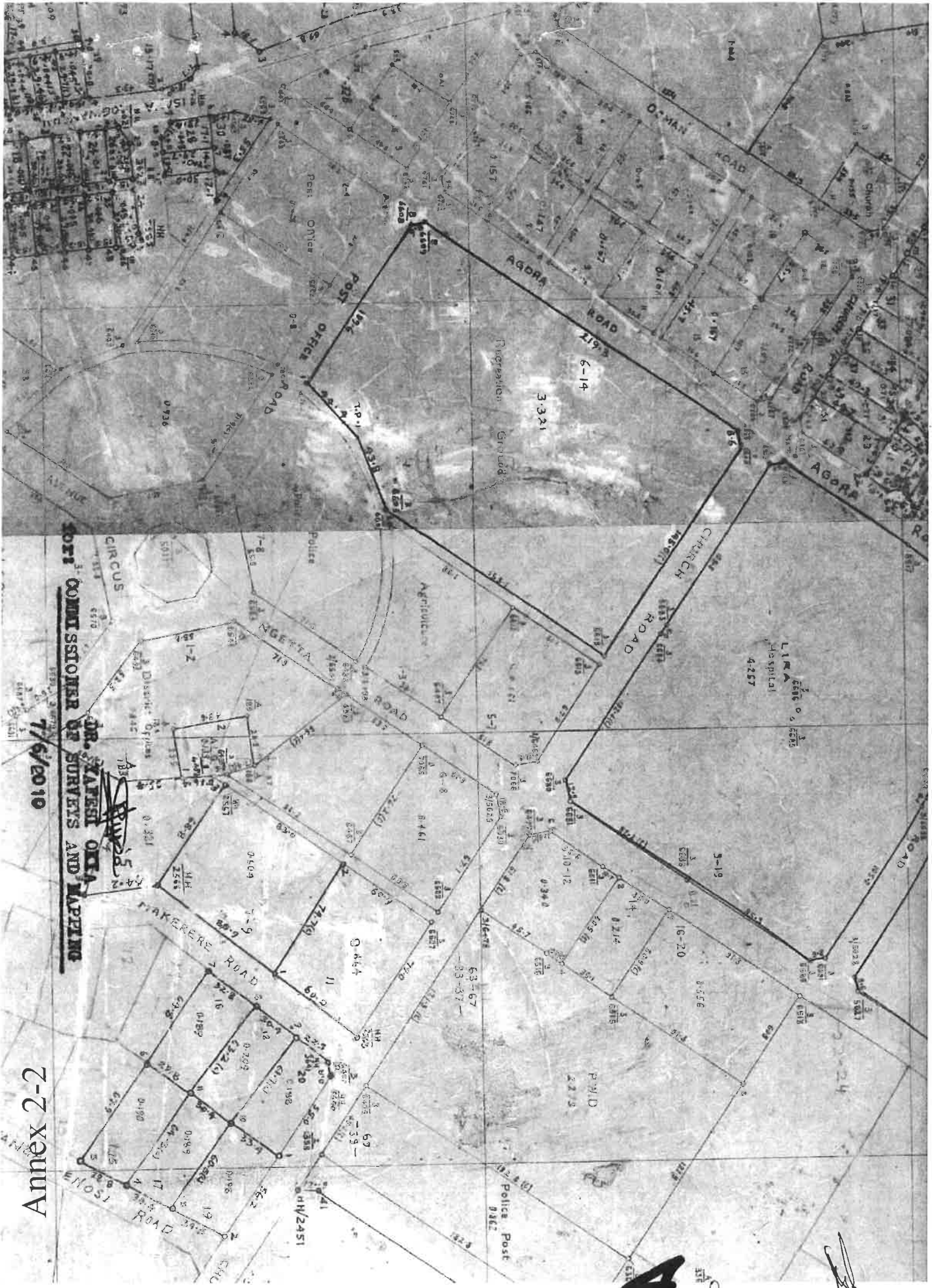
Dwg
Blockland Sanitary Layout Plan
 SCALE 1:1750 [Topo Map]

Proposed Office Block,
 Proposed Staff Quarters Block,
 Old Existing Structures etc

Title:	PROPOSED SITE FOR OFFICE AND STAFF QUARTER BLOCK, TO BE BUILT ON PLOT 2-14, ON GULU AVENUE AND HARLEY ROAD, LAYIBI DIVISION GMC, GULU DISTRICT.
Client:	GOVERNMENT OF THE REPUBLIC OF UGANDA -- GULU REFERRAL HOSPITAL P.o Box ,GULU. E-Mail :
Sign:

Designed:	OCHORA BERNARD
Drawn:	CAD
Checked:	
Date:	18 . June . 2009
Scale:	1:1750
Sheet No.	2 of 1
Drawing No. :	OCH/06/09/003

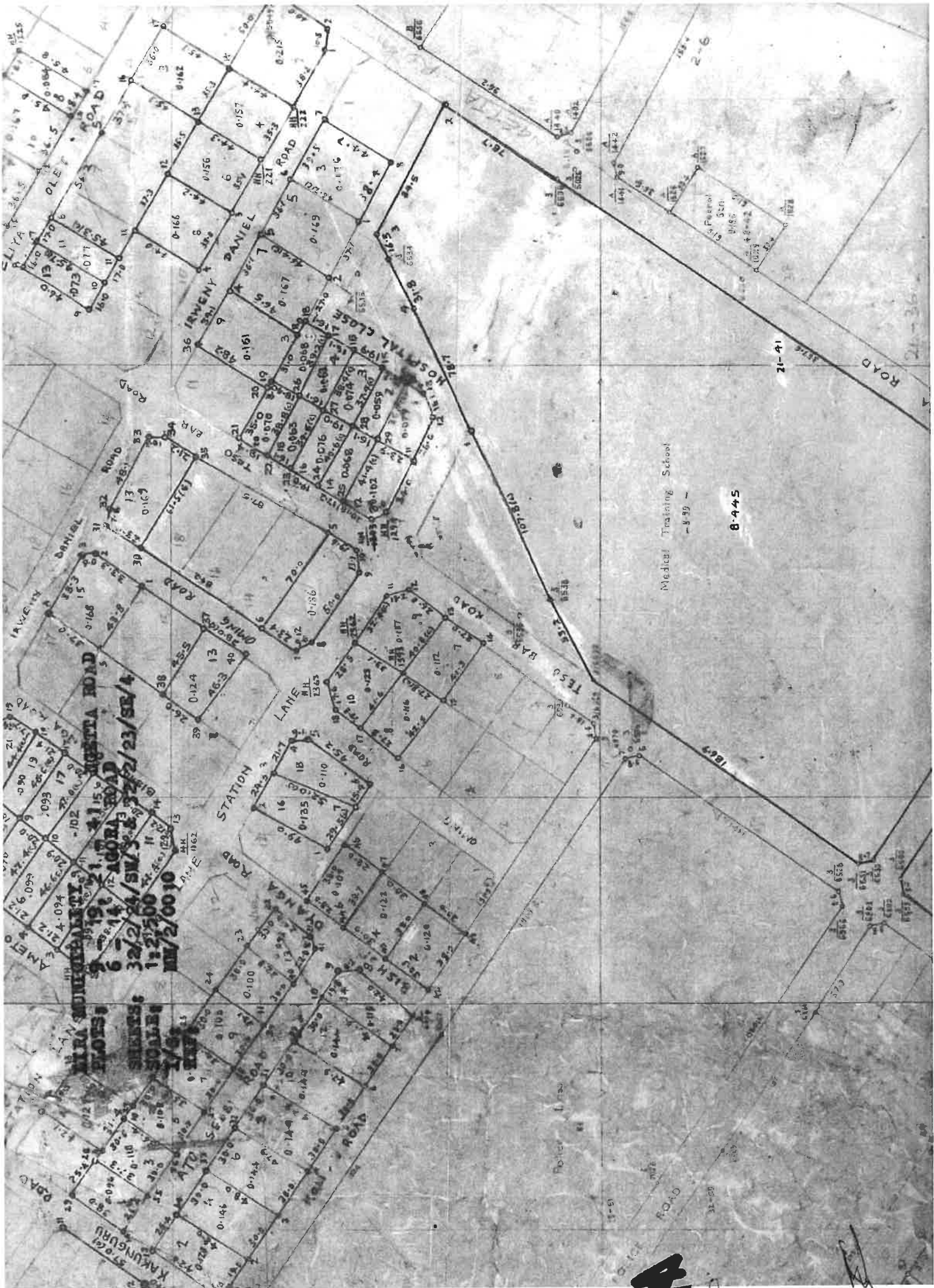
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DR. SAFARI OJA
 FOR THE COMMISSIONER OF SURVEYS AND MAPPING
 7/6/2010

Annex 2-2

A



Medical Training School

-899-

8-445

F

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ULC/154/1052

THE REPUBLIC OF UGANDA

REGISTRATION OF TITLES ACT.

Certificate of Title.

FREEHOLD REGISTER Volume 765 Folio 5

DESCRIPTION OF LAND

ALL THAT piece of land delineated and edged red on the plan hereto annexed containing the following area or thereabouts and situate as follows:-

Area.	County.	District.
16.023 HECTARES	LIRA MUNICIPALITY	LIRA

and known as **PLOTS 9-19, 21 - 41 NGETTA ROAD AND 6-14 AGORA ROAD**

(SUBJECT TO CONDITIONS HEREIN)

OWNERSHIP

UGANDA LAND COMMISSION OF P.O. Box 36408, KAMPALA

Anna
Signature of Registrar

Date, time and Inst. No.
REGD. 25.6.2010
AT. 2.10 P.M.
INST. 430893

is/are now the proprietors of an estate in fee simple in the land above described subject to the conditions and incumbrances hereinafter set out.

Dated this **2ND** day of **JULY** 20 **10**

Anna
Registrar of Titles.

OWNERSHIP—*continued*

Date, time and Inst. No.	Name and Address of Owner	Signature of Registrar

F

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[Handwritten signature]

copy



THE REPUBLIC OF UGANDA

REGISTRATION OF TITLES ACT.

Certificate of Title.

FREEHOLD REGISTER

Volume 657 Folio 16

DESCRIPTION OF LAND

ALL THAT piece of land delineated and edged red on the plan hereto annexed containing the following area or thereabouts and situate as follows:-

Area.	County.	District.
9.920 HECTARE	ARUA MUNICIPALITY	ARUA

and known as **PLOT 26-62 AVENUE ROAD - ARUA**

(SUBJECT TO CONDITIONS HEREIN)

OWNERSHIP

UGANDA LAND COMMISSION of P.O. Box 36408, KAMPALA

Signature of Registrar

is/are now the proprietors of an estate in fee simple in the land above described subject to the conditions and incumbrances hereinafter set out.

Dated this 4TH day of August 2009

Registrar of Titles.

[Signature]

[Signature]

Date, time and Inst. No.

20.12.6.09

3.20 P.M.

r.414346

ARUA MUNICIPALITY

PLOT NO. 26, 62 AVENUE ROAD

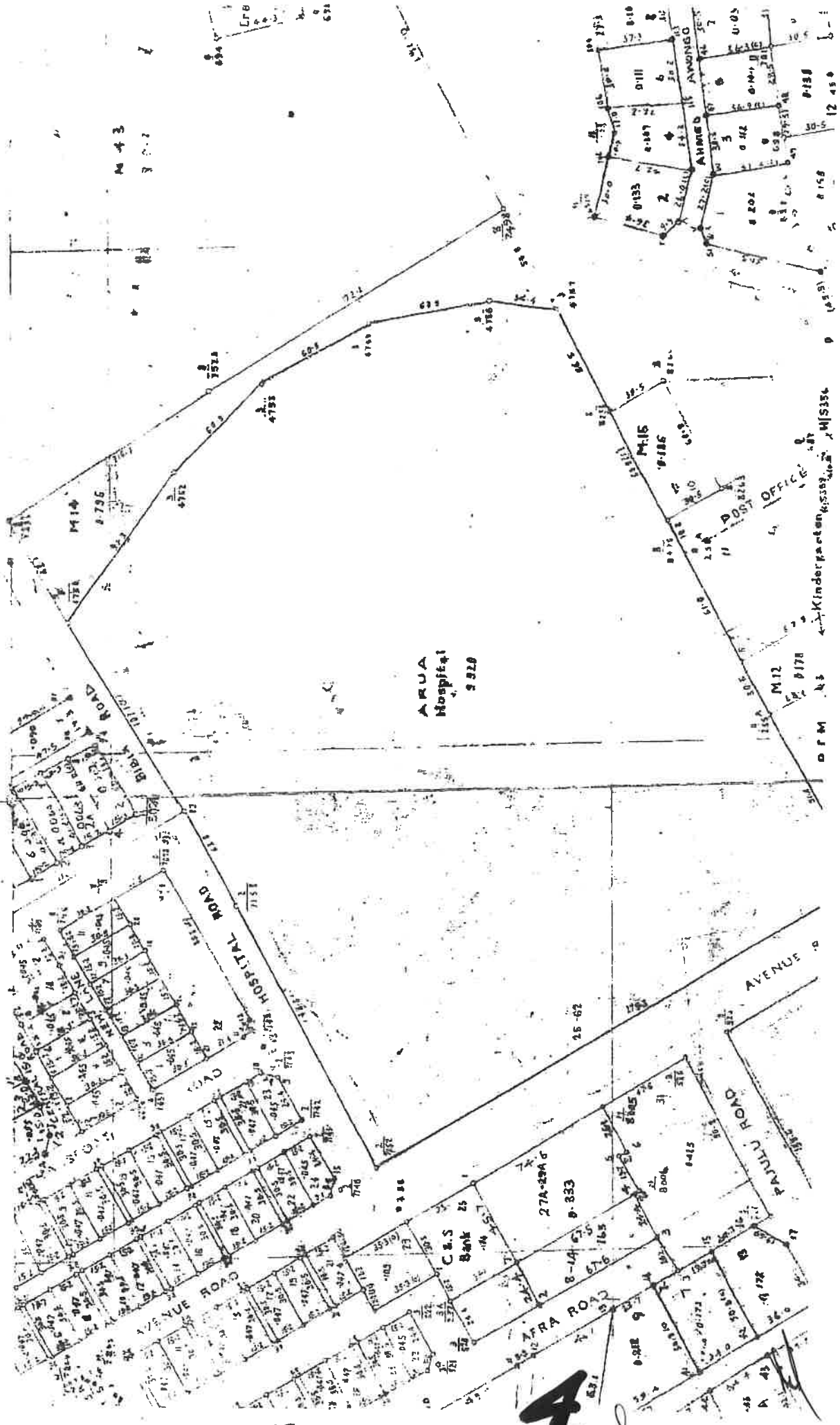
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REF: ULC/154/522

SHEET 11/4/SW/1

SCALE 1:2,500



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**CONDITIONS
-RENT-**

Date, time and inst. No.	Particulars	Signature of Registrar
A)	MINISTRY OF HEALTH (ARUA REGIONAL REFERRAL HOSPITAL)	

F *de* *Ed*

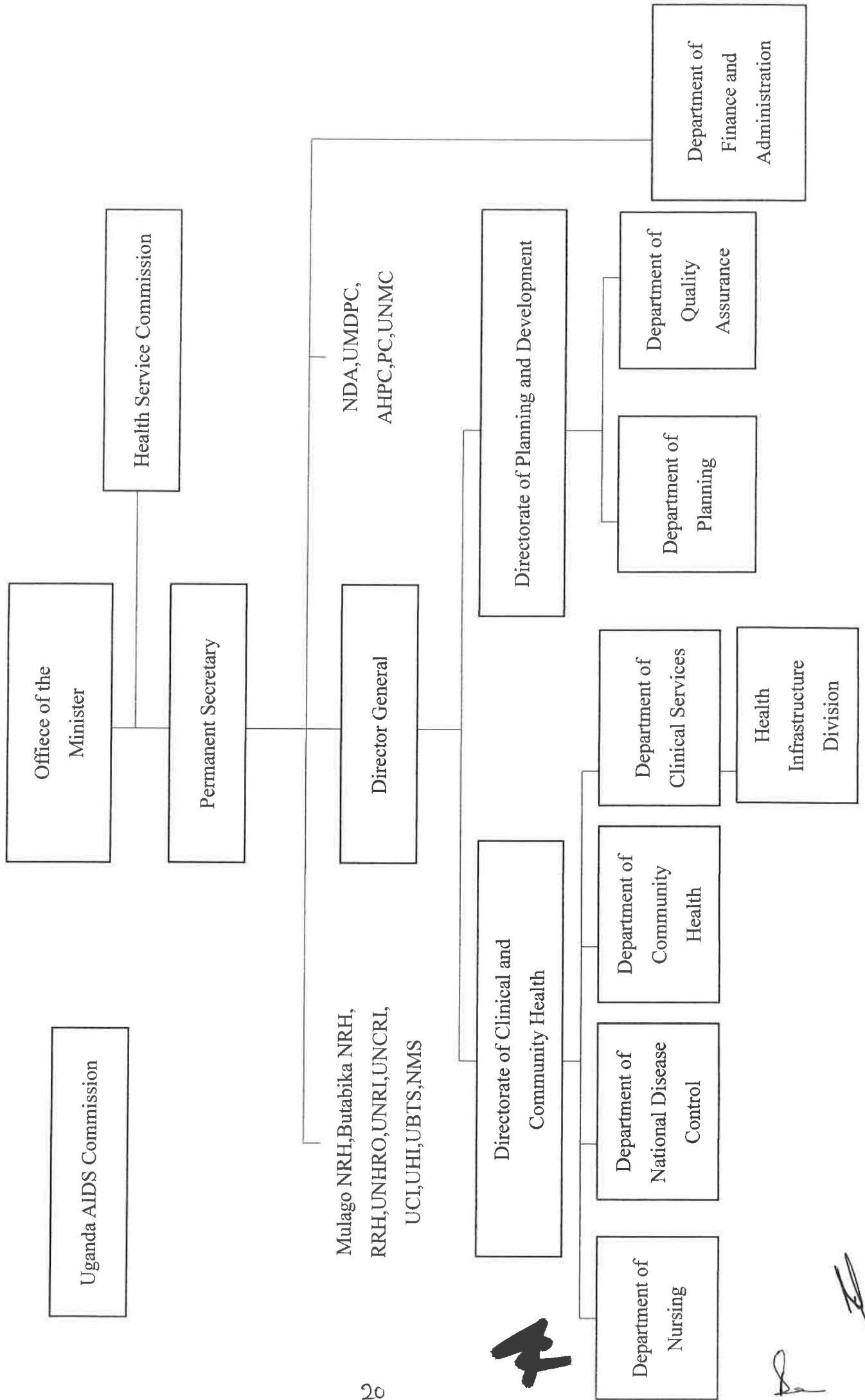
OWNERSHIP—continued

Date, time and Inst. No.	Name and Address of Owner	Signature of Registrar

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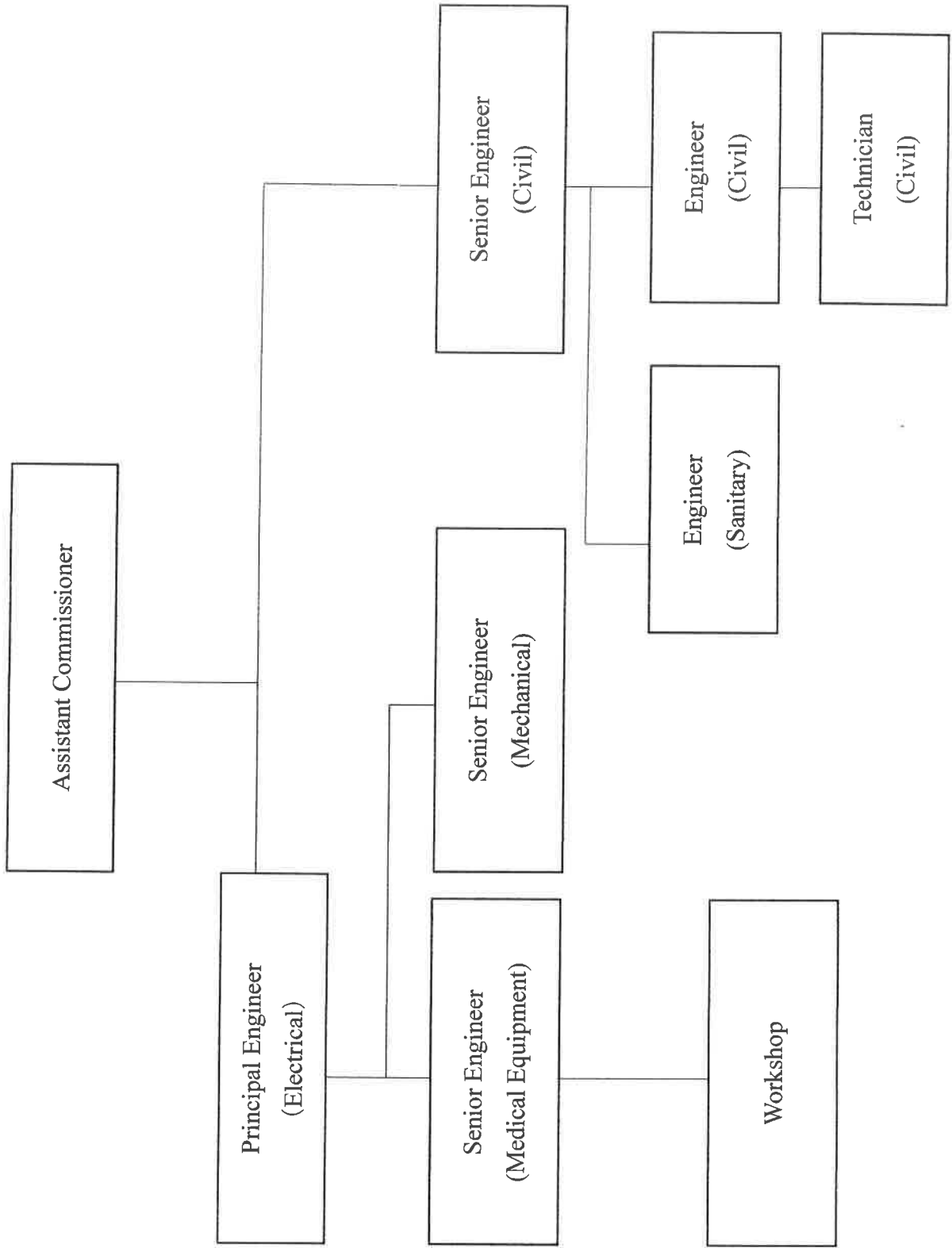
Annex 3-1 Organogram of MOH and Health Infrastructure Division



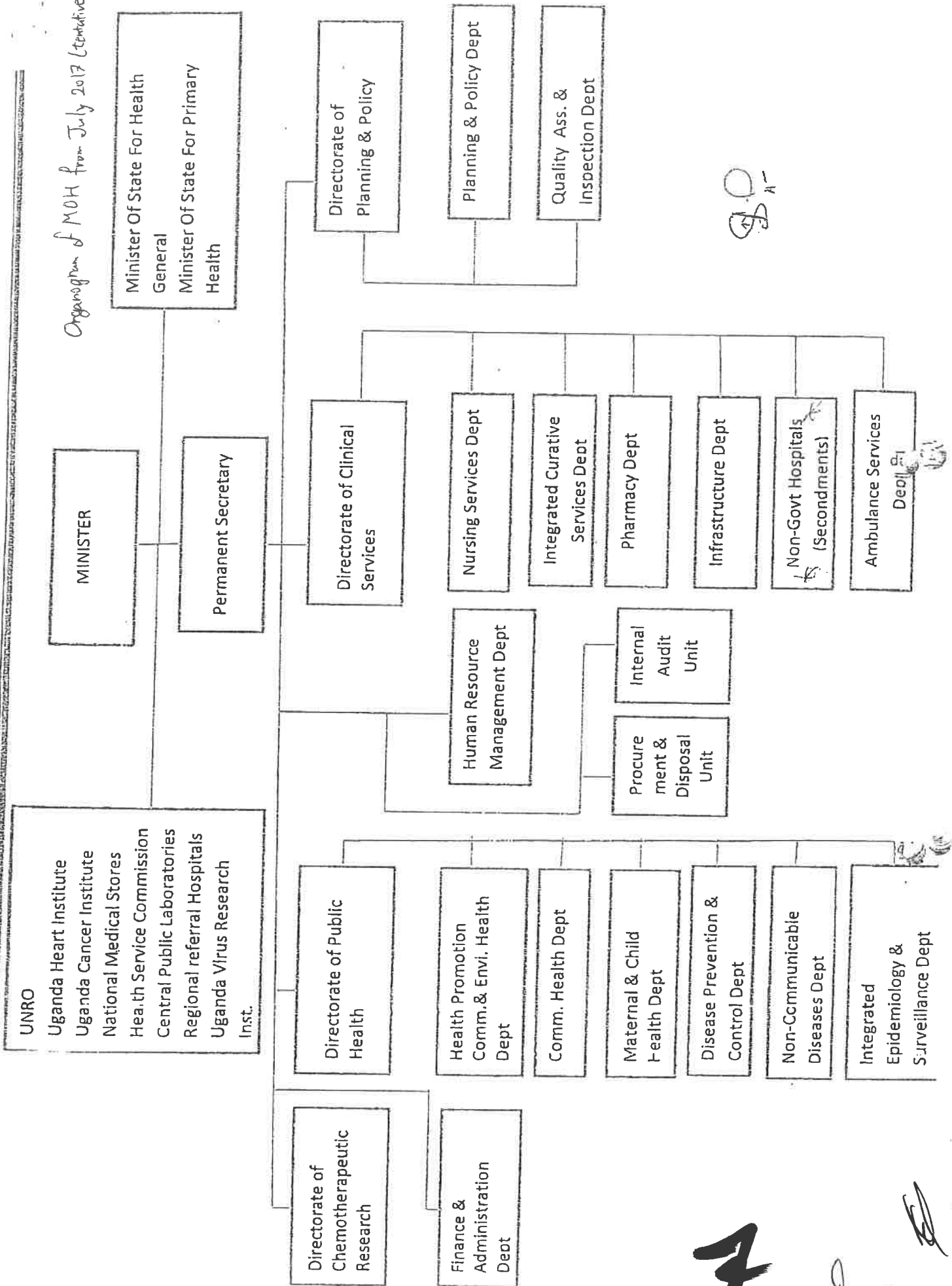
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Organogram of the Health Infrastructure Division



Organogram of MOH from July 2017 (tentative)

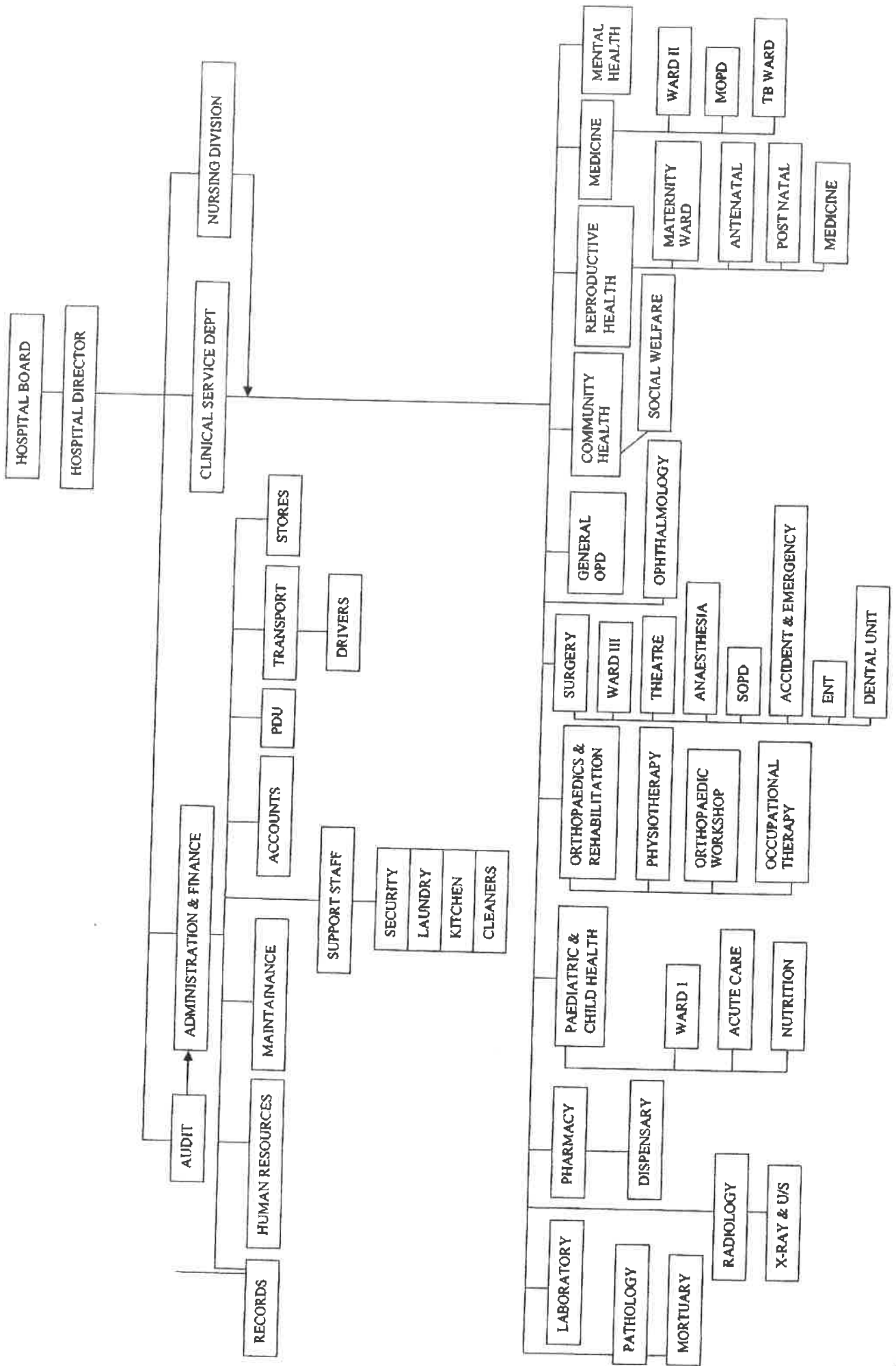


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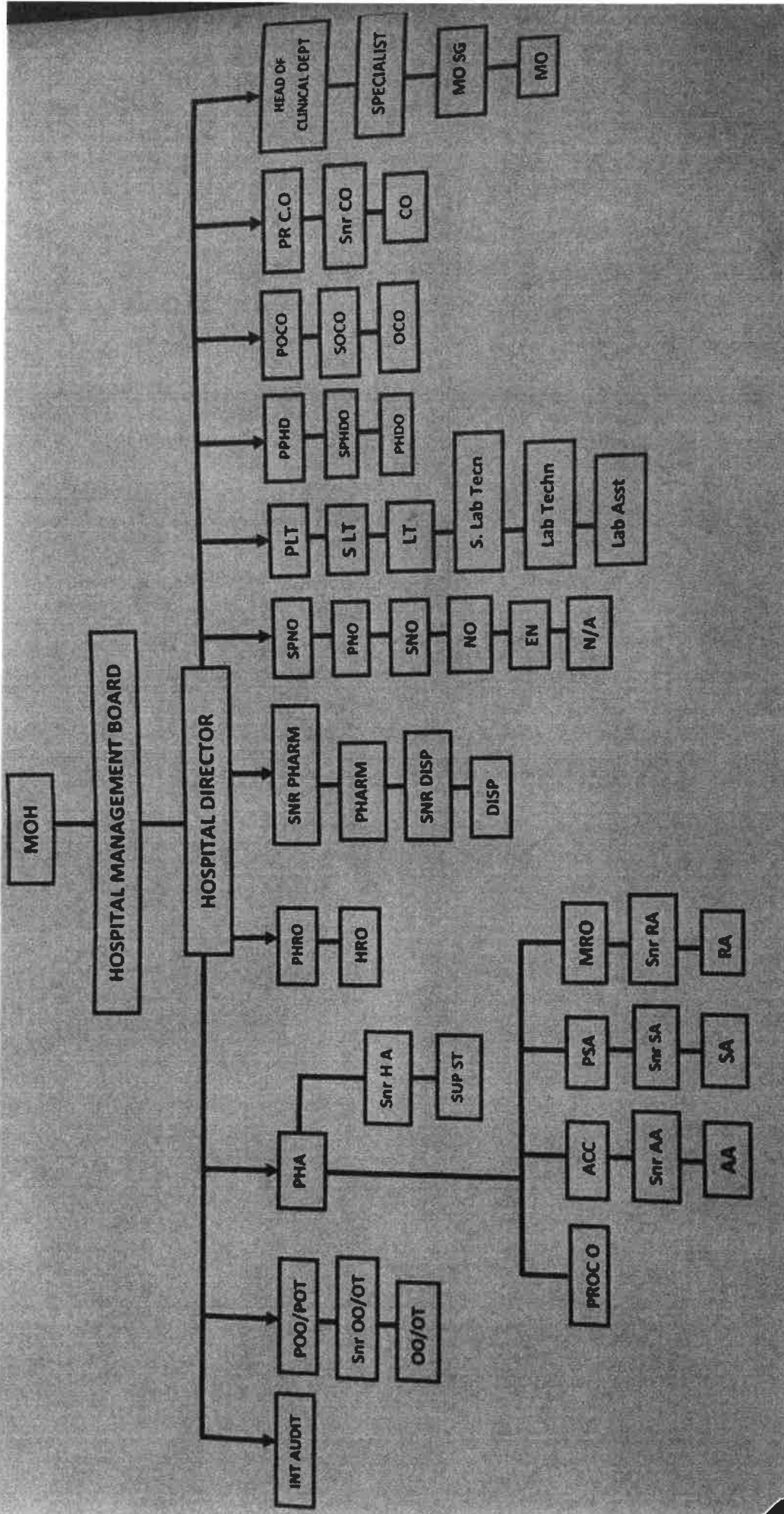
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Handwritten signature



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Annex 3-3 Organogram of Lira RRH



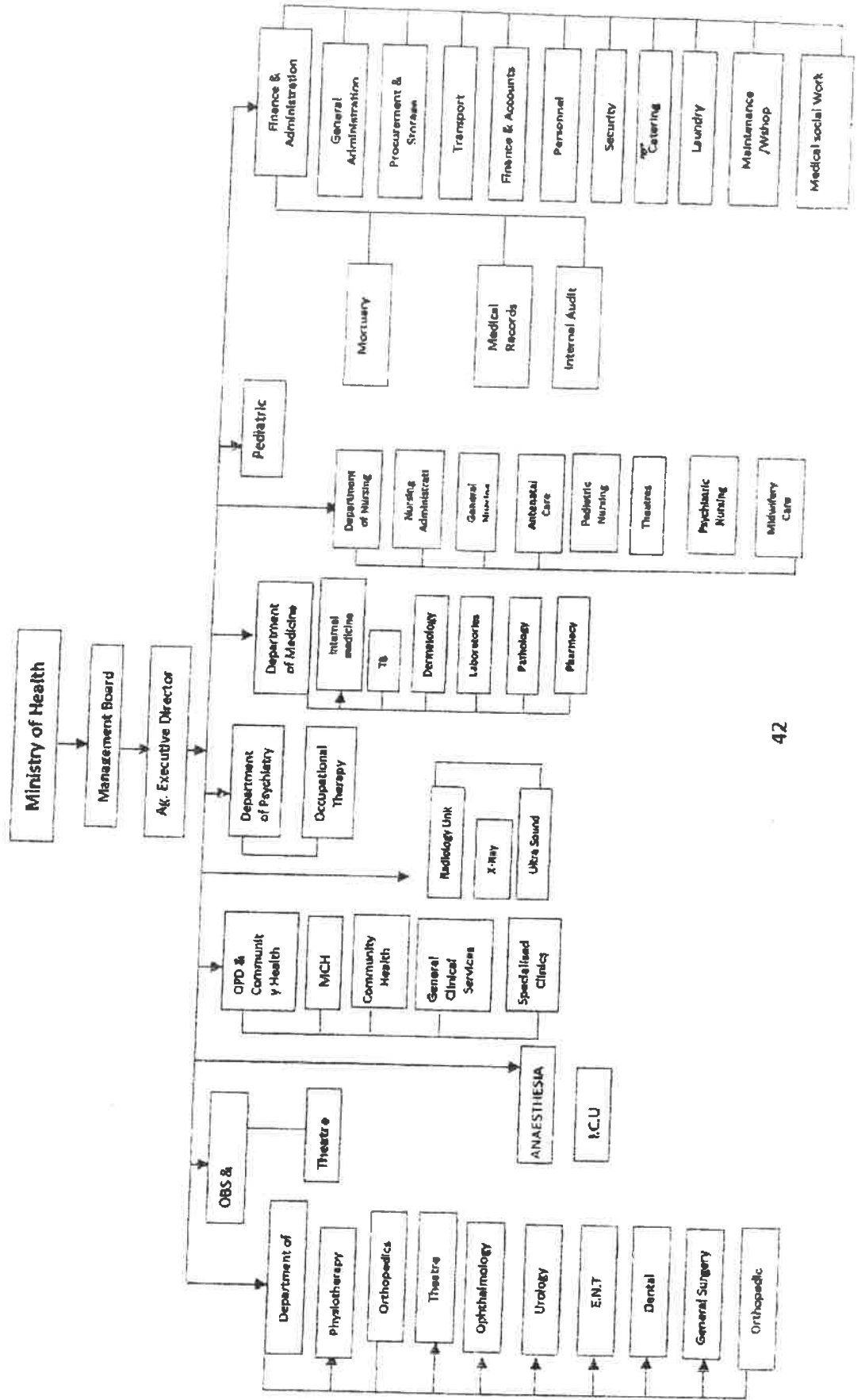
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Sep. 2014

Annex 3-4

Appendix (ii)

Functional Organisation Structure for Arua Regional Referral Hospital



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Annex 4 Requested facilities list

Hospital	Facility	Contents
Gulu RRH	the Maternity / Theatre / Casualty Block	<p>Maternity</p> <ol style="list-style-type: none"> 1) 75 to 81 patient beds 2) six delivery rooms 3) one kangaroo care room 4) one Neonatal Intensive Care Unit (NICU) <p>Theatre</p> <ol style="list-style-type: none"> 5) one surgical operation room 6) one orthopaedic operation room 7) one obstetrics/gynaecology operation room 8) one recovery space <p>Casualty</p> <ol style="list-style-type: none"> 9) one resuscitation room for 12 to 15 beds 10) one triage room/clinic 11) one minor operation theatre connected to the Theatre <p>Others</p> <ol style="list-style-type: none"> 12) one ICU¹ for four to six beds 13) Central Supply and Sterilization Department (CSSD) adjacent to the Theatre and also accessible from other departments 14) one connection corridor between the new building and the imagery building
Lira RRH	Outpatient Department (OPD) Complex	<p>OPD</p> <ol style="list-style-type: none"> 1) one pharmacy/dispensary 2) one satellite laboratory 3) two pediatric consultation rooms 4) one male consultation room 5) one female consultation room 6) one diabetic consultation room 7) one dental clinic 8) one Ear, Nose and Throat (ENT) clinic 9) one Most At Risk Populations (MARPs) room 10) one treatment room 11) one orthopedic consultation room 12) one physiotherapy/occupational consultation room 13) two specialized clinics <p>Maternal and Child Health (MCH)</p> <ol style="list-style-type: none"> 14) one office for in charge 15) one palpation room with six couches

¹ The level of this ICU will be between the level which provides general intensive monitoring of the patients and the level which provides intensive care for the patients with one organ failure. The level will be almost the same as the level of HDUs in Hoima RRH and Kabale RRH built by the Project for the Rehabilitation of Hospitals and Supply of Medical Equipment in the Western Region in Uganda

		<p>16) one treatment room 17) one Early Infant Diagnosis (EID) point treatment room 18) one immunization room, 19) family planning 20) cervical cancer screening X-Ray 21) one X-Ray room 22) one ultra sound room Casualty 23) one resuscitation room with 10 – 12 beds 24) one minor operation theatre Others 25) Waiting space for MCH attached to OPD complex</p>
	Delivery Complex	<p>1) six delivery suites 2) one new born baby room (NICU) 3) one sterilisation room 4) one nurse station 5) changing/wash rooms for nurses</p>
Arua RRH	the OPD and Casualty unit	<p>OPD 1) four general OPD consultation rooms 2) one medical outpatient consultation room 3) two paediatric rooms 4) one surgical outpatient consultation room 5) one ENT and ophthalmology consultation room 6) one gynaecology consultation room 7) one dental room 8) one adolescence room 9) two HIV Counseling and Testing (HCT) rooms 10) one MARPs room 11) one satellite laboratory 12) one pharmacy/dispensary Casualty 13) one resuscitation room with 10-15 beds 14) one minor operation theatre</p>

GULU RRH

Annex 5-1 Gulu RRH Requested Equipment List

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
OUT PATIENT				
1	1	BP machines	8	1
2	2	weighing scales adult	5	2
3	3	weighing scales children	1	3
4	4	Height meters	5	6
5	5	Autoclaves	1	5
6	6	Pulse oximeters	8	7
7	7	Thermometers	8	8
8	8	Examination lights	8	4
EMERGENCY UNIT				
9	1	BP machine	6	10
10	2	Stethoscopes	6	11
11	3	Weighing scales infant	1	12
12	4	Thermometers	6	13
13	5	Pulse Oximeters	6	9
14	6	Oxygen Cylinder Set	5	5
15	7	Suction machines	3	3
16	8	Mobile X-ray	1	1
17	9	Ultrasound machine	1	2
18	10	X-ray film viewer boxes	1	17
19	11	Examination light	2	18
20	12	Infusions Pumps	4	19
21	13	Patient monitor	3	6
22	14	Suction machine manual	3	4
23	15	Operation light (mobile)	1	16
24	16	Syringe pump	2	20
25	17	Emergency bed	4	15
26	18	Operation Table	1	14
27	19	Ambu bag	1	21
28	20	Cervical spine fixed color	2	22
29	21	Patient trolley	2	8
30	22	Wheel chair	3	7
OPERATING THEATRE				
31	1	Anesthetic machines	1	1
32	2	Operating lights	3	2
33	3	Patient monitor	4	4
34	4	Oxygen Cylinder Set	2	7
35	5	Suction machines	3	5
36	6	Weighing scales set	1	15
37	7	Operating Beds	3	3
38	8	Electro surgery machines	3	8
39	9	Defibrillators	1	9
40	10	Refrigerator	1	10
41	11	Operating light (mobile)	2	14
42	12	Patient trolley	5	11
43	13	Syringe pump	2	6
44	14	Instrument trolley	3	12
45	15	Mayo table	3	12
46	16	Instrument set for OT	1	13
IMAGING DEPARTMENT				
47	1	General mounted X-ray machine	1	1
48	2	Mobile X-ray	1	5
49	3	CR machines	1	2
50	4	Mammography X-ray machine	1	9
51	5	CT Scan	1	4
52	6	Ultrasound machine	1	6
53	7	ECG	1	7
54	8	Eco - cardiogram ultrasound machine	1	3
55	9	X-ray viewing boxes	10	10
56	10	Fluoroscopy X-ray machine	1	8
ICU				
57	1	ICU bed	4-6	2
58	2	Vital monitors	2	3
59	3	Suction machines	1	5
60	4	Oxygen cylinder set	1	4

GULU RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
61	5	Autoclaves	1	6
62	6	Infusion pumps	1	7
63	7	Ventilator	1	1
64	8	Ambu bag	1	8
65	9	Nebulizer	1	9
NICU				
66	1	Infants incubators	5	1
67	2	Photo therapy units	1	5
68	3	Patient monitor	1	8
69	4	Infusion Pumps	1	7
70	5	Pulse oximeters	2	3
71	6	Infant warmer	1	4
72	7	Examination lamp	2	6
73	8	Oxygen cylinder set	1	2
74	9	BP machine for infant	2	9
OB&GY				
75	1	Examination Bed for Gyn	3	12
76	2	Examination beds	4	13
77	3	Ultrasound machines	2	9
78	4	Doppler Fetoscope	3	11
79	5	Autoclaves	1	2
80	6	Cryo-therapy machine	1	3
81	7	Oxygen cylinder set	4	5
82	8	Suction machines	4	6
83	9	Delivery bed	6	1
84	10	Fetal monitor	1	14
85	11	Vacuum extractor (manual)	2	4
86	12	Patient monitor	2	8
87	13	Infant warmer	2	10
88	14	Patient trolley	4	7
89	15	Corpo scope	1	15
90	16	Speculum set	20	17
91	17	Curettage Instrument set	5	16
92	18	LEEP machine	1	18
PAEDIATRICS				
93	1	Oxygen cylinder set	10	1
94	2	weighing scales infants	4	8
95	3	Infusion pumps	4	4
96	4	Patient Monitor	1	2
97	5	Stethoscopes	5	7
98	6	Examination lights	3	9
99	7	Infant BP machines	3	6
100	8	Nebulizer	2	3
101	9	Gluco meter	1	5
CSSD and LAUNDRY				
102	1	Big Autoclaves	1	1
103	2	Laundry machine	1	2
104	3	Ironing machine	1	3
105	4	Dryers	1	4
106	5	Working table for CSSD	1	7
107	6	Laundry trolley	1	5
108	7	Storage cabinet	1	6
ENT				
109	1	Tonsillectomy set	2	1
110	2	Adenoidectomy set	2	2
111	3	Laryngoscopy set	1	3
112	4	Caldwell luc set	1	4
113	5	Tracheostomy set	1	13
114	6	Suction machines	2	7
115	7	Operating Microscopes	1	9
116	8	Middle ear set	1	10
117	9	Mastoid drill	1	11
118	10	Esophagoscopy	1	6
119	11	Bronchoscopy for children	1	5
120	12	Tympanometer	1	8
121	13	Acoustic Emission Testing machine	1	12

GULU RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
122	14	Walsham forceps	1	14
LABORATORY				
123	1	Binocular microscopes	2	5
124	2	Centrifuge	3	11
125	3	Fridges	2	1
126	4	Glucometer	3	10
127	5	Water bath	1	11
128	6	Incubators	1	12
129	7	Safety cabinets	1	13
130	8	shakers	3	14
131	9	Pipette	5	9
132	10	Heamometers	1	15
133	11	Water distiller	1	8
134	12	Chemistry analyzer	1	16
135	13	Autoclaves	1	6
136	14	Hot air oven	1	7
137	15	Deep freezer	1	2
138	16	Blood bank refrigerator	1	4
139	17	ELISA system with PCR	1	3
140	18	Electrolyte analyzer	1	5
141	19	Eye wash station	1	17
142	20	GeneXpert	1	18
DENTAL				
143	1	Dental unit	3	1
144	2	Dental X-ray	1	2
145	3	Dental instrument sets	1	3
146	4	Light Curing machines	1	4
147	5	Intra oral cameras	1	7
148	6	Pulp Tester	1	5
149	7	Dental laboratory equipment	1	8
150	8	Autoclaves	1	6
PHARMACY				
151	1	Drugs shelves	1	4
152	2	Drugs fridges	4	1
153	3	Dispensing tray	6	5
154	4	Drug trolley	5	3
155	5	Cupboard	2	2
SURGICAL WARD				
156	1	Oxygen cylinder set	3	2
157	2	Vital monitors	2	4
158	3	Autoclaves	1	1
159	4	Examination lights	2	6
160	5	BP machines	2	9
161	6	Suction machine	2	3
162	7	Patient trolley	2	11
163	8	Drum set	2	5
164	9	Diagnosis set	1	7
165	10	Weighing scale	1	10
166	11	Pulse oximeter	1	8
INTERNAL MEDICINE				
167	1	Endoscopy unit	1	12
168	2	BP machine	4	7
169	3	Weighing scales	3	11
170	4	Pulse oximeter	2	9
171	5	Portable ultrasound machine	1	3
172	6	Oxygen cylinder set	6	1
173	7	Nebulizer	4	2
174	8	Diagnosis set	2	8
175	9	Infusion pumps	1	10
176	10	Patient trolley	4	6
177	11	Wheel chair	4	14
178	12	Fibroscan	1	4
179	13	Medicine trolley	4	5
180	14	Suction machine	2	15
181	15	Ventilator	1	13

GULU RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
AMBULANCE				
182	1	Ambulance	1	
ORTHOPEDIC CLINICAL				
183	1	Plaster shear Manual	2	2
184	2	Plaster shear (electrical)	1	1
185	3	Plaster opener	2	4
186	4	Plaster bender	2	6
187	5	Splint set	1	3
188	6	Operating Fracture bed	1	7
189	7	C-Arm	1	5
190	8	Film viewer	1	8
PHYSIOTHERAPY				
Electro therapy Section				
191	1	UV Lamp	2	13(1A, 1B)
192	2	Therapeutic ultrasound	2	2(1A, 1B)
193	3	Short wave diathermy	1	3
194	4	TENS	1	11
195	5	EMS	1	15
196	6	Infra-Red Radiation lamps	2	4
197	7	Electrical massager	2	12
Manipulative therapy				
198	8	Traction machines (Cervical and lumber)	1	1
199	9	Therapeutic Massage beds	3	5
Exercise therapy section				
200	10	Tread mill	2	6
201	11	Pulley systems	1	16
202	12	Suspension bed	1	17
203	13	Muscle strengthening weights	2	18
204	14	Therapeutic mats	3	19
205	15	Postural mirror	1	20
206	16	Hand exercise equipment	1	24
207	17	Shoulder wheels	1	25
208	18	stationary bikes, - adult	2	8
209	19	Stationary bikes - children	1	9
210	20	Quadriceps bench with accessories like weights	1	7
211	21	Bo baths balls different sizes	1	10
212	22	Stares adult	1	26
213	23	Stares children	1	27
214	24	Parallel bars children	1	28
215	25	Abdominal strengthening equipment	1	21
Hydrotherapy facilities				
216	26	Warm parks equipment	2	22
217	27	Cold parks equipment	2	23
218	28	Parallel bars adult	1	29
219	29	Electrical Oscillatory manipulative bed	1	14
Orthopaedic workshop				
220	1	Jig saw	1	5
221	2	Heavy duty oven	1	9
222	3	Rotor machine	1	1
223	4	Dust Suction machine	2	3
224	5	Pressure compressor	1	4
225	6	Vertical band saw	1	12
226	7	Pipe bender	1	2
227	8	Hand drilling machine	2	6
228	9	Vacuum machine	1	7
229	10	Automatic parallels bars	1	10
230	11	Mirror	1	11
231	12	Polishing machine	1	8
HOSPITAL WORKSHOP				
232	1	Carpentry tool box	1	5
233	2	Plumbing tool box	1	4
234	3	Oxygen gas analyzer	2	7
235	4	Digital Multi-meter	2	6
236	5	Welding generator	1	2
237	6	Heavy Duty Engraving machine	1	8
238	7	Electric safety analyzer machine	1	9

GULU RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
239	8	Working mats for electronics	1	10
240	9	Electronics tool box	2	1
241	10	Mechanical tool box	2	3
OPHTHALMOLOGY				
242	1	Operating Microscopes	1	1
243	2	Slit lamp	1	4
244	3	Visual field analyzer (automated)	1	2
245	4	Hand held portable slit lamp	1	7
246	5	Direct ophthalmoscope	3	8
247	6	Parkins tomometer	1	11
248	7	Cataract set	8	6
249	8	Extra owler (lid surgery) set	5	10
250	9	Suction machines	1	3
251	10	Magnifying head loop	4	9
252	11	Autorefracto meter	1	5
MENTAL HEALTH CARE				
253	1	BP machines	3	1
254	2	Weighing scale	4	3
255	3	Autoclaves	1	2
256	4	Drum set	2	7
257	5	Oxygen cylinder	2	11
258	6	ECT (Electroconvulsive Therapy)	1	6
259	7	Pulse oximeter	1	4
260	8	Patient trolley	2	5
261	9	Examination bed	3	10
262	10	Infusion pump	1	8
263	11	Wheel chair	2	9

LIRA RRH

Annex 5-2 Lira RRH Requested Equipment List

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
Out Patient				
1	1	BP machine	each clinical room	1
2	2	Examination Couch	each clinical room	3
3	3	Wheel Chair	2	4
4	4	Weighing Scale	each clinical room	5
5	5	Glucometer	each clinical room	6
6	6	Diagnostic set	each clinical room	2
7	7	Patient trolley	1	7
OB/GYN				
8	1	Delivery Bed	4	1
9	2	Operation Light mobile	2	2
10	3	Oxygen cylinder set	2	7
11	4	suction Machine	2	11
12	5	Examination Couch	2	5
13	6	weighing and height Scale	3	8
14	7	BP machine	4	4
15	8	Cesarean operating instrument set	4	3
16	9	Intubation set	2	13
17	10	Resuscitation kit	1	14
18	11	Autoclave	1	9
19	12	Patient monitor	2	12
20	13	Examination bed for OBGY	2	6
21	14	Drum set	3	10
Imaging				
22	1	CT	1	4
23	2	Fluoroscopy machine	1	5
24	3	ultra sound scanner	1	3
25	4	Fixed X-ray with card reader	1	1
26	5	Automatic film processor	1	2
27	6	Read character	1	7
28	7	Mobile X-ray machine	1	6
29	8	CR system	1	8
Ambulance				
30	1	Ambulance	1	1
Emergency				
31	1	Ventilator	2	4
32	2	Anesthesia machine	1	5
33	3	Autoclave	1	7
34	4	patient Trolley	4	10
35	5	suction machine	2	8
36	6	Operation table	1	2
37	7	patient Monitor	2	6
38	8	Operating instrument set	2	11
39	9	Emergency bed	4	1
40	10	Diagnostic set	2	12
41	11	Drum Set	5	9
42	12	B.P. machine	2	13
43	13	Operation light mobile	1	3
Sterilisation in Thetre and OBGY				
44	1	Autoclave for sterilization	2	1
45	2	Boiler	1	2
46	3	Storage cabinet	2	3
47	4	Steel cabinet	2	4
Laundry				
48	1	laundry machine	1	1
49	2	Heavy duty electric iron	1	2
50	3	Dryer	1	3
Dental				
51	1	Dental Chair	4	1
52	2	Dental X-Ray	1	2
53	3	Autoclave	1	3
54	4	Light cure machine	1	5

LIRA RRH

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
55	5	Electronic scaler	1	6
56	6	Dry-heat sterilizer	1	9
57	7	Dental forceps (all sets)	5	4
58	8	Sterilizing box set	1	10
59	9	Drums set	1	11
60	10	Pulp tester	1	7
61	11	Intra oral cameras	1	8
Pediatic				
62	1	Oxygen cylinder set	10	1
63	2	Radiant warmer (for NICU)	2	2
64	3	Incubator (for NICU)	2	3
65	4	weighing scale	2	4
66	5	patient Monitor	2	5
67	6	Pulse oximeter	8	6
68	7	Pediatic BP machine	3	7
69	8	Diagnostic set	3	8
Operation Theatre				
70	1	Anesthesia machine	1	1
71	2	Patient Monitor	1	2
72	3	suction machine	3	6
73	4	Oxygen cylinder set	4	5
74	5	Operation table	2	7
75	6	Pulse oximeter	4	3
76	7	BP machine Digital	4	4
77	8	Glucometer	1	8
78	9	Sterilizing drum Large	10	13
79	10	Sterilizing drum Medium	5	14
80	11	Sterilizing drum Small	5	15
81	12	Operation light portable	2	9
82	13	Autoclave	1	10
83	14	patient Trolley	2	11
84	15	Laparotomy set	1	12
85	16	Instrument trolley	2	16
Sugery Ward				
86	1	Autoclave	2	2
87	2	suction machine	2	11
88	3	BP machine	2	12
89	4	examination couch	3	8
90	5	Drip stand	10	7
91	6	Patient trolley	2	3
92	7	Wheel Chair	2	4
93	8	Drum set	3	6
94	9	Oxygen cylinder set	2	1
95	10	Dressing trolley	2	9
96	11	Drug trolley	2	10
97	12	Resuscitation kit	2	5
98	13	Glucometer	2	13
99	14	Dressing instrument set	2	14
100	15	Pulse oximeter	2	15
101	16	Weighing scale	2	16
ENT				
102	1	ENT examination microscope	1	9
103	2	ENT examination set complete	1	1
104	3	Mastidectomy set	1	8
105	4	Tonsillectomy set	1	7
106	5	Bronchoscopy set	1	2
107	6	ENT examination unit	1	6
108	7	Tympanometer	1	3
109	8	BP machine	1	5
110	9	Audiometer	1	4
Laboratory				
111	1	Hematology analyzer	1	3

LIRA RRH

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
112	2	Biochemistry machine	1	4
113	3	Refrigerator Blood Bank	1	1
114	4	Microscope	2	5
115	5	Centrifuge	2	10
116	6	Incubator	1	7
117	7	Autoclave	1	6
118	8	Voltex mixer	1	11
119	9	weighing scale	1	9
120	10	Water desterilizer	1	8
121	11	Refrigerator	1	2
Internal Medicine				
122	1	Oxygen cylinder set	2	2
123	2	Nebulizer	1	4
124	3	suction Machine	1	6
125	4	patient Trolley	2	5
126	5	syringe pump	2	8
127	6	infusion pump	2	7
128	7	Drip stand	10	3
129	8	Ultrasound machine portable	1	1
ICU				
130	1	syringe pump	2	1
Pharmacy				
131	1	Refrigerator (large)	7	1
132	2	Refrigerator (small)	4	2
133	3	Table drug	1	5
134	4	Drug trolley	3	6
135	5	Steel cabinet	2	8
136	6	Water destilizer	2	4
137	7	Autoclave	1	3
138	8	Drug cupboard	7	7
Medical Equipment				
139	1	Portable oscilloscope	1	7
140	2	Thermometer/hygrometer	1	9
141	3	Analyzer Tachometer	1	8
142	4	Insulation resistance tester	1	1
143	5	Earth mega tester	1	3
144	6	Cramp meter	1	2
145	7	Welding machine mobile	1	5
146	8	Electrical tool box	1	6
147	9	Pipe bender	1	4
Orthopedic workshop				
148	1	Broad Belt Sander	1	4
149	2	Vacuumed machine	1	3
150	3	Welding hot jet	1	5
151	4	Welding MIRROR	1	2
152	5	Router machine	1	1
Orthopedic				
153	1	Oscillation Plaster cutter	1	1
154	2	Plaster share	1	2
155	3	Plaster bender	1	6
156	4	Plaster opener	1	8
157	5	Operating flucture bed	1	9
158	6	Bone fracture instrument set	1	7
159	7	Thomas splint	20	3
160	8	Browne splint	20	4
161	9	Electrical bone drill	1	10
162	10	Wheel Chair	5	5
Ophthalmology				
163	1	Operating microscope	1	2
164	2	Cataract operation instrument set	6	3
165	3	Autoclave	1	4
166	4	Slit lamp with Tonometer	1	6
167	5	Area thetie machine	1	5

LIRA RRH

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
168	6	Instrument trolley	2	11
169	7	Kerato meter	1	7
170	8	Trial lens set	1	10
171	9	weighing scale	2	9
172	10	BP machine	2	8
173	11	Phaco emulsification machine	1	1
Physiotherapy				
174	1	Ultrasound therapy	1	2
175	2	Short wave therapy	1	1
176	3	Infra-Red Radiation lamps	1	3
177	4	Exercise mat	2	5
178	5	Stationary bike	2	6
179	6	Balance ball	2	7
180	7	Traction bed	1	4
181	8	Electrical massager	1	8
182	9	Refrigerator	1	9
Mental Health				
183	1	Drug trolley	2	4
184	2	Drug cupboard	1	3
185	3	Examination coach	2	2
186	4	Chito forceps	2	6
187	5	Drums set	2	5
188	6	Autoclave	1	1
189	7	Drip stand	4	7
Pathology				
190	1	Mortuary refrigerator	1	2
191	2	Mortuary trolley with cover	2	1
192	3	Mortuary Instrument set	1	4
193	4	Holding patient trolley	2	3
NMCH				
194	1	Examination couch	9	1
195	2	Examination lump	2	7
196	3	Speculum set	1	8
197	4	Uterine sonde set	2	13
198	5	Uterine Elevator instrument set	5	14
199	6	Drum set	4	5
200	7	Cupboard	2	9
201	8	Deep freezer	1	4
202	9	Refractor for vaccines	1	3
203	10	Vaccine carrier	10	6
204	11	Weighing scale neonatal	3	10
205	12	BP machine	7	2
206	13	Weighing and height scale adult	3	10
207	14	Patient trolley	1	11
208	15	Wheel chair	1	12

ARUA RRH

Annex 5-3 Arua RRH Requested Equipment List

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
Accident And Emergency				
1	1	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	1
2	2	Endoscopy machine	1	19
3	3	Emergency Respirators	1	2
4	4	Defibrilators	1	16
5	5	Oxygen cylinder set	2	8
6	6	Suction machine Electrical	2	3
7	7	Nebulizer	2	4
8	8	Patient transfer trolleys	4	5
9	9	Wheel chairs	4	9
10	10	Operating table	1	6
11	11	Operating light mobile	1	7
12	12	Drug trolley	1	17
13	13	Medicine Cupboards	2	18
14	14	Emergency Bed	5	10
15	15	Examination light	1	11
16	16	Dressing cart	1	12
17	17	Dressing instrument set	1	14
18	18	Diagnosis set	1	15
19	19	Minor surgery instrument set,	1	13
20	20	Autoclave	1	20
Ambulance				
21	1	Ambulance	1	1
Dental				
22	1	Dental Unit	3	1
23	2	Dental imaging/x-ray machine and processors	1	2
24	3	Vacuum Autoclaves	1	4
25	4	LED cure lights	2	6
26	5	Ultrasonic Scalers	2	7
27	6	Ultrasonic cleaner	1	8
28	7	Dental implant surgical motors	1	15
29	8	Handpieces oiler	1	9
30	9	Apex Locators	1	10
31	10	Casting machine	1	11
32	11	Polishing and trimming machines	1	12
33	12	Hydroflasks, Heat cure flasks and articulators	1	13
34	13	Orthopantomogram	1	14
35	14	Electric pulp tester	2	5
36	15	Dental instrument set	1	3
Occupational Therapy				
37	1	Large portable mirror	1	2
38	2	Sewing machines	1	3
39	3	Standing frames,adults and children	1	6
40	4	Walking frames,adults and children	2	4
41	5	Parallel bars,adults and children	1	1
42	6	Prone boards	1	5
Physiotherapy				
43	1	Short wave Diathermy	2	1
44	2	Infra Red machine	2	2
45	3	Ultra sound Machine	1	3
46	4	Muscle stimulators	1	4
47	5	Cervical Traction machine	1	5
48	6	Lumbar traction machine	1	6
49	7	TENS Machine	2	7
50	8	Shoulder traction machine	1	8
51	9	Stational bicycle	2	9
52	10	Exercise mat	3	10
53	11	Wheel chair	5	11
54	12	Bobbath ball	5	12
55	13	Hand therapy springs	2	13

ARUA RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
Imargery				
56	1	Computerised Tommographic Scan (CT-Scan)	1	1
57	2	Berium Enamel set	1	6
58	3	Mamography Machine	1	4
59	4	Ultra sound scan [Cardiac Abdominal,obstetric] with doppler	1	2
60	5	Digital Radiography system DRS	1	3
61	7	Hysterosalpingogram set	1	7
62	8	Electro encephalogram	1	8
Pharmacy				
63	1	Refrigerators Large	1	1
64	2	Drug Cupboards Metallics	3	2
65	3	Autoclave	1	4
66	4	Dry oven	1	5
67	5	Water Distillers	2	3
68	6	Water bath	1	6
69	7	Weighing scale digital	2	7
Orthopeadics				
70	1	Gypsum cutter	1	1
71	2	Manual Plaster cutter	2	14
72	3	Pulse oximetre	1	2
73	4	Oxygen cylinder and mask	1	3
74	5	Dressing set	1	4
75	6	Dressing trolley	1	5
76	7	Patient trasnfer trolley	2	6
77	8	Drug trolley	1	7
78	9	Drum set	1	8
79	10	Autoclve	1	9
80	11	Drip stand	10	10
81	12	Examination couch	3	11
82	13	Plaster table	1	12
83	14	Wheel chair	2	13
84	15	Bed craddle	5	15
85	16	Working frame	2	16
86	17	Orthopedic braun frame for traction	5	17
87	18	C-arm	1	18
88	19	Instrument set for orhopedic surgery	1	19
Laboratory				
89	1	Heamatology analyser [5 parametre]	1	7
90	2	Clinical Chemistry Analysers	1	8
91	3	Refrigerator	2	1
92	4	Electrical centrifuge [8-12 Buckets]	2	2
93	5	Orbital shaker	1	9
94	6	Blood mixer [Roller]	1	10
95	7	Laboratory incubator	1	11
96	8	Electrical weighing Scale [Laboratory]	1	4
97	9	Weighing Scale for blood transfusion	1	3
98	10	Autoclave Elecrtical	1	5
99	11	Microscope Olympus	2	6
100	12	Hemoglobino meter	1	12
CSSD				
101	1	Autoclave Set	1	1
102	2	Whashing Machines	1	1
103	3	Dryer	1	2
104	4	Ironing roller	1	3
105	5	Flat ironing machine	1	5
106	6	Laundry trolley	4	4
MARTENITY				
Labour and Delivery room , HDU				
107	1	Vital sign monitor [ECG,Pulse rate ,SP2,Foetal doppler]	3	4
108	2	Blood preesure machine wll mounted or on stands	2	9
109	3	Delivery Beds	8	1
110	4	Infant Warmer	3	3
111	5	Patient Transfer trolleys	2	2

ARUA RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
112	6	Oxygen cylinder set	5	11
113	7	Wheel chairs	2	12
114	8	Examminations spot lights	2	10
115	9	Instrument set for delivery	10	5
116	10	Suction machine Electrical	2	8
117	11	Fetal dopper	2	7
118	12	Ambubag set fro neonatal	2	6
119	13	Vacuum extractor	1	13
OB/GY				
120	1	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	4
121	2	Drug Trolleys	3	7
122	3	Dressing trollely	3	8
123	4	Dressing sets [Forceps,Kidney dishes,arteries etc]	2	5
124	5	Examination table	3	3
125	6	Fetal dopper	2	6
126	7	Instrument set for examination	1	2
127	8	Blood pressure	6	1
Theatre				
128	1	Vital sign monitors	2	1
129	2	Electrical suction machine	2	2
130	3	Anasthetic machine	1	3
131	4	Ceiling mounted mobile type	2	4
132	5	Oxygen cylinder set	2	5
133	6	Autoclave	1	7
134	7	Instrument Set for theatre	1	6
Neontal unit				
135	1	Incubators	4	3
136	2	Oxygen cylinder set	4	6
137	3	Baby courches	5	2
138	4	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	1
139	5	Suction machine electrical	1	7
140	6	Infant Radiant Warmers	2	5
141	7	Continuous postive air way pressure(CPAP) sets	1	4
Internal Medicine				
142	1	Oxygen cylinder set	5	1
143	2	Suction machine Electrical	2	2
144	3	Autoclave small	1	3
145	4	Wheel chair	3	4
146	5	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	5
147	6	Patient trolley	2	6
148	7	HBAIc machine	1	8
149	8	Drug infusion pumps	4	9(2A, 2B)
150	9	Nebulisers	1	10
151	10	Diagnostic set general	2	7
152	11	Refrigerators medicine	2	12(1A, 1B)
153	12	Dressing instrument set	2	13
154	13	Drug trolley	2	14
155	14	Instument drums set	1	15
156	15	Patient examination coach	2	18
157	16	Glucometer	2	19
158	17	Pulsoximeter	2	20
159	18	Weighing scale	2	21
Main Operating Theatre				
160	1	Operating table	3	1 (2A, 1B)
161	2	Vital sign monitor [ECG,Pulse rate Bp,SP2]	3	4(2A, 1B)
162	3	Operating lamp mobile type	3	2(2A, 1B)
163	4	Anaesthetic Machine	2	6
164	5	Electrical Dermatome(Skin Graft Set)	2	5(1A, 1B)
165	6	Oxygen cylinder set	2	9
166	7	Pneumatic tournique	2	8
167	8	Patient Transfer trolley	2	7
168	9	Suction machine electrical	3	3
169	10	Electrical surgical unit	1	10

ARUA RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	Final Priority
170	11	Instrument set for OP theatre	1	11
General Surgery				
171	1	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	5
172	2	Oxygen cylinder set	2	7
173	3	Suction machine	2	6
174	4	Medicine/treatment trolleys	4	3
175	5	Patient screens	6	8
176	6	Patient transfer trolleys	3	2
177	7	Instrument set	1	1
178	8	Dressing trolley	4	4
Pediatric				
179	1	Oxygen cylinder set	4	1
180	2	Nebulisers	3	2
181	3	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	3
182	4	infant and child Blood pressure machine	6	4
183	5	Pulse oximetre	10	6
184	6	Patient screens	4	12
185	7	reservoir bags with face masks	4	13
186	8	Examination couch	5	7
187	9	Stethoscope paediatrics	3	8
188	10	Files trolley	3	11
189	11	Diagnosis set	3	10
190	12	Thermometre digital	12	9
191	13	Examination light	5	5
Medical Equipment Workshop				
192	1	Electronic / Electrical tools	2	7
193	2	Refrigeration tools	1	1
194	3	Oxygen analyser	2	5
195	4	Mechanical tools	2	6
196	5	Welding Genarator Portable	1	4
197	6	Plumbling Tool	1	9
198	7	Drilling machine	1	3
199	8	Carpently tool set	1	10
200	9	Multimeter	2	8
201	10	Clamp meter	2	2

JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as “the Recipient”) to purchase the products and/or services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as “Project Grants”).

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See “PROCEDURES OF JAPANESE GRANT” for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA

(2) Appraisal

- Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

- The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as “the G/A”)

- Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as “the B/A”)

- Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as "the Bank") to receive the grant

Construction works/procurement

- Implementation of the project (hereinafter referred to as “the Project”) on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

- Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of

relevant agencies of the Recipient necessary for the implementation of the Project.

- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes (hereinafter referred to as “the E/N”) will be signed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the “General Terms and Conditions for Japanese Grant (January 2016).”

2) Banking Arrangements (B/A) (See “Financial Flow of Japanese Grant (A/P Type)” for details)

a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.

b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA's procurement guidelines as stipulated in the G/A.

4) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the Recipient to continue to work on the Project's implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the "Meeting") will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during construction.

(2) Ex-post Monitoring and Evaluation Stage

- 1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.
- 2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.

PROCEDURES OF JAPANESE GRANT

Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
2. Appraisal	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x				x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.

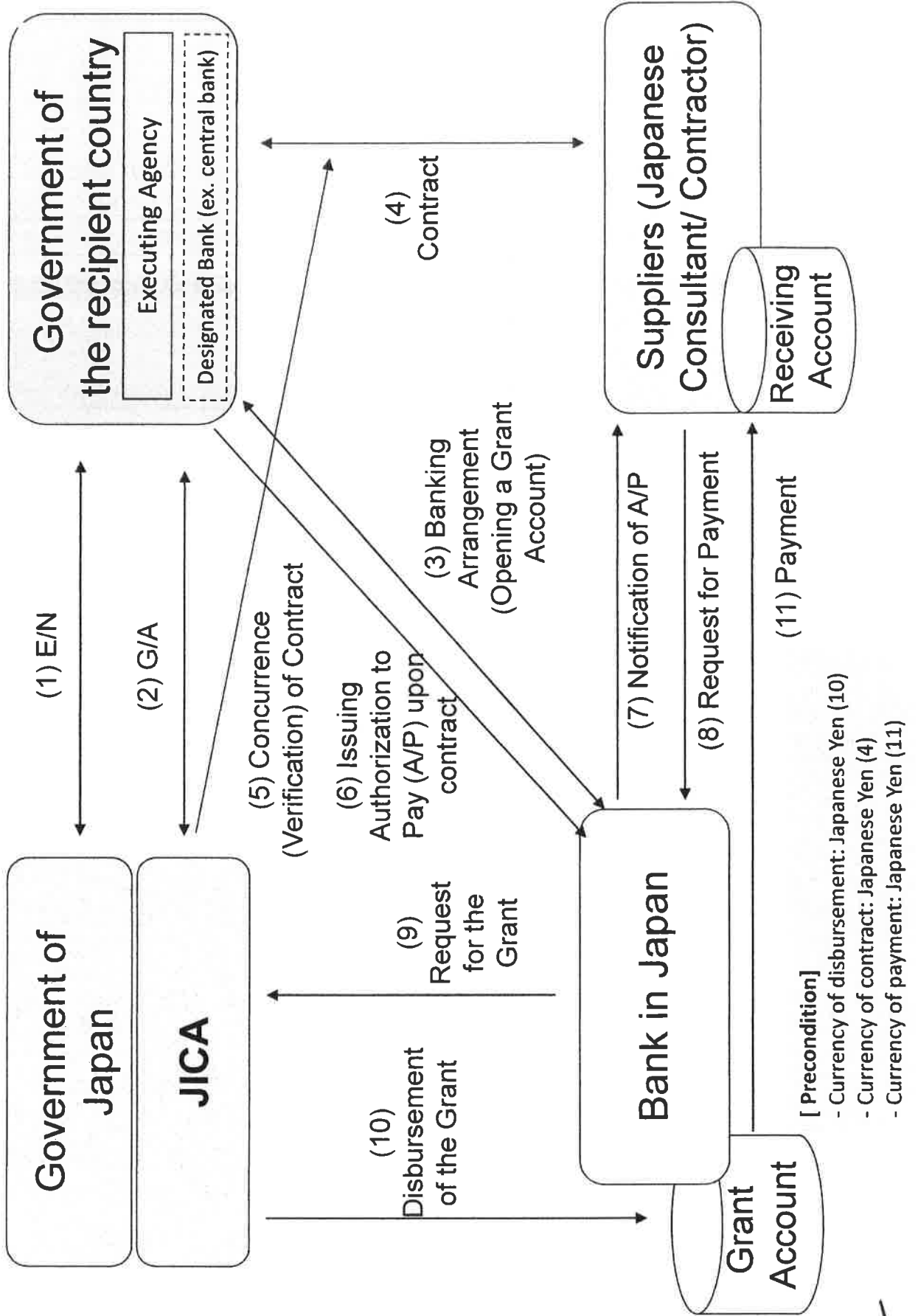
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

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Financial Flow of Japanese Grant (A/P Type)



Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXXX
20XX, Month

Organizational Information

Signer of the G/A (Recipient)	_____ Person in Charge (Designation) _____ Contacts _____ Address: _____ Phone/FAX: _____ Email: _____
Executing Agency	_____ Person in Charge (Designation) _____ Contacts _____ Address: _____ Phone/FAX: _____ Email: _____
Line Ministry	_____ Person in Charge (Designation) _____ Contacts _____ Address: _____ Phone/FAX: _____ Email: _____

General Information:

Project Title	
E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

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1: Project Description

1-1 Project Objective

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

2-2 Scope of the work

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)





2-3 Implementation Schedule

Items	Original		Actual
	(proposed in the outline design)	(at the time of signing the Grant Agreement)	

Reasons for any changes of the schedule, and their effects on the project (if any)

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2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original (proposed in the outline design)	Actual (in case of any modification)	Original ^{1),2)} (proposed in the outline design)	Actual
	1.			
Total				

Note: 1) Date of estimation:
 2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost	
	Original (proposed in the outline design)	Actual (in case of any modification)	Original ^{1),2)} (proposed in the outline design)	Actual
	1.			

- Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original (at the time of outline design)

name:

role:

financial situation:

institutional and organizational arrangement (organogram):

human resources (number and ability of staff):

Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original (at the time of outline design)

Actual (PMR)

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original (at the time of outline design)



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Actual (PMR)

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
Actual Situation and Countermeasures	
(PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

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5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

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5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

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Attachment

1. Project Location Map
 2. Specific obligations of the Recipient which will not be funded with the Grant
 3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
 - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/ Agreement and Schedule of Payment)
 5. Environmental Monitoring Form / Social Monitoring Form
 6. Monitoring sheet on price of specified materials (Quarterly)
 7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final) only)
 8. Pictures (by JPEG style by CD-R) (PMR (final) only)
 9. Equipment List (PMR (final) only)
 10. Drawing (PMR (final) only)
 11. Report on RD (After project)

Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment	
					Price (Decreased) E=C-D	Price (Increased) F=C+D
Item 1	●●t	●	●	●	●	●
Item 2	●●t	●	●			
Item 3						
Item 4						
Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials	1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
Item 1	●	●	●			
Item 2						
Item 3						
Item 4						
Item 5						

(3) Summary of Discussion with Contractor (if necessary)

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Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

Major Undertakings to be taken by the Government of Uganda

Specific obligations of the Government of Uganda which will not be funded with the Grant

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	MOH		
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract	MOH		
3	To provide alternative space for the services carried out in the facilities to be demolished during construction period.	before start of demolition	RRHs		
4	To secure and clear land for ; 1) the construction areas 2) the area for temporary office, temporary store and working shade, stock yard for materials and concrete mixing space	before notice of the bidding document	RRHs		
5	To obtain the planning, zoning, building permit	before notice of the bidding document	MOH and RRHs		
6	To clear, level and reclaim the following sites at the construction areas including their foundations 1) the existing buildings 2) all existing trees 3) the existing sewerage pipes, manholes, water supply pipes, underground electric cables 4) any other obstacles	before notice of the bidding document	RRHs		
7	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents	MOH		

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

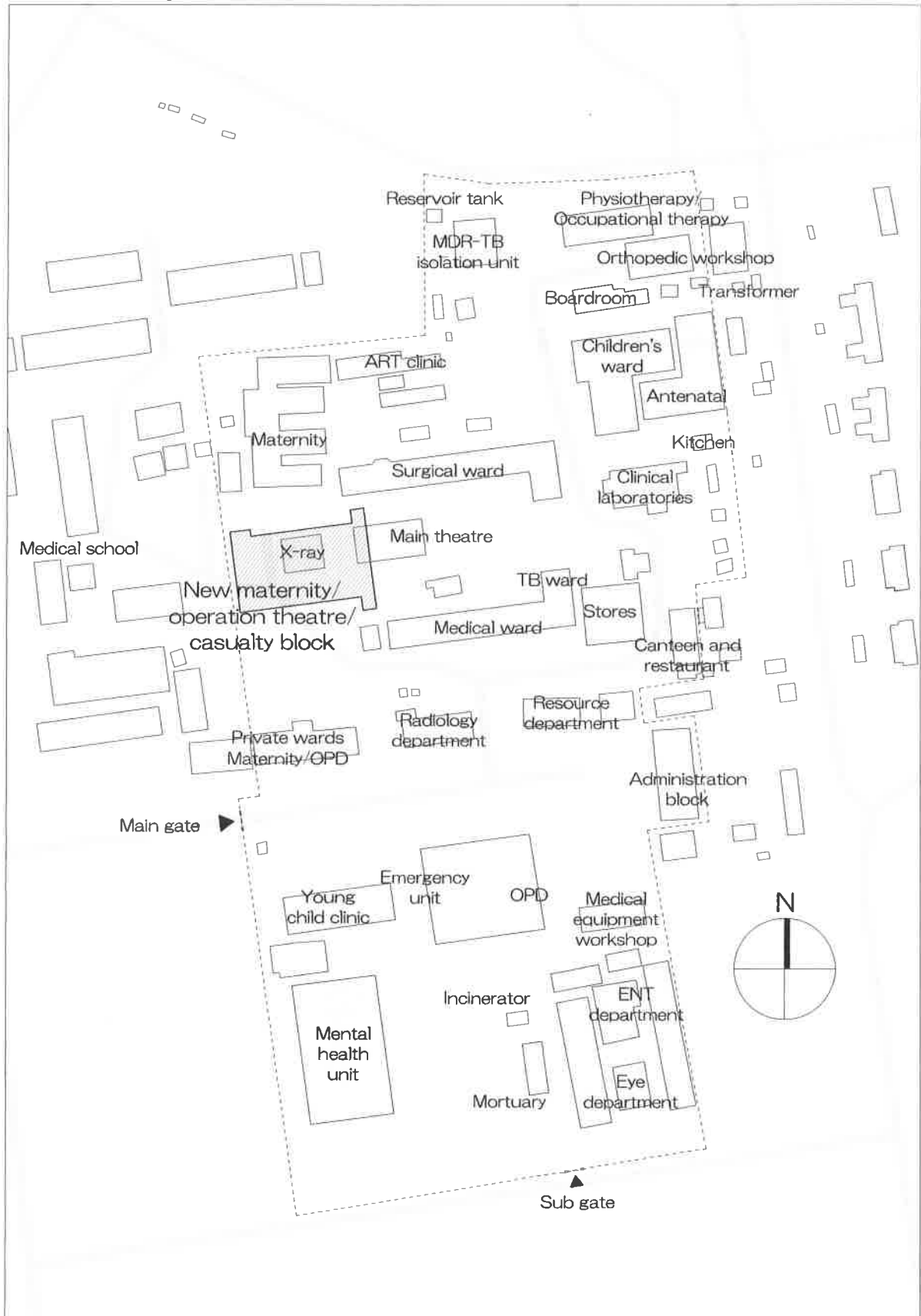
(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	MOH		
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A		MOH		
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	MOH		
	2) Payment commission for A/P	every payment	MOH		
3	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in recipient country	during the Project	MOH		
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	MOH		
5	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services shall be in accordance with the agreement to be concluded between the Government of Uganda and the Government of Japan. MOH shall take necessary measures according to the agreement.	during the Project	MOH		
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MOH and RRHs		
7	To submit Project Monitoring Report	every month	MOH		
	1) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	MOH		
8	To submit a report concerning completion of the Project	within six months after completion of the Project	MOH		
9	To conduct necessary pre-installation works in the case of installing new equipment in the existing buildings	before installation of equipment	RRHs		
10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites		RRHs		
	1) Electricity - The distributing line and appropriate power supply to the buildings	before start of the construction	RRHs		
	2) Water Supply - The water supply line and the appropriate water supply to the buildings	6 months before completion of the construction	RRHs		
	3) Drainage - The public sewer line and the appropriate drainage system to the buildings	6 months before completion of the construction	RRHs		
	4) Furniture and Equipment - general furniture and office equipment - spare parts and consumables	1 month before completion of the construction	RRHs		
11	To take necessary measure for safe construction and traffic control	during the construction	RRHs		

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance system 3) Routine check/Periodic inspection	After completion of the construction	MOH and RRHs		

Annex 9-1 Plot plan of facilities in Gulu RRH



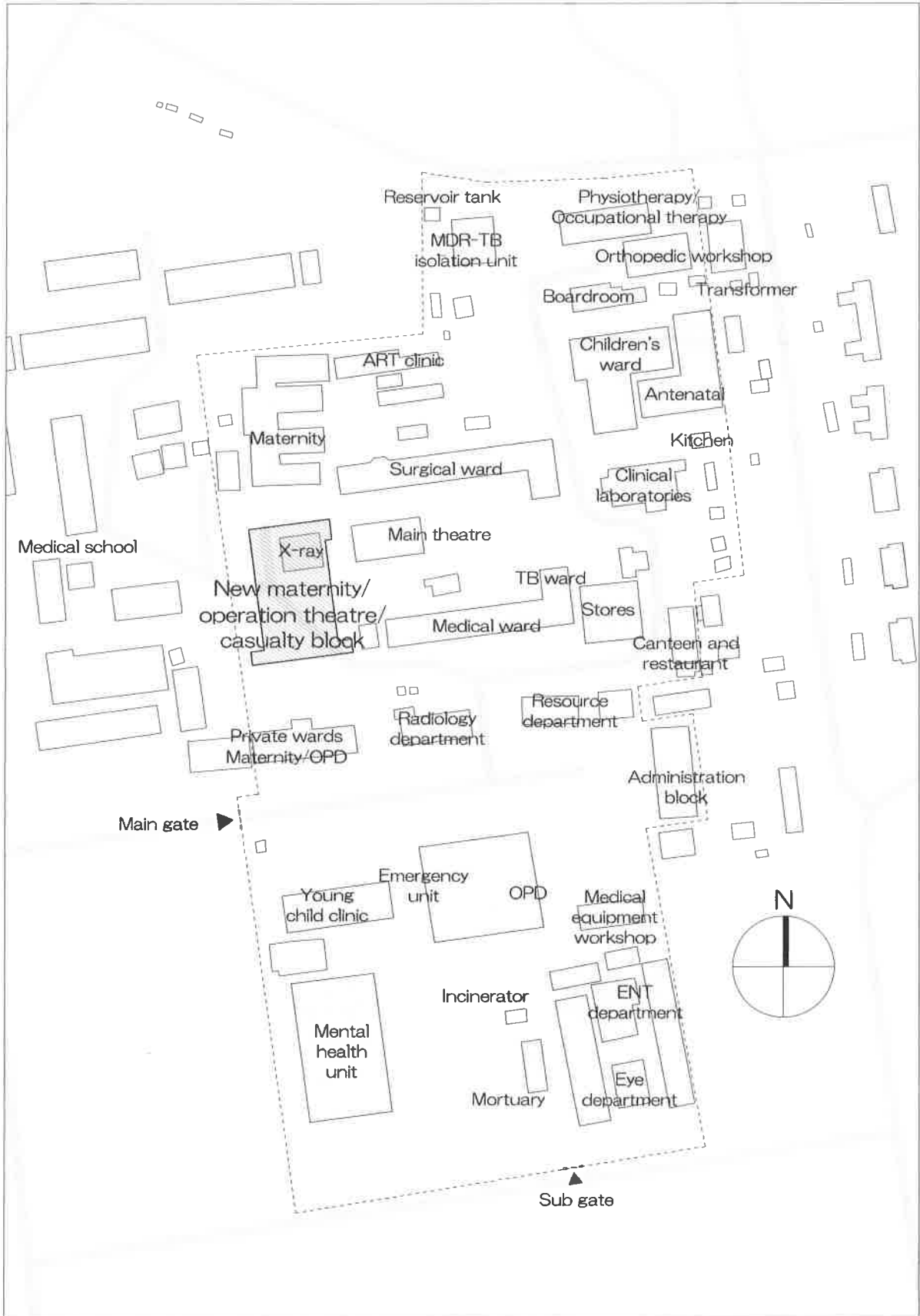
CONSULTANT
 THE CONSORTIUM OF
 YOKOGAWA ARCHITECTS & ENGINEERS, INC
 AND INTEM CONSULTING, INC.


PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE
 MATERNITY/OPERATION
 THEATRE/CASUALTY BLOCK
 LAYOUT - OPTION A
 DATE: 2017.02 SITE: GULU RRH

DRAWING NO.
 SCALE
 1:1,500





CONSULTANT
 THE CONSORTIUM OF
 YOKOGAWA ARCHITECTS & ENGINEERS, INC
 AND ITEM CONSULTING, INC.
 YOKOGAWA ARCHITECTS & ENGINEERS, INC. ITEM CONSULTING, INC.

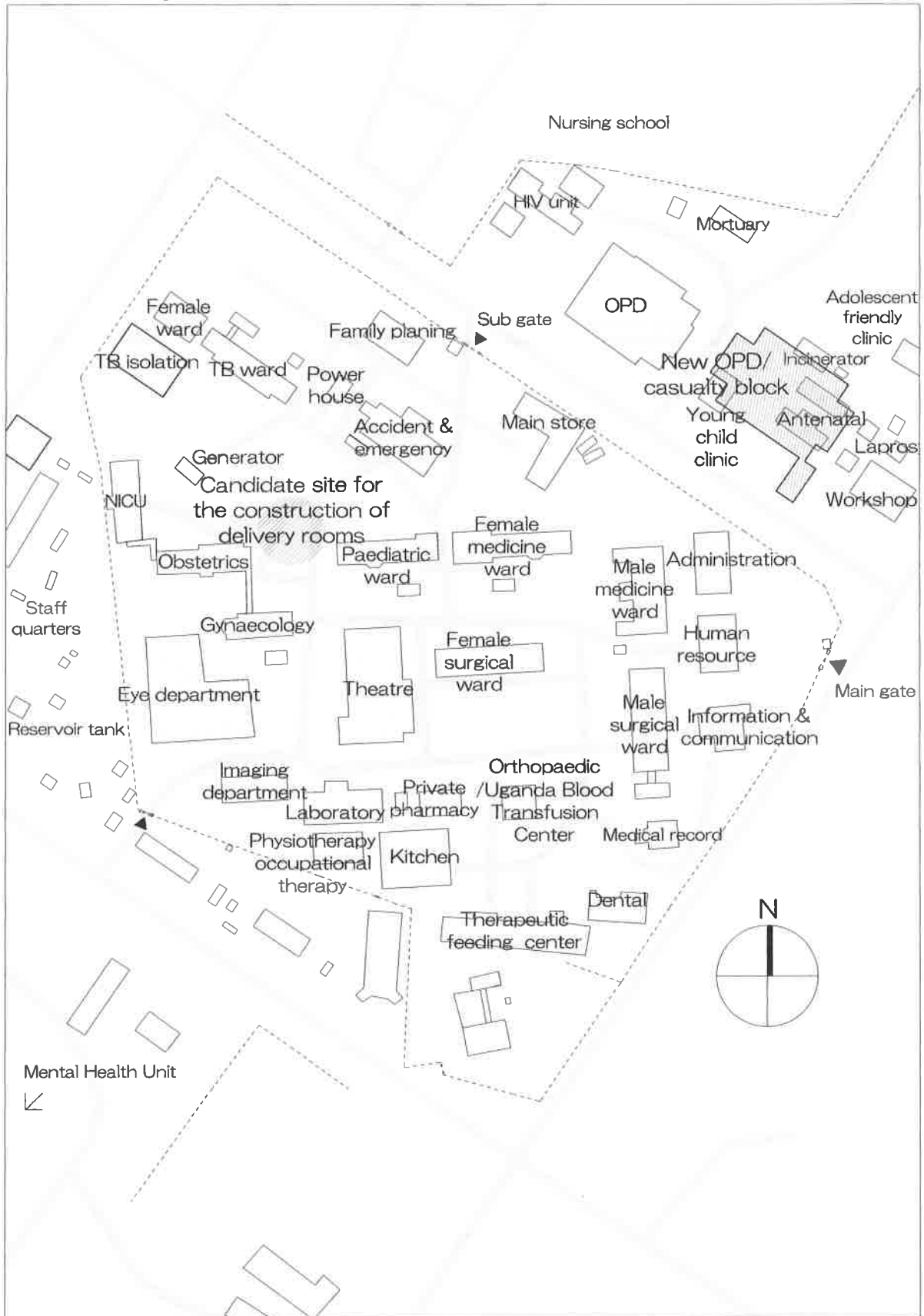
PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE
 MATERNITY/OPERATION
 THEATRE/CASUALTY BLOCK
 LAYOUT - OPTION B
 DATE: 2017.02 SITE: GULU RRH

DRAWING NO
 SCALE
 1:1,500

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Annex 9-2 Plot plan of facilities in Lira RRH

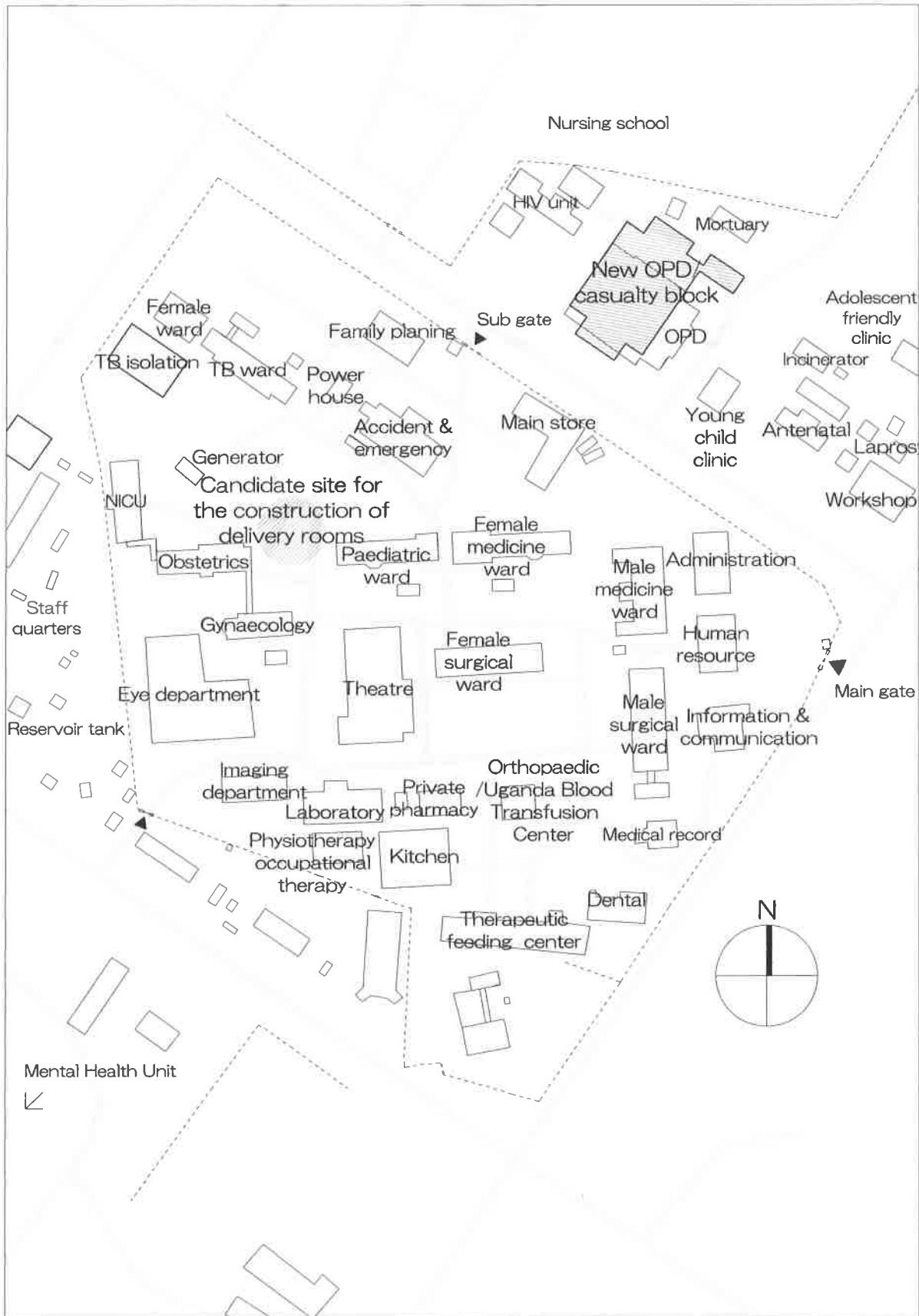


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 THE CONSORTIUM OF
 YOKOGAWA ARCHITECTS & ENGINEERS, INC
 AND INTEM CONSULTING, INC.
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PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE	OPD/CASUALTY BLOCK LAYOUT - OPTION A	DRAWING NO
DATE	2017.02	SCALE
SITE	LIRA RRH	1:1,500

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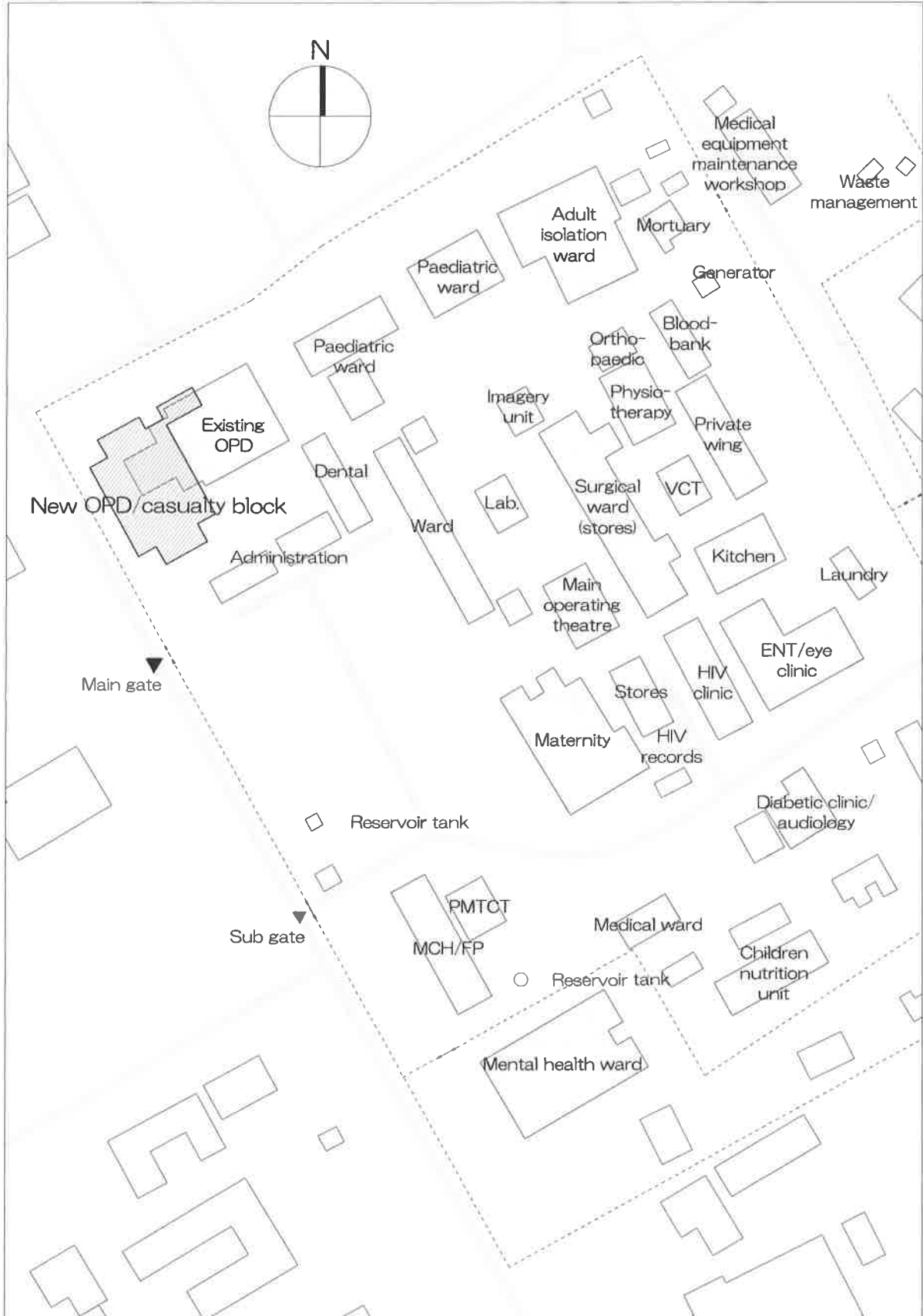


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PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA.

TITLE	OPD/CASUALTY BLOCK LAYOUT - OPTION B		DRAWING NO
DATE	2017.02	SITE	LIRA RRH
		SCALE	1:1,500

Annex 9-3 Plot plan of facilities in Arua RRH

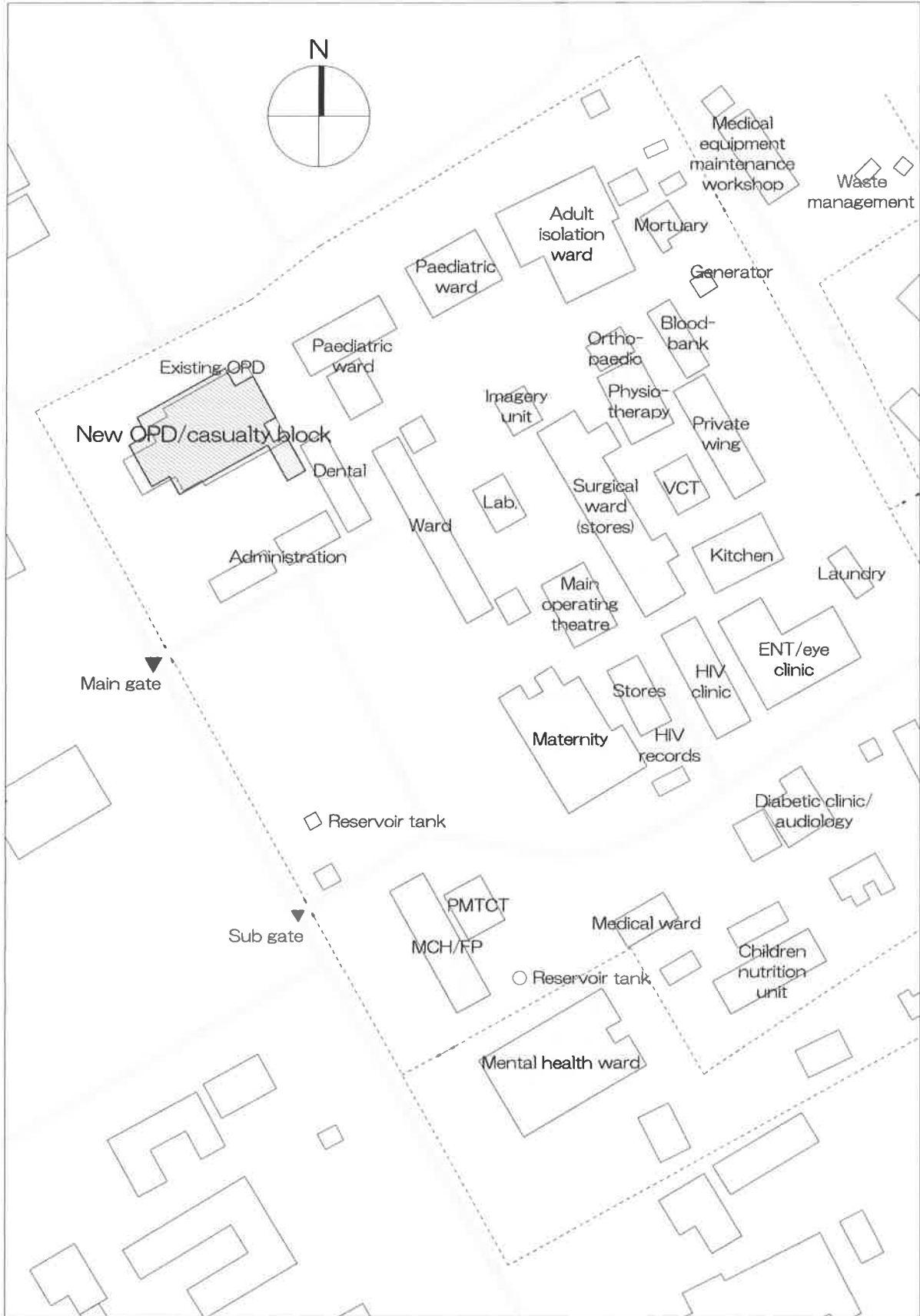


CONSULTANT
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PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE OPD/CASUALTY BLOCK LAYOUT - OPTION A	DRAWING NO.
DATE 2017.02	SCALE 1:1,500
SITE ARUA RRH	





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 AND ITEM CONSULTING, INC.
 YOKOGAWA ARCHITECTS & ENGINEERS, INC.

PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE	OPD/CASUALTY BLOCK LAYOUT - OPTION B	DRAWING NO.
DATE:	2017.02	SCALE
SITE	ARUA RRH	1:1,500

THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS
IN NORTHERN UGANDA IN THE REPUBLIC OF UGANDA

PREPARATORY SURVEY 2 FOR FACILITY BETWEEN
GULU REGIONAL REFERRAL HOSPITAL AND CONSULTANT

Memorandum

The memorandum records the results of the preparatory survey for facility planning held between Gulu Regional Referral Hospital ("Gulu RRH") and the Preparatory Survey Team ("the Team") for the Project for Improvement of Regional Referral Hospital in Northern Uganda, in the Republic of Uganda.

The preparatory survey for facilities was held at Gulu RRH, from 20th to 22nd February, 2017. As the result of the discussion, both sides have confirmed the main items described below:

1. Final Requested Facility

Both sides confirmed the final requested facility is the Maternity / Theatre / Casualty Block including:

- 1) 75 to 81 patient beds,
- 2) six delivery rooms,
- 3) a kangaroo care room,
- 4) a NICU in the Maternity Ward,
- 5) a surgical operation room,
- 6) an orthopaedic operation room,
- 7) an obstetrics/gynaecology operation room, and
- 8) a recovery space, in the Operation Theatre, ✓
- 9) a resuscitation room for 12 to 15 beds,
- 10) a triage room/clinic, and
- 11) a minor operation theatre connected to the Operation Theatre, in the Casualty Unit, and
- 12) an ICU for four to six beds,
- 13) CSSD adjacent to the Operation Theatre and also accessible from other departments, and
- 14) a connection corridor between the new building and the imagery building.

The Team will explain the final facility plan in the Explanation of Draft Final Report (DOD) to Ugandan side.

2. Minutes of the meeting held on 21st and 22nd February 2017

- 1) The Hospital approved to use part of its land in front of the Mental Unit for temporary office, temporary store and working shade, stock yard for materials and concrete mixing space.
- 2) The Hospital approved to use the existing gate at Mental Health Unit for construction activities.
- 3) The Contractor will deploy two guards to control construction traffic, in order to ensure safety of the patients, their attendants, and Hospital staff.
- 4) The Contractor will construct a temporary fence at the construction site and temporary storage area to ensure safety of the patients, their attendants, and Hospital staff.
- 5) The Hospital will demolish the existing old X-Ray building including its foundation before the



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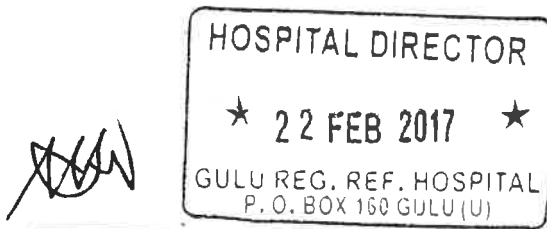




commencement of construction works

- 6) The Hospital will demolish the following buildings including their foundations before commencement of construction works in case they are to be obstacles for the works:
 - a. existing main operation theatre,
 - b. existing toilet facility for medical ward, and
 - c. existing store next to toilet facility for medical ward.
- 7) The Hospital will demolish the following before commencement of construction works:
 - a. all existing trees at the construction area,
 - b. existing sewerage pipes, manholes, water supply pipes, underground electric cables, and
 - c. any other obstacles.
- 8) The Hospital approved to stop using the open burning pit near the incinerator.
- 9) The Hospital requested the Project to install rain water harvesting tanks.
- 10) The Hospital agreed to connect the sewer line from the new building to the existing public sewer line.
- 11) A new electric pole, transformer and protection circuit will be installed by the Japanese side.
- 12) The Hospital requested the Project to install solar water heater for the new building.
- 13) The Ministry of Health requested the Project to install a solar electric system (power back up) for the new building.
- 14) The Hospital requested the Project to install manifold system for oxygen supply.
- 15) The Hospital approved to connect the existing water supply line to the new building.

Gulu, 22nd February, 2017



Dr. Onyachi Nathan
Hospital Director
Gulu Regional Referral Hospital
The Republic of Uganda

Mr. Keiichi IDE
Project Manager, Preparatory Survey Team
The Consortium of the Yokogawa Architects &
Engineers, Inc. and INTEM Consulting, Inc.

Witness

Samuel Tusubira
Engineer
Ministry of Health

THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS
IN NORTHERN UGANDA IN THE REPUBLIC OF UGANDA

PREPARATORY SURVEY 2 FOR EQUIPMENT BETWEEN
GULU REGIONAL REFERRAL HOSPITAL AND CONSULTANT

Memorandum

The memorandum records the results of the preparatory survey for equipment planning held between Gulu Regional Referral Hospital ("Gulu RRH") and the Preparatory Survey Team. ("the Team") for the Project for Improvement of Regional Referral Hospital in Northern Uganda, in the Republic of Uganda.

The preparatory survey for equipment was held at Gulu RRH, from 17th to 22nd February, 2017. As the result of the discussion, both sides have confirmed the main items described bellow.

1. Final Requested Equipment List

Both side confirmed the final requested equipment list with priority from Gulu RRH. The Team will analyze the final requested equipment list in Japan and plan the component of equipment for the project. The Team will explain the final equipment plan in the Explanation of Draft Final Report to Ugandan side. The final requested equipment list is referred to the Attachment 1.

2. Undertaking by Ugandan Side



Both side confirmed the following would be undertaking of the Government of Uganda;

- (1) Dental: To remove existing dental unit, and provide appropriate water supply and drainage.
- (2) Laboratory: To remove existing biosafety cabinet.
- (3) Imagery: To prepare rooms for imagery machines including X-ray protection wall, X-ray protection window and AC, and provide appropriate power supply in case of the project includes imagery equipment.
- (4) Physiotherapy: To remove existing equipment adapting and renovate existing room if necessary.
- (5) Orthopedic workshop: To remove existing equipment, supply appropriate power supply and renovate existing building if necessary.
- (6) Pharmacy: To remove existing wooden shelves at the candidate inpatient pharmacy.
- (7) Other department which use existing rooms: To prepare appropriate space and power supply.

3. Attendance List

The preparatory survey was held with attendance of staff from Gulu RRH as in Attachment 2.

Gulu, 23 February, 2017

 
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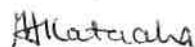
 **HOSPITAL DIRECTOR**
★ 23 FEB 2017 ★
GULU REG. REF. HOSPITAL
P. O. BOX 160 GULU (U)

Dr. Onyachi Nathan
Hospital Director
Gulu Regional Referral Hospital
The Republic of Uganda

for 

Mr. Keiichi IDE
Project Manager, Preparatory Survey Team
The Consortium of the Yokogawa Architects &
Engineers, Inc. and INTEM Consulting, Inc.

Witness



Eng. Kataha Edward
Principal Electrical Engineer
Ministry of Health

GULU RRH

Attachment 1. Final Requested Equipment List

Requested No.	No. in Dep	Equipment Name	Q'ty	Priority
OUT PATIENT				
1	1	BP machines	8	1
2	2	weighing scales adult	5	2
3	3	weighing scales children	1	3
4	4	Height meters	5	6
5	5	Autoclaves	1	5
6	6	Pulse oximeters	8	7
7	7	Thermometers	8	8
8	8	Examination lights	8	4
EMERGENCY UNIT				
9	1	BP machine	6	10
10	2	Stethoscopes	6	11
11	3	Weighing scales infant	1	12
12	4	Thermometers	6	13
13	5	Pulse Oximeters	6	9
14	6	Oxygen Cylinder Set	5	5
15	7	Suction machines	3	3
16	8	Mobile X-ray	1	1
17	9	Ultrasound machine	1	2
18	10	X-ray film viewer boxes	1	17
19	11	Examination light	2	18
20	12	Infusions Pumps	4	19
21	13	Patient monitor	3	6
22	14	Suction machine manual	3	4
23	15	Operation light (mobile)	1	16
24	16	Syringe pump	2	20
25	17	Emergency bed	4	15
26	18	Operation Table	1	14
27	19	Ambu bag	1	21
28	20	Cervical spine fixed color	2	22
29	21	Patient trolley	2	8
30	22	Wheel chair	3	7
OPERATING THEATRE				
31	1	Anesthetic machines	1	1
32	2	Operating lights	3	2
33	3	Patient monitor	4	4
34	4	Oxygen Cylinder Set	2	7
35	5	Suction machines	3	5
36	6	Weighing scales set	1	15
37	7	Operating Beds	3	3
38	8	Electro surgery machines	3	8
39	9	Defibrillators	1	9
40	10	Refrigerator	1	10
41	11	Operating light (mobile)	2	14
42	12	Patient trolley	5	11
43	13	Syringe pump	2	6
44	14	Instrument trolley	3	12
45	15	Mayo table	3	12
46	16	Instrument set for OT	1	13
IMAGING DEPARTMENT				
47	1	General mounted X-ray machine	1	1
48	2	Mobile X-ray	1	5
49	3	CR machines	1	2
50	4	Mammography X-ray machine	1	9
51	5	CT Scan	1	4
52	6	Ultrasound machine	1	6
53	7	ECG	1	7
54	8	Eco - cardiogram ultrasound machine	1	3
55	9	X-ray viewing boxes	10	10
56	10	Fluoroscopy X-ray machine	1	8
ICU				
57	1	ICU bed	4-6	2
58	2	Vital monitors	2	3
59	3	Suction machines	1	5
60	4	Oxygen cylinder set	1	4

GULU RRH

Requested No.	No. in Dep	Equipment Name	Q'ty	Priority
61	5	Autoclaves	1	6
62	6	Infusion pumps	1	7
63	7	Ventilator	1	1
64	8	Ambu bag	1	8
65	9	Nebulizer	1	9
NICU				
66	1	Infants incubators	5	1
67	2	Photo therapy units	1	5
68	3	Patient monitor	1	8
69	4	Infusion Pumps	1	7
70	5	Pulse oximeters	2	3
71	6	Infant warmer	1	4
72	7	Examination lamp	2	6
73	8	Oxygen cylinder set	1	2
74	9	BP machine for infant	2	9
OB&GY				
75	1	Examination Bed for Gyn	3	12
76	2	Examination beds	4	13
77	3	Ultrasound machines	2	9
78	4	Doppler Fetoscope	3	11
79	5	Autoclaves	1	2
80	6	Cryo-therapy machine	1	3
81	7	Oxygen cylinder set	4	5
82	8	Suction machines	4	6
83	9	Delivery bed	6	1
84	10	Fetal monitor	1	14
85	11	Vacuum extractor (manual)	2	4
86	12	Patient monitor	2	8
87	13	Infant warmer	2	10
88	14	Patient trolley	4	7
89	15	Corpo scope	1	15
90	16	Speculum set	20	17
91	17	Curettage Instrument set	5	16
92	18	LEEP machine	1	18
PAEDIATRICS				
93	1	Oxygen cylinder set	10	1
94	2	weighing scales infants	4	8
95	3	Infusion pumps	4	4
96	4	Patient Monitor	1	2
97	5	Stethoscopes	5	7
98	6	Examination lights	3	9
99	7	Infant BP machines	3	6
100	8	Nebulizer	2	3
101	9	Gluko meter	1	5
CSSD and LAUNDRY				
102	1	Big Autoclaves	1	1
103	2	Laundry machine	1	2
104	3	Ironing machine	1	3
105	4	Dryers	1	4
106	5	Working table for CSSD	1	7
107	6	Laundry trolley	1	5
108	7	Storage cabinet	1	6
ENT				
109	1	Tonsillectomy set	2	1
110	2	Adenoidectomy set	2	2
111	3	Laryngoscopy set	1	3
112	4	Caldwell luc set	1	4
113	5	Tracheostomy set	1	13
114	6	Suction machines	2	7
115	7	Operating Microscopes	1	9
116	8	Middle ear set	1	10
117	9	Mastoid drill	1	11
118	10	Esophagoscopy	1	6
119	11	Bronchoscopy for children	1	5
120	12	Tympanometer	1	8
121	13	Acoustic Emission Testing machine	1	12

GULU RRH

Requested No.	No. in Dep	Equipment Name	Q'ty	Priority
122	14	Walsham forceps	1	14
LABORATORY				
123	1	Binocular microscopes	2	5
124	2	Centrifuge	3	11
125	3	Fridges	2	1
126	4	Glucometer	3	10
127	5	Water bath	1	11
128	6	Incubators	1	12
129	7	Safety cabinets	1	13
130	8	shakers	3	14
131	9	Pipette	5	9
132	10	Heamometers	1	15
133	11	Water distiller	1	8
134	12	Chemistry analyzer	1	16
135	13	Autoclaves	1	6
136	14	Hot air oven	1	7
137	15	Deep freezer	1	2
138	16	Blood bank refrigerator	1	4
139	17	ELISA system with PCR	1	3
140	18	Electrolyte analyzer	1	5
141	19	Eye wash station	1	17
142	20	GeneXpert	1	18
DENTAL				
143	1	Dental unit	3	1
144	2	Dental X-ray	1	2
145	3	Dental instrument sets	1	3
146	4	Light Curing machines	1	4
147	5	Intra oral cameras	1	7
148	6	Pulp Tester	1	5
149	7	Dental laboratory equipment	1	8
150	8	Autoclaves	1	6
PHARMACY				
151	1	Drugs shelves	1	4
152	2	Drugs fridges	4	1
153	3	Dispensing tray	6	5
154	4	Drug trolley	5	3
155	5	Cupboard	2	2
SURGICAL WARD				
156	1	Oxygen cylinder set	3	2
157	2	Vital monitors	2	4
158	3	Autoclaves	1	1
159	4	Examination lights	2	6
160	5	BP machines	2	9
161	6	Suction machine	2	3
162	7	Patient trolley	2	11
163	8	Drum set	2	5
164	9	Diagnosis set	1	7
165	10	Weighing scale	1	10
166	11	Pulse oximeter	1	8
INTERNAL MEDICINE				
167	1	Endoscopy unit	1	12
168	2	BP machine	4	7
169	3	Weighing scales	3	11
170	4	Pulse oximeter	2	9
171	5	Portable ultrasound machine	1	3
172	6	Oxygen cylinder set	6	1
173	7	Nebulizer	4	2
174	8	Diagnosis set	2	8
175	9	Infusion pumps	1	10
176	10	Patient trolley	4	6
177	11	Wheel chair	4	14
178	12	Fibroscan	1	4
179	13	Medicine trolley	4	5
180	14	Suction machine	2	15
181	15	Ventilator	1	13

GULU RRH

Requested No.	No. in Dep	Equipment Name	Q'ty	Priority
AMBULANCE				
182	1	Ambulance	1	
ORTHOPEDIC CLINICAL				
183	1	Plaster shear Manual	2	2
184	2	Plaster shear (electrical)	1	1
185	3	Plaster opener	2	4
186	4	Plaster bender	2	6
187	5	Splint set	1	3
188	6	Operating Fracture bed	1	7
189	7	C-Arm	1	5
190	8	Film viewer	1	8
PHYSIOTHERAPY				
Electro therapy Section				
191	1	UV Lamp	2	13(1A, 1B)
192	2	Therapeutic ultrasound	2	2(1A, 1B)
193	3	Short wave diathermy	1	3
194	4	TENS	1	11
195	5	EMS	1	15
196	6	Infra-Red Radiation lamps	2	4
197	7	Electrical massager	2	12
Manipulative therapy				
198	8	Traction machines (Cervical and lumber)	1	1
199	9	Therapeutic Massage beds	3	5
Exercise therapy section				
200	10	Tread mill	2	6
201	11	Pulley systems	1	16
202	12	Suspension bed	1	17
203	13	Muscle strengthening weights	2	18
204	14	Therapeutic mats	3	19
205	15	Postural mirror	1	20
206	16	Hand exercise equipment	1	24
207	17	Shoulder wheels	1	25
208	18	stationary bikes, - adult	2	8
209	19	Stationary bikes - children	1	9
210	20	Quadriceps bench with accessories like weights	1	7
211	21	Bo baths balls different sizes	1	10
212	22	Stares adult	1	26
213	23	Stares children	1	27
214	24	Parallel bars children	1	28
215	25	Abdominal strengthening equipment	1	21
Hydrotherapy facilities				
216	26	Warm parks equipment	2	22
217	27	Cold parks equipment	2	23
218	28	Parallel bars adult	1	29
219	29	Electrical Oscillatory manipulative bed	1	14
Orthopeadic workshop				
220	1	Jig saw	1	5
221	2	Heavy duty oven	1	9
222	3	Rotor machine	1	1
223	4	Dust Suction machine	2	3
224	5	Pressure compressor	1	4
225	6	Vertical band saw	1	12
226	7	Pipe bender	1	2
227	8	Hand drilling machine	2	6
228	9	Vacuum machine	1	7
229	10	Automatic parallels bars	1	10
230	11	Mirror	1	11
231	12	Polishing machine	1	8
HOSPITAL WORKSHOP				
232	1	Carpentry tool box	1	5
233	2	Plumbing tool box	1	4
234	3	Oxygen gas analyzer	2	7
235	4	Digital Multi-meter	2	6
236	5	Welding generator	1	2
237	6	Heavy Duty Engraving machine	1	8
238	7	Electric safety analyzer machine	1	9

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GULU RRH

Requested No.	No. in Dep	Equipment Name	Q'ty	Priority
239	8	Working mats for electronics	1	10
240	9	Electronics tool box	2	1
241	10	Mechanical tool box	2	3
OPHTHALMOLOGY				
242	1	Operating Microscopes	1	1
243	2	Slit lamp	1	4
244	3	Visual field analyzer (automated)	1	2
245	4	Hand held portable slit lamp	1	7
246	5	Direct ophthalmoscope	3	8
247	6	Parkins tomometer	1	11
248	7	Cataract set	8	6
249	8	Extra owler (lid surgery) set	5	10
250	9	Suction machines	1	3
251	10	Magnifying head loop	4	9
252	11	Autorefracto meter	1	5
MENTAL HEALTH CARE				
253	1	BP machines	3	1
254	2	Weighing scale	4	3
255	3	Autoclaves	1	2
256	4	Drum set	2	7
257	5	Oxygen cylinder	2	11
258	6	ECT (Electroconvulsive Therapy)	1	6
259	7	Pulse oximeter	1	4
260	8	Patient trolley	2	5
261	9	Examination bed	3	10
262	10	Infusion pump	1	8
263	11	Wheel chair	2	9

THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS
IN NORTHERN UGANDA IN THE REPUBLIC OF UGANDA

PREPARATORY SURVEY 2 FOR FACILITY BETWEEN
LIRA REGIONAL REFERRAL HOSPITAL AND CONSULTANT

Memorandum

The memorandum records the results of the preparatory survey for facility planning held between Lira Regional Referral Hospital ("Lira RRH") and the Preparatory Survey Team ("the Team") for the Project for Improvement of Regional Referral Hospital in Northern Uganda, in the Republic of Uganda.

The preparatory survey for facilities was held at Lira RRH, from 23rd – 27th February, 2017. As the result of the discussion, both sides have confirmed the main items described below:

1. Final Requested Facility

Both sides confirmed the final requested facility is the OPD, MCH, Casualty Block and Delivery unit complex including:

OPD Complex

- 1) Pharmacy/Dispensary
- 2) Satellite Laboratory
- 3) 2No. pediatric consultation rooms
- 4) Male consultation room
- 5) Female consultation room
- 6) Diabetic consultation room
- 7) Dental clinic
- 8) ENT clinic
- 9) MARPS room
- 10) Treatment room
- 11) Orthopedic consultation room
- 12) Physiotherapy/Occupational consultation room
- 13) 2No. specialized clinics.
- 14) MCH consultation rooms (office for in charge, palpation room with 6No. couches, treatment room, EID point treatment room, immunization room, family planning, cervical cancer screening)
- 15) X-Ray room, ultra sound room
- 16) Casualty (resuscitation room with 10 – 12 beds and minor operation theatre.)
- 17) Waiting space for MCH attached to OPD complex

Adolescent consultation room should be considered by Lira Hospital using existing nearby buildings.

Delivery Complex

- 1) 6No. delivery suites
- 2) New born baby room (NICU)
- 3) Sterilisation room
- 4) Nurse station
- 5) Changing/wash rooms for nurses

The Team will explain the final facility plan in the Explanation of Draft Final Report (DOD) to Ugandan side.

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2. Minutes of the meeting held on 23rd – 27th February 2017

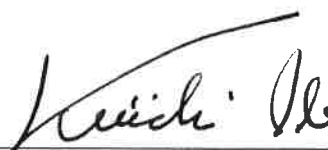
- 1) The Hospital approved to use part of its land in front of the staff quarters for temporary office, temporary store and working shade, stock yard for materials and concrete mixing space.
- 2) The Hospital approved to establish a temporary gate for construction work at the west part of the Hospital land.
- 3) The Hospital will demolish the OPD building including its foundations before commencement of construction works.
- 4) The Hospital requested the Project to construct a new access road to the staff quarters along the temporary fence.
- 5) The Hospital will demolish the following before commencement of construction works:
 - a. All existing trees at the construction area,
 - b. Existing sewerage pipes, manholes, water supply pipes, underground electric cables.
 - c. Any other obstacles.
- 6) The Contractor will deploy guards to control construction traffic, ensure safety of the patients, their attendants and Hospital staff.
- 7) The Hospital requested the Project to install rain water harvesting tanks.
- 8) The Hospital approved to connect the sewer line from the new building to the existing sewer line.
- 9) A new electric pole, transformer and protection circuit will be installed by the Japanese side.
- 10) The Ministry of Health requested the Project to install a solar electric system (the power back up) for the new building.
- 11) The Hospital approved to connect the existing public water supply line to the new building.
- 12) The Hospital requested the Project to install Local Area Network (LAN) to the new building.

Lira 27th February, 2017



28/2/17

Dr. Elima James
Hospital Director
Lira Regional Referral Hospital
The Republic of Uganda



Mr. Keiichi IDE
Project Manager, Preparatory Survey Team
The Consortium of the Yokogawa Architects &
Engineers, Inc. and INTEM Consulting, Inc.

Witness



Samuel Tusubira
Engineer
Ministry of Health

THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS
IN NORTHERN UGANDA IN THE REPUBLIC OF UGANDA

PREPARATORY SURVEY 2 FOR EQUIPMENT BETWEEN
LIRA REGIONAL REFERRAL HOSPITAL AND CONSULTANT

Memorandum

The memorandum records the results of the preparatory survey for equipment planning held between Lira Regional Referral Hospital (“Lira RRH”) and the Preparatory Survey Team. (“the Team”) for the Project for Improvement of Regional Referral Hospital in Northern Uganda, in the Republic of Uganda.

The preparatory survey for equipment was held at Lira RRH, from 23rd to 27th February, 2017. As the result of the discussion, both sides have confirmed the main items described below.

1. Final Requested Equipment List

Both side confirmed the final requested equipment list with priority from Lira RRH. The Team will analyze the final requested equipment list in Japan and plan the component of equipment for the project. The Team will explain the final equipment plan in the Explanation of Draft Final Report to Ugandan side. The final requested equipment list is referred to the Attachment 1.

2. Undertaking by Ugandan Side

Both side confirmed the following would be undertaking of the Government of Uganda;

- (1) Laundry: To renovate existing room for new machines if necessary, and supply appropriate power supply and water supply.
- (2) Sterilization unit in Main Operation Theatre: To prepare appropriate power supply, water supply and drainage.
- (3) Imagery: To construct wired LAN network from new building to existing buildings where Client PCs for CR system will be installed in case of CR system is included in the project.
- (4) Pathology: To renovate existing room for new machines if necessary, and supply appropriate power supply.
- (5) Other department which use existing rooms: To prepare appropriate space and power supply.

3. Attendance List

The preparatory survey was held with attendance of staff from Lira RRH as in Attachment 2.

Lira 27 March, 2017

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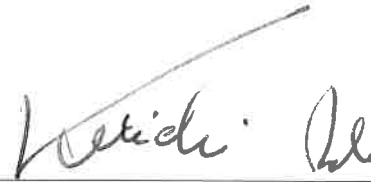
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25/2/17

Dr. Elima James
Hospital Director
Lira Regional Referral Hospital
The Republic of Uganda



Mr. Keiichi IDE
Project Manager, Preparatory Survey Team
The Consortium of the Yokogawa Architects &
Engineers, Inc. and INTEM Consulting, Inc.

Witness



Eng. Kataha Edward
Principal Electrical Engineer
Ministry of Health

LIRA RRH

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
Out Patient				
1	1	BP machine	each clinical room	1
2	2	Examination Couch	each clinical room	3
3	3	Wheel Chair	2	4
4	4	Weighing Scale	each clinical room	5
5	5	Glucometer	each clinical room	6
6	6	Diagnostic set	each clinical room	2
7	7	Patient trolley	1	7
OB/GYN				
8	1	Delivery Bed	4	1
9	2	Operation Light mobile	2	2
10	3	Oxygen cylinder set	2	7
11	4	suction Machine	2	11
12	5	Examination Couch	2	5
13	6	weighing and height Scale	3	8
14	7	BP machine	4	4
15	8	Cesarean operating instrument set	4	3
16	9	Intubation set	2	13
17	10	Resuscitation kit	1	14
18	11	Autoclave	1	9
19	12	Patient monitor	2	12
20	13	Examination bed for OBGY	2	6
21	14	Drum set	3	10
Imaging				
22	1	CT	1	4
23	2	Fluoroscopy machine	1	5
24	3	ultra sound scanner	1	3
25	4	Fixed X-ray with card reader	1	1
26	5	Automatic film processor	1	2
27	6	Read character	1	7
28	7	Mobile X-ray machine	1	6
29	8	CR system	1	8
Ambulance				
30	1	Ambulance	1	1
Emergency				
31	1	Ventilator	2	4
32	2	Anesthesia machine	1	5
33	3	Autoclave	1	7
34	4	patient Trolley	4	10
35	5	suction machine	2	8
36	6	Operation table	1	2
37	7	patient Monitor	2	6
38	8	Operating instrument set	2	11
39	9	Emergency bed	4	1
40	10	Diagnostic set	2	12
41	11	Drum Set	5	9
42	12	B.P. machine	2	13
43	13	Operation light mobile	1	3
Sterilisation in Theatre and OBGY				
44	1	Autoclave for sterilization	2	1
45	2	Boiler	1	2
46	3	Storage cabinet	2	3
47	4	Steel cabinet	2	4
Laundry				
48	1	laundry machine	1	1
49	2	Heavy duty electric iron	1	2
50	3	Dryer	1	3
Dental				
51	1	Dental Chair	4	1
52	2	Dental X-Ray	1	2
53	3	Autoclave	1	3
54	4	Light cure machine	1	5

LIRA RRH

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
55	5	Electronic scaler	1	6
56	6	Dry-heat sterilizer	1	9
57	7	Dental forceps (all sets)	5	4
58	8	Sterilizing box set	1	10
59	9	Drums set	1	11
60	10	Pulp tester	1	7
61	11	Intra oral cameras	1	8
Peadiatric				
62	1	Oxygen cylinder set	10	1
63	2	Radiant warmer (for NICU)	2	2
64	3	Incubator (for NICU)	2	3
65	4	weighing scale	2	4
66	5	patient Monitor	2	5
67	6	Pulse oximeter	8	6
68	7	Pediatric BP machine	3	7
69	8	Diagnostic set	3	8
Operation Theatre				
70	1	Anesthesia machine	1	1
71	2	Patient Monitor	1	2
72	3	suction machine	3	6
73	4	Oxygen cylinder set	4	5
74	5	Operation table	2	7
75	6	Pulse oximeter	4	3
76	7	BP machine Digital	4	4
77	8	Glucometer	1	8
78	9	Sterilizing drum Large	10	13
79	10	Sterilizing drum Medium	5	14
80	11	Sterilizing drum Small	5	15
81	12	Operation light portable	2	9
82	13	Autoclave	1	10
83	14	patient Trolley	2	11
84	15	Laparotomy set	1	12
85	16	Instrument trolley	2	16
Sugery Ward				
86	1	Autoclave	2	2
87	2	suction machine	2	11
88	3	BP machine	2	12
89	4	examination couch	3	8
90	5	Drip stand	10	7
91	6	Patient trolley	2	3
92	7	Wheel Chair	2	4
93	8	Drum set	3	6
94	9	Oxygen cylinder set	2	1
95	10	Dressing trolley	2	9
96	11	Drug trolley	2	10
97	12	Resuscitation kit	2	5
98	13	Glucometer	2	13
99	14	Dressing instrument set	2	14
100	15	Pulse oximeter	2	15
101	16	Weighing scale	2	16
ENT				
102	1	ENT examination microscope	1	9
103	2	ENT examination set complete	1	1
104	3	Mastidectomy set	1	8
105	4	Tonsillectomy set	1	7
106	5	Bronchoscopy set	1	2
107	6	ENT examination unit	1	6
108	7	Tympanometer	1	3
109	8	BP machine	1	5
110	9	Audiometer	1	4
Laboratory				
111	1	Hematology analyzer	1	3

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LIRA RRH

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
112	2	Biochemistry machine	1	4
113	3	Refrigerator Blood Bank	1	1
114	4	Microscope	2	5
115	5	Centrifuge	2	10
116	6	Incubator	1	7
117	7	Autoclave	1	6
118	8	Voltex mixer	1	11
119	9	weighing scale	1	9
120	10	Water desterilizer	1	8
121	11	Refrigerator	1	2
Internal Medicine				
122	1	Oxygen cylinder set	2	2
123	2	Nebulizer	1	4
124	3	suction Machine	1	6
125	4	patient Trolley	2	5
126	5	syringe pump	2	8
127	6	infusion pump	2	7
128	7	Drip stand	10	3
129	8	Ultrasound machine portable	1	1
ICU				
130	1	syringe pump	2	1
Pharmacy				
131	1	Refrigerator (large)	7	1
132	2	Refrigerator (small)	4	2
133	3	Table drug	1	5
134	4	Drug trolley	3	6
135	5	Steel cabinet	2	8
136	6	Water destilizer	2	4
137	7	Autoclave	1	3
138	8	Drug cupboard	7	7
Medical Equipment				
139	1	Portable oscilloscope	1	7
140	2	Thermometer/hygrometer	1	9
141	3	Analyzer Tachometer	1	8
142	4	Insulation resistance tester	1	1
143	5	Earth mega tester	1	3
144	6	Cramp meter	1	2
145	7	Welding machine mobile	1	5
146	8	Electrical tool box	1	6
147	9	Pipe bender	1	4
Orthopedic workshop				
148	1	Broad Belt Sander	1	4
149	2	Vacuumed machine	1	3
150	3	Welding hot jet	1	5
151	4	Welding MIRROR	1	2
152	5	Router machine	1	1
Orthopedic				
153	1	Oscillation Plaster cutter	1	1
154	2	Plaster share	1	2
155	3	Plaster bender	1	6
156	4	Plaster opener	1	8
157	5	Operating flucture bed	1	9
158	6	Bone fracture instrument set	1	7
159	7	Thomas splint	20	3
160	8	Browne splint	20	4
161	9	Electrical bone drill	1	10
162	10	Wheel Chair	5	5
Ophthalmology				
163	1	Operating microscope	1	2
164	2	Cataract operation instrument set	6	3
165	3	Autoclave	1	4
166	4	Slit lamp with Tonometer	1	6

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LIRA RRH

Requested No.	No. in Dep.	Equipment Name	Final Q'ty	Final Priority
167	5	Area thetie machine	1	5
168	6	Instrument trolley	2	11
169	7	Kerato meter	1	7
170	8	Trial lens set	1	10
171	9	weighing scale	2	9
172	10	BP machine	2	8
173	11	Phaco emulsification machine	1	1
Physiotherapy				
174	1	Ultrasound therapy	1	2
175	2	Short wave therapy	1	1
176	3	Infra-Red Radiation lamps	1	3
177	4	Exercise mat	2	5
178	5	Stationary bike	2	6
179	6	Balance ball	2	7
180	7	Traction bed	1	4
181	8	Electrical massager	1	8
182	9	Refrigerator	1	9
Mental Health				
183	1	Drug trolley	2	4
184	2	Drug cupboard	1	3
185	3	Examination coach	2	2
186	4	Chito forceps	2	6
187	5	Drums set	2	5
188	6	Autoclave	1	1
189	7	Drip stand	4	7
Pathology				
190	1	Mortuary refrigerator	1	2
191	2	Mortuary trolley with cover	2	1
192	3	Mortuary Instrument set	1	4
193	4	Holding patient trolley	2	3
NMCH				
194	1	Examination couch	9	1
195	2	Examination lump	2	7
196	3	Speculum set	1	8
197	4	Uterine sonde set	2	13
198	5	Uterine Elevator instrument set	5	14
199	6	Drum set	4	5
200	7	Cupboard	2	9
201	8	Deep freezer	1	4
202	9	Refractor for vaccines	1	3
203	10	Vaccine carrier	10	6
204	11	Weighing scale neonatal	3	10
205	12	BP machine	7	2
206	13	Weighing and height scale adult	3	10
207	14	Patient trolley	1	11
208	15	Wheel chair	1	12

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THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS
IN NORTHERN UGANDA IN THE REPUBLIC OF UGANDA

PREPARATORY SURVEY 2 FOR FACILITY BETWEEN
ARUA REGIONAL REFERRAL HOSPITAL AND CONSULTANT

Memorandum

The memorandum records the results of the preparatory survey for facility planning held between Arua Regional Referral Hospital ("Arua RRH") and the Preparatory Survey Team ("the Team") for the Project for Improvement of Regional Referral Hospital in Northern Uganda, in the Republic of Uganda.

The preparatory survey for facilities was held at Arua RRH, from 13th to 17th February, 2017. As the result of the discussion, both sides have confirmed the main items described below:

1. Final Requested Facility

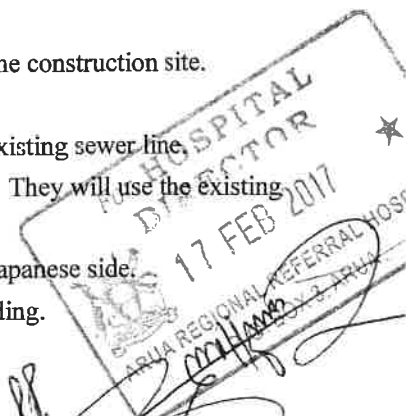
Both sides confirmed the final requested facility is the OPD and Casualty unit including:

- 1) four General OPD consultation rooms,
- 2) one Medical Outpatient consultation room,
- 3) two Paediatric rooms,
- 4) one Surgical Outpatient consultation room,
- 5) one ENT and Ophthalmology consultation room,
- 6) one Gynaecology consultation room,
- 7) one Dental room, one Adolescence room,
- 8) two HCT rooms,
- 9) one MARPs room in the OPD, and
- 10) a resuscitation room with four beds
- 11) a minor operation theatre in the Casualty Unit.

The Team will explain the final facility plan in the Explanation of Draft Final Report (DOD) to Uganda side.

2. Minutes of the meeting held on 17th February 2017

- 1) The Hospital approved to use part of its land for the Construction of the new OPD.
- 2) The Hospital approved to demolish part of the perimeter wall to create access for construction materials. The Contractor will repair the demolished part of the wall after completion of the construction.
- 3) The Hospital approved to use part of its land for site accommodation.
- 4) The Hospital approved to use part of its land for dumping soil excavated from the construction site.
- 5) The Hospital requested the Project to install rain water harvesting tanks.
- 6) The Hospital approved to connect the sewer line from the new building to the existing sewer line.
- 7) The Hospital agreed that there is no need to create a new ambulance entrance. They will use the existing entrance at the main gate.
- 8) A new electric pole, transformer and protection circuit will be installed by the Japanese side.
- 9) The Hospital requested the Project to install solar water heater for the new building.



Annex

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- 10) The Hospital requested the Project to install a solar electric system (the power back up) for the new building.
- 11) The Hospital requested the Project to install manifold system for oxygen supply.
- 12) The Hospital approved to connect the existing water supply line to the new building.
- 13) The Hospital requested the project to install Local Area Network(LAN) to the new building.

Arua, 17 February, 2017

PP
OMELLO OMBEKE
PRETOR

 Dr. Odu Bernard
 Hospital Director
 Arua Regional Referral Hospital
 The Republic of Uganda

PP 直用右樹

 Mr. Keiichi IDE
 Project Manager, Preparatory Survey Team
 The Consortium of the Yokogawa Architects &
 Engineers, Inc. and INTEM Consulting, Inc.

For. HOSPITAL DIRECTOR
 17 FEB 2017
 ARUA REGIONAL REFERRAL HOSPITAL
 P.O. BOX 3, ARUA
 Witness

Samuel

 Samuel Tusubira
 Engineer
 Ministry of Health

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THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS
IN NORTHERN UGANDA IN THE REPUBLIC OF UGANDA

PREPARATORY SURVEY 2 FOR EQUIPMENT BETWEEN
ARUA REGIONAL REFERRAL HOSPITAL AND CONSULTANT

Memorandum

The memorandum records the results of the preparatory survey for equipment planning held between Arua Regional Referral Hospital ("Arua RRH") and the Preparatory Survey Team. ("the Team") for the Project for Improvement of Regional Referral Hospital in Northern Uganda, in the Republic of Uganda.

The preparatory survey for equipment was held at Arua RRH, from 13th to 15th February, 2017. As the result of the discussion, both sides have confirmed the main items described below.

1. Final Requested Equipment List

Both side confirmed the final requested equipment list with priority from Arua RRH. The Team will analyze the final requested equipment list in Japan and plan the component of equipment for the project. The Team will explain the final equipment plan in the Explanation of Draft Final Report to Ugandan side. The final requested equipment list is referred to the Attachment 1.

2. Undertaking by Ugandan Side

Both side confirmed the following would be undertaking of the Government of Uganda;

- (1) Dental: To remove existing dental unit in case the dental department is remained in existing building, and provide appropriate water supply and drainage.
- (2) CSSD: To renovate the existing sterilization room in the main operation theatre, and provide appropriate power and water supply for autoclaves.
- (3) Laundry: To renovate the existing laundry and provide appropriate power and water supply.
- (4) Imagery: To construct wired LAN network from new OPD building to existing buildings where Client PCs for CR system will be installed.

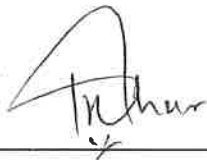
3. Attendance List

The preparatory survey was held with attendance of staff from Arua RRH as in Attachment 2.

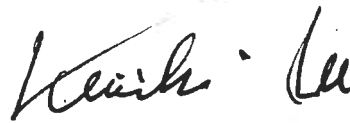
Arua, 16 February, 2017

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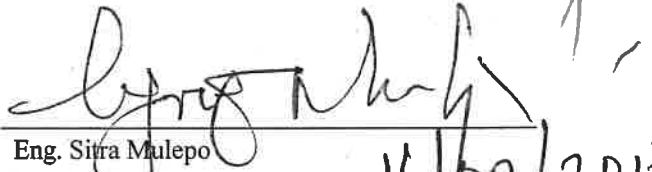


Dr. Bernard Odu
Hospital Director
Arua Regional Referral Hospital
The Republic of Uganda



Mr. Keiichi IDE
Project Manager, Preparatory Survey Team
The Consortium of the Yokogawa Architects &
Engineers, Inc. and INTEM Consulting, Inc.

Witness



Eng. Sitra Mulepo
Senior Engineer
Ministry of Health

16/02/2017

PS



ARUA RRH

Attachment 1. Final Requested Equipment List

Requested No.	No. in Dep	Equipment Name	Final Q'ty	final Priority
Accident And Emergency				
1	1	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	1
2	2	Endoscopy machine	1	19
3	3	Emergency Respirators	1	2
4	4	Defibrilators	1	16
5	5	Oxygen cylinder set	2	8
6	6	Suction machine Electrical	2	3
7	7	Nebulizer	2	4
8	8	Patient transfer trolleys	4	5
9	9	Wheel chairs	4	9
10	10	Operating table	1	6
11	11	Operating light mobile	1	7
12	12	Drug trolley	1	17
13	13	Medicine Cupboards	2	18
14	14	Emergency Bed	5	10
15	15	Examination light	1	11
16	16	Dressing cart	1	12
17	17	Dressing instrument set	1	14
18	18	Diagnosis set	1	15
19	19	Minor surgery instrument set,	1	13
20	20	Autoclave	1	20
Ambulance				
21	1	Ambulance	1	1
Dental				
22	1	Dental Unit	3	1
23	2	Dental imaging/x-ray machine and processors	1	2
24	3	Vacuum Autoclaves	1	4
25	4	LED cure lights	2	6
26	5	Ultrasonic Scalers	2	7
27	6	Ultrasonic cleaner	1	8
28	7	Dental implant surgical motors	1	15
29	8	Handpieces oiler	1	9
30	9	Apex Locators	1	10
31	10	Casting machine	1	11
32	11	Polishing and trimming machines	1	12
33	12	Hydroflasks, Heat cure flasks and articulators	1	13
34	13	Orthopantomogram	1	14
35	14	Electric pulp tester	2	5
36	15	Dental instrument set	1	3
Occupational Therapy				
37	1	Large portable mirror	1	2
38	2	Sewing machines	1	3
39	3	Standing frames,adults and children	1	6
40	4	Walking frames,adults and children	2	4
41	5	Parralel bars,adults and children	1	1
42	6	Prone baords	1	5
Physiotherapy				
43	1	Short wave Diathermy	2	1
44	2	Infra Red machine	2	2
45	3	Ultra sound Machine	1	3
46	4	Muscle stimulators	1	4
47	5	Cervical Traction machine	1	5
48	6	Lumbar traction machine	1	6
49	7	TENS Machine	2	7
50	8	Shoulder traction machine	1	8
51	9	Stational bicycle	2	9
52	10	Exercise mat	3	10
53	11	Wheel chair	5	11
54	12	Bobbath ball	5	12
55	13	Hand therapy springs	2	13

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ARUA RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	final Priority
Imager				
56	1	Computerised Tomographic Scan (CT-Scan)	1	1
57	2	Berium Enamel set	1	6
58	3	Mamography Machine	1	4
59	4	Ultra sound scan [Cardiac Abdominal,obstetric] with doppler	1	2
60	5	Digital Radiography system DRS	1	3
61	7	Hysterosalpingogram set	1	7
62	8	Electro encephalogram	1	8
Pharmacy				
63	1	Refrigerators Large	1	1
64	2	Drug Cupboards Metallics	3	2
65	3	Autoclave	1	4
66	4	Dry oven	1	5
67	5	Water Distillers	2	3
68	6	Water bath	1	6
69	7	Weighing scale digital	2	7
Orthopedics				
70	1	Gypsum cutter	1	1
71	2	Manual Plaster cutter	2	14
72	3	Pulse oximetre	1	2
73	4	Oxygen cylinder and mask	1	3
74	5	Dressing set	1	4
75	6	Dressing trolley	1	5
76	7	Patient transfer trolley	2	6
77	8	Drug trolley	1	7
78	9	Drum set	1	8
79	10	Autoclave	1	9
80	11	Drip stand	10	10
81	12	Examination couch	3	11
82	13	Plaster table	1	12
83	14	Wheel chair	2	13
84	15	Bed cradle	5	15
85	16	Working frame	2	16
86	17	Orthopedic braun frame for traction	5	17
87	18	C-arm	1	18
88	19	Instrument set for orthopedic surgery	1	19
Laboratory				
89	1	Haematology analyser [5 parameters]	1	7
90	2	Clinical Chemistry Analysers	1	8
91	3	Refrigerator	2	1
92	4	Electrical centrifuge [8-12 Buckets]	2	2
93	5	Orbital shaker	1	9
94	6	Blood mixer [Roller]	1	10
95	7	Laboratory incubator	1	11
96	8	Electrical weighing Scale [Laboratory]	1	4
97	9	Weighing Scale for blood transfusion	1	3
98	10	Autoclave Electrical	1	5
99	11	Microscope Olympus	2	6
100	12	Hemoglobinometer	1	12
CSSD				
101	1	Autoclave Set	1	1
102	2	Washing Machines	1	1
103	3	Dryer	1	2
104	4	Ironing roller	1	3
105	5	Flat ironing machine	1	5
106	6	Laundry trolley	4	4
MARTENITY				
Labour and Delivery room , HDU				
107	1	Vital sign monitor [ECG,Pulse rate ,SP2,Foetal doppler]	3	4
108	2	Blood pressure machine wll mounted or on stands	2	9
109	3	Delivery Beds	8	1
110	4	Infant Warmer	3	3
111	5	Patient Transfer trolleys	2	2

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ARUA RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	final Priority
112	6	Oxygen cylinder set		
113	7	Wheel chairs	5	11
114	8	Examinations spot lights	2	12
115	9	Instrument set for delivery	2	10
116	10	Suction machine Electrical	10	5
117	11	Fetal dopper	2	8
118	12	Ambubag set fro neonatal	2	7
119	13	Vacuum extractor	2	6
OB/GY			1	13
120	1	Vital sign monitor [ECG,Pulse rate Bp,SP2]		
121	2	Drug Trolleys	2	4
122	3	Dressing trollely	3	7
123	4	Dressing sets [Forceps,Kidney dishes,arteries etc]	3	8
124	5	Examination table	2	5
125	6	Fetal dopper	3	3
126	7	Instrument set for examination	2	6
127	8	Blood pressure	1	2
Theatre			6	1
128	1	Vital sign monitors		
129	2	Electrical suction machine	2	1
130	3	Anasthetic machine	2	2
131	4	Ceiling mounted mobile type	1	3
132	5	Oxygen cylinder set	2	4
133	6	Autoclave	2	5
134	7	Instrument Set for theatre	1	7
Neontal unit			1	6
135	1	Incubators		
136	2	Oxygen cylinder set	4	3
137	3	Baby courches	4	6
138	4	Vital sign monitor [ECG,Pulse rate Bp,SP2]	5	2
139	5	Suction machine electrical	2	1
140	6	Infant Radiant Warmers	1	7
141	7	Continuous postive air way pressure(CPAP) sets	2	5
Internal Medicine			1	4
142	1	Oxygen cylinder set		
143	2	Suction machine Electrical	5	1
144	3	Autoclave small	2	2
145	4	Wheel chair	1	3
146	5	Vital sign monitor [ECG,Pulse rate Bp,SP2]	3	4
147	6	Patient trolley	2	5
148	7	HBA/c machine	2	6
149	8	Drug infusion pumps	1	8
150	9	Nebulisers	4	9(2A, 2B)
151	10	Diagnostic set general	1	10
152	11	Refrigerators medicine	2	7
153	12	Dressing instrument set	2	12(1A, 1B)
154	13	Drug trolley	2	13
155	14	Instument drums set	2	14
156	15	Patient examination coach	1	15
157	16	Glucometer	2	18
158	17	Pulsoximeter	2	19
159	18	Weighing scale	2	20
Main Operating Theatre			2	21
160	1	Operating table		
161	2	Vital sign monitor [ECG,Pulse rate Bp,SP2]	3	1 (2A, 1B)
162	3	Operating lamp mobile type	3	4(2A, 1B)
163	4	Anaesthetic Machine	3	2(2A, 1B)
164	5	Electrical Dermatome(Skin Graft Set)	2	6
165	6	Oxygen cylinder set	2	5(1A, 1B)
166	7	Pneumatic tournique	2	9
167	8	Patient Transfer trolley	2	8
168	9	Suction machine electrical	2	7
169	10	Electrical surgical unit	3	3
			1	10

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ARUA RRH

Requested No.	No. in Dep	Equipment Name	Final Q'ty	final Priority
170	11	Instrument set for OP theatre	1	11
General Surgery				
171	1	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	5
172	2	Oxygen cylinder set	2	7
173	3	Suction machine	2	6
174	4	Medicine/treatment trolleys	4	3
175	5	Patient screens	6	8
176	6	Patient transfer trolleys	3	2
177	7	Instrument set	1	1
178	8	Dressing trolley	4	4
Pediatric				
179	1	Oxygen cylinder set	4	1
180	2	Nebulisers	3	2
181	3	Vital sign monitor [ECG,Pulse rate Bp,SP2]	2	3
182	4	infant and child Blood pressure machine	6	4
183	5	Pulse oximetre	10	6
184	6	Patient screens	4	12
185	7	reservoir bags with face masks	4	13
186	8	Examination couch	5	7
187	9	Stethoscope paediatrics	3	8
188	10	Files trolley	3	11
189	11	Diagnosis set	3	10
190	12	Thermometre digital	12	9
191	13	Examination light	5	5
Medical Equipment Workshop				
192	1	Electronic / Electrical tools	2	7
193	2	Refrigeration tools	1	1
194	3	Oxygen analyser	2	5
195	4	Mechanical tools	2	6
196	5	Welding Genarator Portable	1	4
197	6	Plumbing Tool	1	9
198	7	Drilling machine	1	3
199	8	Carpently tool set	1	10
200	9	Multimeter	2	8
201	10	Clamp meter	2	2

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 The name "The name" is written in a cursive script.
 Below it is a large, bold, stylized letter "Z".
 To the right of the "Z" is a signature that appears to be "K...".
 At the bottom right corner, there are initials "BT".

Minutes of Discussions
on the Preparatory Survey for the Project for
Improvement of Regional Referral Hospitals in Northern Uganda,
in the Republic of Uganda
(Explanation on Draft Preparatory Survey Report)

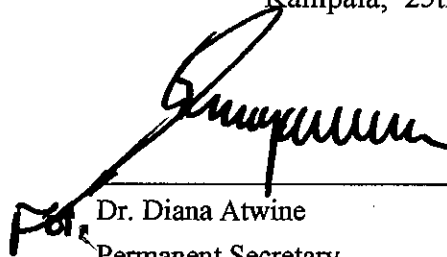
With reference to the minutes of discussions signed between the Ministry of Health (hereinafter referred to as "MOH") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on 30th November, 2016 and 2nd March, 2017 and in response to the request from the Government of the Republic of Uganda (hereinafter referred to as "Uganda") dated 8th August, 2011, JICA dispatched the Preparatory Survey Team (hereinafter referred to as "the Team") for the explanation of Draft Preparatory Survey Report (hereinafter referred to as "the Draft Report") for the Project for Improvement of Regional Referral Hospitals in Northern Uganda (hereinafter referred to as "the Project"), headed by Mr. Shintaro Takano, Deputy Director, Grant Aid Project Management Division 2, Financial Cooperation Implementation Department, JICA from 20th to 26th August, 2017.

As a result of the discussions, both sides agreed on the main items described in the attached sheets.

Kampala, 25th August, 2017



Mr. Shintaro Takano
Leader, Preparatory Survey Team
Japan International Cooperation Agency
Japan



Dr. Diana Atwine
Permanent Secretary
Ministry of Health
Republic of Uganda

Witness



Ms. Maris Wanyera
For: Permanent Secretary/Secretary to the
Treasury
Ministry of Finance, Planning and Economic
Development
Republic of Uganda

ATTACHEMENT

1. Responsible authority for the Project

Both sides confirmed the authority responsible for the Project is MOH which will be the executing agency for the Project (hereinafter referred to as “the Executing Agency”). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be taken care by relevant authorities properly and on time.

2. Contents of the Draft Report

After the explanation of the contents of the Draft Report by the Team, the Ugandan side agreed to its contents. The facility components which are included in the Project are shown in Annex 1 and the equipment list in each RRH is shown in Annex 2.

3. Cost estimate

Both sides confirmed that the cost estimate be borne by the Japanese side including the contingency described in Annex 3 is provisional and will be examined further by the Government of Japan for its approval. The contingency would cover the additional cost against natural disaster, unexpected natural conditions, etc.

4. Confidentiality of the cost estimate and technical specifications

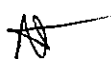
Both sides confirmed that the cost estimate and technical specifications in the Draft Report and Annex 3 should never be duplicated or disclosed to any third parties except for Ministry of Finance, Planning and Economic Development until all the contracts under the Project are concluded.

5. Timeline for the project implementation

The Team explained to the Ugandan side that the expected timeline for the Project implementation is as attached in Annex 4.

6. Expected outcomes and indicators

Both sides agreed that key indicators for expected outcomes are as follows. The Ugandan side will be responsible for the achievement of agreed key indicators targeted in the Ugandan financial year 2022/23 and shall monitor the progress based on those indicators.



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[Quantitative indicators]

Gulu RRH

Indicator	Baseline (Average number of 2011/12-2015/16)	Target (2022/23)
Number of Deliveries (case/year)	4,768	5,500
Number of Operations (case/year)	1,543	1,800
Number of Emergency Patients (person/year)	5,445	6,300
Number of Patients of Intensive Care Unit (ICU) (person/year)	0	200

Lira RRH

Indicator	Baseline (Average number of 2011/12-2015/16)	Target (2022/23)
Number of Outpatients *1 (person/year)	121,345	144,000
Number of Patients of Maternal and Child Health Unit (person/year)	36,164	42,900
Number of Emergency Patients (person/year)	4,800	5,400
Number of Deliveries (case/year)	5,804	6,800

*1: This number consists of the patients of General Outpatients clinic, Orthopedics clinic, Ophthalmology clinic, Ear, Nose and Throat (ENT) clinic, and Dental clinic

Arua RRH

Indicator	Baseline (Average number of 2011/12-2015/16)	Target (2022/23)
Number of Outpatients *2 (person/year)	96,208	116,000
Number of Emergency Patients (person/year)	5,315	6,400

*2: This number consists of the patients of General Outpatients clinic, Medical Outpatients clinic, Diabetes clinic, Nutrition clinic, Palliative care clinic, Paediatrics clinic, Surgery clinic, Orthopedics clinic, ENT clinic, Ophthalmology clinic, Dental clinic, and Obstetrics and Gynaecology clinic.

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[Qualitative indicators]

- Through strengthening the functions which are necessary for RRH as the top referral hospital in each sub-region, the access to and quality of health care services in Northern Uganda will be improved.
- Through construction of facilities and procurement of equipment, the inconvenience such as the congestion and the dirty environment will be improved, thereby credibility and satisfaction of the hospitals for the people in Northern Uganda including refugees will be boosted.

7. Technical assistance (“Soft Component” of the Project)

Considering the sustainable operation and maintenance of the products and services granted through the Project, following technical assistance is planned under the Project. The Ugandan side confirmed to deploy necessary number of counterparts who are appropriate and competent in terms of its purpose of the technical assistance as described in the Draft Report.

8. Undertakings of the Project

- 8-1. Both sides confirmed the undertakings of the Project as described in Annex 5 which will be used as an attachment of G/A.
- 8-2. Both sides confirmed that customs duties, internal taxes and other fiscal levies which may be imposed in Uganda will be budgeted for by MOH without using the Grant, according to the agreement between the Government of Uganda and the Government of Japan.
- 8-3. The Ugandan side assured to take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project as described in Annex 3 and 5. It is further agreed that the costs are indicative, i.e. at Outline Design level. More accurate costs will be calculated at the Detailed Design stage.
- 8-4. Both sides confirmed the following would be the undertakings of the Government of Uganda to be completed according to the schedule in Annex 4;
- 1) demolition of existing facilities and land leveling to construct new facilities
 - 2) providing alternative space for the services carried out in the demolished facilities during the construction period.
- 8-5. The Ugandan side agreed to allocate budget (operational and maintenance costs), human resources with skills (health service providers and any other personnel), and goods (spare parts and consumables) necessary for the proper and sustainable operation and maintenance of the facilities and the equipment under the Project based on the Draft Report. Specifically, the Ugandan side agreed to take necessary

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Annex 1 Outline of the Facilities

Annex 2 Equipment List

Annex 3 Project Cost Estimation (confidential)

Annex 4 Project Implementation Schedule (tentative)

Annex 5 Major Undertakings to be taken by the Government of Uganda

Annex 6 Project Monitoring Report (template)



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Annex 1: Outline of the facilities

Gulu RRH

Project Component		Description
Theatre /Casualty / Maternity Ward	GF 1,208.89 m ²	OT: OT (3), Recovery room, Staff room, Operation hall, CSSD & sterilisation room Casualty: Ambulance, Triage/Clinic, Resuscitation room, Office, Minor operation room (1), Staff room, etc. ICU: ICU, Anteroom, Staff room, Office, etc. Common: Power house, Generator house, Fire pump room, etc.
	1F 1,260.11 m ²	Maternity bed rooms (81 beds), NICU (2), Delivery room (5) Labour room, Nurse station, Sluice/sterilisation room, Patient toilet, etc.
Total	2,469.00m ²	

Lira RRH

Project Component		Description
OPD/Casualty Block	GF 980.30 m ²	OPD: Reception, Laboratory, Pharmacy, Imagery, etc. Casualty: Ambulance, Triage/clinic, Resuscitation room, Minor operation room, Sluice/sterilisation room, Office, Staff room, etc. MCH: Clinic, Office, etc. Common: Patient toilet, etc.
	1F 1,022.56 m ²	OPD: Clinics (paediatric, obstetrics, general OPD, specialised OPD), Dental clinic, etc. MCH: Clinic, Vaccine store, etc. Common: Patient toilet, etc.
Subtotal	2,002.86 m ²	
Power House	GF 17.31 m ²	Power house, Generator house
Delivery Suite	GF 278.98m ²	Delivery room (6), NICU, Sluice/sterilisation room, Staff room, etc.
Generator House	GF 13.78 m ²	Generator house
Total	2,312.93 m ²	

Arua RRH

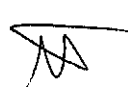


Project Component		Description
OPD/Casualty Block	GF 865.97 m ²	OPD: Reception, Laboratory, Pharmacy, Imagery, etc. Casualty: Ambulance, Triage/clinic, Resuscitation room, Minor operation room, Sluice/sterilisation, Office, Staff room, etc. Common: Patient toilet, etc.
	1F 897.20 m ²	OPD: Clinic (paediatric, gynaecology, general OPD, specialised OPD), Dental clinic, Patient toilet, etc.
Subtotal	1,763.17 m ²	
Power House	GF 17.31 m ²	Power house, Generator house
Total	1,780.48m ²	

Annex 2: Equipment List

No.	Requested No.	Equipment Name	Q'ty	Unit	Gulu	Lira	Arua
					RRH	RRH	RRH
					Total Q'ty	Total Q'ty	Total Q'ty
1	Req-3	Adenoidectomy and Tonsillectomy instrument set	2	Sets	1	1	
2	Req-4	Ambu bag set for adult	2	Sets	2		
3	Req-5	Ambu bag set for neonatal	3	Sets			3
4	Req-6	Ambubag set	1	Set			1
5	Req-7	Ambulance	3	Sets	1	1	1
6	Req-8	Anaesthesia Machine	7	Sets	2	2	3
7	Req-10	Audiometer (Screening)	1	Set		1	
8	Req-11	Autoclave (desktop)	20	Sets	7	7	6
9	Req-12	Autoclave (Laboratory type)	1	Set			1
10	Req-13	Autoclave (stand alone)	3	Sets	1	1	1
11	Req-16	Baby bed	2	Sets			2
12	Req-20	Binocular microscope	2	Sets	1		1
13	Req-21	Biochemistry analyzer	3	Sets	1	1	1
14	Req-26	BP machine	13	Sets	8	5	
15	Req-29	BP machine for adult	10	Sets	1	4	5
16	Req-30	BP machine for neonatal	6	Sets	3	1	2
17	Req-31	Broad belt sander	1	Set		1	
18	Req-32	Esophagoscope	3	Sets	1	1	1
19	Req-35	Caesarean instrument set	3	Sets		2	1
20	Req-36	Caldwel luc instrument set	1	Set	1		
21	Req-40	Centrifuge	3	Sets	1	1	1
22	Req-43	Clamp meter	2	Sets		1	1
23	Req-47	Colpo scope	1	Set	1		
24	Req-48	CPAP	1	Set			1
25	Req-49	CR system	2	Sets		1	1
26	Req-51	Cryosurgery machine	1	Set	1		
27	Req-54	Curettage instrument set	3	Sets	3		
28	Req-55	Deep freezer	2	Sets	1	1	
29	Req-57	Delivery bed	16	Sets	6	4	6
30	Req-59	Delivery instrument set	5	Sets			5
31	Req-61	Dental chair	3	Sets	1	1	1
32	Req-63	Dental instrument set	5	Sets	1	3	1
33	Req-66	Dental X-ray machine	3	Sets	1	1	1
34	Req-66-2	Dental X-ray CR	3	Sets	1	1	1
35	Req-67	Diagnosis set	12	Sets	2	7	3

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36	Req-69	Dressing cart	6	Sets		2	4
37	Req-70	Dressing instrument set	7	Sets		2	5
38	Req-71	Drilling machine	1	Set			1
39	Req-72	Drip stand	10	Sets		8	2
40	Req-73	Drug trolley	12	Sets	4	2	6
41	Req-74	Drum set	8	Sets	1	6	1
42	Req-79	Dryer	3	Sets	1	1	1
43	Req-80	Dust vacuume machine	1	Set	1		
44	Req-81	Earth mege tester	1	Set		1	
45	Req-82	ECG	1	Set	1		
46	Req-85	Electrical balance	2	Sets			2
47	Req-86	Electrical dermatome	1	Set			1
48	Req-89	Electrical tool set	2	Sets	1	1	
49	Req-90	Electro surgical unit	3	Sets	2		1
50	Req-93	Eletrolyte analyzer	1	Set	1		
51	Req-95	Emergency bed	36	Sets	12	12	12
52	Req-97	EMS	2	Sets	1		1
53	Req-98	Engraving machine	1	Set	1		
54	Req-99	ENT chair	1	Set		1	
55	Req-100	ENT examination instrument set	1	Set		1	
56	Req-101	ENT oprating microscope	2	Sets	1	1	
57	Req-103	Examination bed	29	Sets	2	23	4
58	Req-104	Examination light	17	Sets	9	1	7
59	Req-106	Examination table for OB&GY	6	Sets	2	2	2
60	Req-107	Exercise mat	3	Sets	1	1	1
61	Req-110	Fetal doppler	6	Sets	2	1	3
62	Req-116	Fluoroscopy X-ray machine	2	Sets		1	1
63	Req-118	General X-ray machine	2	Sets		1	1
64	Req-120	Glucometer	17	Sets	3	13	1
65	Req-122	Hand drilling machine	1	Set	1		
66	Req-126	HBA1o analyzer	1	Set			1
67	Req-127	Height meter	1	Set	1		
68	Req-128	Hematology analyzer	3	Sets	1	1	1
69	Req-130	Hot air oven	1	Set	1		
70	Req-133	Hysterosalpingogram set	1	Set			1
71	Req-134	ICU bed	5	Sets	5		
72	Req-135	Incubator	2	Sets	1	1	
73	Req-136	Infant incubator	10	Sets	4	2	4
74	Req-137	Infant warmer	4	Sets	1	1	2
75	Req-138	Infra red machine	3	Sets	1	1	1



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76	Req-139	Infusion pump	5	Sets	3		2
77	Req-141	Instrument trolley	3	Sets	3		
78	Req-142	Insulation resistance tester	1	Set		1	
79	Req-145	Jig saw	1	Set	1		
80	Req-149	Laryngoscope	1	Set	1		
81	Req-154	Light cure machine	3	Sets	1	1	1
82	Req-158	Mayo table	3	Sets	3		
83	Req-160	Medicine cupboard	5	Sets		1	4
84	Req-161	Micropipette set	2	Sets	2		
85	Req-162	Middle ear instrument set	1	Set	1		
86	Req-163	Minor surgery instrument set	3	Sets		2	1
87	Req-164	Mobile X-ray machine	2	Sets	1	1	
88	Req-166	Multimeter	2	Sets	1		1
89	Req-168	Nebulizer	10	Sets	5	1	4
90	Req-171	Operating light (ceiling mont)	4	Sets	4		
91	Req-172	Operating light (mobile)	9	Sets		5	4
92	Req-173	Operating table	7	Sets	3	2	2
93	Req-174	Operating table with traction	3	Sets	1	1	1
94	Req-178	Orthopedic instrument set	1	Set			1
95	Req-179	Oscilloscope (portable)	1	Set		1	
96	Req-182	Oxygen cylinder set	47	Sets	16	14	17
97	Req-185	Parallel bar for adult	1	Set	1		
98	Req-186	Patient Bed	86	Sets	86		
99	Req-189	Patient monitor	27	Sets	10	5	12
100	Req-194	Patient trolley	32	Sets	12	8	12
101	Req-197	Photo therapy unit	1	Set	1		
102	Req-198	Pipe bender	1	Set	1		
103	Req-199	Plaster bender	2	Sets	1	1	
104	Req-200	Plaster cutter (electrical)	3	Sets	1	1	1
105	Req-201	Plaster cutter (manual)	2	Sets	1	1	
106	Req-202	Plaster opener	2	Sets	1	1	
107	Req-206	Pneumatic tournique	1	Set			1
108	Req-208	Polishing machine	1	Set	1		
109	Req-209	Posture mirror	1	Set	1		
110	Req-211	Pulp tester	3	Sets	1	1	1
111	Req-212	Pulse oximeter	29	Sets	15	7	7
112	Req-217	Refrigerator (battery type)	2	Sets		1	1
113	Req-218	Refrigerator for bloodbank	3	Sets	1	1	1
114	Req-220	Refrigerator for drug (large)	4	Sets		2	2
115	Req-221	Refrigerator for drug (medium)	7	Sets	4	1	2

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116	Req-222	Refrigerator for drug (small)	3	Sets	1	1	1
117	Req-224	Resuscitation set	1	Set		1	
118	Req-226	Rotor machine	2	Sets	1	1	
119	Req-231	Shaker	1	Set	1		
120	Req-232	Short wave diathermy	3	Sets	1	1	1
121	Req-233	Shulder wheel	1	Set	1		
122	Req-236	Speculum set	14	Sets	10	1	3
123	Req-240	Spring balance	1	Set			1
124	Req-244	Stationary bike for adult	4	Sets	2	1	1
125	Req-246	Steel cabinet	6	Sets	2	4	
126	Req-247	Sterilizing box set	2	Sets		1	1
127	Req-249	Stethoscope for pediatric	2	Sets	2		
128	Req-250-1	Storage cabinet for Gulu CSSD	1	Set	1		
129	Req-250-2	Storage cabinet for Lira CSSD	1	Set		1	
130	Req-251	Storage cabinet for drug storage	1	Set	1		
131	Req-252	Storage cabinet for pharmacy	1	Set		1	
132	Req-253	Suction machine (electrical)	31	Sets	13	8	10
133	Req-254	Suction machine (manual)	4	Sets	3	1	
134	Req-255	Surgery instrument set	1	Set			1
135	Req-258	Syringe pump	3	Sets	1	2	
136	Req-261	Therapeutic massage bed	2	Sets	2		
137	Req-263	Thermometer	7	Sets	2		5
138	Req-266	Traction bed	1	Set	1		
139	Req-267	Traction machine for cervical	1	Set			1
140	Req-270	Tread mill	1	Set	1		
141	Req-272	Tympanometer	2	Sets	1	1	
142	Req-275	Ultrasonic therapy machine	3	Sets	1	1	1
143	Req-277	Ultrasound machine (cardiac)	3	Sets	1	1	1
144	Req-278	Ultrasound machine (mobile)	4	Sets	3	1	
145	Req-282	Vacuum extractor	1	Set	1		
146	Req-285	Ventilator	1	Set	1		
147	Req-293	Washing machine	3	Sets	1	1	1
148	Req-294	Water bath	1	Set	1		
149	Req-295	Water distillizer	4	Sets	1	2	1
150	Req-296	Weighing and height scale for adult	3	Sets		3	
151	Req-298	Weighing scale for adult	9	Sets	5	3	1
152	Req-300	Weighing scale for infant	5	Sets	4	1	
153	Req-304	Wheel chair	17	Sets	4	5	8
154	Req-306	Working table for CSSD	2	Sets	2		
155	Req-307	Working table for pharmacy	1	Set		1	


||




Annex 3: Project Cost Estimation

The detailed initial costs to be borne by the Japanese side and the Ugandan side according to the division of works are estimated based on the calculation conditions as specified in (3), when the Project is implemented through the Japan's Grant Aid. This cost estimation is provisional.

(1) Cost to be borne by the Japanese side

Item	Cost (million JPY)	
Facility Construction	1,912.0	2,479.9
Equipment Procurement	567.9	
D/D, Tender Assistance, and Supervision of Construction / Equipment Works		278.8
Soft Component		15.4
Contingency		10.3
Total		2,884.4

(2) Costs to be borne by the Ugandan Side

1) Gulu RRH

Item	Cost (1,000 US\$)
1. Transfer of functions from the existing Operation Theatre	6,000
2. Demolition and removal of the existing facilities (existing Operation Theatre, old X-ray room, nurse office, medical ward toilet and laundry room)	46,600
3. Cutting of trees in the construction site and removal of topsoil	6,000
4. Clearance of the existing infrastructures in the construction site and their rerouting	6,000
5. Improvement of infrastructure for the Project (Power incoming installations up to 200kVA pole transformer to be installed by the Japanese side)	1,550
6. Repairs of the existing building and improvement of its utility systems to install new medical equipment (dental, physiotherapy, prosthetics, pharmacy)	11,000
7. Purchase of general furniture and supplies as well as transferring existing furniture into the new building	31,000
8. Functional transfer from the existing facilities to the new facilities (the Theatre /Casualty / Maternity Ward)	6,000
9. Construction of connecting walkway	50,700
Total	164,850

2) Lira RRH

Item	Cost (1,000 US\$)
1. Transfer of functions from the existing Operation Theatre	6,000
2. Demolition and removal of the existing facilities (a part of the existing OPD Unit and MCH/OPD Unit)	37,300
3. Cutting of trees in the construction site and removal of topsoil	6,000
4. Clearance of the existing infrastructures in the construction site and their rerouting	6,000
5. Relocation of the existing incinerator	15,500
6. Improvement of infrastructure for the Project (Power incoming installations up to 200kVA pole transformer to be installed by the Japanese side)	1,550
7. Repairs of the existing building and improvement of its utility systems to install new medical equipment (sterilisation)	6,500
8. LAN system wiring in the existing building and between the existing building and the new building (for CR system)	10,000

9. Construction of a fence along the west border of the OPD/Casualty Block. Construction of a gate and a gatehouse for the OPD/Casualty Block.	155,000
10. Paving of the hospital roads and construction of an access road to staff houses	93,200
11. Procurement of general furniture and supplies as well as carrying existing furniture into the new building	31,000
12. Functional transfer to the new building	6,000
13. Construction of MCH Waiting (18m*12)	342,000
14. Construction of connecting walkway Between the new delivery rooms and the existing Obstetrics Unit and NICU	46,600
15. Remodelling of the existing delivery rooms to bed rooms	15,500
16. Remodelling of the existing NICU to bed rooms	15,500
Total	793,650

3) Arua RRH

Item	Cost (1,000 UShs)
1. Transfer of functions from the existing OPD unit	6,000
2. Demolition and removal of the existing facilities (existing OPD unit)	2,100
3. Cutting of trees in the construction site and removal of topsoil	6,000
4. Clearance of the existing infrastructures in the construction site and their rerouting	6,000
5. Improvement of infrastructure for the Project (Power incoming installations up to 200kVA pole transformer to be installed by the Japanese side)	1,550
6. Repairs of the existing building and improvement of its utility systems to install new medical equipment (laundry, sterilisation)	12,000
7. LAN system wiring in the existing building and between the existing building and the new building (for CR system)	10,000
8. Procurement of general furniture and supplies as well as carrying existing furniture into the new building	31,000
9. Functional relocation from the existing building to the new building (the OPD/Casualty Block)	6,000
10. Construction of a connecting walkway	25,000
Total	134,650

4) Ministry of Health

(a) Charges relevant to B/A and A/P

Charges related to procedural matters will be the issuing of B/A and A/P, and necessary charges. Costs relevant to the issuing of B/A and A/P for the consulting agreement, construction contract and equipment supply/installation contract is estimated to be approximately 86,700 thousand UShs in total.

(b) The treatment of taxes and duties

The estimated costs to be borne by by the Executing Agency will be calculated in the later stage.

(3) Calculation Conditions

- 1) Time of Estimation : as of March 2017
- 2) Conversion Rate : 1.00 US\$ = 115.63 yen
: 1.00 US\$ = 3,588.60 UShs

: 1 US\$ = 0.0322 yen

3) Construction Period : 16 months

4) Other Conditions:

Project implementation intended to be in compliance with the Grant Aid scheme of the GOJ. The application of the contingency and its ratio will be determined by the GOJ.

Confidential

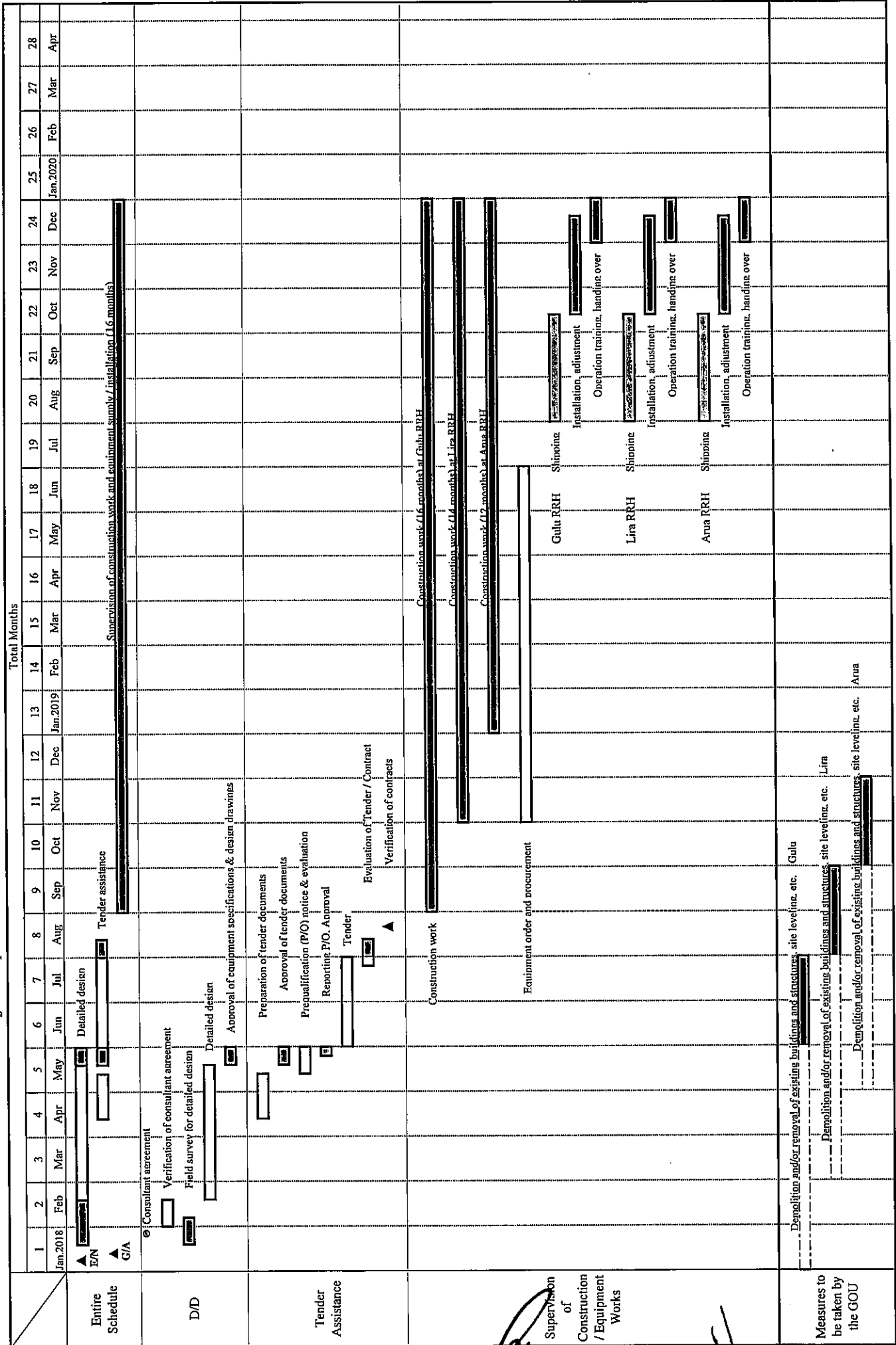
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Annex 4: Project Implementation Schedule (tentative) (Detailed Design / Construction - Equipment Works)



Note 1) Supervision period of construction / equipment works will be reconsidered according to the result of field surveys

2) : Works in Uganda : Works in Japan

Annex 5: Major Undertakings to be taken by the Government of Uganda

Specific obligations of the Government of Uganda which will not be funded with the Grant

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost (1,000UShs)	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	MOH	-	
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract	MOH	9,100	the Draft Report
3	To provide alternative space for the services carried out in the facilities to be demolished during construction period.	before start of demolition	RRHs	Gulu 6,000	the Draft Report
				Lira 21,500	
				Arua 6,000	
4	To secure and clear land for ; 1) the construction areas 2) the area for temporary office, temporary store and working shade, stock yard for materials and concrete mixing space	before notice of the bidding document	RRHs	-	
5	To obtain the planning, zoning, building permit	before notice of the bidding document	MOH and RRHs	-	
6	To clear, level and reclaim the following sites at the construction areas including their foundations 1) the existing buildings 2) all existing trees 3) the existing sewerage pipes, manholes, water supply pipes, underground electric cables 4) any other obstacles	before notice of the bidding document	Gulu RRH	58,600	the Draft Report
			Lira RRH	49,300	
			Arua RRH	43,100	
7	To submit Project Monitoring Report (with the result of Detailed Design)	before preparation of bidding documents	MOH	-	

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

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(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost (1,000UShs)	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Contractor(s)	within 1 month after the signing of the contract(s)	MOH	77,560	the Draft Report
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A		MOH		
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	MOH		
	2) Payment commission for A/P	every payment	MOH		
3	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in recipient country	during the Project	MOH	-	
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	MOH	-	
5	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be borne by its designated authority without using the Grant.	during the Project	MOH	*	
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MOH and RRHs		
7	To submit Project Monitoring Report	every month	MOH	-	
	1) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	MOH	-	
8	To submit a report concerning completion of the Project	within six months after completion of the Project	MOH	-	
9	To conduct necessary pre-installation works in the case of installing new equipment in the existing buildings	before installation of equipment	Gulu RRH	11,000	the Draft Report
			Lira RRH	6,500	
			Arua RRH	12,000	
10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the sites		RRHs	-	
	1) Electricity	before start of the construction	Gulu RRH	1,550	the Draft Report
	- The distributing line and appropriate power supply to the buildings		Lira RRH	1,550	
			Arua RRH	1,550	

2)	Water Supply - The water supply line and the appropriate water supply to the buildings	6 months before completion of the construction	RRHs	-	
3)	Drainage - The public sewer line and the appropriate drainage system to the buildings	6 months before completion of the construction	RRHs	-	
4)	LAN system - LAN system wiring in the existing building and between the existing building and the new building (for CR system)	6 months before completion of the construction	Lira RRH	10,000	the Draft Report
			Arua RRH	10,000	
5)	Furniture and Equipment - general furniture and office equipment	1 month before completion of the construction	Gulu RRH	31,000	the Draft Report
			Lira RRH	31,000	
			Arua RRH	31,000	
11	To take necessary measure for safe construction and traffic control	during the construction	RRHs	-	

* The estimated costs to be borne by by the Executing Agency will be calculated in the later stage.



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(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost (1,000UShs)	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance system 3) Routine check/Periodic inspection 4) Spare parts and Consumables	After completion of the construction	MOH and RRHs	-	



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Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXXX
 20XX, Month

Organizational Information

Signer of the G/A (Recipient)	_____ Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
Executing Agency	_____ Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
Line Ministry	_____ Person in Charge (Designation) _____ Contacts Address: _____ Phone/FAX: _____ Email: _____

General Information:

Project Title	
E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____


 20 


1: Project Description	
-------------------------------	--

1-1 Project Objective

--

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

--

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

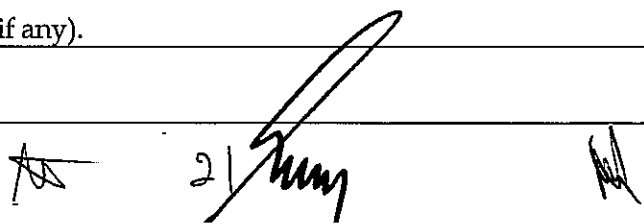
Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

2-2 Scope of the work

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)



 21/11/11

2-3 Implementation Schedule

Items	Original		Actual
	<i>(proposed in the outline design)</i>	<i>(at the time of signing the Grant Agreement)</i>	

Reasons for any changes of the schedule, and their effects on the project (if any)

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

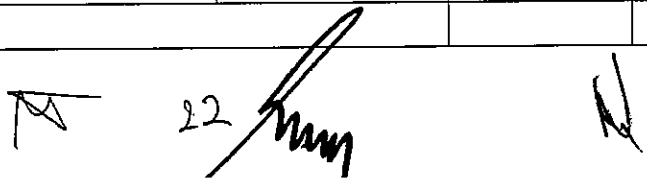
2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1)/2)} <i>(proposed in the outline design)</i>	Actual
1.				
Total				

Note: 1) Date of estimation:
 2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1)/2)} <i>(proposed in the outline design)</i>	Actual
1.				



- Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original (at the time of outline design) name: role: financial situation: institutional and organizational arrangement (organogram): human resources (number and ability of staff):
Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original (at the time of outline design)
Actual (PMR)

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original (at the time of outline design)

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23

Actual (PMR)

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
Actual Situation and Countermeasures (PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

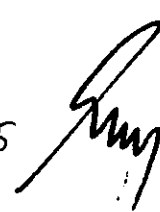
5-2 Lessons Learnt and Recommendations


Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

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Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment Price (Decreased) E=C-D	Condition of payment Price (Increased) F=C+D
Item 1	●●t	●	●	●	●	●
Item 2	●●t	●	●	●		
Item 3						
Item 4						
Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials	1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
Item 1	●	●	●			
Item 2						
Item 3						
Item 4						
Item 5						

(3) Summary of Discussion with Contractor (if necessary)

27 Sun

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

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資料5 テクニカルノート

TECHNICAL NOTE
ON PREPARATORY SURVEY (FIELD SURVEY 2)
ON THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS
IN NORTHERN UGANDA

After Signing of Minutes of Discussions on 2nd March 2017, the consultant team held discussions with the officials concerned from the Government of Uganda. In the course of discussions and field surveys, both parties confirmed the items described below.

1. Facilities

- (1) The Japanese Survey Team explained roughly the required building Conceptual Schematic Design (Maternity/Casualty/Theatre Block in Gulu RRH, OPD/Casualty Block and Delivery Suite in Lira RRH, and OPD/Casualty Block in Arua RRH) as shown in ANNEX to the Ugandan Counterparts. The Ugandan Counterparts agreed to the preliminary Building Conceptual Schematic Design.
- (2) The Japanese Survey Team and the Ugandan Counterparts agreed that the solar water heater system shall be installed in the Maternity/Casualty/Theatre Block in Gulu RRH and the Delivery Suite in Lira RRH, and shall not be installed in the OPD/Casualty Blocks in Lira and Arua RRHs.
- (3) The Japanese Survey Team and the Ugandan Counterparts agreed that the manifold and the oxygen piping shall only be installed in the Operation Theatre and the ICU in Gulu RRH, and shall not be installed in any other buildings including the Casualty Units in all RRHs.

2. Equipment

The Ugandan side additionally requested equipment as below;

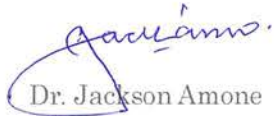
- Laparoscope x 1unit, Colonoscope x 1unit and Gastroscope x 1unit for Gulu RRH
- Mammograph x 1unit and Fetal Doppler x 1unit for Lira RRH

The Japanese Survey Team will analyze the requested equipment for all the three hospitals (including the additional requested equipment) in Japan, and plan the component of equipment for the project.





Kampala, 9th March, 2017



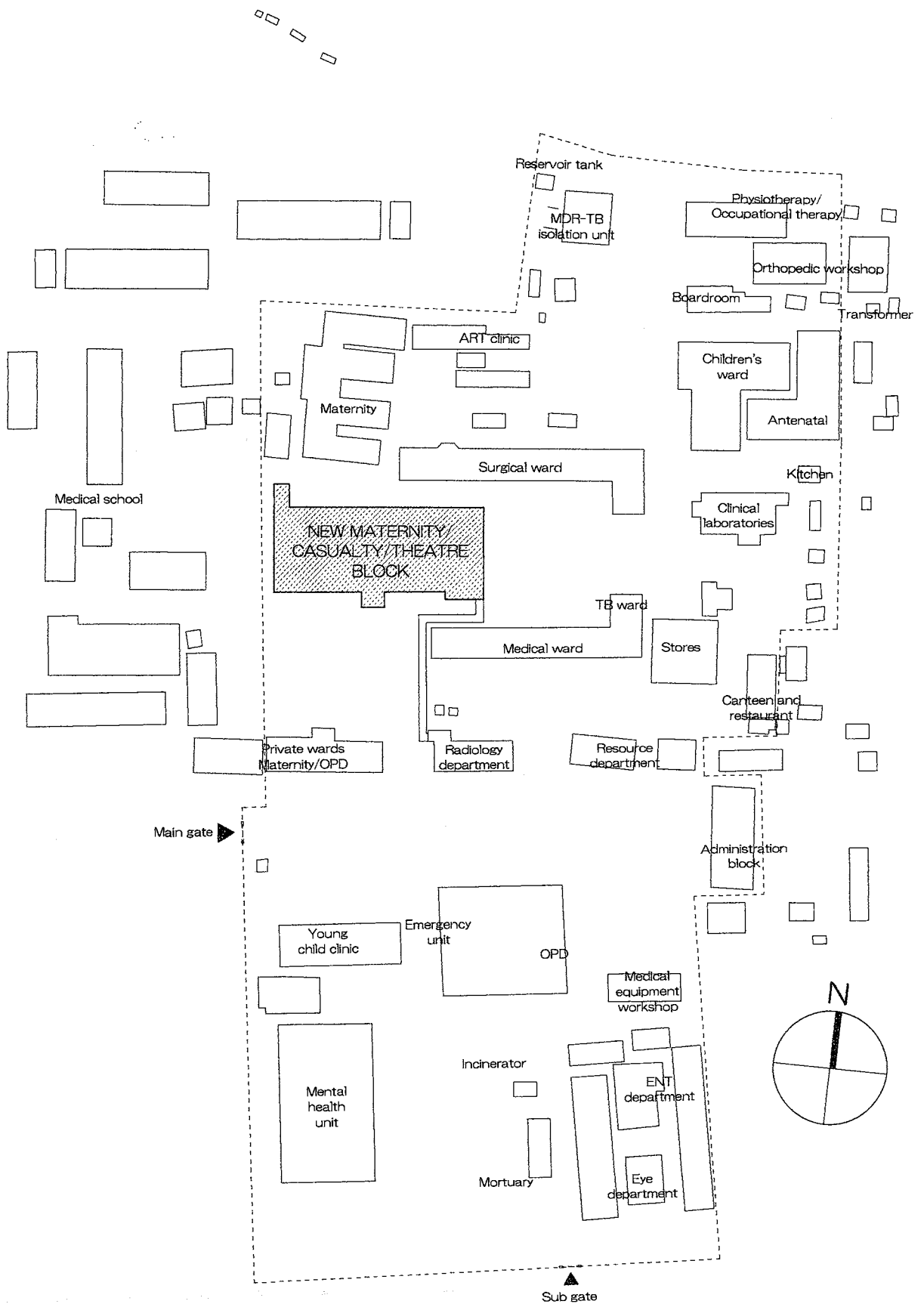
Dr. Jackson Amone


Acting Commissioner for Health
Services (Clinical Services), MOH



Mr. Keiichi Ide

Project Manager
Survey Team



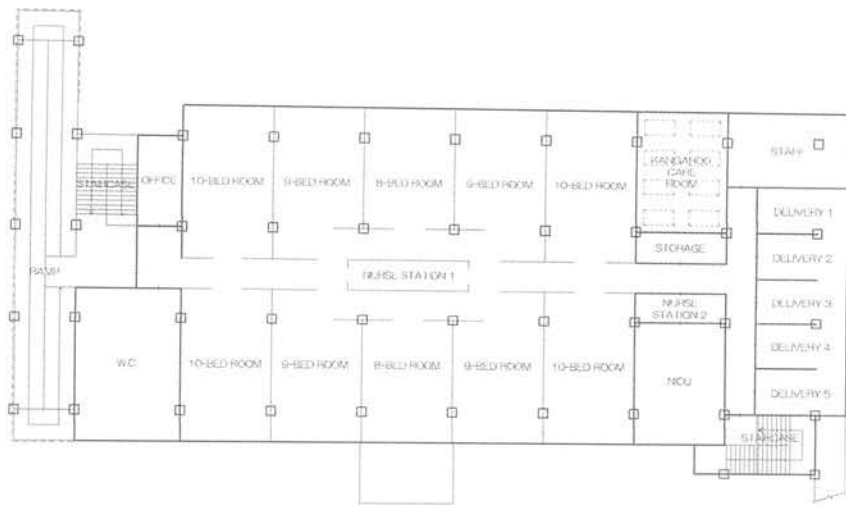
CONSULTANT
 THE CONSORTIUM OF
 YOKOGAWA ARCHITECTS & ENGINEERS, INC
 AND INTEM CONSULTING, INC.
 YOKOGAWA ARCHITECTS & ENGINEERS, INC. 

PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

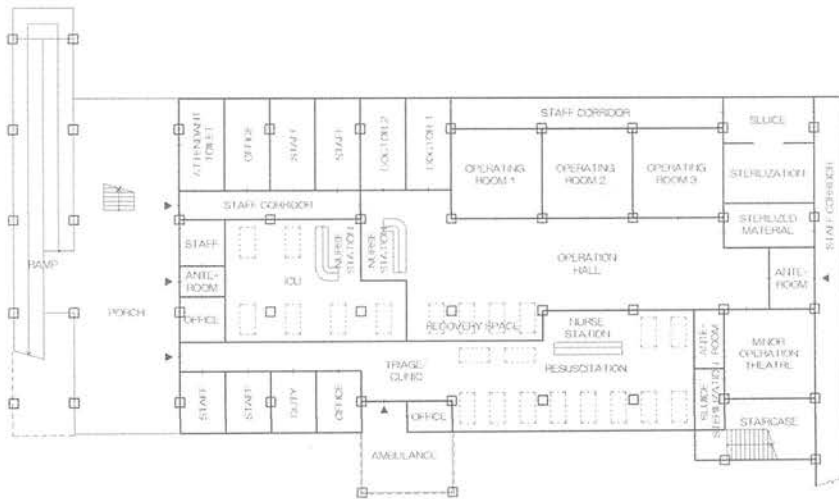
TITLE PLOT PLAN		DRAWING NO. 1
DATE: 2017.03.09	SITE GULU RRH	SCALE 1:1,500

Yokogawa

K.A.



② MATERNITY/CASUALTY/THEATRE BLOCK - FIRST FLOOR PLAN



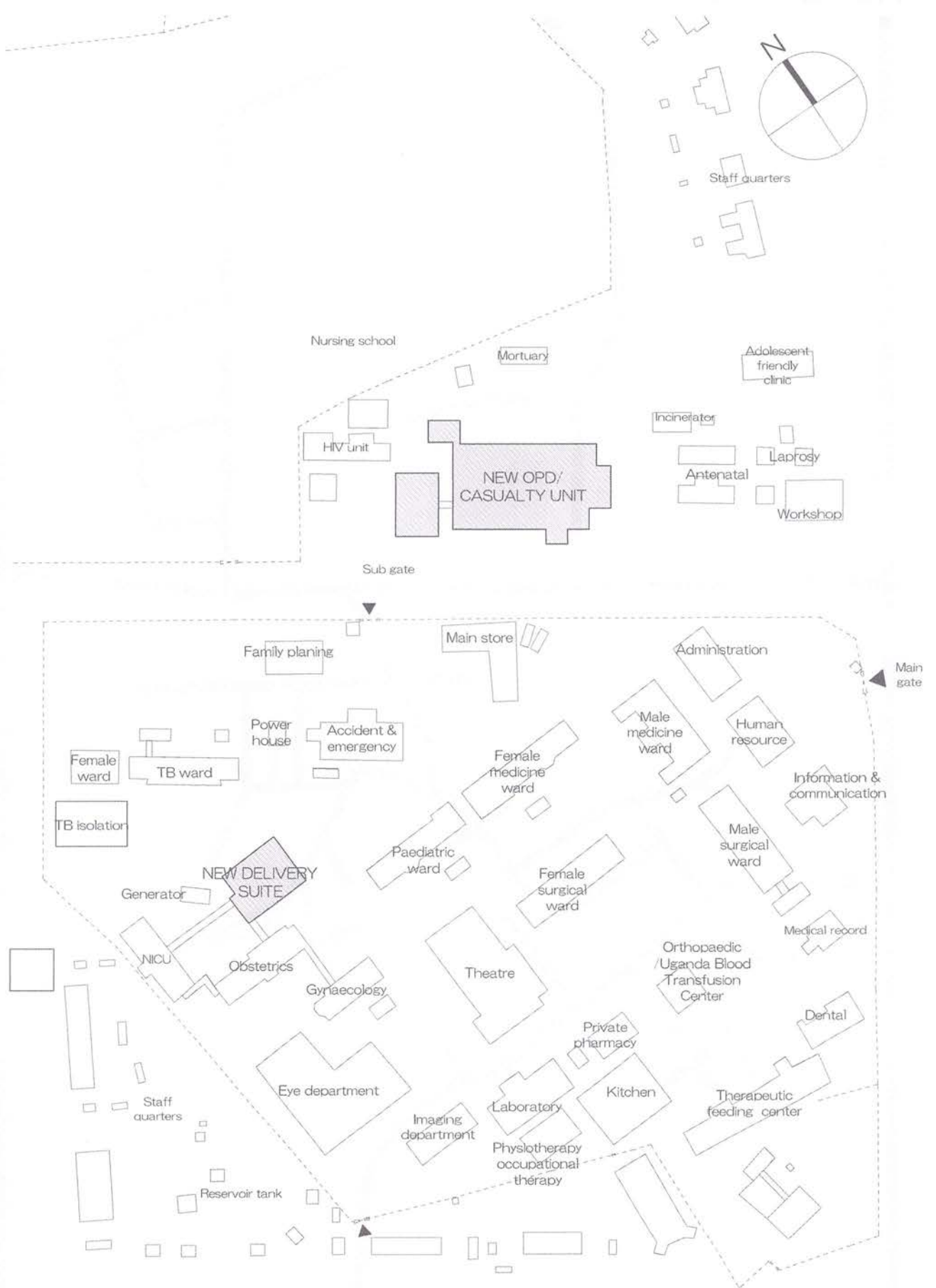
① MATERNITY/CASUALTY/THEATRE BLOCK - GROUND FLOOR PLAN



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 AND INTEM CONSULTING, INC.
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PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE	PLANS	DRAWING NO.	2
DATE	2017.03.09	SITE	GULU RRH
		SCALE	1:500



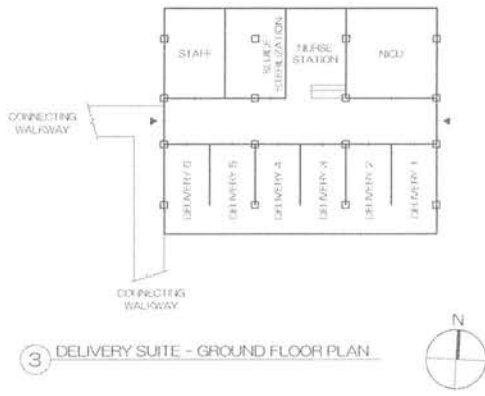
CONSULTANT
 THE CONSORTIUM OF
 YOKOGAWA ARCHITECTS & ENGINEERS, INC
 AND ITEM CONSULTING, INC.
 YOKOGAWA ARCHITECTS & ENGINEERS, INC. ITEM
 CONSULTING, INC.

PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

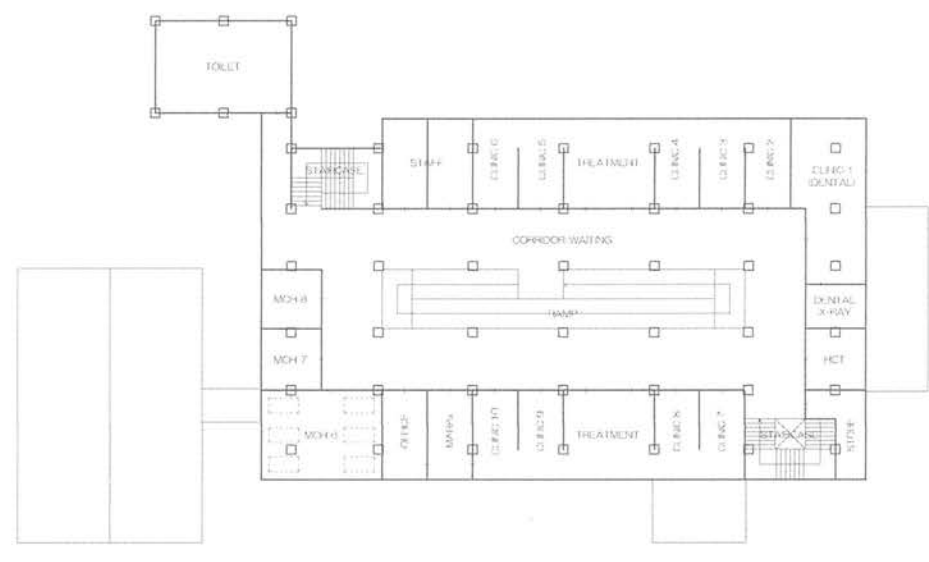
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DATE:	2017.03.09	SITE	URRA RRH
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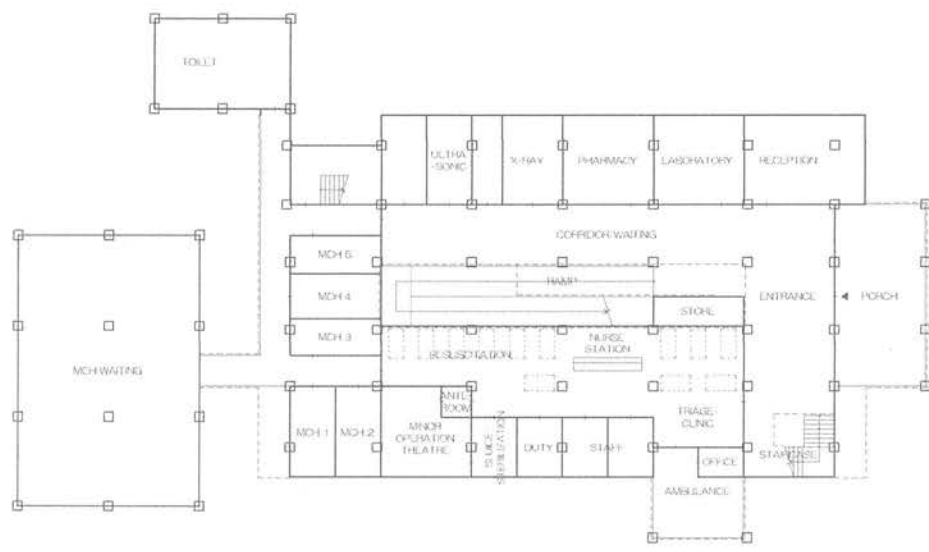
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3 DELIVERY SUITE - GROUND FLOOR PLAN



2 OPD/CASUALTY BLOCK - FIRST FLOOR PLAN

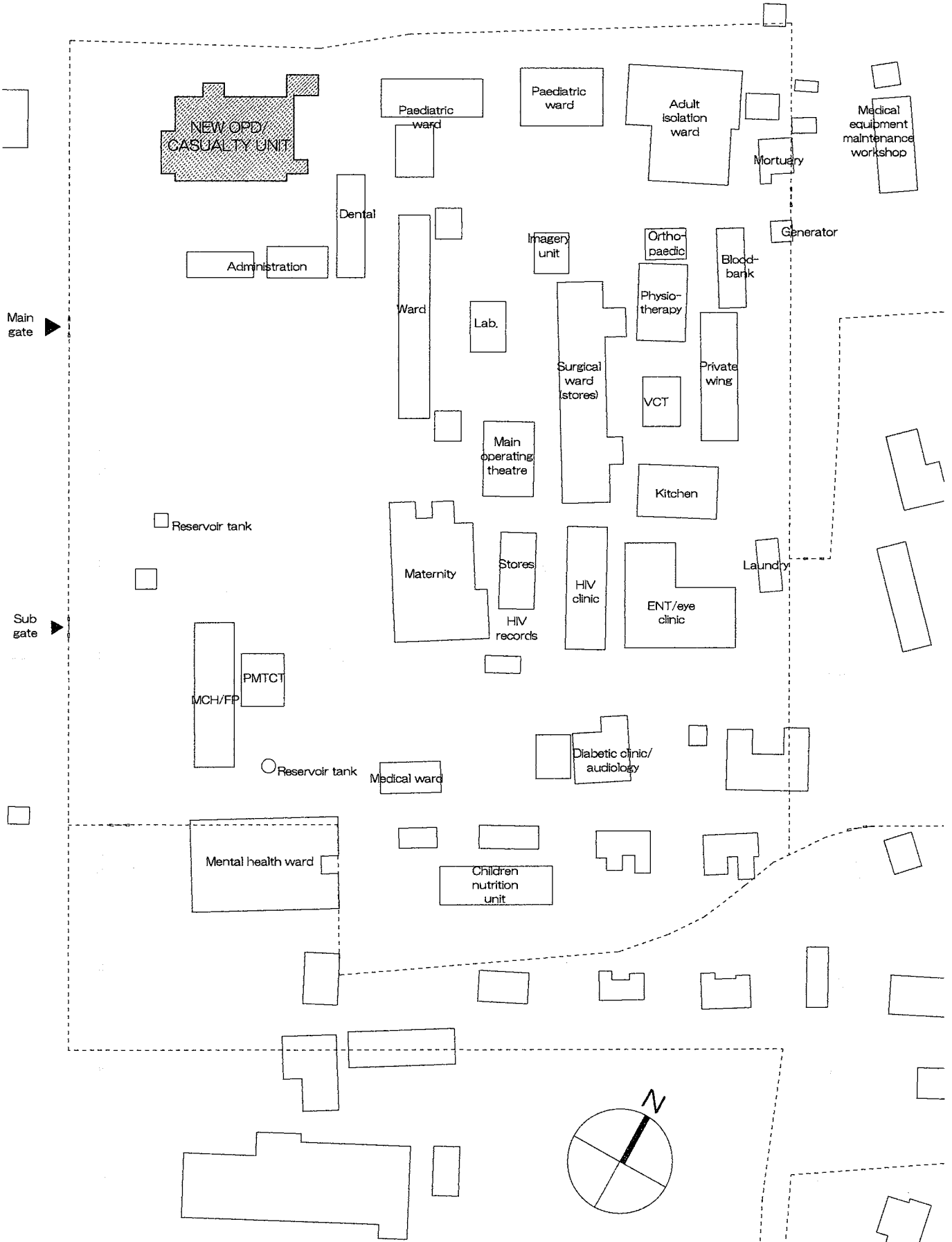



1 OPD/CASUALTY BLOCK - GROUND FLOOR PLAN

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 AND ITEM CONSULTING, INC.
 YKOGAWA ARCHITECTS & ENGINEERS, INC. ITEM CONSULTING, INC.

PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE PLANS		DRAWING NO. 4
DATE 2017.03.09	SITE LIRA RRH	SCALE 1:500



CONSULTANT
 THE CONSORTIUM OF
 YOKOGAWA ARCHITECTS & ENGINEERS, INC
 AND INTEM CONSULTING, INC.
 YOKOGAWA ARCHITECTS & ENGINEERS, INC. 

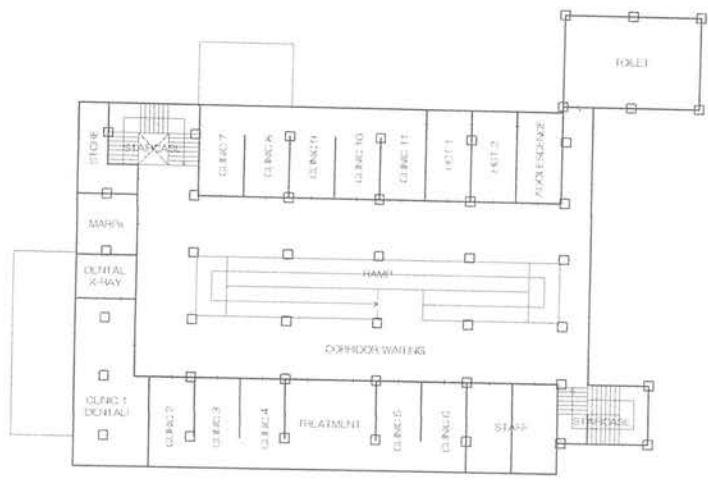
PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE
 PLOT PLAN
 DATE: 2017.03.09 | SITE: ARUA RRH

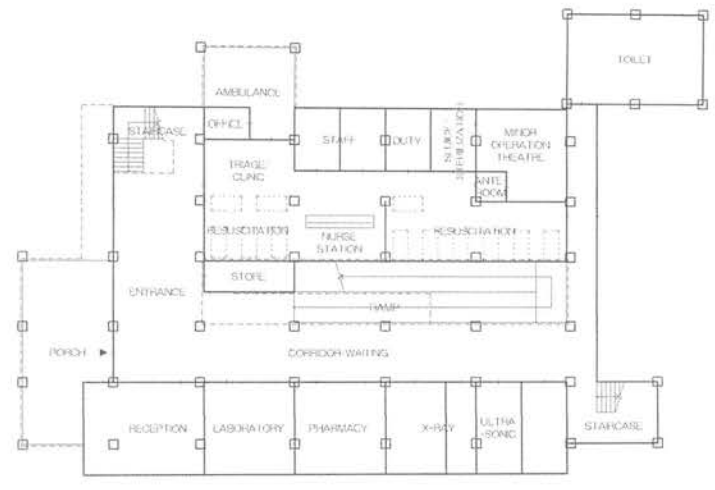
DRAWING NO.
 5
 SCALE
 1:1,500

Yokogawa

K. Lee



2 OPD/CASUALTY BLOCK - FIRST FLOOR PLAN



1 OPD/CASUALTY BLOCK - GROUND FLOOR PLAN



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PROJECT
 THE PREPARATORY SURVEY FOR
 THE PROJECT FOR IMPROVEMENT OF
 REGIONAL REFERRAL HOSPITALS
 IN NORTHERN UGANDA

TITLE	PLANS	DRAWING NO.	6
DATE	2017.03.09	SITE	ARUA RRH
		SCALE	1:500

資料6 ソフトコンポーネント計画書

ウガンダ国
北部ウガンダ地域中核病院改善計画

ソフトコンポーネント計画書

2017年8月

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1. ソフトコンポーネントを計画する背景

ウガンダ共和国北部ウガンダ地域中核病院改善計画(以下、当該プロジェクト)では、ウガンダ北部にある、グル地域中核病院(以下「RRH」)、リラ RRH 及びアルア RRH に対し一部施設の新・増築及び医療機材の調達を実施される予定である。

現在、ウガンダ政府は「国家保健政策Ⅱ(2010 - 2019)」を策定し、当該政策を踏まえて策定された「保健セクター開発計画」(Health Sector Development Plan: HSDP、2015 - 2019)に従い保健サービスの質の改善を重点分野とした取り組みを進めている。過去日本からは、ソロティ地域、東部地域、中央地域、西部地域の地域中核病院に対して継続的に無償資金協力を実施してきた。本案件はこれらの案件に続くものと位置づけられ、支援の内容もほぼ同様となっている。

本案件で計画された機材は、保健省が定める標準機材リストに準拠するとともに、現地調査における先方との十分な協議を通じて選定され、その妥当性は十分に検証され、先方の実施体制(人員・予算など)とも整合しており、その使用に当たっては特に大きな問題は無い。しかしながら、対象病院における一部の機材は、現在病院に実機がない、もしくは機材の老朽化、故障などにより使われていないため、過去に使用経験はあるものの臨床的な使用技術に不安を抱えている。特に患者の生命や容態に影響を及ぼす機材は、臨床的な技術を確実なものとする必要がある。そのため、こうした機材については、整備後に持続的かつ最新の知識を元を使用するために、臨床的な技術をブラッシュアップ(長く機材を使用していないことにより鈍った腕や技のみがき直し)をすることが望ましい。

係る状況から、中央地域及び西部地域の案件では、臨床技術のブラッシュアップを目的としたソフトコンポーネントが実施され、整備後の有効な機材活用に結びついており、本案件においても臨床技術のブラッシュアップを目的としたソフトコンポーネントを実施する意義が高いと判断する。

また、本案件では放射線診断において従来のフィルムを使用するシステムに替え、デジタル方式の CR (Computed Radiography) システムを導入する予定である。当該システムは従来方式の代替システムであり、使用に当たっては従来技術を応用することで、大きな技術的障害は発生しないが、得られた画像の保管方法(サーバー内にデジタルデータで保管)、画像の共有方法(フィルムの受け渡しではなく LAN でデジタルデータを共有)、とデータ管理方法が大きく異なっている。また、デジタル画像であるが故に可能な画像処理技術(診断部位の強調や露光不足の修正など)も従来方式には無かった利点である。

従来のフィルムでの運用方法との違いを理解し、得られたデータを有効に活用するためには、各機材調達業者による機材の運用指導に加え、業者では対応しきれない、LAN 環境を含む総合的なシステム全体の十分な技術指導が導入時に必要である。本指導は、機材調達業者による初期操作指導や運用指導と異なり、デジタルデータをどのように処理すれば臨床的に有効か、病院全体でのデータ共有をどのように行うかのルール決めなど、運用にかかわる指導であり、まさにソフトコンポーネントの非常に有効な適用テーマである。

また、過去実施された案件の経験より、業者による個々の機材に対する取り扱い説明や、保守管理のための操作説明をいくら十分に行っても、時間の経過とともにその知識があいまいとなってしまう、誤った使用方法で機材が有効に活用されなくなったり、軽微な故障であっても放置されるケースが散見された。さらに、機材納入時から配置人員が変わり、運用体制が軌道に乗る前に指導を受けたスタッフが異動してしまうというケースも発生していた。このような問題は、引渡し後使用を開始しある程度(約半年)が経過した後、これらの問題点を確認しつつ、臨床技術を含む操作方法や保守点検の方法を再指導することにより、大きく改善が可能と思われる。

以上の観点から、ウガンダ保健省から日本に対して、これらの技術支援を目的としたソフトコンポーネントの

要請がおこなわれた。その要請に対し、本案件では、以下に示すソフトコンポーネントを計画したい。

- I 特定機材(ある程度高度かつ既存機材がないため現在日常的には使用していない機材など)に対するブラッシュアップを目的とした臨床技術指導
- II CRシステムの有効な運用にかかる技術指導
- III 整備機材の運用方法、保守管理技術にかかるブラッシュアップを目的とした技術指導

なお現在ウガンダでは技術協力プロジェクト「保健インフラマネジメントを通じた保健サービス強化プロジェクト(フェーズ 2)」が実施中である。同プロジェクトでは、本計画の対象病院を含む地域中核病院に対し、医療機材の有効な運用・維持管理方法を指導するユーザートレーナーの育成や、地方ワークショップ¹に対し、医療機器の維持管理体制の強化を行っている。同技術協力プロジェクトでは普遍的な保守点検技術指導及び、全地域中核病院が所持している医療機材を対象としており、本ソフトコンポーネントでは、その実績を踏まえた保守管理技術の指導計画を策定した上で、特定の機材に絞り、機材供用開始後の円滑な運用開始のための技術指導を行う。

2. ソフトコンポーネントの目標

対象病院における、医療従事者(医師、看護師など)に対する機材の臨床運用指導及びCRシステムを含む機材の保守管理技術指導が実施され、また地方ワークショップの技術者に対し、CRシステムを含む機材の保守管理技術の指導が実施され、その協力効果が持続した場合、以下の3つの目標が達成されることが期待される。

- I 調達機材が有効に活用される
- II 導入されたCRシステムが有効に運用される
- III 調達機材の保守管理の技術が向上し、機材が長期に渡り適切に管理、運用される

3. ソフトコンポーネントの成果

ソフトコンポーネント完了時に達成されるべき成果は以下の通りである。

I 調達機材を有効に活用するための運用、臨床技術指導

機材引渡し時と引き渡しから約半年後に実施する。対象病院において調達機材を運用する医療従事者(医師、看護師など)に対する臨床的技術指導を実施することにより、以下の成果が達成される。

- I-① 調達機材の機能と役割に関する臨床的知識が整理される。
- I-② 対象機材を利用した、患者の状況に合わせた適切な対処技術が習得される。

II CRシステムの運用技術指導

機材引渡し直後に実施する。対象病院においてX線画像を取り扱う医療従事者(放射線技師、各診療部門医師など)に対する技術指導を実施することにより、以下の成果が達成される。

- II-① X線画像が院内で有効に共有される。
- II-② X線画像の画質が向上し、診断精度が向上する。

¹ ワークショップとは：技術者が配置され、医療施設の修繕や医療機材の保守管理、修理を担う組織。同組織は、保健省インフラ部が管理し、首都カンパラの中央ワークショップ(保健省が管轄)、地方11カ所に地方ワークショップ(RRHに所属)が配置されており、計12のワークショップが各所掌地域の医療施設の施設・機材保守管理を担っている。本事業対象の3病院は、いずれも病院内に地域ワークショップを有している。

III 調達機材の運用・保守管理技術指導

機材引渡しから約半年後に実施する。対象病院に配置されている調達機材を運用する医療従事者（医師、看護師など）及び対象病院を所掌している地方ワークショップの技術者に対する運用、保守技術指導を実施することにより、以下の成果が達成される。

- III-① 調達機材の動作原理、使用目的などが再確認され、運用に関する能力がより確実なものとなる。
- III-② 調達機材に特定した点検・保守の方法が習得され、継続的な保守・管理体制が構築される。
- III-③ 故障時に故障箇所を特定を行うトラブルシューティングの技術レベルが向上し、中央ワークショップあるいはメーカーのメンテナンス技術者に対する的確な情報提供が可能となる。

4. 成果達成度の確認方法

ソフトコンポーネントの成果を確認する方法は次のとおりである。

	成果項目	確認方法
I 臨床技術指導	① 調達機材の機能と役割の確認	技術指導実施前と実施後に技能評価を行い、理解度を確認する。
	② 対象機材を利用した、患者に対する状態に合わせた適切な対処技術の習得	技術指導実施前と実施後に技能評価を行い、理解度を確認する。
II CR システム運用技術指導	① X線画像が院内で有効に共有される	技術指導実施後に技能評価を行い理解度およびシステムの定着度を確認する。
	② X線画像の画質が向上し、診断精度が向上する	技術指導後に処理された画像を確認し、処理技術の定着度を確認する。
III 調達機材の運用・保守管理技術指導	① 調達機材の運用技術が確実なものとなる	技術指導前に稼働頻度や故障機材の点数を確認し、技術指導後の稼働率向上を確認する。
	② 調達機材にかかる保守管理技術の習得	技術指導実施前と実施後に技能評価を行い、習得度を確認する。
	③ 調達機材のトラブルシューティング技術の向上	技術指導実施前と実施後に技能評価を行い、技術力の向上を確認する。

5. ソフトコンポーネントの活動（投入計画）

各成果達成に向けた活動（投入計画）は以下の通りである。

(1) 講師

臨床技術指導コンサルタント	: ウガンダ人医師 1名
CR システム運用技術指導コンサルタント	: 日本人 1名
機材運用・保守技術指導コンサルタント	: 日本人 1名
技術指導計画コンサルタント	: 日本人 1名

(研修を効率的に実施するために、技術指導計画の策定、関係各所との打ち合わせ、会場手配、移動手段の手配、日程調整など、入念な準備が必要なため、それらの業務を実施する「技術指導計画」要員を配置することとする。)

(2)活動計画

活動:①事前国内準備、②現地指導、③国内作業の詳細は以下の通りである。

① 事前国内準備

各技術指導で必要となる講義資料案を作成する。技術指導計画コンサルタントは各専門コンサルタントの技術指導計画の取りまとめ、保健省、対象病院、関係機関などとの打ち合わせ、会場手配、移動手段の手配、日程調整などを事前に行う。国内準備作業に要する日数は CR システム運用技術指導コンサルタント3日間、機材運用・保守技術指導コンサルタント3日間、技術指導計画コンサルタント5日間とする。2回目(機材引渡しから半年後)に実施する臨床技術指導および機材運用・保守指導については、実施前に対象病院にメールなどで使用状況を確認した上で、事前に講義資料の準備や調整を行う。

②現地指導

成果項目		活動計画	
		指導講師	指導概要
I 臨床技術指導	① 調達機材の機能と役割の確認	臨床技術コンサルタント	動作原理、使用目的などの確認、基本的知識の再整理・復習(機材引渡し直後) 半年使用後の不明点の解消、動作原理、使用目的などの再確認、基本的知識の復習(機材引渡しから半年後)
	② 対象機材を利用した、患者に対する状態に合わせた適切な対処技術の習得		実際の症例への適用方法を指導する(機材引渡し直後) 実際の症例への適用方法を再指導する、半年使用後の疑問点、不安の解消(機材引渡しから半年後)
II CR システム運用技術指導	① X線画像が院内で有効に共有される	CR システム運用技術指導コンサルタント	デジタルデータの取り扱い方法を(取得、保存、再呼び出しなど)を指導する データ保存方法のルールを策定する
	② X線画像の画質が向上し、診断精度が向上する		実際の画像データに対する有効な処理方法を指導する
III 調達機材の運用・保守管理技術指導	① 調達機材の運用技術が確実なものとなる	運用・保守技術指導コンサルタント	有効に活用されていない機材に対し準備方法、操作方法などを再指導する
	② 調達機材にかかる保守管理技術の習得		保守管理が十分でない機材に対し、日常の保守技術を再指導する
	③ 調達機材のトラブルシューティング技術の向上		故障機材の実機を用いて点検・保守技術を指導する

対象とする機材

	グル RRH	リラ RRH	アルア RRH
CR システム		○	○
人工呼吸器	○		
麻酔器	○	○	○
輸液ポンプ	○		○
シリンジポンプ	○	○	
心電計	○		
食道鏡	○	○	○
電気メス	○		○
患者監視装置	○	○	○

カリキュラム(案)

I. 臨床技術指導

(1) 第1回目 (機材引渡し直後)

グル RRH

No.		指導項目	形態	対象者
Day 1	AM	対象機材の機能と役割の確認	座学	医師、看護師 (約 10 名)
	PM	麻酔にかかる臨床知識の確認	座学	
Day 2	AM	呼吸管理の方法	座学	同上
	PM	人工呼吸器の取り扱いとアラーム作動の条件及び対処方法の確認	実技	
Day 3	AM	輸液管理の方法	座学	同上
	PM	シリンジポンプ・輸液ポンプの取り扱いとアラーム作動の条件及び対処方法の確認	実技	
Day 4	AM	重症患者の全身管理、術後管理の方法	座学	同上
	PM	患者監視装置/心電計の取り扱いとアラーム作動の条件及び対処方法の確認	実技	
Day 5	AM	手術中の患者管理の方法	座学	同上
	PM	手術中の麻酔器、電気メス、患者監視装置、輸液ポンプの取り扱い、食道鏡の取り扱い	実技	
Day 6	AM	全体疑問点の解消、総括	座学	同上
	PM	課題資料、定着度確認	座学	

リテ RRH

No.		指導項目	形態	対象者
Day 1	AM	対象機材の機能と役割の確認	座学	医師、看護師 (約 10 名)
	PM	麻酔にかかる臨床知識の確認	座学	
Day 2	AM	輸液管理の方法	座学	同上
	PM	シリンジポンプの取り扱いとアラーム作動の条件及び対処方法の確認	実技	
Day 3	AM	重症患者の全身管理、術後管理の方法	座学	同上
	PM	患者監視装置の取り扱いとアラーム作動の条件及び対処方法の確認	実技	
Day 4	AM	手術中の患者管理の方法	座学	同上
	PM	手術中の麻酔器、患者監視装置、シリンジポンプの取り扱い	実技	
Day 5	AM	食道鏡の取り扱い	実技	同上
	PM	全体疑問点の解消	実技	
Day 6	AM	総括	座学	同上
	PM	課題資料、定着度確認	座学	

アルア RRH

No.		指導項目	形態	対象者
Day 1	AM	対象機材の機能と役割の確認	座学	医師、看護師（約10名）
	PM	麻酔にかかる臨床知識の確認	座学	
Day 2	AM	輸液管理の方法	座学	同上
	PM	シリンジポンプの取り扱いとアラーム作動の条件及び対処方法の確認	実技	
Day 3	AM	重症患者の全身管理、術後管理の方法	座学	同上
	PM	患者監視装置の取り扱いとアラーム作動の条件及び対処方法の確認	実技	
Day 4	AM	手術中の患者管理の方法	座学	同上
	PM	手術中の麻酔器、電気メス、患者監視装置、輸液ポンプの取り扱い、食道鏡の取り扱い	実技	
Day 5	AM	食道鏡の取り扱い	実技	同上
	PM	全体疑問点の解消	実技	
Day 6	AM	総括	座学	同上
	PM	課題資料、定着度確認	座学	

各 RRH で対象機材が異なるが、各 RRH のスタッフの使用経験や技術水準が異なっていること、月～土曜日研修、日曜移動と全日程を効率的に使用し研修に使用できる日を最大限確保する観点から、各 RRH 一律 6 日間の研修とする。

(2) 第2回目(機材引渡しから約半年後)

No.		指導項目	形態	対象者
Day1	AM	対象機材の選定と運用技術の再指導	実技	医師、看護師（約10名）
	PM	同上	実技	
Day2	AM	同上	実技	同上
	PM	同上	実技	
Day 3	AM	同上	実技	同上
	PM	同上	実技	
Day 4	AM	総括	実技	同上
	PM	課題資料、定着度確認	実技	

II. CR システム運用技術指導(機材引渡し直後)

No.		指導項目	形態	対象者
Day 1	AM	CR システムの概要、動作原理の確認	座学	診断画像を読影する 医師、画像部門診断担 当者(約 20 名)
	PM	CR プレートからのデジタルデータ取得法	実技	
Day 2	AM	デジタル画像データの保管、管理方法構築	座学	同上
	PM	デジタル画像データの転送方法	実技	
Day 3	AM	クライアント PC におけるサーバーからのデータ 取得方法	実技	同上
	PM	同上	実技	
Day 4	AM	画像データの画像処理技術	実技	同上
	PM	同上	実技	
Day 5	AM	定期点検、保守管理方法	実技	主に画像診断部門担 当者、診断画像を読影 する医師、機材保守エ ンジニア(約 25 名)
	PM	故障時のトラブルシューティング	実技	
Day 6	AM	総括	座学	同上
	PM	課題資料、定着度の確認	実技	

III. 保守管理技術指導(機材引渡しから約半年後)

No.		指導項目	形態	対象者
Day1	AM	対象機材の選定	実技	地方ワークショップの 技術者、機材保守エンジ ニア、看護師(約 10 名)
	PM	対象機材の操作方法指導	実技	
Day2	AM	同上	座学 実技	同上
	PM	同上	座学 実技	
Day 3	AM	同上	座学 実技	同上
	PM	同上	座学 実技	
Day 4	AM	対象機材の保守・管理方法の指導	座学 実技	同上
	PM	同上	座学 実技	
Day 5	AM	対象機材のトラブルシューティング方法の指 導	座学 実技	同上
	PM	同上	座学 実技	
Day 6	AM	総括	座学	同上
	PM	課題資料、定着度の確認	座学	

保守管理技術指導の対象となる機材は、実際の運用状況、保守状況など諸条件によって変わるが計画機材の中で対象となる可能性のある機材は各 RRH で約 40~50 アイテムある。事前に聞き取りした要請機材を参考に、①不具合が原因で臨床上致命的な事故が想定される機材、②高額機材、③使用頻度が高い機材の中で、再始動が必要な機材を選定し、カリキュラムを作成する(各病院の運

用・保守管理の状態や、指導内容により各機材の指導にかかる時間が異なるが、概ね 10～20 アイテムを想定する)。特に①については、患者の生命に直接的に影響を与えるため、期間内で可能な限りの反復指導を行う。

技術指導計画コンサルタントは、現地でのロジ調整、研修参加者の取りまとめ、講義資料やテストの取りまとめ、機材の準備、修了書の準備、実技などで各指導コンサルタントが見きれていない参加者へのフォローなどを行う。

各技術指導に想定される講師及び専門家と、研修従事期間は以下の通りである。

I. 臨床技術指導

・臨床技術指導コンサルタント (ウガンダ医師) :1名

全 23 日間(指導 6 日間 x3 病院、国内移動 4 日間、保健省、在ウガンダ日本国大使館、JICA ウガンダ事務所(以下、「各機関」という。)への研修実績、結果、相手国実施機関の責務含む今後の予定などの報告 1 日)x1 回派遣

全 19 日間(指導 4 日間 x3 病院、国内移動 4 日間、資料整理 2 日間、各機関への研修実績、結果、相手国実施機関の責務含む今後の予定などの報告 1 日)x1 回派遣

II. CR システム運用技術指導

・CR システム運用技術指導コンサルタント :1名

全 20 日間(国間移動 4 日間、指導 6 日間 x2 病院、国内移動 3 日間、各機関への研修実績、結果、相手国実施機関の責務含む今後の予定などの報告 1 日)x1 回派遣

III. 保守管理技術指導

機材運用・保守技術指導コンサルタント :1名

全 27 日間(国間移動 4 日間、指導 6 日間 x3 病院、国内移動 4 日間、各機関への研修実績、結果、相手国実施機関の責務含む今後の予定などの報告 1 日)x1 回派遣

I～III コース共通

技術指導計画コンサルタント :1名

全 27 日間(国間移動 4 日間、指導 6 日間 x3 病院、国内移動 4 日間、各機関への研修実績、結果、相手国実施機関の責務含む今後の予定などの報告 1 日)x2 回派遣

④国内作業

技術指導などの結果をとりまとめ報告書を作成する。国内作業に要する日数は、CR システム運用技術指導コンサルタント 2 日間、機材運用・保守技術指導コンサルタント 2 日間、技術指導計画コンサルタント 3 日間とする。

6. ソフトコンポーネントの実施リソースの調達方法

当ソフトコンポーネントの実施に当たり、「臨床技術指導」は、必要な知識・技術を持つウガンダ人医師がいることから、コスト、現地ノウハウ、言語、ソフトコンポーネント終了後の研修の持続性、問合せなどのバックアップ体制確立の観点から、ローカルリソースを活用する。ウガンダの民間病院などに勤務する、対象機材を活用した臨床に関し十分な知識と技術を有し、臨床技術に関する研修講師経験なども有する医師を選定対象病院へ派遣し、対象医療従事者に対し技術指導を実施する。実施時期は機材引渡し直後に第一回

目を実施する。その上で、先方実施機関からの強い要請及びウガンダにおける過去の案件の教訓より、整備機材の持続的な運用確保のため、その約半年後に、再度対象病院を訪問し、前回指導の定着度を確認するとともに、定着度が不足している機材に対し再指導を実施するための2回目の研修を行う。

「CRシステム運用指導」は、基本的に日本における診療放射線技師資格を有し、CR運用に十分な経験を有するコンサルタントを現地へ派遣し、整備された現有機材を使用して技術指導を実施する。

「機材保守管理技術指導」は、調達機材に全般に対する専門的知識を有する日本人コンサルタントを対象病院へ派遣し、調達機材の活用度を確認のうえ、再度技術指導が必要と判断された機材を使用し、技術指導を実施する。

「技術指導計画」は、ソフトコンポーネントや日本の無償資金協力の仕組み、さらには納入する機材の詳細などを把握しており、各病院の関係者や組織体制を把握している日本人コンサルタントを派遣する。研修開始前は保健省インフラ部、中央ワークショップ、対象病院、地方ワークショップなどの相手国実施機関と協議の上、技術指導工程、全体スケジュールなどを調整・整理するとともに、詳細な実施計画を策定する。各指導実施期間中は、先方の担当者と協力し参加人数管理、会場の設営補助、資料整理、スケジュール管理など適性かつ効率的な指導の実施を支援する。各病院の関係者や組織体制、調達機材を把握しているコンサルタントを派遣し、各指導コンサルタントのスムーズな指導を補佐し、研修期間中に生じた課題に対し各専門家の指導を妨げることなく、臨機応変な対応を可能にすることで、指導の質を担保する。また、ローカルリソースの監理・サポートを担うことで、受注コンサルタントの責任のもとでの指導実施を可能にする。

7. ソフトコンポーネントの実施工程

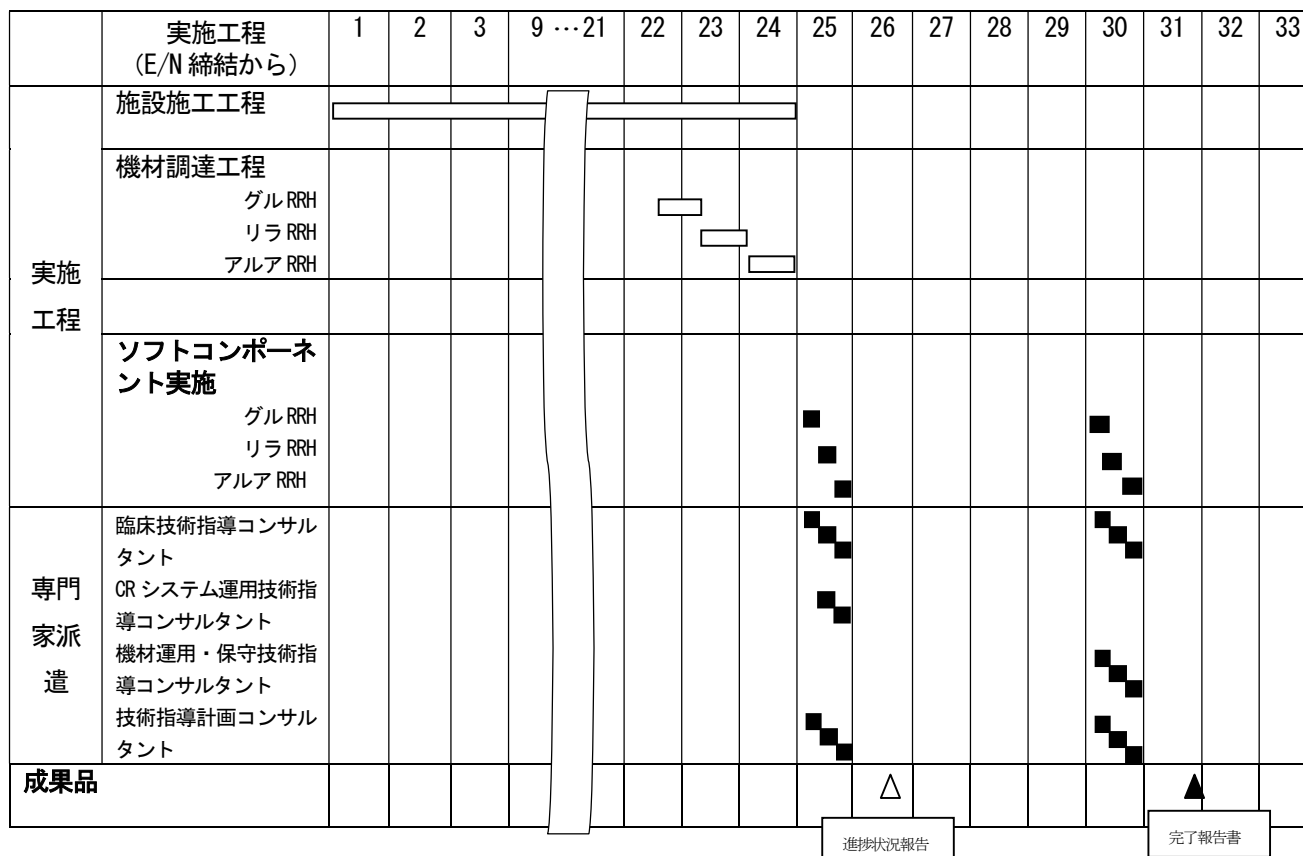
ソフトコンポーネントの実施は、基本的に調達機材の設置完了後から開始することになるが、上述の通り臨床技術研修は機材引き渡し直後の第1回目の研修と、研修終了後約半年経過後のフォローアップ研修の2回実施、CRシステム運用技術支援は、機材引き渡し後に1回、機材運用保守管理技術支援は、機材引き渡し後半年程度経過をめぐりに実施する。

これは、機材引き渡し時に調達業者による操作説明、保守管理方法の説明を受けた後、一定期間経過後の運用状況を確認し、技術移転が十分ではない機材や、故障に対する対応が不十分な機材に対し、補足的に技術指導を行うという考えに基づくものである。

現段階における実施工程(案)は以下の通り。

なお、実施に当たっては、「ウ」国側関係者、技術指導計画コンサルタントを含む日本人関係者による協議、検討を踏まえ最終実施工程を確定することとする。

全体工程表 (案)



実施場所は本プロジェクトで対象とされているグル RRH、リラ RRH、アルア RRH の各病院とする。

8. ソフトコンポーネントの成果品

施主及び日本側への完了報告書の他、ソフトコンポーネントの成果品として次を予定する。

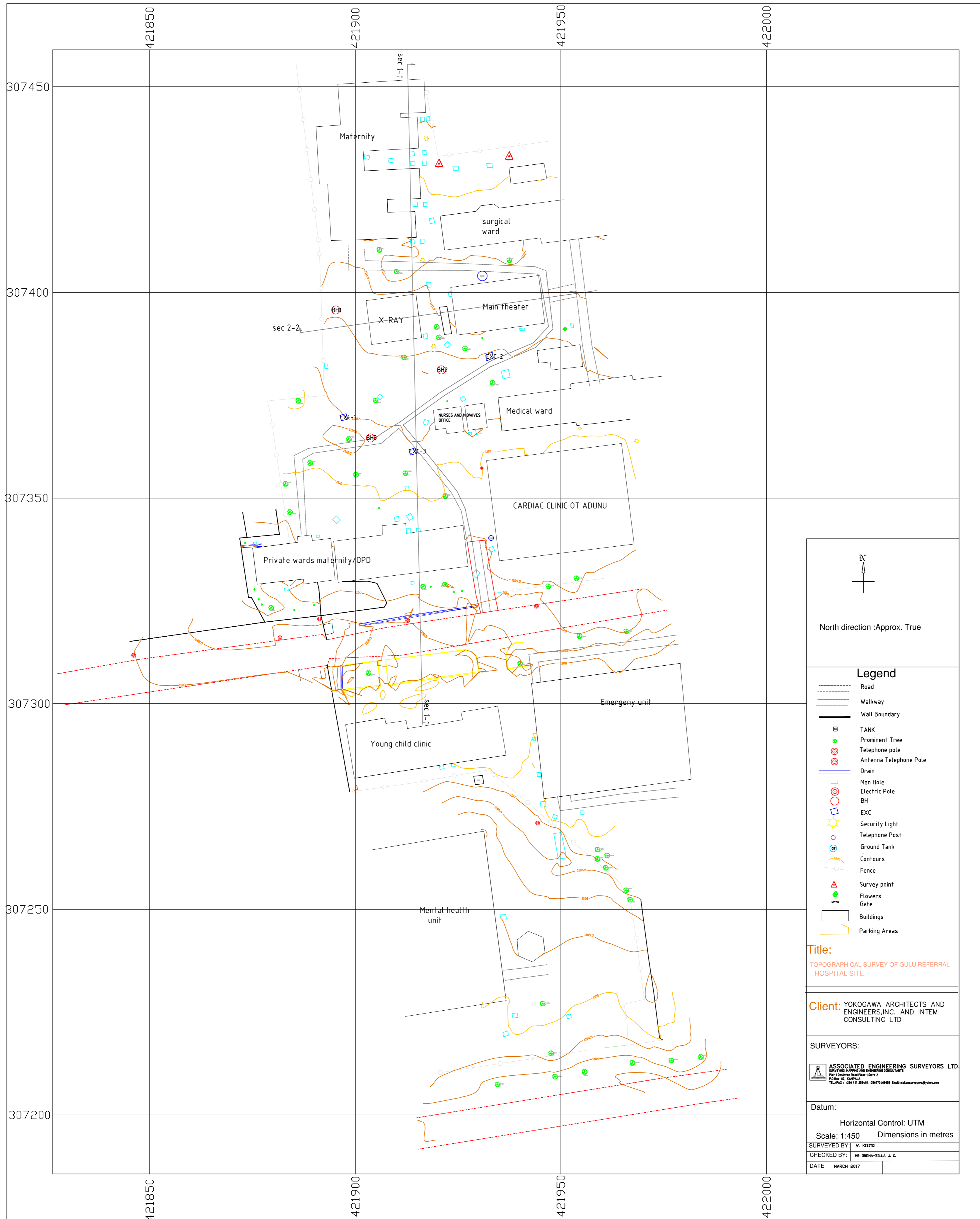
- ① 研修用教材: 講義資料、保守管理マニュアル、保守管理チェックリストなど
- ② 各種報告書: 各専門家による研修報告書、研修前研修後テスト結果とりまとめ、など

9. 相手国実施機関の責務

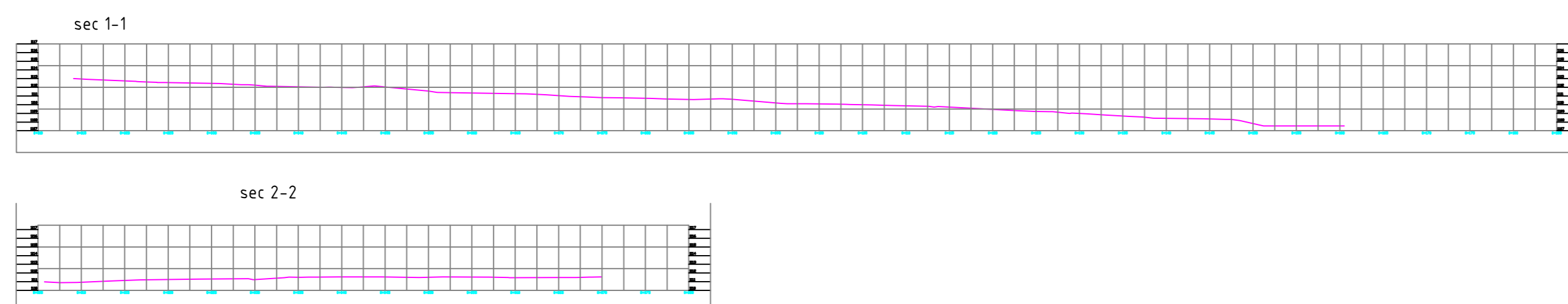
保健省インフラ部、中央ワークショップ、対象病院、地方ワークショップなどにおける本計画の関係者は、本技術指導の日程調整及び会場の提供などの準備をおこなうとともに、対象となる研修員を選定し、技術指導に参加させることが求められる。また、保健省インフラ部及び対象病院の担当責任者も必要に応じて本指導に参加する。その上で、上記本計画の関係者は、調達機材が長期にわたり適正に運用・維持管理できるよう、習得された技術をもとに、既存の運用体制を整備すること、知識・技術が確実に定着するよう、同様の研修を継続的に実施することなどが求められる。保健省及び対象病院は、ソフトコンポーネントで構築した運用体制の維持のための予算、人員、消耗品やスペアパーツの確保が責務として求められる。

資料7 その他の資料・情報(自然条件調査報告書抜粋)

7.1 グルRRH (1)地形測量図



CROSS SECTION OF GULU HOSPITAL



1	421894.9	307395.4	1111.073	BH-1
2	421920.6	307380.9	1110.654	BH-2
3	421903.4	307364.3	1110.151	BH-3

1	421896.9	307369.4	1109.961	EXC-1
2	421932.3	307384.2	1110.918	EXC2
3	421913.6	307361	1109.821	EXC-3

PREPARATORY SURVEY FOR THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS IN NORTHERN UGANDA

GEOTECHNICAL INVESTIGATIONS AT GULU REGIONAL REFERRAL HOSPITAL

Client:

**Yokogawa Architects & Engineers, Inc.& INTEM
Consulting, Inc**

Investigations Report



Contractor:

Associated Engineering Surveyors (AES)

March 2017

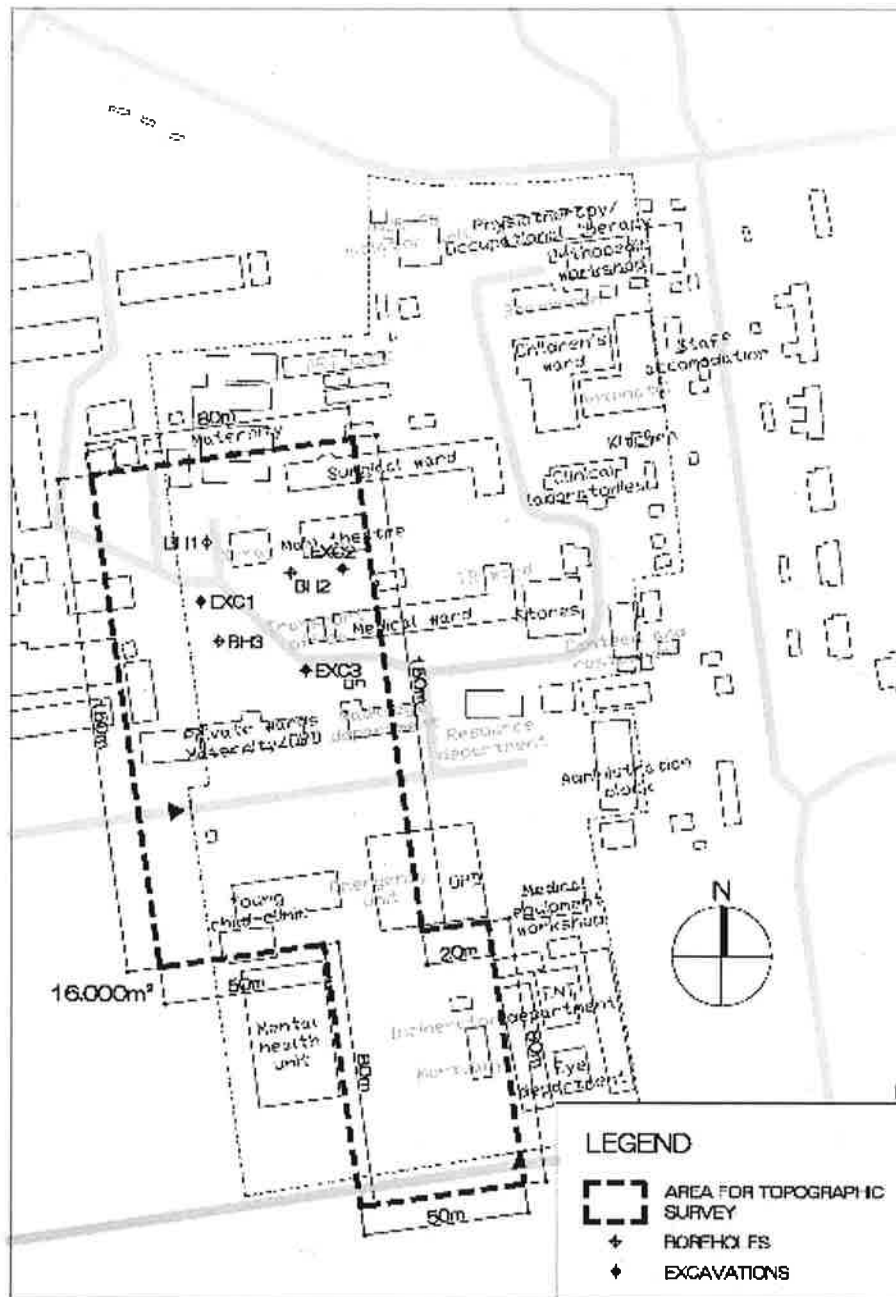
Rev	Established	Checked	Approved by	Date	Comments/ Amendments	STAT
0	Technical Office	Orena	Akena	19/03/17	First Issue	Report

2 FIELD INVESTIGATIONS AND LABORATORY TESTING

2.1 Field Activities

Field works were commenced on 20th of February 2017 and completed on 22nd of February 2017. Geotechnical investigation works were carried out in accordance with the specifications provided by the client; Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc.

An investigations location layout is presented below: -



3 BOREHOLE 1 LOG AND CORE PHOTOS

Borehole 1 was drilled from 0.0m at the surface down to 15m as instructed by the client.

3.1 BH -01 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 01			
Project: Geotechnical Investigations at Gulu Regional Referral Hospital		Date	Start:	20 – Feb - 2017	
Location: Gulu Regional Referral Hospital			Finish:	21 – Feb - 2017	
Equipment: GY-100		Co-ordinates: E 421894.896 N 307395.431			
Ground elevation: 1111.073		Depth of Borehole	15.0m		
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Brown red silty clay soils. Stiff. Locally contains quartz fragments. Moderately stiff		0			
		1			
		2	47	1.0 – 1.45	(1.45m – 1.75m)
		3	19	2.75 – 3.2	
		4			(3.2m – 3.5m)
		5	16	4.5 – 4.95	
		6			(4.95m – 5.25m)
		7	12	6.25 – 6.7	(6.7m – 7.0m)
		8			
		9	13	8.0 – 8.45	(8.45m – 8.75m)
		10	10	9.75 – 10.2	
		11			
		12	18	11.2 – 11.65	
		13	15	12.65 – 13.1	
14	-	-	(13.1m – 13.4m)		
Brown gray gravel soils		15	-	-	-

4 BOREHOLE 2 LOG AND CORE PHOTOS

Borehole 2 was drilled from 0.0m at the surface down to 15m as instructed by the client.

4.1 BH -02 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 02			
Project: Geotechnical Investigations at Gulu Regional Referral Hospital		Date	Start:	21 – Feb - 2017	
Location: Gulu Regional Referral Hospital			Finish:	22 – Feb - 2017	
Equipment: GY-50		Co-ordinates: E 421920.551 N 307380.866			
Ground elevation: 1110.654		Depth of Borehole	15.0m		
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Brown red silty clay soils. Stiff. Locally contains quartz fragments. Moderately stiff. Becomes sandy at 12.5m to 15m		0			
		1			
		2	53	1.0 – 1.45	(1.45m – 1.75m)
		3	56	2.75 – 3.2	
		4			(3.2m – 3.5m)
		5	40	4.5 – 4.95	
		6			
		7	20	5.95 – 6.4	(6.4m – 6.7m)
		8	40	7.7 – 8.15	
		9			
		10	34	9.15 – 9.6	
		11	23	10.6 – 11.05	
		12			
		13	17	12.05 – 12.5	
		14	>50 (Refusal)	13.5 – 13.95	
15			(13.95m – 14.25m)		

5 BOREHOLE 3 LOG AND CORE PHOTOS

Borehole 3 was drilled from 0.0m at the surface down to 15m as instructed by the client.

5.1 BH -03 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 03			
Project: Geotechnical Investigations at Gulu Regional Referral Hospital		Date	Start:	20 – Feb - 2017	
Location: Gulu Regional Referral Hospital			Finish:	21 – Feb - 2017	
Equipment: GY-50		Co-ordinates: E 421903.353 N 307364.31			
Ground elevation: 1110.151		Depth of Borehole	15.0m		
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Brown red silty clay soils. Stiff with some gravel		0			
		1			
		2	>50 (Refusal)	1.0 – 1.45	(1.45m – 1.75m)
		3	>50 (Refusal)	2.75 – 3.2	
		4			(3.2m – 3.5m)
		5	41	4.5 – 4.95	
		6			(4.95m – 5.25m)
		7	17	6.25 – 6.7	
		8	25	7.7 – 8.15	
		9			
		10	22	9.15 – 9.6	
		11			
		12			
Clayey sand, brown gray in color		13	17	12.05 – 12.5	
		14			
		15	48	14.0 – 14.45	

PREPARATORY SURVEY FOR THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS IN NORTHERN UGANDA

UNDERGROUND OBSTACLES INVESTIGATIONS AT GULU REGIONAL REFERRAL HOSPITAL

Client:

**Yokogawa Architects & Engineers, Inc.& INTEM
Consulting, Inc**

Investigations Report



Contractor:

Associated Engineering Surveyors (AES)

March 2017

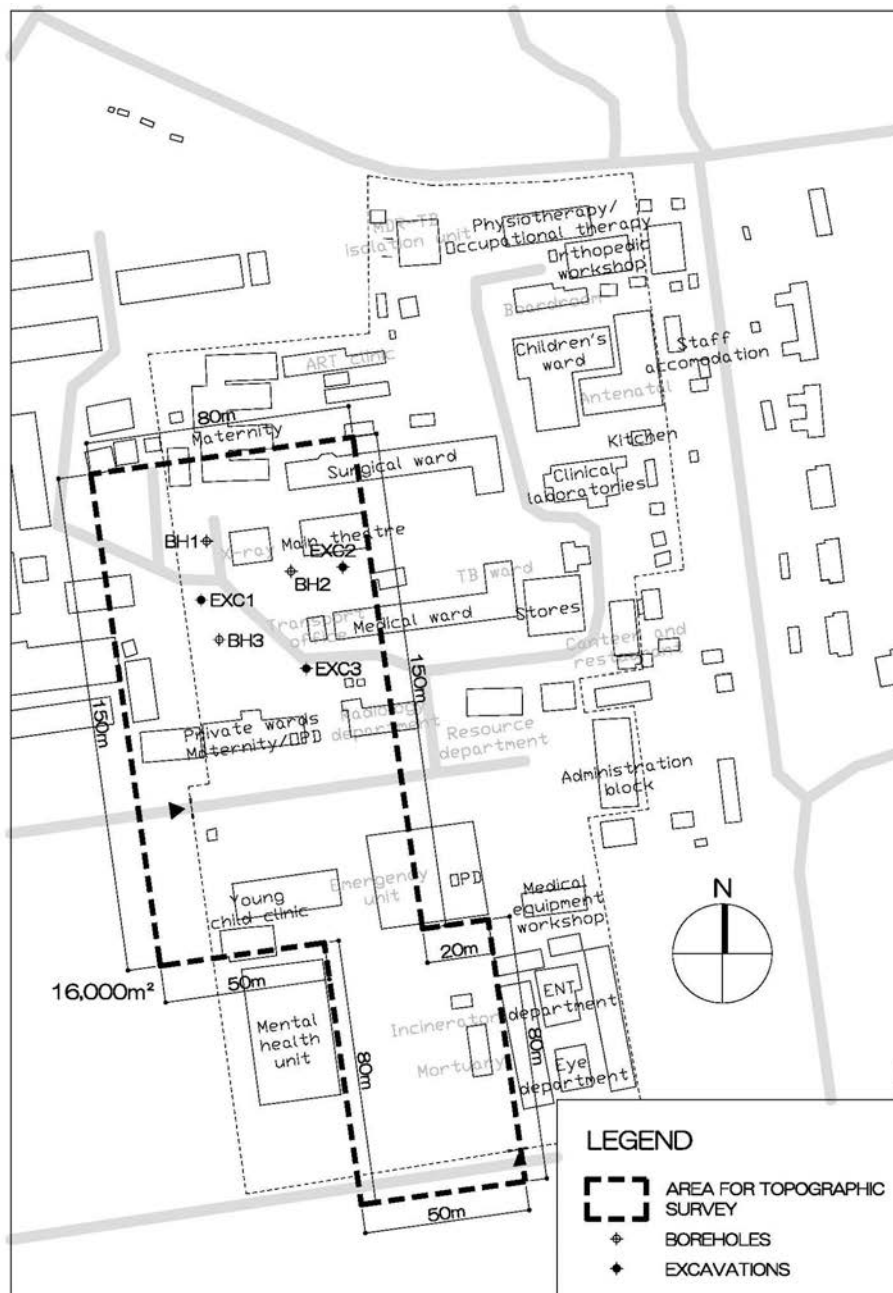
Rev	Established	Checked	Approved by	Date	Comments/ Amendments	STAT
0	Technical Office	Orena	Akena	08/03/17	First Issue	Report

2 FIELD INVESTIGATIONS AND LABORATORY TESTING

2.1 Field Activities


Field works were commenced on 22nd of February 2017 and completed on 23rd February 2017. Underground obstacles investigation works were carried out in accordance with the specifications provided by the client; Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc.

An investigations location layout is presented below: -



3 PIT/ TRENCH 1 UNDERGROUND OBSTACLES

Excavations at pit/ trench 1 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -


Co-ordinates: E 421896.9 N 307369.4 Z 1110.0		
Picture EXC-01	depth (m)	description
	0.0 – 0.2	Brown red silty clay. Moderately compacted
	0.2 – 0.6	Gray brown silty clay soils. Slightly compacted
	0.6 – 2.0	Brown lateritic (murrum) soils. Very hard to excavate by hand

Site Pictures



4 PIT/ TRENCH 2 UNDERGROUND OBSTACLES

Excavations at pit/ trench 1 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -


Co-ordinates: E 421932.3 N 307384.2 Z 1110.9		
Picture EXC-02 	depth (m)	description
	0.0 – 0.3	Brown lateritic clay soil. Moderately compacted
	0.3 – 0.6	Brown red clay soils. Slightly compacted
	0.6 – 2.0	Brown lateritic (murrum) soils. Very hard to excavate by hand

Site Pictures



5 PIT/ TRENCH 3 UNDERGROUND OBSTACLES

Excavations at pit/ trench 3 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -

Co-ordinates: E 421913.6 N 307361.0 Z 1109.8		
Picture EXC-03 	depth (m)	description
	0.0 – 1.0	Gray brown silty clay soil. Moderately compacted
	1.0 – 2.0	Brown lateritic (murrum) soils. Hard to excavate by hand

Site Pictures



(4) 水質検査報告書



NATIONAL WATER AND SEWERAGE CORPORATION
 CENTRAL LABORATORY - BUGOLOBI.
 P.O.BOX 7053 KAMPALA.
 E-mail: waterquality@nWSC.co.ug
CERTIFICATE OF ANALYSIS

CLIENT: Yokogawa Architect & Engineers
 Address: Kampala
 Tel:
 Email:
 Date Sample Received: 06-March-2017
 Table of Analytical Results

Ref No:LS098/INV/2017/265
 Sampled by: Client
 Type of container: Plastic
 Sample Source: Gulu
 Date of Report: 21-March-2017

Parameters	Units	Gulu	National standards for Potable water
WS Sample Nr	--	K1087/17/C/B	
pH	--	6.3	6.5-8.5
Electrical Conductivity (EC)	µS/cm	227	2500
Total Dissolved Solids (TDS)	mg/L	145.3	1200
Total Suspended Solids (TSS)	mg/L	0	0
Ammonia-N	mg/L	0.01	1.0
Turbidity	NTU	0.45	10.0
Alkalinity: Total as CaCO ₃	mg/L	32	500
Bicarbonate	mg/L	39	500
Hardness: Total	mg/L	66	500
Arsenic	µg/L	<0.004	0.010
Manganese	mg/L	0.0	0.1
Chloride- Cl ⁻	mg/L	0	500
Aluminium Residual	mg/L	0	0.2
Nitrate-N	mg/L	0.0	5.0
Iron:Total	mg/L	0.050	1.0
Fluoride	mg/L	0.0	1.5
Calcium: as Ca ²⁺	mg/L	12.8	75
Magnesium: as Mg ²⁺	mg/L	17.6	50
Colour (apparent)	PtCo	0	15
Sulphate: SO ₄ ²⁻	mg/L	0	200
Odour	-----	-	Not Specified
Taste	-----	-	Not Specified
Potassium: K	mg/L	1.96	100
Sodium: Na	mg/L	3.17	400
Bact: Ecoli	CFU/100mL	0	0
Bact: Faecal Coliforms	CFU/100mL	0	0
Bact:Total Coliforms	CFU/100mL	0	10

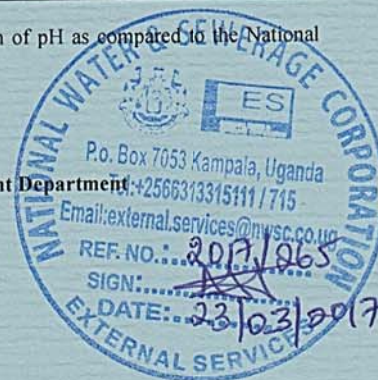
Remarks:

The sample showed complying physiochemical and bacteriological characteristics with the exception of pH as compared to the National standards for Potable water.

ANALYSED BY Robinah Muhirwe and Kennedy Araa

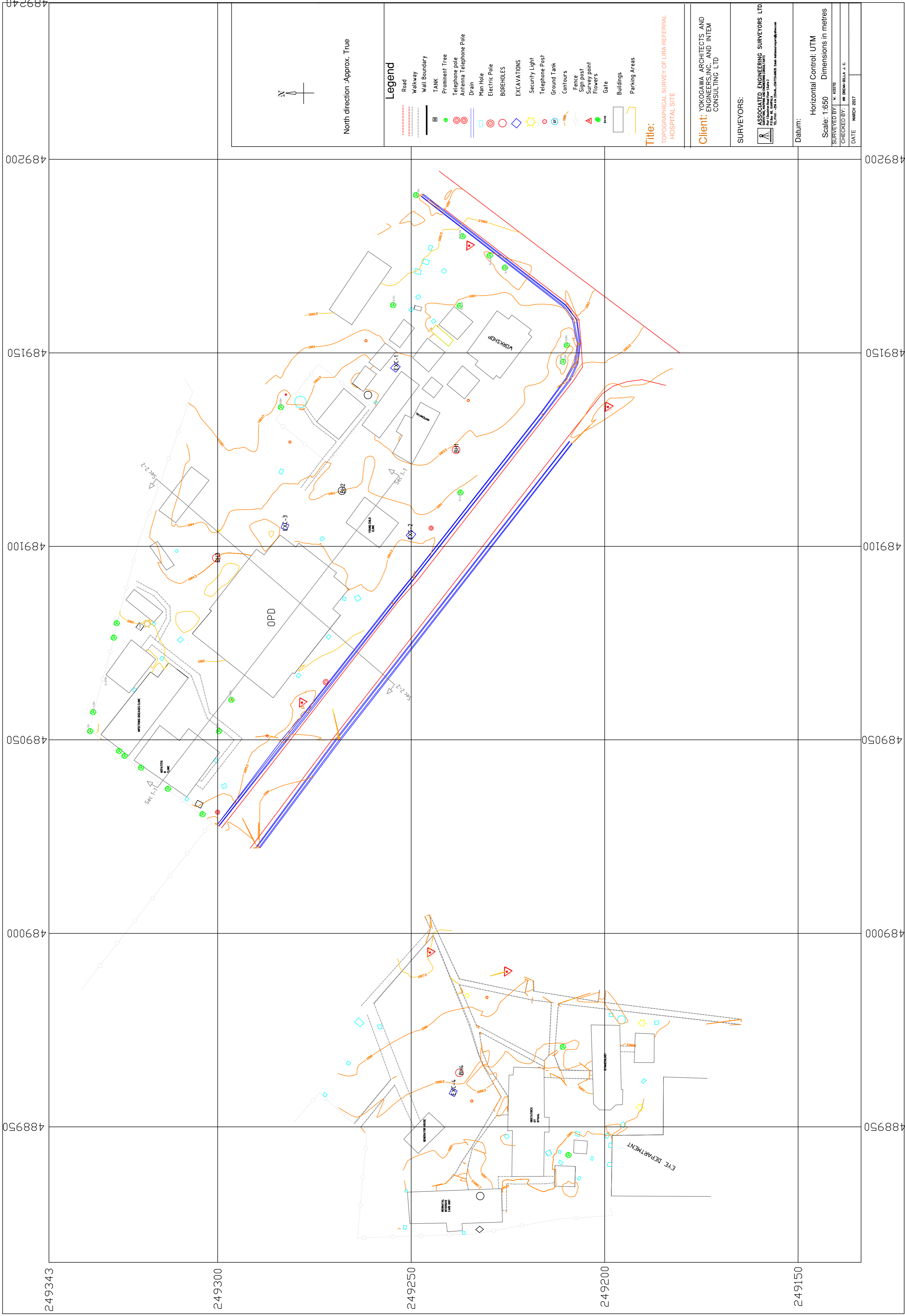
AUTHORISED BY:MANAGER, Central Laboratory Services

APPROVED BY:SENIORMANAGER, Water Quality Management Department



7-2 リラRRH

(1) 地形測量図

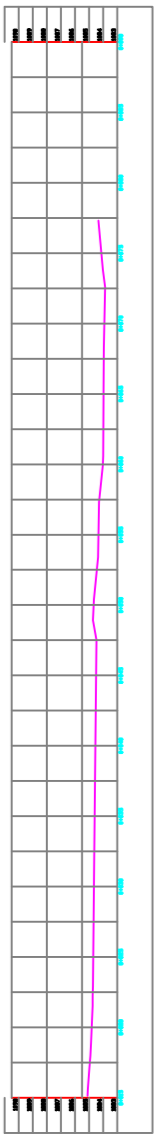


1	489146.1	249253.9	1088.241	EXC-1
2	489114.3	249267.7	1084	EXC-2
3	489105	249282.6	1084.21	EXC-3
4	488958.8	249238.9	1088.31	EXC-4

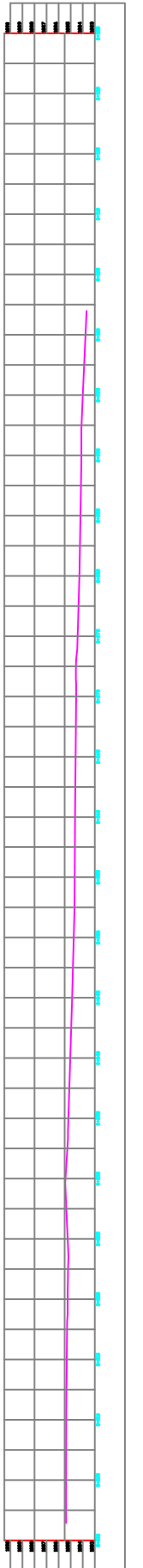
1	488963.8	249237.4	1088.29	BH-1
2	489105	249282.6	1084.2	BH-2
3	489096.9	249300.2	1084.196	BH-3
4	488963.8	249237.4	1088.29	BH-4

CROSS SECTIONS OF LIRA HOSPITAL

Sec 2-2



Sec 1-1



PREPARATORY SURVEY FOR THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS IN NORTHERN UGANDA

GEOTECHNICAL INVESTIGATIONS AT LIRA REGIONAL REFERRAL HOSPITAL

Client:

**Yokogawa Architects & Engineers, Inc.& INTEM
Consulting, Inc**

Investigations Report



Contractor:

Associated Engineering Surveyors (AES)

March 2017

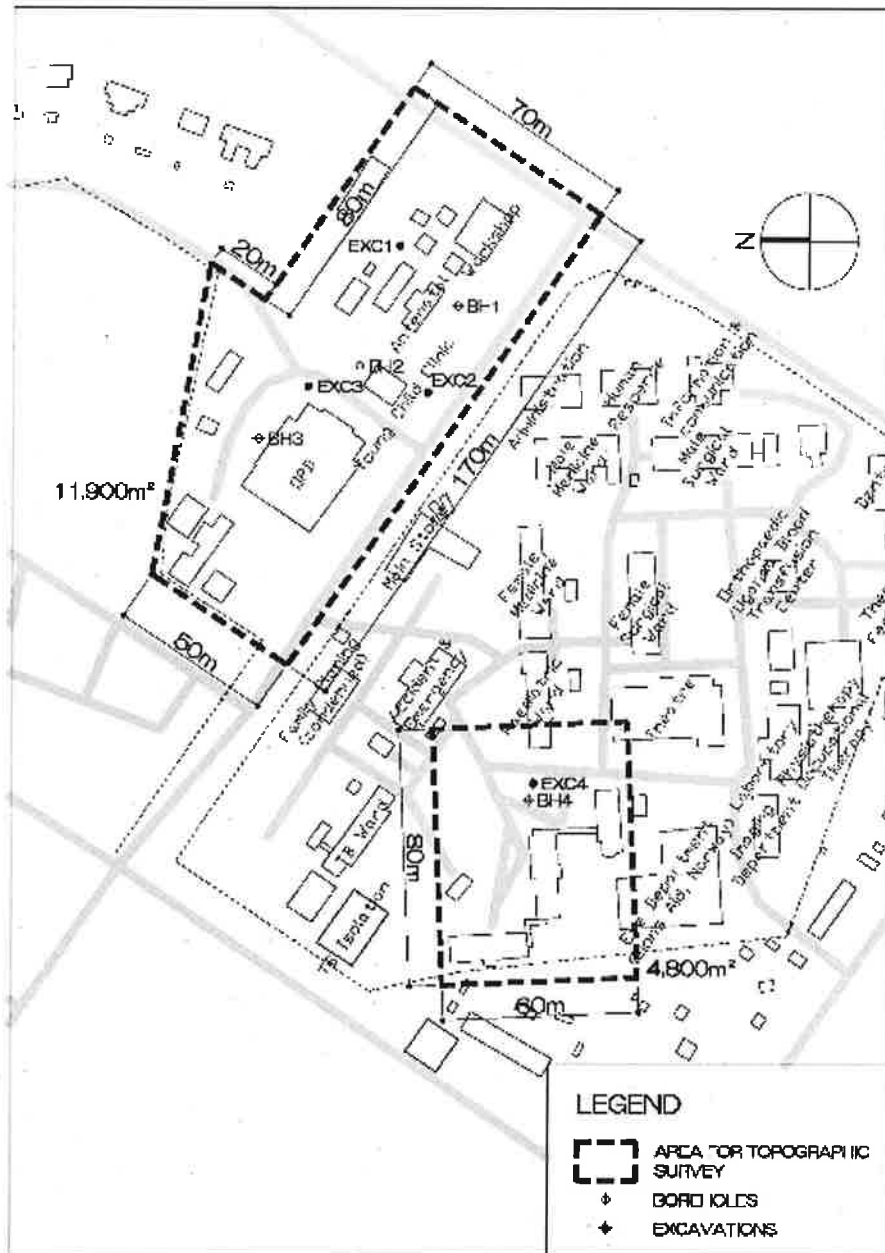
0	Technical Office	Orena	Akena	19/03/17	First Issue	Report
Rev	Established	Checked	Approved by	Date	Comments/ Amendments	STAT

2 FIELD INVESTIGATIONS AND LABORATORY TESTING

2.1 Field Activities

Field works were commenced on 24th of February 2017 and completed on 26th February 2017. Geotechnical investigation works were carried out in accordance with the specifications provided by the client; Yokogawa Architects & Engineers, Inc.& INTEM Consulting, Inc.

An investigations location layout is presented below: -



3 BOREHOLE 1 LOG AND CORE PHOTOS

Borehole 1 was drilled from 0.0m at the surface down to 15m as instructed by the client.





3.1 BH -01 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 01			
Project: Geotechnical Investigations at Lira Regional Referral Hospital		Date	Start:	24 – Feb - 2017	
Location: Lira Regional Referral Hospital			Finish:	25 – Feb - 2017	
Equipment: GY-50		Co-ordinates: E 488963.8		N 249237.4	
Ground elevation: 1088.3		Depth of Borehole		15.0m	
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Brown loamy clay soil		0			
		1			
Red brown lateritic clay soils, stiff		2	34	1.0 – 1.45	(1.45m – 1.75m)
		3	17	2.75 – 3.2	
		4			(3.2m – 3.5m)
		5	20	4.5 – 4.95	
		6			(4.95m – 5.25m)
Red brown to orange clay soil, moderate stiff		7	26	5.95 – 6.4	
		8	15	7.4 – 7.85	-
		9	-	-	-
Gray silty clays with mica, very stiff		10	40	5.95 – 6.4	(9.3m – 9.6m)
		11	>50 (Refusal)	10.4 – 10.85	
		12	-	-	-
		13	>50 (Refusal)	11.85 – 12.3	
		14	-	-	-
		15	>50 (Refusal)	13.3 – 13.75	

4 BOREHOLE 2 LOG AND CORE PHOTOS

Borehole 2 was drilled from 0.0m at the surface down to 15m as instructed by the client.

4.1 BH -02 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 02			
Project: Geotechnical Investigations at Lira Regional Referral Hospital		Date	Start:	25 – Feb - 2017	
Location: Lira Regional Referral Hospital			Finish:	26 – Feb - 2017	
Equipment: GY-100		Co-ordinates: E 489105.0		N 249282.6	
Ground elevation: 1084.2		Depth of Borehole		15.0m	
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Brown clay soil		0			
		1			
		2	10	1.0 – 1.45	(1.45m – 1.75m)
Red brown lateritic clay. Very stiff		3	>50 (Refusal)	2.75 – 3.2	
		4			(impenetrable)
Weathered rock corestone		5			
		6			
Clayey sand. dense		7			
		8	-	-	-
		9	-	-	-
		10	-	-	-
		11	-	-	-
		12	-	-	-
		13	-	-	-
		14	-	-	-
15	-	-	-		

5 BOREHOLE 3 LOG AND CORE PHOTOS

Borehole 3 was drilled from 0.0m at the surface down to 15m as instructed by the client.


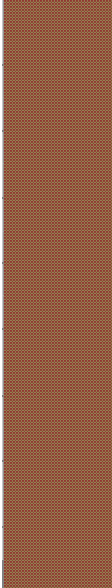
5.1 BH -03 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 03					
Project: Geotechnical Investigations at Lira Regional Referral Hospital		Date	Start:	24 – Feb - 2017			
Location: Lira Regional Referral Hospital			Finish:	25 – Feb - 2017			
Equipment: GY-100		Co-ordinates: E 489096.9		N 249300.2			
Ground elevation: 1084.2		Depth of Borehole		15.0m			
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample		
Brown clay, very firm		0					
		1			-		
		2	>50 (Refusal)	1.0 – 1.45	(1.45m – 1.75m)		
Brown sandy clay. Very stiff between 3m and 5m. becomes red brown and softer between 5m and 10m		3	>50 (Refusal)	2.75 – 3.2			
		4					
		5					
		6	18	5.6 – 6.05	-		
		7			(6.05m – 6.35m)		
		8	14	7.35 – 7.8	-		
		9			-		
		10	14	8.8 – 9.25			
		Gray clayey sands with mica. stiff		11	24	10.25 – 10.7	(10.7m – 11.0m)
				12			
13	>50 (Refusal)			12.0 – 12.45	-		
14	-			-	-		
15	-			-	-		

6 BOREHOLE 4 LOG AND CORE PHOTOS

Borehole 4 was drilled from 0.0m at the surface down to 15m as instructed by the client.

6.1 BH -04 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 04			
Project: Geotechnical Investigations at Lira Regional Referral Hospital		Date	Start:	25 – Feb - 2017	
Location: Lira Regional Referral Hospital			Finish:	26 – Feb - 2017	
Equipment: GY-50		Co-ordinates: E 488963.8		N 249237.4	
Ground elevation: 1088.3		Depth of Borehole		15.0m	
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Red brown lateritic clay		0			
		1			-
		2	>50 (Refusal)	1.0 – 1.45	(impenetrable)
		3			
		4	17	3.0 – 3.45	(3.45m – 3.75m)
		5	26	4.5 – 4.95	-
Gray brown silty sands, dense, with mica		6			-
		7	35	6.2 – 6.65	(6.65m – 6.95m)
		8			
		9	35	7.95 – 8.4	
		10	41	9.4 – 9.85	
		11			
		12	32	7.95 – 8.4	(impenetrable)
		13	41	12.6 – 13.05	
		14			
		15	48	14.05 – 14.5	

PREPARATORY SURVEY FOR THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS IN NORTHERN UGANDA

UNDERGROUND OBSTACLES INVESTIGATIONS AT LIRA REGIONAL REFERRAL HOSPITAL

Client:

**Yokogawa Architects & Engineers, Inc.& INTEM
Consulting, Inc**

Investigations Report



Contractor:

Associated Engineering Surveyors (AES)

March 2017

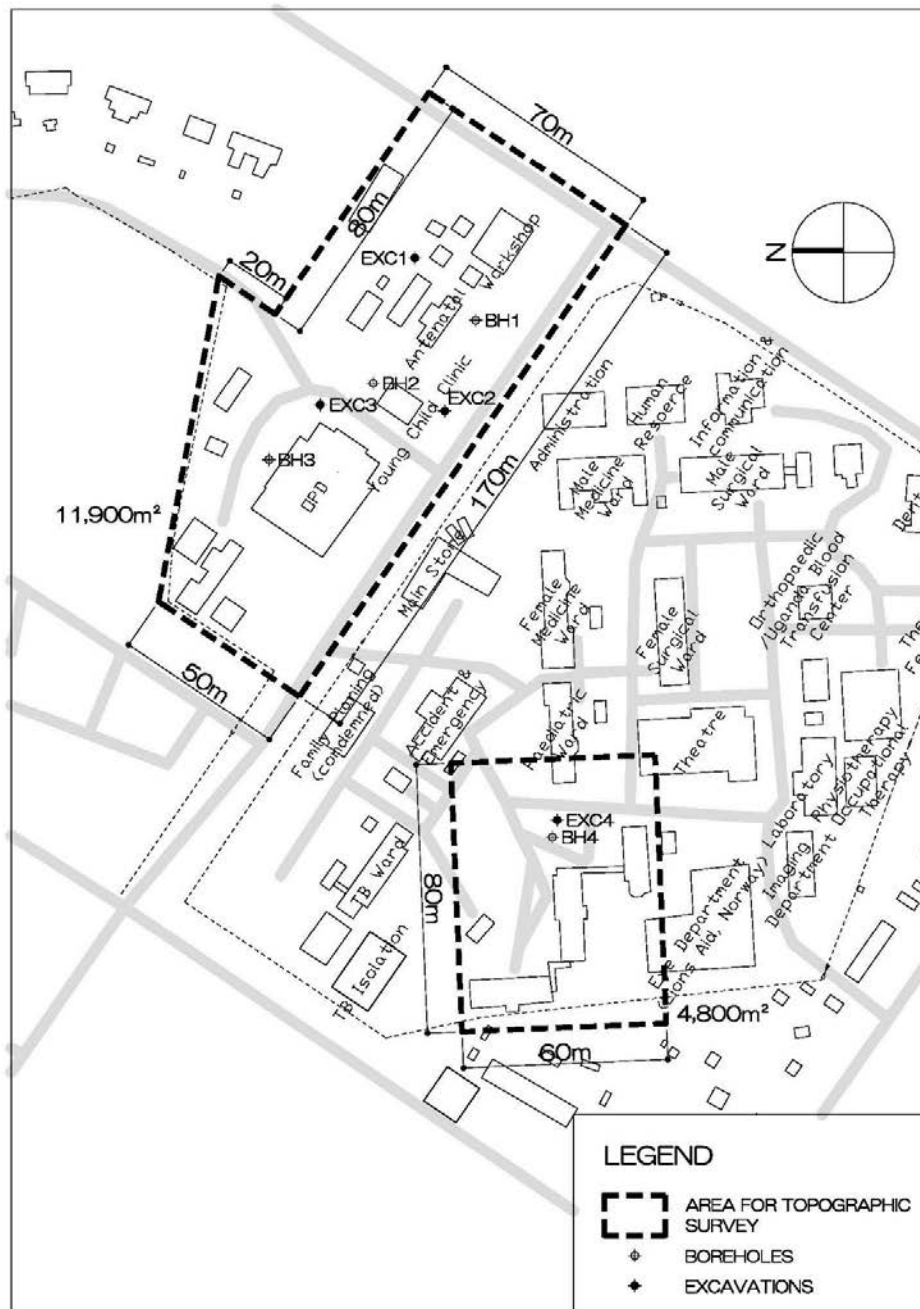
0	Technical Office	Orena	Akena	08/03/17	First Issue	Report
Rev	Established	Checked	Approved by	Date	Comments/ Amendments	STAT

2 FIELD INVESTIGATIONS AND LABORATORY TESTING

2.1 Field Activities


Field works were commenced on 24th of February 2017 and completed on 26th February 2017. Underground obstacles investigation works were carried out in accordance with the specifications provided by the client; Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc.

An investigations location layout is presented below: -



3 PIT/ TRENCH 1 UNDERGROUND OBSTACLES

Excavations at pit/ trench 1 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -


Co-ordinates: E 489146.1 N 249253.9 Z 1088.2		
Picture EXC-01 	depth (m)	description
	0.0 – 0.8	Brown loamy soils, very firm
	0.8 – 1.4	Red brown silty sand. firm
	1.4 – 2.0	Red brown sandy silt. Moderately compacted

Site Pictures



4 PIT/ TRENCH 2 UNDERGROUND OBSTACLES

Excavations at pit/ trench 1 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -


Co-ordinates: 489114.3 N 249267.7 Z 1084.0		
Picture EXC-02 	depth (m)	description
	0.0 – 0.1	Gray brown loamy soils
	0.1 – 1.2	Red brown lateritic soils, hard to excavate
	1.2 – 2.0	Red Brown sandy silts. Moderately compacted

Site Pictures



5 PIT/ TRENCH 3 UNDERGROUND OBSTACLES

Excavations at pit/ trench 3 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -


Co-ordinates: E 489105.0 N 249282.6 Z 1084.2		
Picture EXC-03		
	depth (m)	description
	0.0 – 0.7	brown loamy soil
	0.7 – 1.65	Dark brown silty clay soils. Very firm
1.65 – 2.0	Red brown sandy silts, firm	

Site Pictures



6 PIT/ TRENCH 4 UNDERGROUND OBSTACLES

Excavations at pit/ trench 4 revealed no underground obstacles down to a depth of 1.0m as shown in the profile below: -

Co-ordinates: E 488958.8 N 249238.9 Z 1088.3		
Picture EXC-04		
	depth (m)	description
	0.0 – 0.2	Gray brown silty clay soil with root growth
	0.2 – 1.0	Red brown lateritic soils with duricrust. Hard to excavate by hand

Site Pictures





(4) 水質調査報告書

NATIONAL WATER AND SEWERAGE CORPORATION
CENTRAL LABORATORY - BUGOLOBI.
P.O.BOX 7053 KAMPALA.
E-mail: waterquality@nWSC.co.ug
CERTIFICATE OF ANALYSIS

CLIENT: Yokogawa Architect & Engineers
Address: Kampala
Tel:
Email:
Date Sample Received: 06-March-2017
Table of Analytical Results

Ref No:LS098/INV/2017/265
Sampled by: Client
Type of container: Plastic
Sample Source: Lira
Date of Report: 21-March-2017

Parameters	Units	Lira	National standards for Potable water
WS Sample Nr	--	K1088/17/C/B	
pH	--	7.2	6.5-8.5
Electrical Conductivity (EC)	$\mu\text{S}/\text{cm}$	220	2500
Total Dissolved Solids (TDS)	mg/L	140.8	1200
Total Suspended Solids (TSS)	mg/L	0	0
Ammonia-N	mg/L	0.03	1.0
Turbidity	NTU	0.9	10.0
Alkalinity: Total as CaCO_3	mg/L	128	500
Bicarbonate	mg/L	156.2	500
Hardness: Total	mg/L	104	500
Arsenic	$\mu\text{g}/\text{L}$	<0.004	0.010
Manganese	mg/L	0.01	0.1
Chloride- Cl^-	mg/L	0	500
Aluminium Residual	mg/L	0.0	0.2
Nitrate-N	mg/L	0.01	5.0
Iron:Total	mg/L	0.007	1.0
Fluoride	mg/L	0.0	1.5
Calcium: as Ca^{2+}	mg/L	19.2	75
Magnesium: as Mg^{2+}	mg/L	23.0	50
Colour (apparent)	PtCo	21	15
Sulphate: SO_4^{2-}	mg/L	4	200
Odour	-----	-	Not Specified
Taste	-----	-	Not Specified
Potassium: K	mg/L	6.9	100
Sodium: Na	mg/L	17.1	400
Bact: Ecoli	CFU/100mL	0	0
Bact: Faecal Coliforms	CFU/100mL	0	0
Bact:Total Coliforms	CFU/100mL	3	10

Remarks:

The sample showed complying physiochemical and bacteriological characteristics with the exception of colour as compared to the National standards for Potable water.

ANALYSED BY Robinah Muhelrwe and Kennedy Araa

AUTHORISED BY:MANAGER, Central Laboratory Services

APPROVED BY: SENIORMANAGER, Water Quality Management Department





NATIONAL WATER AND SEWERAGE CORPORATION
QUALITY CONTROL DEPARTMENT
BACTERIOLOGICAL SAMPLE RECEPTION AND ANALYSIS RESULTS FORM

Date and time sampled	Date and time received	Lab No	Sample description	pH	Colour (PCo)	Turbidity (FTU)	Free Cl ₂ mg/l	Total chlorine(mg/l)	CFU counts/100 mls	Remarks
31/4/2017	12/5/2017, 4:25 PM	166	Raw water		80	9	N/A	N/A	20	R
		167	Final water		14	<5	0.75	0.95	0	FT
		168	Agwala Booster		14	<5	0.7	0.98	0	B
		169	Adwila Gravity Tank		14	<5	0.35	0.65	0	D
		170	Ireda Res.		16	<5	0.4	0.85	0	D
		171	UTC Lira		15	<5	0.35	0.5	0	D
		172	Akia		15	<5	0.25	0.45	0	D
		173	Obulo welo		16	<5	0.19	0.45	0	D
		174	Aduku Road		14	<5	0.25	0.45	0	D
		175	Ireda Chamber		13	<5	0.2	0.45	0	D
		176	Juba Road		14	<5	0.2	0.42	0	D



NATIONAL WATER AND SEWERAGE CORPORATION
QUALITY CONTROL DEPARTMENT
BACTERIOLOGICAL SAMPLE RECEPTION AND ANALYSIS RESULTS FORM

Date and time sampled	Date and time received	Lab No	Sample description	pH	Colour (PCo)	Turbidity (FTU)	Free Cl ₂ mg/l	Total chlorine(mg/l)	CFU counts/100 mls	Remarks
31/5/2017	19/6/2017, 3:05 PM	177	Raw water		8	12	N/A	N/A	18	R
		178	Final water		7.5	<5	0.7	0.9	0	FT
		179	Agwala Booster		7.5	<5	0.6	0.88	0	B
		180	Adwila Gravity Tank		7.5	<5	0.35	0.58	0	D
		181	Ireda Res.		7.5	<5	0.5	0.85	0	D
		182	African Quarters		7.5	<5	0.35	0.55	0	D
		183	Kakoge PSI		7.5	<5	0.15	0.3	0	D
		184	UTC Lira		7.5	<5	0.19	0.3	0	D
		185	Nqeta Ginnery		7.5	<5	0.18	0.35	0	D
		186	Anai Okii		7.5	<5	0.2	0.45	0	D
		187	Akwoyo		7.5	<5	0.22	0.45	0	D



NATIONAL WATER AND SEWERAGE CORPORATION
QUALITY CONTROL DEPARTMENT
BACTERIOLOGICAL SAMPLE RECEPTION AND ANALYSIS RESULTS FORM

Date and time sampled	Date and time received	Lab No	Sample description	pH	Colour (PCo)	Turbidity (FTU)	Free Cl ₂ mg/l	Total chlorine(mg/l)	CFU counts/100 mls	Remarks
31/8/2017	25/9/17, 6:09 PM	188	Raw water		8	12	N/A	N/A	22	R
		189	Final water		7.8	<5	0.8	0.9	0	FT
		190	Agwala Booster		7.6	<5	0.6	0.85	0	B
		192	Adwila Gravity Tank		7.6	<5	0.3	0.55	0	D
		193	Ireda Res.		7.5	<5	0.6	0.8	0	D
		194	Kakoge CDC		7.6	<5	0.3	0.55	0	D
		195	Scoti Road		7.6	<5	0.35	0.45	0	D
		196	Royal Academy SS		7.5	<5	0.25	0.45	0	D
		197	VH Primary School		7.5	<5	0.25	0.45	0	D
		198	Anai Ober		7.5	<5	0.19	0.4	0	D
		199	Akwoyo		7.5	<5	0.18	0.4	0	D



NATIONAL WATER AND SEWERAGE CORPORATION
QUALITY CONTROL DEPARTMENT
BACTERIOLOGICAL SAMPLE RECEPTION AND ANALYSIS RESULTS FORM

Date and time sampled	Date and time received	Lab No	Sample description	pH	Colour (PtCo)	Turbidity (FTU)	Free Cl2 mg/l	Total chlorine(mg/l)	CFU counts/100 mls	Remarks
31/1/2017	15/1/17, 4:05 PM	133	Raw water		70	10	N/A	N/A	22	R
		134	Final water		14	<5	0.7	0.95	0	FT
		135	Agwata Booster		15	<5	0.55	0.8	0	B
		136	Adwila Gravity Tank		15	<5	0.35	0.65	0	D
		137	Ireda Res.		13	<5	0.45	0.6	0	D
		138	Kirombe North		14	<5	0.25	0.45	0	D
		139	Kakoge CDC		13	<5	0.25	0.46	0	D
		140	African Quarters		13	<5	0.3	0.6	0	D
		141	Anai		15	<5	0.25	0.65	0	D
		142	UTC Lira		15	<5	0.2	0.4	0	D
		143	Ngetia Ginnery		14	<5	0.25	0.45	0	D



NATIONAL WATER AND SEWERAGE CORPORATION
QUALITY CONTROL DEPARTMENT
BACTERIOLOGICAL SAMPLE RECEPTION AND ANALYSIS RESULTS FORM

Date and time sampled	Date and time received	Lab No	Sample description	pH	Colour (PtCo)	Turbidity (FTU)	Free Cl2 mg/l	Total chlorine(mg/l)	CFU counts/100 mls	Remarks
31/2/2017	25/2/17, 6:09 PM	144	Raw water	8	85	12	N/A	N/A	22	R
		145	Final water	7.5	16	<5	0.8	0.9	0	FT
		146	Agwata Booster	7.5	14	<5	0.6	0.65	0	B
		147	Auzwia Gravity Tank	7.6	15	<5	0.3	0.55	0	D
		148	Ireda Res.	7.8	15	<5	0.6	0.8	0	D
		149	Kakoge CDC	7.6	15	<5	0.3	0.55	0	D
		150	Soroti Road	7.3	15	<5	0.35	0.45	0	D
		151	Royal Academy SS	7.5	14	<5	0.25	0.45	0	D
		152	Vii Primary School	7.5	14	<5	0.25	0.45	0	D
		153	Anai Ober	7.8	16	<5	0.18	0.4	0	D
		154	Akwoyo	7.5	15	<5	0.18	0.4	0	D



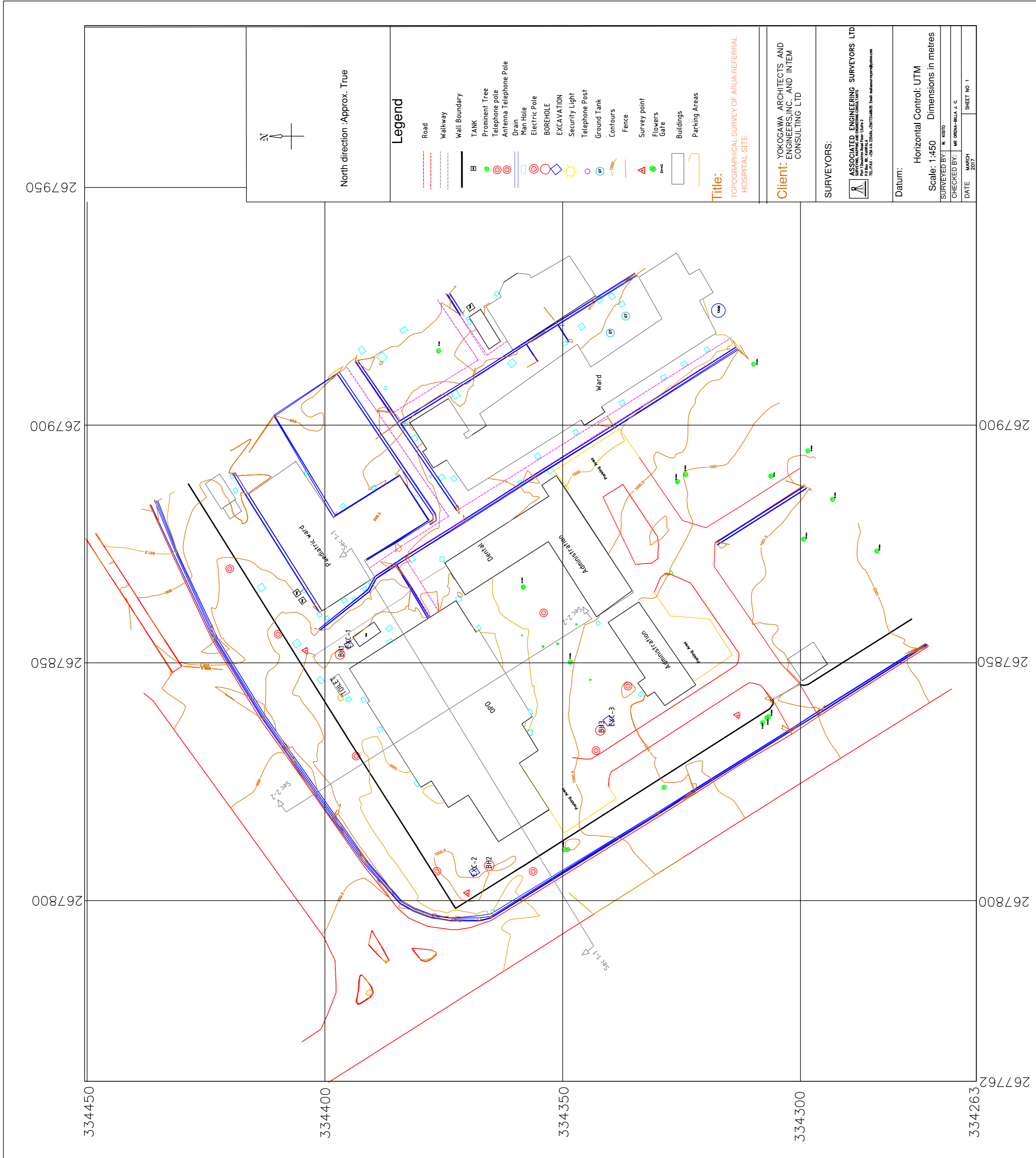
NATIONAL WATER AND SEWERAGE CORPORATION
QUALITY CONTROL DEPARTMENT
BACTERIOLOGICAL SAMPLE RECEPTION AND ANALYSIS RESULTS FORM

Date and time sampled	Date and time received	Lab No	Sample description	pH	Colour (PtCo)	Turbidity (FTU)	Free Cl2 mg/l	Total chlorine(mg/l)	CFU counts/100 mls	Remarks
31/3/2017	5/3/2017, 5:05 PM	155	Raw water		57	7	N/A	N/A	20	R
		156	Final water		14	<5	0.7	0.92	0	FT
		157	Agwata Booster		13	<5	0.5	0.8	0	B
		158	Adwila Gravity Tank		12	<5	0.35	0.65	0	D
		159	Ireda Res.		12	<5	0.6	0.8	0	D
		160	Kachung Junior Sch		13	<5	0.5	0.75	0	D
		161	Presidential Lodge		13	<5	0.2	0.45	0	D
		162	Ambalal P. Sch.		14	<5	0.3	0.45	0	D
		163	Ayapo P. Sch.		14	<5	0.25	0.4	0	D
		164	Odokomil Ginnery		13	<5	0.25	0.45	0	D
		165	Ipwo Akere							



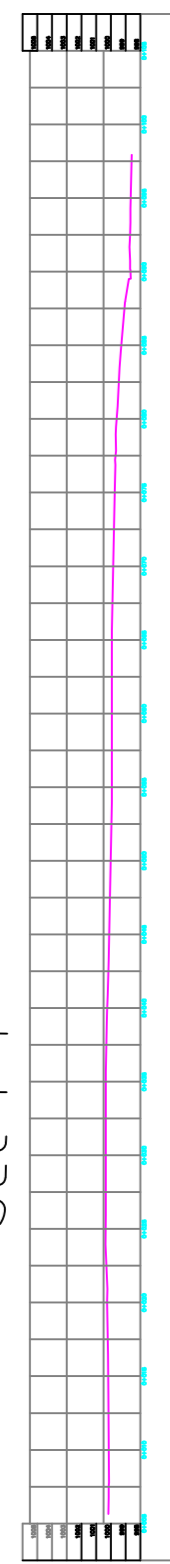
7-3 アルアRRH

(1) 地形測量図

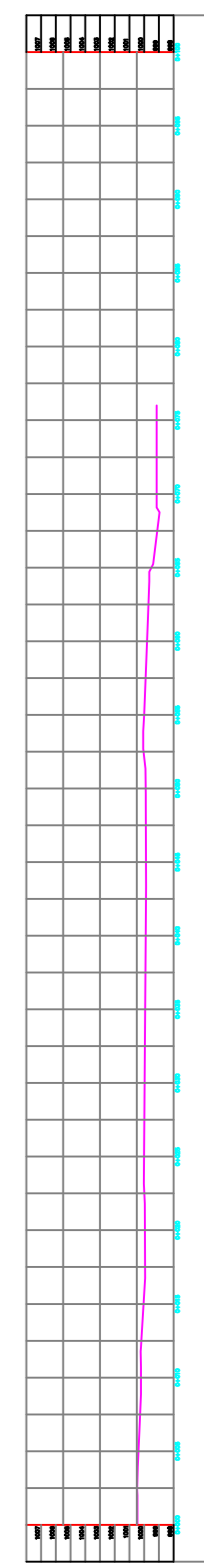


CROSS SECTION OF ARUA HOSPITAL

Sec 1-1



Sec 2-2



267852.2	334396.8	999.261	BH1
267807.8	334365.4	1000.288	BH2
267836.3	334342	1000.707	BH3

267854.4	334395	999.5	EXC-1
267806.5	334368.6	1000.124	EXC-2
267838.4	334340.3	1000.815	EXC-3

PREPARATORY SURVEY FOR THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS IN NORTHERN UGANDA

GEOTECHNICAL INVESTIGATIONS AT ARUA REGIONAL REFERRAL HOSPITAL

Client:

**Yokogawa Architects & Engineers, Inc.& INTEM
Consulting, Inc**

Investigations Report



Contractor:

Associated Engineering Surveyors (AES)

March 2017

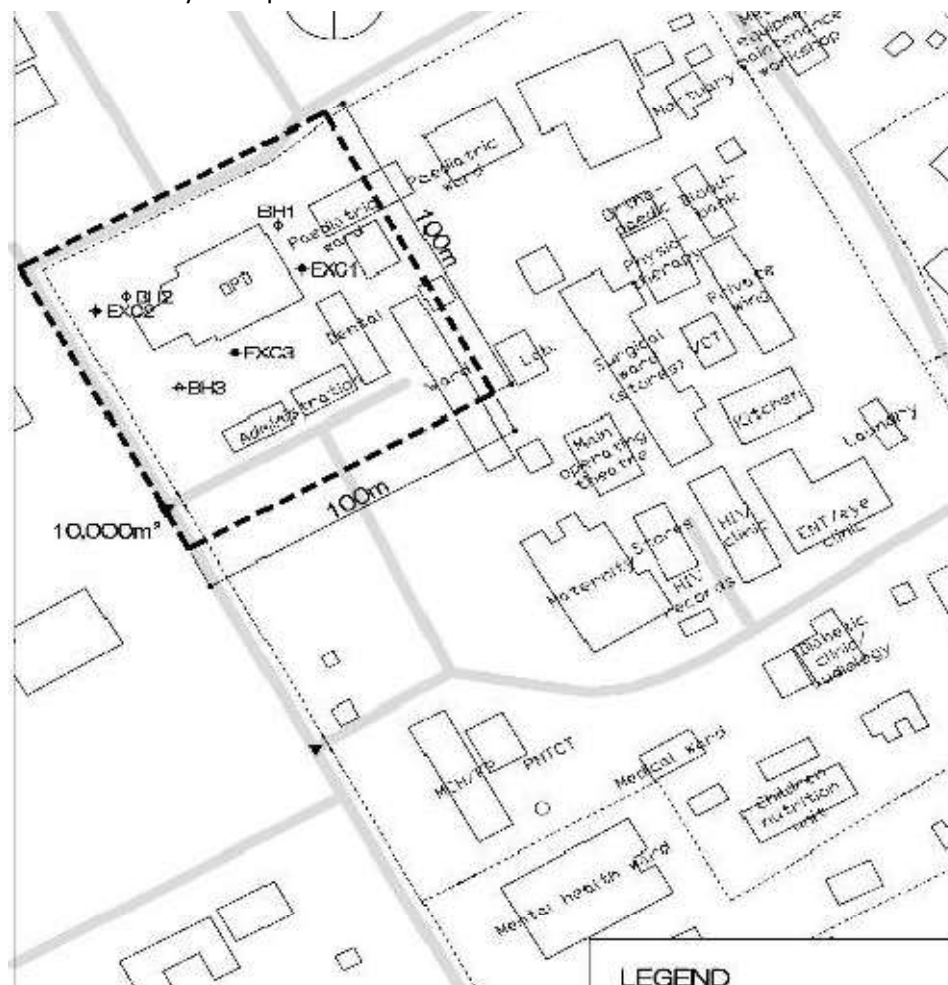
Rev	Established	Checked	Approved by	Date	Comments/ Amendments	STAT
0	Technical Office	Orena	Akena	19/03/17	First Issue	Report

2 FIELD INVESTIGATIONS AND LABORATORY TESTING

2.1 Field Activities

Field works were commenced on 17th of February 2017 and completed on 19th February 2017. Geotechnical investigation works were carried out in accordance with the specifications provided by the client; Yokogawa Architects & Engineers, Inc.& INTEM Consulting, Inc.

An investigations location layout is presented below: -




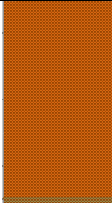
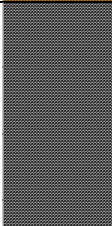

The field works comprised of mainly the following activities: -

- Boring to 15m depth
- Standard Penetration Test (SPT)
- Undisturbed sampling

3 BOREHOLE 1 LOG AND CORE PHOTOS

Borehole 1 was drilled from 0.0m at the surface down to 15m as instructed by the client.

3.1 BH -01 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 01			
Project: Geotechnical Investigations at Arua Regional Referral Hospital		Date	Start:	18 – Feb - 2017	
Location: Arua Regional Referral Hospital			Finish:	18 – Feb - 2017	
Equipment: GY-100		Co-ordinates: E 267852.2, N 334396.8			
Ground elevation: 999.261		Depth of Borehole	15.0m		
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Gray silty clay becoming sandy clay with depth		0			
		1			
Red brown clay, somewhat lateritic. Becomes sandy at 4.5m to 5.0m		2	17	1.0 – 1.45	(1.45m – 1.75m)
		3	13	2.75 – 3.2	
		4			(3.2m – 3.5m)
		5	25	4.5 – 4.95	
Gray silty sands, with some quartz particles		6			(4.95m – 5.25m)
		7	-	-	-
		8	-	-	-
		9	-	-	-
Highly weathered to moderate weathered gneissic rock. Highly foliated and fractured. Becomes strong to very strong with depth		10	-	-	-
		11	-	-	-
		12	-	-	-
		13	-	-	-
		14	-	-	-
		15	-	-	-

4 BOREHOLE 2 LOG AND CORE PHOTOS

Borehole 2 was drilled from 0.0m at the surface down to 15m as instructed by the client.



4.1 BH -02 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 02			
Project: Geotechnical Investigations at Arua Regional Referral Hospital		Date	Start:	17 – Feb - 2017	
Location: Arua Regional Referral Hospital			Finish:	17 – Feb - 2017	
Equipment: GY-100		Co-ordinates: E 267807.8		N 334365.4	
Ground elevation: 1000.288		Depth of Borehole		15.0m	
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Gray silty clay		0			
Red brown sandy clay with some loose gravel		1			
		2	18	1.0 – 1.45	(1.45m – 1.75m)
		3	29	2.75 – 3.2	
Coarse gray brown sand		4			(3.2m – 3.5m)
		5	>50 (Refusal)	4.5 – 4.95	
Gray silty sand. Dense sands		6			(4.95m – 5.25m)
		7	>50 (Refusal)	7.0 – 7.45	
		8	-	-	-
		9	-	-	-
		10	-	-	-
		11	-	-	-
		12	-	-	-
		13	-	-	-
		14	-	-	-
		15	-	-	-

5 BOREHOLE 3 LOG AND CORE PHOTOS

Borehole 3 was drilled from 0.0m at the surface down to 15m as instructed by the client.

5.1 BH -03 borehole log

Client: Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Inc		Borehole No. BH - 03			
Project: Geotechnical Investigations at Arua Regional Referral Hospital		Date	Start:	17 – Feb - 2017	
Location: Arua Regional Referral Hospital			Finish:	17 – Feb - 2017	
Equipment: GY-50		Co-ordinates: E 267836.3		N 334342	
Ground elevation: 1000.707		Depth of Borehole		15.0m	
Description	Legend	Depth (m)	SPT (N)	SPT Depth Range (m)	Undisturbed Sample
Gray brown clay, somewhat lateritic		0			
		1			-
		2	14	1.0 – 1.45	(1.45m – 1.75m)
		3	28	2.75 – 3.2	
Gray brown sands, very dense		4			(3.2m – 3.5m)
		5	37	4.5 – 4.95	-
		6	40	5.95 – 6.4	-
		7			-
		8	44	7.4 – 7.85	-
		9			-
		10	>50 (Refusal)	9.0 – 9.45	-
		11	-	-	-
		12	-	-	-
		13	-	-	-
		14	-	-	-
15	-	-	-		

PREPARATORY SURVEY FOR THE PROJECT FOR IMPROVEMENT OF REGIONAL REFERRAL HOSPITALS IN NORTHERN UGANDA

UNDERGROUND OBSTACLES INVESTIGATIONS AT ARUA REGIONAL REFERRAL HOSPITAL

Client:

Yokogawa Architects & Engineers, Inc. & INTEM Consulting, Ltd.

Investigations Report (ARUA)



Contractor:

Associated Engineering Surveyors (AES)

March 2017

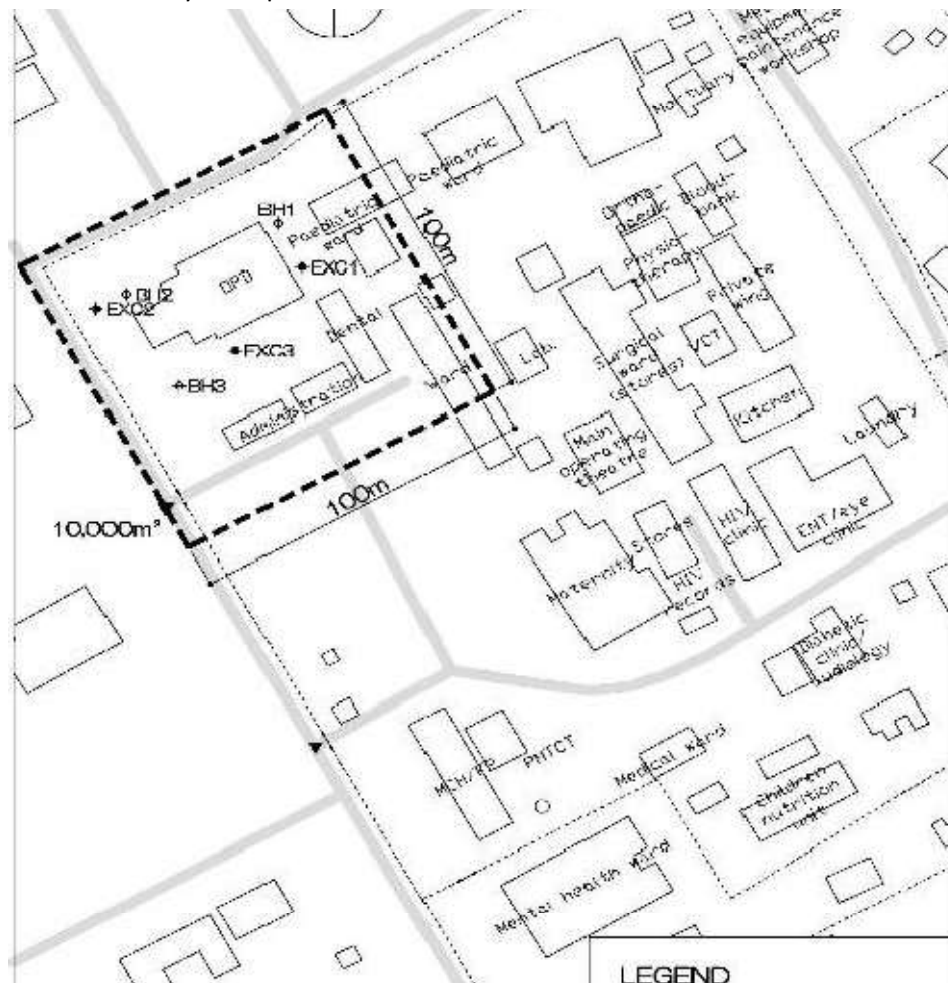
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2 FIELD INVESTIGATIONS AND LABORATORY TESTING

2.1 Field Activities

Field works were commenced on 18th of February 2017 and completed on 19th February 2017. Underground obstacles investigation works were carried out in accordance with the specifications provided by the client; Yokogawa Architects & Engineers, Inc.& INTEM Consulting, Inc.

An investigations location layout is presented below: -




The field works comprised of mainly the following activities: -

- Excavation by hand of 3 pits/ trenches of 1.5 meters x 1.5meters and 2 meters deep
- Collecting both disturbed and undisturbed samples for laboratory analysis

The table below lists the co-ordinate locations of the excavated pits/ trenches. Co-ordinates are in Arc 1960 UTM system: -

3 PIT/ TRENCH 1 UNDERGROUND OBSTACLES

Excavations at pit/ trench 1 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -


Co-ordinates: E 267854.4, N 334395, Z 999.5		
Picture EXC-01 	depth (m)	description
	0.0 – 0.3	Gray loamy soils with fragments of quartz rock
	0.3 – 2.0	Gray brown silty clay soils

Site Pictures



4 PIT/ TRENCH 2 UNDERGROUND OBSTACLES

Excavations at pit/ trench 2 revealed no underground obstacles down to a depth of 1.5m as shown in the profile below: -

Co-ordinates: EXC-02 E 267806.5, N 334368.6, Z 1000.124		
Picture EXC-02	depth (m)	description
	0.0 – 1.0	Gray brown silty clay soils, moderately compacted
	0.3 – 1.5	Brown lateritic soils that are very hard to excavate with pick axe

Site Pictures



5 PIT/ TRENCH 3 UNDERGROUND OBSTACLES

Excavations at pit/ trench 3 revealed no underground obstacles down to a depth of 2.0m as shown in the profile below: -

Co-ordinates: EXC-03 E 267838.4 N 334340.3 Z 1000.815		
Picture EXC-03	depth (m)	description
	0.0 – 0.5	<p>Gray brown silty clay soils, lateritic, very hard to excavate manually.</p> <p>Quartzite rock fragments at 2.0m, mixed with laterite</p>

Site Pictures



(4) 水質検査報告書



NATIONAL WATER AND SEWERAGE CORPORATION
 CENTRAL LABORATORY - BUGOLOBI,
 P.O.BOX 7053 KAMPALA.
 E-mail: waterquality@nWSC.co.ug
CERTIFICATE OF ANALYSIS

CLIENT: Yokogawa Architect & Engineers
 Address: Kampala
 Tel:
 Email:
 Date Sample Received: 06-March-2017
 Table of Analytical Results

Ref No:LS098/INV/2017/265
 Sampled by: Client
 Type of container: Plastic
 Sample Source: Arua
 Date of Report: 21-March-2017

Parameters	Units	Arua	National standards for Potable water
WS Sample Nr	--	K1089/17/C/B	
pH	--	7.3	6.5-8.5
Electrical Conductivity (EC)	µS/cm	167.8	2500
Total Dissolved Solids (TDS)	mg/L	107.4	1200
Total Suspended Solids (TSS)	mg/L	4	0
Ammonia-N	mg/L	0.02	1.0
Turbidity	NTU	9.8	10.0
Alkalinity: Total as CaCO ₃	mg/L	84	500
Bicarbonate	mg/L	102.5	500
Hardness: Total	mg/L	76	500
Arsenic	µg/L	<0.004	0.010
Manganese	mg/L	0.06	0.1
Chloride- Cl ⁻	mg/L	33	500
Aluminium Residual	mg/L	0.0	0.2
Nitrate-N	mg/L	0.02	5.0
Iron: Total	mg/L	0.32	1.0
Fluoride	mg/L	0.0	1.5
Calcium: as Ca ²⁺	mg/L	16	75
Magnesium: as Mg ²⁺	mg/L	21.8	50
Colour (apparent)	PtCo	88	15
Sulphate: SO ₄ ²⁻	mg/L	13	200
Odour	---	-	Not Specified
Taste	----	-	Not Specified
Potassium: K	mg/L	3.4	100
Sodium: Na	mg/L	8.9	400
Bact: Ecoli	CFU/100mL	0	0
Bact: Faecal Coliforms	CFU/100mL	0	0
Bact: Total Coliforms	CFU/100mL	2	10

Remarks:

The sample showed complying physiochemical and bacteriological characteristics with the exception of Colour and TSS as compared to the National standards for Potable water.

ANALYSED BY Robinah Mucirwe and Keneddy Arua

AUTHORISED BY:MANAGER, Central Laboratory Services

APPROVED BY: SENIORMANAGER, Water Quality Management Department



January, 2017 NWSC-ARUA

Parameter	Unit	Monitoring points										National Standards for potable water quality (water in supply)
		Waterworks					Water in supply				National Standards for potable water quality (water in supply)	
		Final water	Reservoir	W. works PSP	Ediofe T.C	Rock filling Station	Muni Trading Centre	Oli T.C				
Codes		N953	N954	N955	N956	N957	N958	N959				
pH	...	6.78	6.52	6.95	6.74	6.78	6.13	5.96				6.5 – 8.5
EC	µs/cm	266	268	264	144	188	151	150				1500
Turbidity	NTU	3.77	2.58	6.62	1.82	2.52	1.9	1.77				5
Colour	PtCo)	10	6	7	9	11	10	8				15
Iron	mg/L	0.152	0.168	0.154	0.162	0.157	0.265	0.154				0.300
TSS	mg/L	0	0	0	0	0	0	0				0
Alkalinity	mg/L	64	60	66	70	58	62	68				500
Hardness	mg/L	70	72	72	68	70	70	70				300
Aluminium Residue	mg/L	0.2	NR	NR	NR	NR	NR	NR				0.2
Free chlorine	mg/L	1.5	1	0.3	0.4	0.3	0.4	0.4				0.20-0.50
E-Coli	CFU/ 100 mL	0	0	0	0	0	0	0				0

Remarks

All the water samples from different points showed complying physiochemical and bacteriological characteristics compared to the National standards for potable water.

Approved by:

Dr. Mohammed Babu

Manager, Central Laboratory Services



February, 2017 NWSC-ARUA

Parameter	Unit	Monitoring points										National Standards for potable water quality (water in supply)
		Waterworks				Water in Supply						
		Final water	Reservoir	Arua P.S	Ediofe T.C	Godown Road	Oli Health Centre	Androa Road PSP				
Lab No.		N171	N172	N173	N174	N175	N176	N177				
Codes		WWFT4	DR5	DSP3	DCP6	DSP5	DCP7	DSP2				
pH	...	7.04	7.13	7.17	7.25	7.22	7.27	7.28				6.5 – 8.5
EC	µs/cm	628	613	567	530	530	426	450				1500
Colour	PtCo.	6	5	4	7	8	9	8				15
Turbidity	NTU	2.79	1.71	1.61	1.06	1.36	1.94	1.42				5
Iron: Total	mg/L	0.187	0.345	0.288	0.142	0.134	0.222	0.211				0.300
TSS	mg/L	0	0	0	0	0	0	0				0
Alkalinity	mg/L	128	188	170	172	174	180	178				500
Hardness	mg/L	156	172	140	164	116	150	160				300
Aluminium Residue	mg/L	0.025	N/R	N/R	N/R	N/R	N/R	N/R				0.2
Free chlorine	mg/L	1.2	1	0.4	0.5	0.3	0.4	0.5				0.20-0.50
E-Coli	CFU/ 100 mL	0	0	0	0	0	0	0				0

Remarks

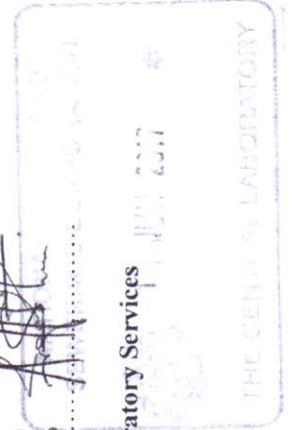
All the water samples from different points showed complying physiochemical and bacteriological characteristics compared to the National standards for potable water.

Approved by:



Dr. Mohammed Babu

Manager, Central Laboratory Services



March 2017. NWSC-ARUA

Parameter	Unit	Monitoring points										National Standards for potable water quality (water in supply)			
		Waterworks		Water in Supply				Water in Supply							
		Final water	Reservoir	Oli H/C	Ediofe T.C	Arua P.S	Muni T.C	Androa Road PSP	Ediofe T.C	Arua P.S	Muni T.C		Androa Road PSP		
Lab No.		N397	N398	N399	N400	N401	N402	N403							
Codes		WWFT4	DR5	DSP7	DCP6	DSP3	DVP1	DSP2							
pH	...	7.08	7.05	7.21	7.08	7.12	7.17	7.1							6.5 - 8.5
EC	µs/cm	533	520	484	546	532	559	536							1500
Colour	PtCo.	3	5	0	8	11	13	15							15
Turbidity	NTU	2.43	2.24	1.68	1.64	1.96	4.32	4.07							5
Iron: Total	mg/L	0.272	0.283	ND	ND	ND	ND	ND							0.300
TSS	mg/L	0	0	0	0	0	0	1							0
Alkalinity	mg/L	72	100	110	90	72	72	80							500
Hardness	mg/L	88	100	84	92	88	110	88							300
Aluminium Residue	mg/L	0.058	N/R	N/R	N/R	N/R	N/R	N/R							0.2
Free chlorine	mg/L	0.4	0.4	0.3	0.3	0.2	0.2	0.2							0.20-0.50
E-Coli	CFU/100 mL	0	0	0	0	0	0	0							0

Remarks

All the water samples from different points showed complying physiochemical and bacteriological characteristics with exception of sample N403 which showed slightly higher TSS as compared to the National standards for potable water.

Approved by:

Dr. Mohammed Babu...

Manager, Central Laboratory Services