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1. 調査団員・氏名

1-1 現地調査 1

氏名	担当業務	現地調査期間	所属
川添 健治	業務主任／建築計画	2018年3月25日～ 4月7日	株式会社マツダコン サルタンツ
勢山 詔子	建築設計 1	2018年3月25日～ 4月7日	株式会社山下設計（補 強：株式会社福永設 計）
田邊 崇洋	職業訓練計画／産業 動向／労働需要	2018年3月25日～ 4月7日	株式会社パデコ

1-2 現地調査 2

氏名	担当業務	現地調査期間	所属
森田 千春	総括	2018年5月20日～ 5月26日	独立行政法人国際協 力機構 人間開発部社会保障 チーム 課長
不動田 朋浩	計画管理	2018年5月20日～ 5月26日	独立行政法人国際協 力機構 人間開発部社会保障 チーム 主任調査役
川添 健治	業務主任／建築計画	2018年5月20日～ 6月9日	株式会社マツダコン サルタンツ
玉木 智宏	副業務主任／機材計 画	2018年5月20日～ 6月9日	インテムコンサルテ ィング株式会社
勢山 詔子	建築設計 1	2018年5月27日～ 6月9日	株式会社山下設計（補 強：株式会社福永設 計）
伊藤 玲央	建築設計 2	2018年5月20日～ 6月9日	株式会社山下設計
田邊 崇洋	職業訓練計画／産業 動向／労働需要	2018年5月20日～ 6月9日	株式会社パデコ
丹野 秀治	機械・電気設備計画	2018年5月27日～ 6月9日	株式会社山下設計
土屋 達嗣	施工計画／積算	2018年5月20日～ 6月9日	株式会社マツダコン サルタンツ

1-3 現地調査 3

氏名	担当業務	現地調査期間	所属
森田 千春	総括	2019年3月10日～ 3月16日	独立行政法人国際協力機構 人間開発部社会保障 チーム 課長
不動田 朋浩	計画管理	2019年3月10日～ 3月16日	独立行政法人国際協力機構 人間開発部社会保障 チーム 主任調査役
川添 健治	業務主任／建築計画	2019年3月10日～ 3月16日	株式会社マツダコン サルタantz
玉木 智宏	副業務主任／機材計 画	2019年3月10日～ 3月16日	インテムコンサルテ ィング株式会社
伊藤 玲央	建築設計 2	2019年3月10日～ 3月16日	株式会社山下設計

2. 調査行程

2-1 現地調査 1

			業務主任/建築計画	職業訓練計画/産業動向/労働需要	建築設計1
			14	14	6
1	3/25	日	NRT-RGN		
2	3/26	月	JICA, サイト調査, GTI Shwepyithar		
3	3/27	火	収集情報の解析と書類作業		
4	3/28	水	YHT, GTI Shwepyithar		
5	3/29	木	RGN-NYT MOE/ DTVET		
6	3/30	金	DG & Dy.DG of DTVET MOE/ DTVET		
7	3/31	土	収集情報の解析と書類作業		
8	4/1	日			
9	4/2	月	ADB, MOE/ DTVET, テクニカルノート NYT-RGN		NRT-RGN
10	4/3	火	サイト調査		
11	4/4	水	SMVTI, GTI Insein		
12	4/5	木	YCDC/ 水、建設、土地局 JICA, GTI Insein		
13	4/6	金	EOJ RGN-		
14	4/7	土	NRT		

ネビドーでの調査

DTVET=職業技術教育・訓練局と協議

EOJ=在ミャンマー大使館報告

GTI=技術短大の視察

JICA=JICAミャンマー事務所報告

MFSD=ミャンマー消防省と協議

MOE=教育省

NYT=ネビドー

NRT=成田国際空港

SMVTI=シンガポール・ミャンマー職業訓練インスティテュートの視察

YCDC=ヤンゴン市開発委員会と協議

YESC=ヤンゴン電力供給公社と協議

RGN=ヤンゴン国際空港

YHT=ヤンゴン・ヘリテージ・トラストと協議

HND=(羽田)東京国際空港

KIX=関西国際空港

2-2 現地調査 2

			総括 計画管理	業務主任/ 建築計画	建築設計2	建築設計1	職業訓練計 画/産業動 向労働需要	機械・電気 設備計画	施工計画/ 積算	副業務主任 /機材計画	
			7	21	21	14	21	14	21	21	
1	5/20	日	NRT-RGN				NRT-RGN		NRT-RGN		
2	5/21	月	JICA, サイト調査 GTI Shwepyithar				業務主任と 同行		業務主任と 同行		
			RGN-NYT				RGN-NYT			RGN-NYT	
3	5/22	火	MOE/ DTVET, DG MOE, 副大臣				業務主任と 同行		建設事情、 積算調査	業務主任と 同行	
4	5/23	水	MOE/ DTVET				MOE/ DTVET, 管 理運営計 画、職業訓 練			DTVET, 機 材	
5	5/24	木	MOE/ DTVET, ミニツ協議							業務主任と	
			NYT-RGN EOJ								
6	5/25	金	JICA							業務主任と	
			RGN-	サイト調査						Documentati	
7	5/26	土	NRT	収集情報の解析と書類作 業		NRT-RGN	情報解析		収集情報の解析と書類作 業		
8	5/27	日	KIX-RGN					NRT-RGN			
9	5/28	月	団内会議				MOE/ DTVET	業務主任と	建設事情、 積算調査	業務主任と 同行	
			サイト調査								
			GTI Shwepyithar								
10	5/29	火	GIZ TVET団員と	建設資材調査			MOE/DTVE NYT-RGN	サイト調査		調達調査、 積算調査	
11	5/30	水	GTI Insein TVET団員と			MSFD	産業動向、 労働需要調 査	建築設計と 同行			
12	5/31	木	RGN-NYT MOE/DTVET NYT-RGN	収集情報の解析と書類作 業							
13	6/1	金	団内会議 JICA RGN-			YCDC/建設 局、道路局					
14	6/2	土	-NRT	収集情報の解析と書類作業							
15	6/3	日	(↑太線枠内)								
16	6/4	月	自動車専門 家、野上氏			YESC YCDC/水、 土地局	産業動向、 労働需要調 査	建築設計と 同行	建設事情、 積算調査	調達調査、 積算調査	
17	6/5	火			RGN-NYT						
18	6/6	水			MOE/DTVET, 施設計画	収集情報の解析と書類作業					
19	6/7	木			MOE/DTVET, テクニカル ノート						
					NYT-RGN						
20	6/8	金									
					RGN-						
21	6/9	土	NRT								

2-3 現地調査 3

			総括 計画管理	業務主任/ 建築計画	建築設計2	副業務主任 /機材計画	
			7	7	7	7	
1	3/10	日	NRT-RGN		RGN-NYT	HND-NYT	NRT-RGN
2	3/11	月	RGN-NYT				技術協カブ プロジェクトと 打合せ
3	3/12	火	MOE/ DTVET, ドラフト協議				
4	3/13	水					
5	3/14	木	MOE/ DTVET, ミニツ協議				
			NYT-RGN				NYT-RGN
6	3/15	金	JICA, EOJ		DTVET, 設 計		w/JICA
			RGN-		NYT-RGN		RGN-
7	3/16	土	NRT	収集情報解析と書類作業			NRT

3. 関係者（面談者）リスト

所属	肩書	名前
教育省		
	副大臣	Dr. Win Maw Tun
DTVET	総局長	Dr. Aye Myint
DTVET	副総局長	Dr. Nay Myo Htun
DTVET/ 管理課	副総局長（代理）	Dr. Moe Kyaw Thu
DTVET/ 管理課	副総局長（代理）	Dr. Nyan Win Than
DTVET/ 管理課	副課長	U Wai Yan Ko
DTVET/ 管理課	課長	Dr. Zaw Min Naing
DTVET/ 管理課	課長補	U Thiha Tun
DTVET/ 財務課	課長補	Ms. Daw Thu Zar Nwe
DTVET/ 人材課	課長	Dr. Pyae Kyaw Thu
DTVET/ 人材課	課長補	U Kyaw Lwin
DTVET/ 国際課	課長	Dr. Daw Thet Thet Han Yee
DTVET/ 国際課	副課長	Ms. Daw Thet Thet Han Yee
DTVET/ 国際課	課長補	Ms. Daw Nan Kyawt Su Htwe
DTVET/ 国際課	課長補	Ms. Daw Thin Thin Chaw
DTVET/ 国際課	課長補	Daw Nan Kyawt Su Htwe
DTVET/ 計画課	課長	Dr. Kyaw Ze Ya Myint
DTVET/ 計画課	副課長	Ms. Daw Nay Nwe Aung
JMASVTI	校長	Dr. Yan Naing Tun
JMASVTI	副校長	Dr. Myo Thura.
Aung San 技術高校	校長	Dr. Myo Min Thant
Aung San 技術高校	副校長	U Aw Aw Kyaw
Aung San 技術高校	機械分野講師	U Maung Maung Naing
Aung San 技術高校	電気分野講師	Daw Nan Hnin Nwe Oo
Aung San 技術高校	電気分野副講師	U Zaw Myo Aung
GTI Insein	校長	U Myat Ko
GTI Insein	准教授	U Min Min Oo
シンガポール・ミャンマー職業訓練校（SMVTI）		
SMVTI	副校長（運営）	Dr. Thein Thein Aye
SMVTI	副校長（アカデミック）	Dr. Su Su Win
SMVTI	管理マネージャー IT & Operations	Dr. Aye Thant
ヤンゴン市開発委員会（YCDC）		
City Planning & Land Administration	局長	U Than Lwin oo
City Planning & Land Administration	副局長	Daw Tin Tin Kyi
City Planning & Land Administration	局長補	Daw Kaying Mae Nyint
Water & Sanitation	副局長	U Myo Thein

所属	肩書	名前
Water & Sanitation	主任技師補	U Khin Maung Htoo
Water & Sanitation	主任技師補	Daw Thwet Naing
Water & Sanitation	上級技師	Daw Aye Aye Mar
Water & Sanitation (Insein Township)	上級技師	U Nay Lynn
Water & Sanitation (Insein Township)	上級技師補	Daw Nyein Nyein Aung
Engineering (Building)	主任技師補	Daw Maw Maw Kgi
Engineering (Building)	上級技師	Daw Khn Then Liwn
Engineering (Building)	技師補	U Htut Khaung Win
Engineering (Building)	上級技師	U Thurein Win Myin
ミャンマー消防庁	局長	U Kyaw Thura
ミャンマー消防庁		U Sai Okenn Kyaw
ヤンゴン電力供給公社 (YESC)		
	副総マネージャー	Daw Sun Sun Win
	副総マネージャー	U Khin Maung Thwin
	副総マネージャー	U Yin Htun Win
Engineer Section	総マネージャー補	U Soe Moe
Engineer Section	総マネージャー補	U Maung Maung Thant Sin
Engineer Section	総マネージャー補	U Thaik Htun Maung
Engineer Section	マネージャー	U Myo Myint Aung
民間企業		
HTS	Service Technical Trainer	Mr. Kohei Mizoguchi
Mitsubishi Motors	After Sales Manager	Mr. Richard Steel
MAZDA	Workshop Manager	Mr. Thein Htike Lin
HONDA	General Manager	Mr. Hiroyoshi Ueno
HONDA	Automobile Services Manager	Mr. Thein Soe
TOKYO AUTO SERVICES	Director	Mr. Htin Lin
TOKYO AUTO SERVICES	Operation Manager	Mr. Htet Aung
NAING AUTO SERVICE	General Manager	Mr. Thet Naing
NAING AUTO SERVICE		Mr. Kyaw Kyaw Naing
NISSAN E-GARAGE AUTO SERVICES & SPARE PARTS	Business Development manager	Mr. Cheong Ken Keong
UNITED DESIRE COMPANY LIMITED	Operation Manager	Mr. Thet Tun Aung
UNITED DESIRE COMPANY LIMITED	Business Development Manager	Mr. Ye Zaw
MMM Myanmar Automobile	Director	Mr. Than Aye Maung
MMM Myanmar Automobile	Director	Mr. Myo Myint
SUPER MEGA		Mr. Khin Maung Win
SINE POWER	Managing Director	Mr. Saw Lin
INTERNATIONAL CONTACT ENGINEERING	Manager	Ms. Phyu Phyu Myint Soe
MTKK Electrical Services	Managing Director	Mr. U Kyaw Kyaw Oo
MTKK Electrical Services	Director, Electrical Power	Mr. Thuya Kaung San

所属	肩書	名前
Myanmar Hendlix Utility	Managing Director	Mr. U Kaung Szi Thu
Myanmar Hendlix Utility	Business Development Manager	Mr. U Sein Moe
在ミャンマー日本大使館		
	参事官	田公 和幸
	二等書記官	磯崎 勇太
JICA		
ミャンマー事務所	所長	唐澤 雅幸
ミャンマー事務所	次長	岩井 伸夫
ミャンマー事務所	企画調査員	岩沢 久美子
ミャンマー事務所	専門家	中原 伸一郎
ミャンマー事務所	Assistant Program Officer	Ms. Thet Su Kyi
TVET 質的向上プロジェクト	チーフアドバイザー	金丸 順夫
TVET 質的向上プロジェクト	業務調整員	田中 規明
TVET 質的向上プロジェクト	自動車整備	野上 悟
TVET 質的向上プロジェクト	電気	岩崎 義一
国家技能標準（NSS）開発支援プロジェクト	チーフアドバイザー	山田 了
国家技能標準（NSS）開発支援プロジェクト	業務調整員	富田 倫史

4. 討議議事録 (M/D)

4-1. 現地調査 2 討議議事録

4-2. 現地調査 3 討議議事録

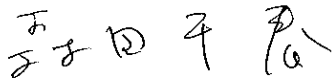
4-3. 現地調査 1 テクニカルノート

4-4. 現地調査 2 テクニカルノート

Minutes of Discussions
on the Preparatory Survey for the Project for
Establishment of Japan Myanmar Vocational Training Institute (Aung San)

In response to the request from the Government of The Republic of the Union of Myanmar (hereinafter referred to as “Myanmar”), Japan International Cooperation Agency (hereinafter referred to as “JICA”) dispatched the Preparatory Survey Team for the Outline Design (hereinafter referred to as “the Team”) of the Project for Establishment of Japan Myanmar Vocational Training Institute (Aung San) (hereinafter referred to as “the Project”) to Myanmar. The Team held a series of discussions with the officials of the Government of Myanmar and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Nay Pyi Taw, 24th May, 2018



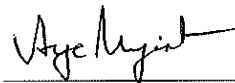
Chiharu MORITA

Leader

Preparatory Survey Team

Japan International Cooperation Agency

Japan



Dr. Aye Myint

Director General

Department of Technical and Vocational

Education and Training, Ministry of Education

Myanmar

ATTACHMENT

1. Objective of the Project

The objective of the Project is to establish Japan Myanmar Vocational Training Institute (Aung San) (hereinafter referred to as “JMVTI”) for automobile maintenance course and electrical course at the former Aung San Technical High School site through building facilities and procuring equipment for the both courses of the TVET institute with Japanese experience and know-how about other TVET institute.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey for the Project for Establishment of Japan Myanmar Vocational Training Institute (Aung San)”.

3. Project site

Both sides confirmed that the zone A and C as shown in Annex 1 are the Project site, the zone A is for educational function and the zone C is for the hostels of students. Landscape of Park zone can be proposed for better use.

4. Responsible authority for the Project

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

The Department of TVET of Ministry of Education 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 managed by relevant authorities properly and on time. The organization charts are shown in Annex 2.

5. Items requested by the Government of Myanmar

5-1. As a result of discussions, both sides confirmed that the items requested by the Government of Myanmar are as follows:

- The component of facility was confirmed as shown in Annex 4.
- The equipment list was confirmed as shown in Annex 5.

5-2. JICA will assess the feasibility of the above requested items through the survey and will 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 Myanmar 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 Myanmar side to submit the Project Monitoring Report, the form of which is attached as Annex 7.

6-2. The Myanmar side agreed to take the necessary measures, as described in Annex 8, for smooth implementation of the Project. The contents of the 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 updated as the Preparatory Survey progresses, and eventually, will be used as an attachment to the Grant Agreement.

7. Schedule of the Survey

7-1. The implementation schedule of preparatory survey and detailed design work was confirmed as shown in Annex 3.

7-2. The team will propose draft layout plan to Myanmar side by July 2018.

7-3. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Myanmar in order to explain its contents around January 2019.

7-4. If the contents of the draft Preparatory Survey Report is accepted and the undertakings for the Project are fully agreed by the Myanmar side, JICA will finalize the Preparatory Survey Report and send it to Myanmar around May 2019.

7-5. The above schedule is tentative and subject to change.

8. Environmental and Social Considerations

8-1. Myanmar side will confirm the necessity of IEE or EIA by June 7th 2018.

8-2. The Myanmar 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).

8-3. 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.

The Myanmar side confirmed to conduct the necessary procedures concerning the environmental assessment (including stakeholder meetings, Environmental Impact Assessment (EIA) /Initial Environmental Examination (IEE) and information disclosure, etc.) and make EIA/IEE report of the Project. The EIA/IEE approval shall be received from the responsible authorities and submitted to JICA by April 2019.

9. Other Relevant Issues

- 9-1. The Team explained that the former main building in zone A was designed by old building code and it is difficult to renovate this building to meet the current seismic standard. The Team also explained that the structure of the entrance hall and the open corridor are damaged seriously due to lack of maintenance for long period and suggested Ministry of Education not to use the upper floor fully.
- 9-2. the Executing Agency will obtain approval from Yangon Regional Government for demolishing the existing buildings in zone A. The existing buildings in zone A will be demolished by Myanmar side by the end of 2018.
- 9-3. Unexploded ordnance (UXO) clearance should be done by the end of 2018. Myanmar side explained the procedure as below;
Ministry of Education executes digging work for UXO clearance with searching by Ministry of Defense, and shall confirm the safety of all construction area up to the designated depth according to proposed foundation plans.
- 9-4. The number of students of JMVTI is forty for each course each grade. The whole number of students is 240, which is forty multiplied by two courses and three grades. Classroom lecture will be implemented with 40 students and practical training will be implemented with 20 to 40 students.
- 9-5. The Executing Agency will assign 10 teachers for each course and 4 administrative staffs for JMVTI by October 2018, beginning of Training of teacher (TOT) activities.
- 9-6. After the technical cooperation project move to zone A when new facility is established, existing workshop for the project will be continued to use for another TVET course by Myanmar side.
- 9-7. Both sides confirmed that the name of JMVTI will be changed to “Japan Myanmar Aung San Vocational Training Institute” (JMASVTI). The change of the name will be confirmed officially by the letter from JICA.

Annex 1: Project Site

Annex 2: Organization Chart

Annex 3: Implementation Schedule

Annex 4: Component of Facility

Annex 5: Requested Equipment List

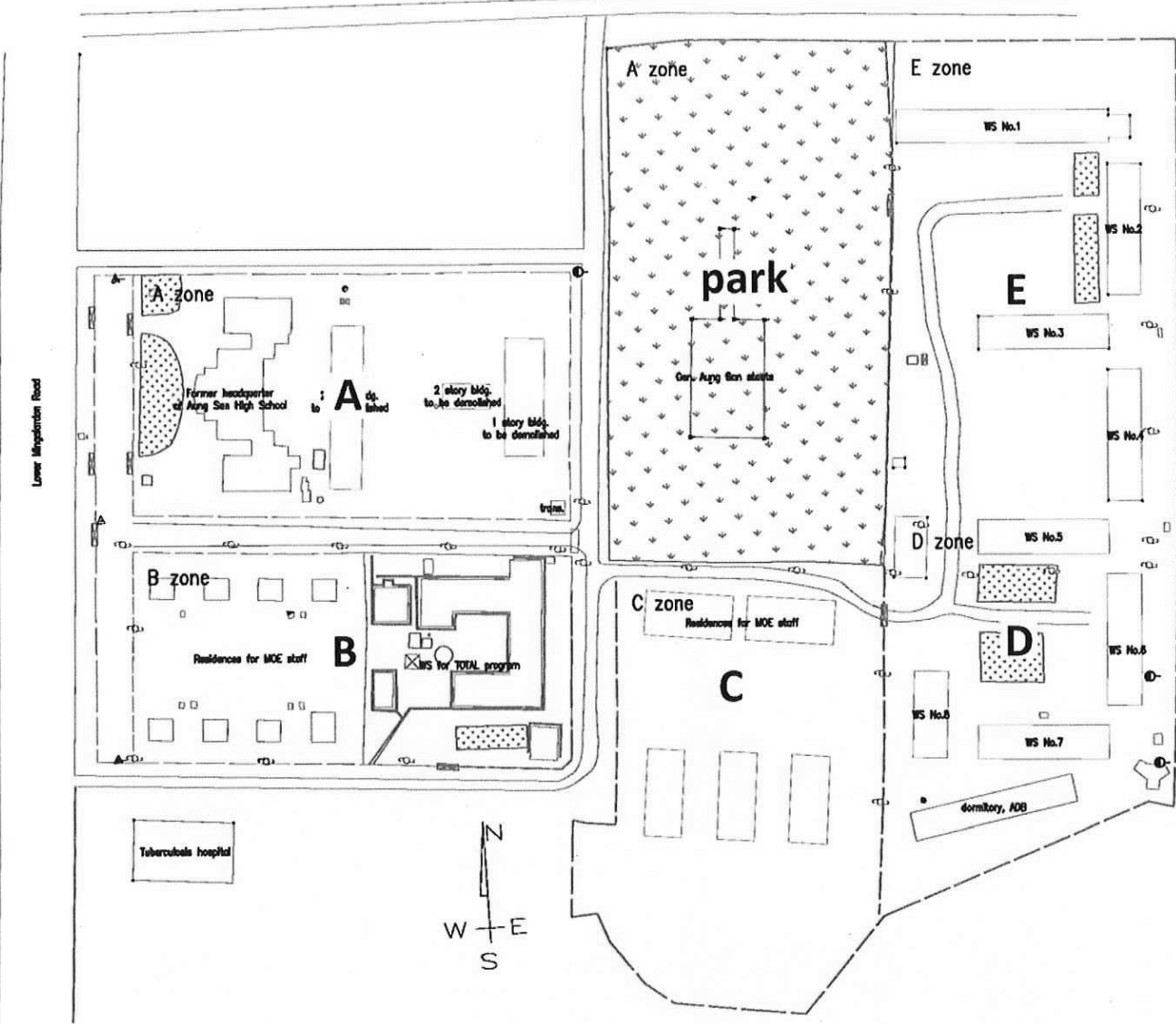
Annex 6: Japanese Grant

Annex 7: Project Monitoring Report (template)

Annex 8: Major Undertakings to be taken by the Government of Myanmar

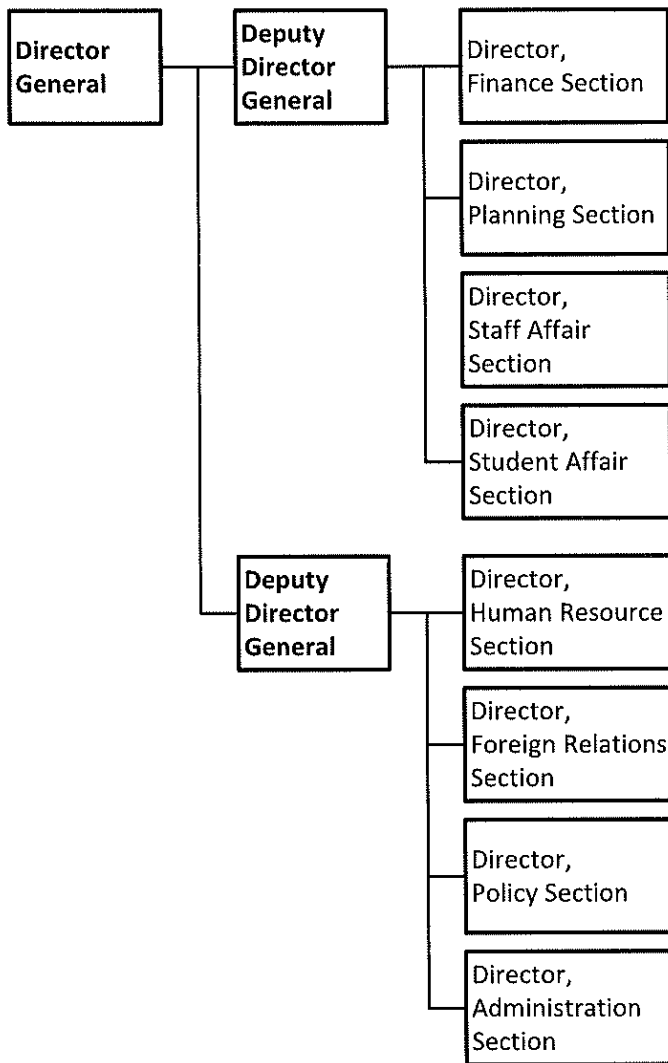
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Annex 1: Project Site



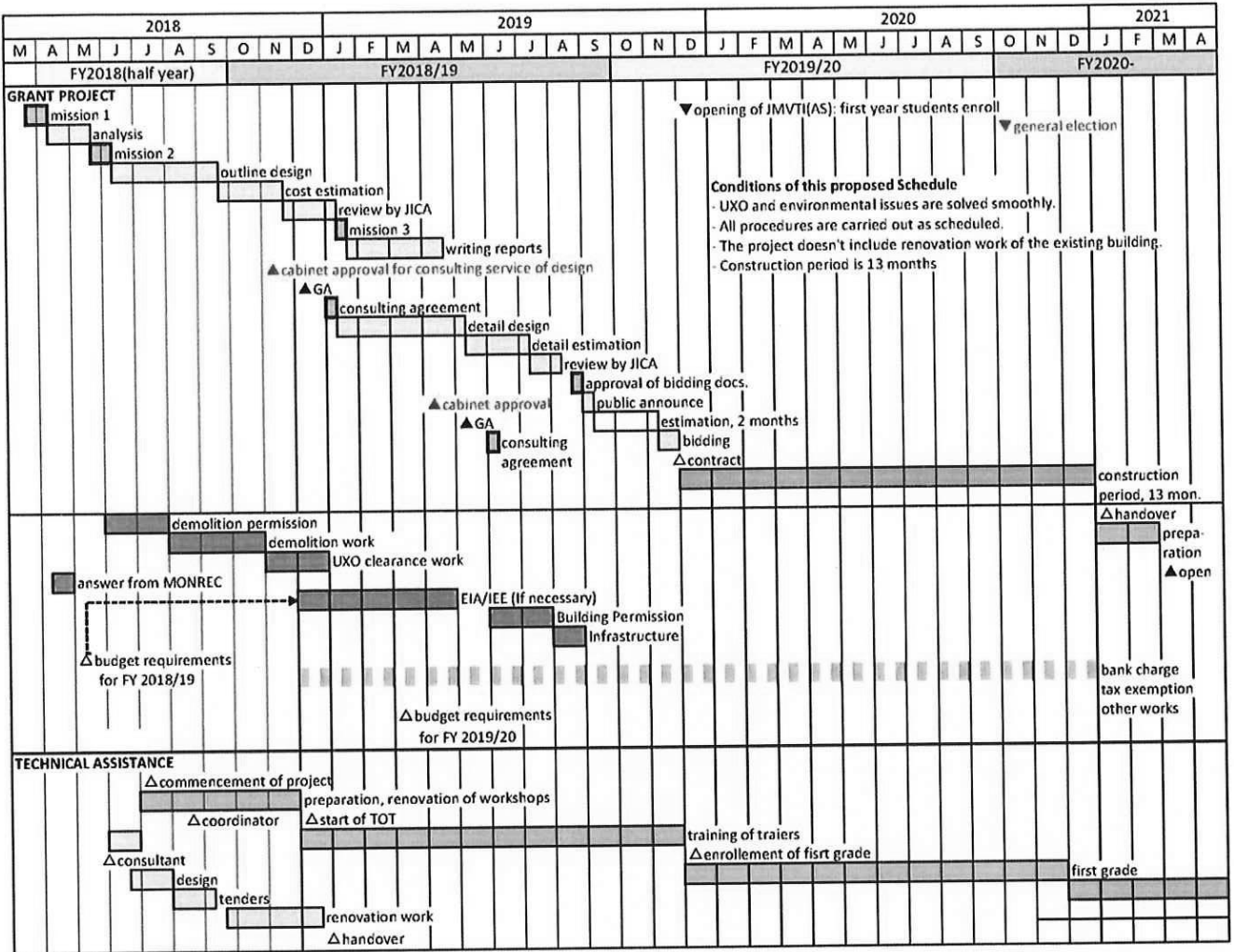
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ANNEX 2: Organization chart of Department of Technical and Vocational Education and Training



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Annex 3: Implementation Schedule



Handwritten initials or mark.

ANNEX 4: Facility Component

	component	priority
training	auto mechanics workshop	A
	electricity workshop	A
	classroom	A
	computer room	A
	drawing room	A
	library	A
	physics and chemistry laboratory	B
	praying room	C
	security and control room	A
administration	director and deputy director room	A
	administration office	A
	health care room	B
	trainers' room	A
	consulting room	A
	large meeting room	A
	small meeting room	A
	kiosk (Minishop)	C
common	assembly hall	A
	canteen	A
	hostel	B
	outdoor sport field	B
	landscape of park	B

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Annex 5: Requested Equipment List

No.	Code No.	Description	Q'ty
1	AM-001	Valve spring compressor	11
2	AM-002	Automobile mechanics tool sets	21
3	AM-003	Socket wrench set	11
4	AM-004	Gear bearing puller	2
5	AM-005	Oil filter wrench	1
6	AM-006	Waste oil drainer	1
7	AM-007	Oil bucket pump	2
8	AM-008	Cord reel	10
9	AM-009	Hand grease gun	5
10	AM-010	Rigid rack Two legs set	10
11	AM-011	Quick battery charger	2
12	AM-012	Booster cable	2
13	AM-013	Strut Spring compressor	5
14	AM-014	Cross wrench set	11
15	AM-015	Impact wrench	6
16	AM-016	Scraper set	6
17	AM-017	Snap ring pliers	11
18	AM-018	Service creeper, steel frame type	5
19	AM-019	Garage lamp	5
20	AM-020	Solder-less terminal kit	11
21	AM-021	Soldering irons	21
22	AM-022	Tire repair set, tubeless tire	20
23	AM-023	Tube repair set	20
24	AM-024	Cleaning pan	20
25	AM-025	Air blow gun	6
26	AM-026	Paint spray with container	6
27	AM-027	2 cylinder engine model	6
28	AM-028	4 cylinder engine model	6
29	AM-029	6 cylinder engine model	6
30	AM-030	Diesel engine model	6
31	AM-031	Gasoline engine trainer	5
32	AM-032	Disel engine trainer	5
33	AM-033	Mission with clutch	6
34	AM-034	Automatic mission	6
35	AM-035	Differential	6
36	AM-036	Drive shaft	6
37	AM-037	Starter motor	21
38	AM-038	Alternator	21
39	AM-039	Cut-away model, planetary gear	1
40	AM-040	Cut-away model, torque convertor	1
41	AM-041	Cut-away model, turbo charger	1
42	AM-042	Cut-away model, cabrator	1

No.	Code No.	Description	Q'ty
43	AM-043	Cut-away model, gasoline engine	1
44	AM-044	Cut-away model, engine with chassis	1
45	AM-045	Cut-away model, automatic transmission	1
46	AM-046	Lighting and electric ignition system trainer	1
47	AM-047	Light bulb & wiring set	21
48	AM-048	Resistance, diode, electrical-transistor set	1
49	AM-049	Refrigerant recovery equipment	1
50	AM-050	Car air conditioning maintenance tool	1
51	AM-051	On-board diagnostics scan tool type A	5
52	AM-052	On-board diagnostics scan tool type B	5
53	AM-053	Laptop computer	5
54	AM-054	Vise	5
55	AM-055	Hacksaw	21
56	AM-056	Taps and dies set	5
57	AM-057	Hydraulic press	1
58	AM-058	Bench grinder	2
59	AM-059	Drilling machine	2
60	AM-060	Electric drill	5
61	AM-061	Iron work file set	20
62	AM-062	Flat chisel	20
63	AM-063	Center punch	20
64	AM-064	Magnetic base	20
65	AM-065	Surface plate	10
66	AM-066	V-blocks	20
67	AM-067	Vernier caliper	11
68	AM-068	Digital vernier caliper	6
69	AM-069	Micrometer set	21
70	AM-070	Dial gauge	21
71	AM-071	Cylinder gauge	21
72	AM-072	Thickness gauge	21
73	AM-073	Straight edge Tool	11
74	AM-074	Compression gauge	6
75	AM-075	Engine oil pressure gauge	6
76	AM-076	Timing light	6
77	AM-077	Digital tester	21
78	AM-078	Analog tester	21
79	AM-079	Battery coolant tester	6
80	AM-080	Tire gauge	6
81	AM-081	Radiator cap tester	6
82	AM-082	Preset type torque wrench set	6
83	AM-083	Digital type torque wrench	6
84	AM-084	A-plate type torque wrench set	11
85	AM-085	Buried-type car lift	5

No.	Code No.	Description	Q'ty
86	AM-086	Parts cleaner	2
87	AM-087	Air compressor	1
88	AM-088	Garage jack	5
89	AM-089	Work bench (small)	15
90	AM-090	Work bench (large)	4
91	AM-091	Floor crane	5
92	AM-092	Engine lifter	1
93	AM-093	Air hose reel	5
94	AM-094	Hot water high pressure washer	1
95	AM-095	Exhaust duct	1
96	AM-096	Tire changer	1
97	AM-097	Wheel balancer	1
98	AM-098	Wheel weight set	10
99	AM-099	Balance weight tool	5
100	AM-100	Starter generator test stand	1
101	AM-101	Head light tester	1
102	AM-102	Combination tester	1
103	AM-103	Steel cabinet	4
104	AM-104	Parts rack	10
105	AM-105	Forklift	1
106	EC-001	Analog tester	42
107	EC-002	Digital tester	42
108	EC-003	DC power supply	21
109	EC-004	Multimeter	21
110	EC-005	Oscilloscope	21
111	EC-006	Function generator	21
112	EC-007	IC trainer set	21
113	EC-008	Bread board	42
114	EC-009	crocodile clip	21
115	EC-010	Power factor meter	6
116	EC-011	Watt meter(1 phase)	6
117	EC-012	Watt meter(3 phase)	6
118	EC-013	Voltage transformer for measurement	11
119	EC-014	Insulation tester megger	6
120	EC-015	Test phase shifter	6
121	EC-016	Current transformer	6
122	EC-017	Voltage transformer	6
123	EC-018	Electroscope	21
124	EC-019	Clamp meter	6
125	EC-020	Miniature plier	21
126	EC-021	Miniature cutter	21
127	EC-022	Motor(1 phase)	21
128	EC-023	Motor(3 phase)	6

No.	Code No.	Description	Q'ty
129	EC-024	Motor(3 phase) for Star-delta	6
130	EC-025	Magnetic contactor	42
131	EC-026	AUX contactor unit	42
132	EC-027	Thermal relay	42
133	EC-028	Earth leakage breaker	42
134	EC-029	Laptop computer	42
135	EC-030	Printer	2
136	EC-031	Network equipment	1
137	EC-032	Programmable logic controller practice set	42
138	EC-033	Push button	42
139	EC-034	Lamp (Red)	42
140	EC-035	Tool set	42
141	EC-036	Trainer for sensors	21
142	EC-037	Trainer for Pneumatic system	42
143	EC-038	Electric drill	6
144	EC-039	Projector	3
145	EC-040	Screen	3
146	EC-041	Wiring practice board	21
147	EC-042	Pipe vedor	21
148	EC-043	Torch burner	21
149	EC-044	Line wire	11
150	EC-045	Electric works tool set	42
151	EC-046	Spirit level	42
152	EC-047	Earth tester	6
153	EC-048	Pipe thread cutter	21
154	EC-049	Pipe vise	21
155	EC-050	Electric works practice kit	42
156	EC-051	Work table	40
157	EC-052	Stool	120
158	EC-053	Chair	6
159	CM-001	Desktop PC	42
160	CM-002	Server	1
161	CM-003	Disk device	1
162	CM-004	Switching hub	2
163	CM-005	Black and white printer	2
164	CM-006	Color printer	1
165	CM-007	Large format printer	1
166	CM-008	Power Supply	1
167	CM-009	Back up Soft for Server	1
168	CM-010	Back up Soft for Client CP	42
169	CM-011	Anti Virus Software	42
170	CM-012	MS Office Personal	42
171	CM-013	Auto CAD (2 Dimension CAD)	42

No.	Code No.	Description	Q'ty
172	CM-014	Solid Works (3 Dimension CAD)	42
173	CM-015	UPS	42
174	CM-016	Projector (Small)	8
175	CM-017	Screen (Small)	8
176	CM-018	Projector (Large)	1
177	CM-019	Screen (Large)	1
178	CM-020	Audio visual equipment	1
179	CM-021	Drawing table	43
180	CM-022	First Aid kit	5
181	CM-023	Chemical experiment equipment set	10
182	CM-024	Physical experiment equipment set	10

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 of 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.

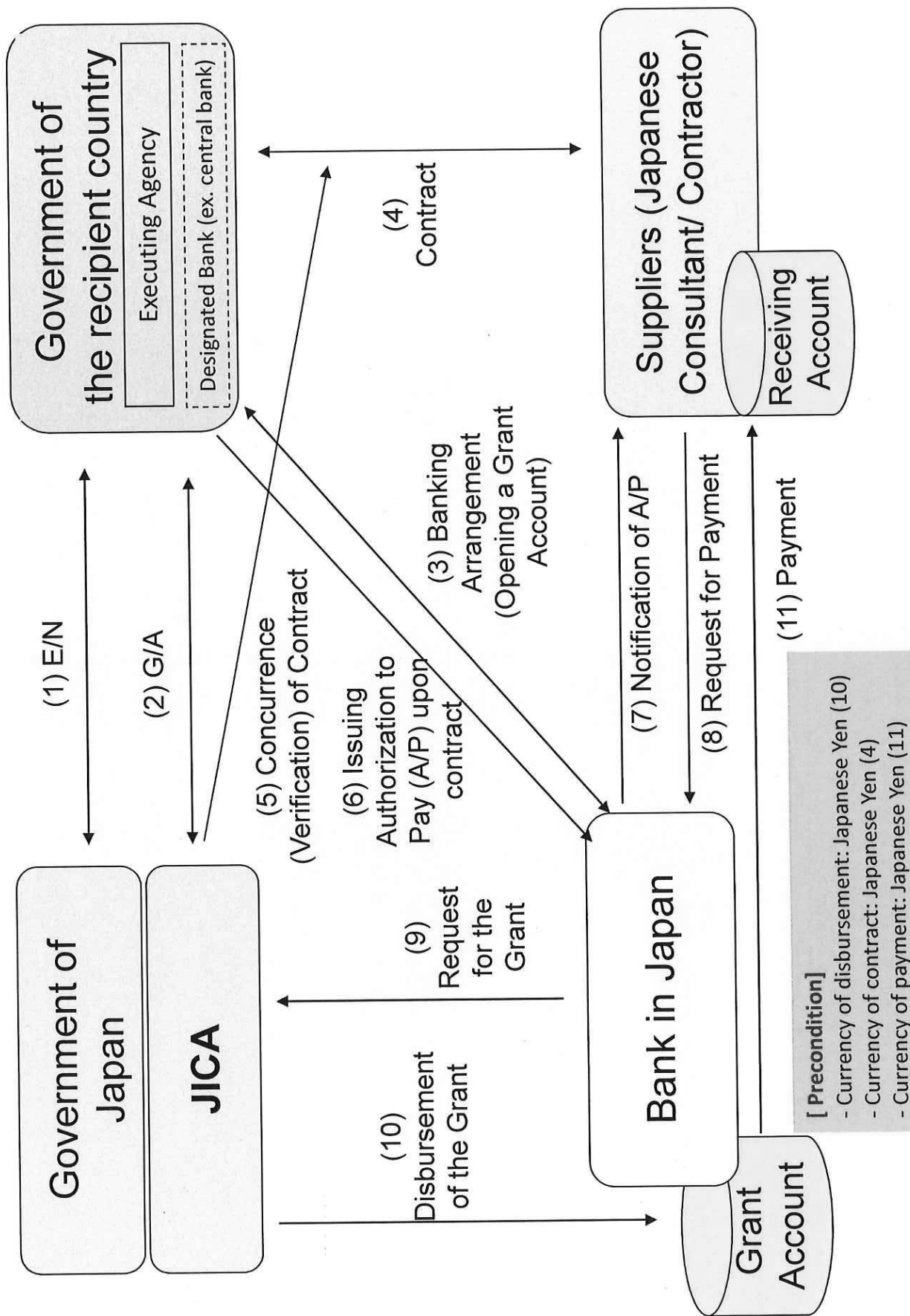
PROCEDURES OF JAPANESE GRANT

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
4. Ex-post monitoring & evaluation	(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	
	(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) <hr/> Contacts _____ Address: Phone/FAX: Email:
Executing Agency	_____ Person in Charge (Designation) <hr/> Contacts _____ Address: Phone/FAX: Email:
Line Ministry	_____ Person in Charge (Designation) <hr/> 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 (_____): _____

(27)

1: Project Description

1-1 Project Objective

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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
	<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)

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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 <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 (1,000 Taka)	
	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:
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.

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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	(A/D%)	(B/D%)	(C/D%)	
Cost 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%)	

Date:
Ref. No.

JAPAN INTERNATIONAL COOPERATION AGENCY
JICA XXX OFFICE

[Address specified in the Article 5 of the Grant Agreement]

Attention: Chief Representative

Ladies and Gentlemen:

NOTICE CONCERNING PROGRESS OF PROJECT

Reference : Grant Agreement, dated 署名日(signed date of the G/A), for プロジェクト名(name of the Project)

In accordance to the Article 6 (3) of the Grant Agreement, we would like to report on the progress of the Project up to the following stages:-

[Common]

- Preparation of bidding documents - result of detailed design
- Completion of final works under construction/procurement contract

[Construction]

- Monthly progress [Month/Year]

[Procurement of Equipment]

- Shipping/delivery, hand-over (take over) of equipment
- Installation works
- Operational training

- Other _____

Please see the details as per attached Project Monitoring Report (PMR).

Very truly yours,

[Signature]

[Name of the signer]

[Title of the signer]

[Name of the executing agency]

cc:
Director General
Financial Cooperation Implementation Department
Japan International Cooperation Agency
[Address specified in the Article 5 of the Grant Agreement]

Annex 8: Major Undertakings to be taken by the Government of Myanmar

1. Specific obligations of the Government of Myanmar which will not be funded with the Grant

(1) Before the Bidding

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			
2	To issue authorization to pay (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			
3	To approve IEE/EIA(Conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation.	four months before notice of the bidding document(s)	DTVET		
4	To secure and clear the following lands - former Aung San GTHS premises	before notice of the bidding document(s)	DTVET		
5	To obtain the planning, zoning, building permit	before notice of the bidding document(s)	DTVET		
6	To clear, level and reclaim the following sites 1) removal of existing buildings and utilities 2) clearance of UXO buried in the ground	eight months before notice of the bidding document(s)	DTVET		
7	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding document(s)	DTVET		

(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)			
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A		DTVET		
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)			
	2) Payment commission for A/P	every payment			
3	to ensure prompt unloading and customs clearance at ports of disembarkation in the country of the Recipient and to assist the Supplier(s) with internal transportation therein	during the Project	DTVET		

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	DTVET		
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 exempted or be borne by its designated authority without using the Grant	during the Project	DTVET		
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	DTVET		
7	To submit Project Monitoring Report	every month	DTVET		
	1) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)			
8	To submit a report concerning completion of the Project	within six months after completion of the Project	DTVET		
9	To provide necessary power and water supply to the procured equipment and the new workshop, and other incidental facilities necessary for the implementation of the Project		DTVET		
	1) Electricity - The contract capacity shall be upgraded and the transformer and leading cables shall be exchanged.	2 months before completion of the construction			
	2) Water Supply - A well shall be developed and/or city water shall be connected to the Project.	2 months before completion of the construction			
	3) Furniture and Equipment - General furniture	1 month before completion of the construction			
10	To take necessary measure for safety construction - fence	1 month before completion of the construction	DTVET		

(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	DTVET		

2. Other obligations of the Government of Myanmar funded with the Grant

NO	Items	Deadline	Amount (Million Japanese Yen)*
1	To construct buildings and to procure equipment 1) To conduct the following transportation a) Marin (Air) transportation of the products from Japan to the recipient country b) Internal transportation from the port of disembarkation to the project site 2) To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities a) Electricity - The drop wiring and internal wiring within the site - The main circuit breaker b) Water Supply - The supply system within the site (receiving and/or elevated tanks) c) Drainage -The drainage system (for toilet sewer, ordinary waster, storm drainage and others) within the site d) Furniture and Equipment -Project equipment		
2	To implement detailed design, bidding support and procurement supervision (Consulting Service)		
3	Contingencies		
	Total		XXX

*The Amount is provisional. This is subject to the approval of the Government of Japan.

Minutes of Discussions
on the Preparatory Survey for the Project for
Development of Japan-Myanmar Aung San Vocational Training Institute
(Explanation on Draft Preparatory Survey Report)

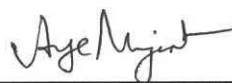
With reference to the minutes of discussions signed between Department of Technical and Vocational Education and Training, Ministry of Education, Myanmar and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on 24th May, 2018 and in response to the request from the Government of The Republic of the Union of Myanmar (hereinafter referred to as "Myanmar") dated 10th Feb, 2017, 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 Development of Japan-Myanmar Aung San Vocational Training Institute (hereinafter referred to as "the Project").

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

Nay Pyi Daw, 19th, March, 2019



Chiharu MORITA
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Dr. Aye Myint
Director General
Department of Technical and Vocational
Education and Training,
Ministry of Education
Myanmar

ATTACHEMENT

1. Objective of the Project

The objective of the Project is to develop Japan-Myanmar Aung San Vocational Training Institute (hereinafter referred to as “JMASVTI”) for Automotive Technology and Electrical Engineering at the former Aung San Government Technical High School (GTHS) site through building facilities and procuring equipment for the both courses of the Government Technical Institute (GTI), based on Japan’s experiences and know-how about other TVET institutes, thereby contributing to the number of students enrolled in and graduates from the new courses of JMASVTI.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey is changed from “the Preparatory Survey for the Project for Establishment of Japan-Myanmar Vocational Training Institute” to “the Preparatory Survey for the Project for Development of Japan-Myanmar Aung San Vocational Training Institute”.

3. Project site

Both sides confirmed that the site of the Project is zone A, B and C which is shown in Annex 1

The Myanmar side shall schedule UXO detection of zone B and C. The Myanmar side will relocate eight families and demolish these residences of zone B by August 2019. The Myanmar side will complete the relocation of residents, demolition of the residences and UXO detection of zone C by April 2020.

4. Responsible authority for the Project

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

The Department of TVET 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 managed by relevant authorities properly and on time. The organization charts are shown in Annex 2.

5. Contents of the Draft Report

After the explanation of the contents of the Draft Report by the Team, the Myanmar side agreed to its contents. The facilities component and equipment list are shown in Annex 3.



6. Cost estimate

Both sides confirmed that the cost estimates which are borne by both governments as shown in Annex 4 including the contingency explained by the Team is provisional and will be examined further by both governments for its approval. The contingency would cover the additional cost against natural disaster, unexpected natural conditions, etc.

7. Confidentiality of the cost estimate and technical specifications

Both sides confirmed that the cost estimate and technical specifications of the Project should never be disclosed to any third parties until all the contracts under the Project are concluded.

8. Procedures and Basic Principles of Japanese Grant

The Myanmar side agreed that the procedures and basic principles of Japanese Grant as described in Annex 5 shall be applied to the Project. In addition, the Myanmar side agreed to take necessary measures according to the procedures.

9. Timeline for the project implementation

JICA explained to the Myanmar side that the expected timeline for the project implementation is as attached in Annex 6.

Both sides confirmed that the first phase in zone A is expected to be completed around May 2021, while the second phase in zone B and C is expected to be completed around May 2022.

10. Expected outcomes and indicators

Both sides agreed that key indicators for expected outcomes are as follows. The Myanmar side will be responsible for the achievement of agreed key indicators targeted in year 2025, and shall monitor the progress based on those indicators.

① 10

[Quantitative indicators]

Indicator	Course	Baseline (2018)	Target (2025)
The accumulative number of students enrolled in the new courses of JMASVTI	Automotive Technology	0	200
	Electrical Engineering	0	200
The number of graduates from the new courses of JMASVTI	Automotive Technology	0	78
	Electrical Engineering	0	78

[Qualitative indicators]

- Highly-qualified human resources are developed through improved educational and training environments by provision of the facility and equipment for TVET.
- The facility and training courses of JMASVTI are highly evaluated by teachers and students by provision of the facility and equipment of TVET.
- Graduates of JMASVTI get employed in some industrial fields.

11. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 7. With regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in 1. (2) 5 of Annex 7, both sides confirmed that such customs duties, internal taxes and other fiscal levies, which shall be clarified in the bid documents by Department of Technical and Vocational Education and Training (DTVET) during the implementation stage of the Project. The Myanmar side assured to take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project. It is further agreed that the costs are provisional, i.e. at Outline Design level. More accurate costs are being calculated at the Detailed Design stage.

Both sides also confirmed that the Annex 7 will be used as an attachment of G/A.

11.1 Tax exemption

Both sides confirmed the content of the Notification No.38/2018 of Ministry of Planning and Finance. The Myanmar side agreed to prepare the described documents in the notification for tax exemption in principle, but shall not exempt a commercial tax for small item purchased by shopping package with tax stamps. The Myanmar side will discuss internally for the possibility of the exemption of the personal income tax and inform the result of discussion by 22nd March, 2019.

11.2. UXO exploration and excavation costs

The Government of Myanmar will bear the cost for the second phase corresponding zone B and C, while Japanese side bears the cost of UXO exploration and excavation for the first phase corresponding zone A.

11.3. Environmental and Social Considerations

Japanese side will prepare Environment Management Plan (EMP) according to the requirement by the Ministry of Natural Resources and Environmental Conservation (MONREC) and the Myanmar side will apply the EMP to MONREC for its approval and carry out the EMP during operation phase.

11.4. Building Permit

DTVET will apply to Yangon City Development Committee (YCDC) for a building permit for the Project and manage to obtain the permit by August 2019. The Japanese consultant prepares drawings and technical information to be required for the procedures and the DTVET will endorse the drawings with an engineer of the department upon the agreement by YCDC. DTVET will obtain the C and D map required also.

12. Monitoring during the implementation

The Project will be monitored by the Executing Agency and reported to JICA by using the form of Project Monitoring Report (PMR) attached as Annex 8. The timing of submission of the PMR is described in Annex 7

13. Project completion

Both sides confirmed that the Project completes when all the facilities constructed and equipment procured by the grant are in operation. The completion of the Project will be reported to JICA promptly, but in any event not later than six months after completion of the Project.

14. Ex-Post Evaluation

JICA will conduct ex-post evaluation after three (3) years from the project completion, in principle, with respect to five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact, Sustainability). The result of the evaluation will be publicized. The Myanmar side is required to provide necessary support for the data collection.

15. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Myanmar side around June 2019.

16. Other Relevant Issues

16.1. Park zone

The Myanmar side explained that the Park zone is not allowed for temporary storage space during the construction and suggested use of zone C or E instead of the Park zone.

The Myanmar side explained that they had requested to develop all the boundary fence surrounding the Park zone by the grant with the letter, DTVET/FRD/2018 9314, dated on 23rd November, 2018. Final decision will be made by the Japanese side.

16.2. Former school emblems

Both sides confirmed that the place and the method of the emblem display shall be designed by the Myanmar side and the conservation treatment shall be also done by the Myanmar side.

16.3. Organization of JMASVTI

Both sides confirmed the draft organization of JMASVTI as shown in Annex 9 and will assign each staff to realize a smooth operation of this institute.

16.4. Collaboration with the Technical Cooperation Project

Both sides confirmed the importance of close collaboration and coordination with the on-going Technical Cooperation Project, the “Project for Quality Improvement in TVET Program”, and the “Project for National Skills Standards (NSS) Development” to maximize the synergy among all the projects.

16.5 Request for Facility Design

The Myanmar side requested to modify the floor height of building A and B from 12.5 feet to 14 feet in terms of local practice and comfort. The Team explained that 12.5 feet complies with the National Myanmar Building Code and this modification would affect the implementation of the Project .

Annex 1 Project Site

Annex 2 Organization Chart

Annex 3 Facilities Component and Equipment List

Annex 4 Budget preparation approval process

Annex 5 Japanese Grant

Annex 6 Project Implementation Schedule

Annex 7 Major Undertakings to be taken by the Government of Myanmar

Annex 8 Project Monitoring Report (template)

Annex 9 Organization chart of JMASVTI

■ Project Site and Proposed Design

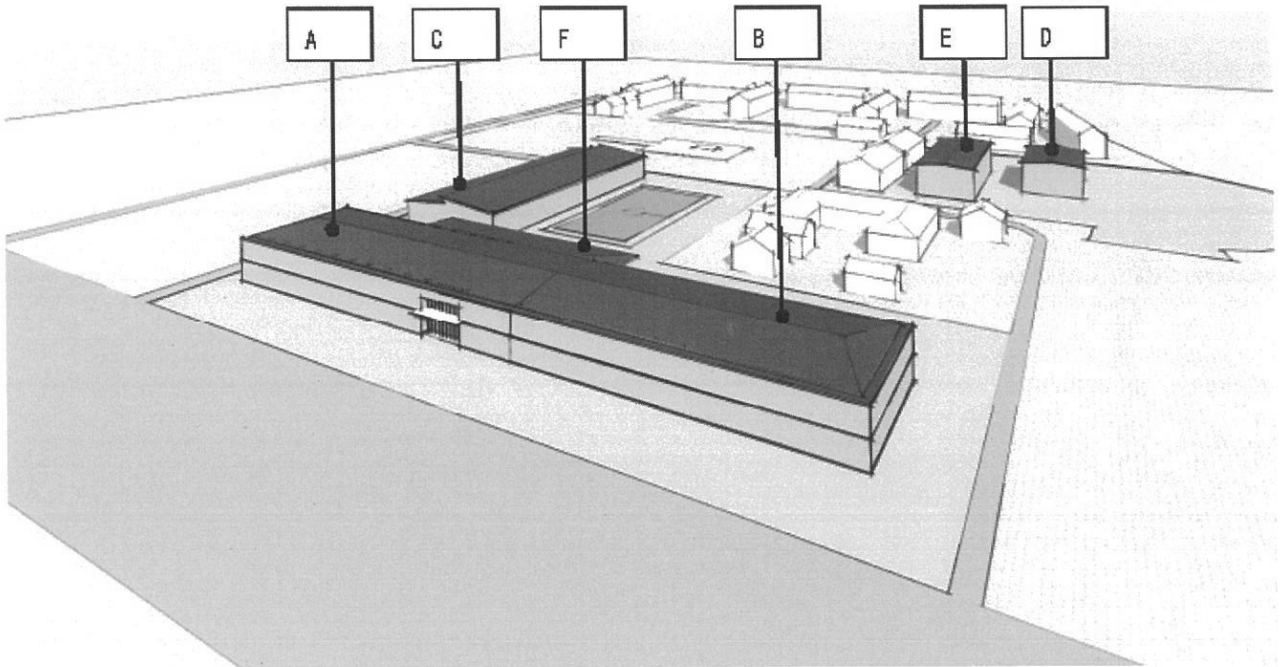


Figure 1 Proposed Completion Design

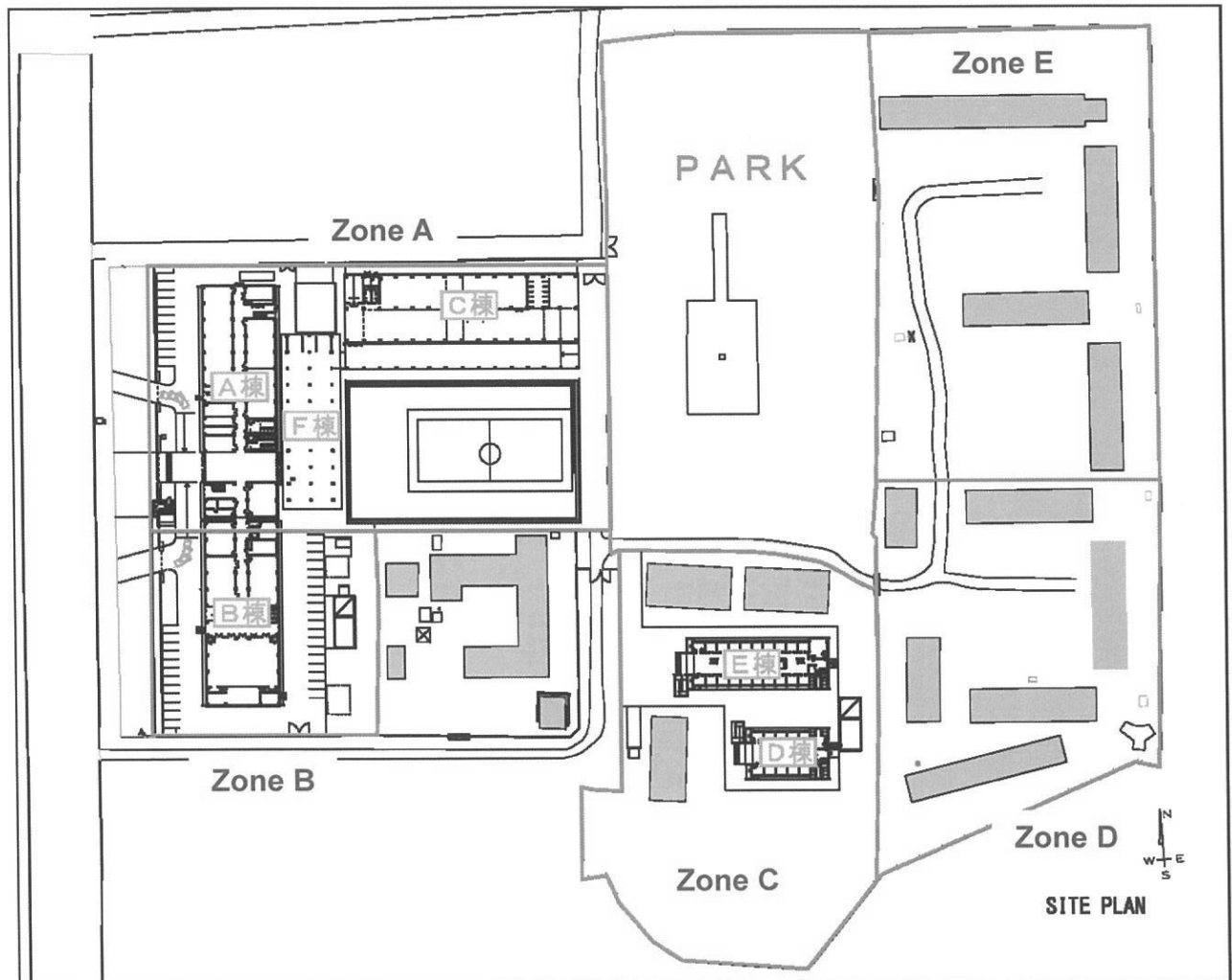
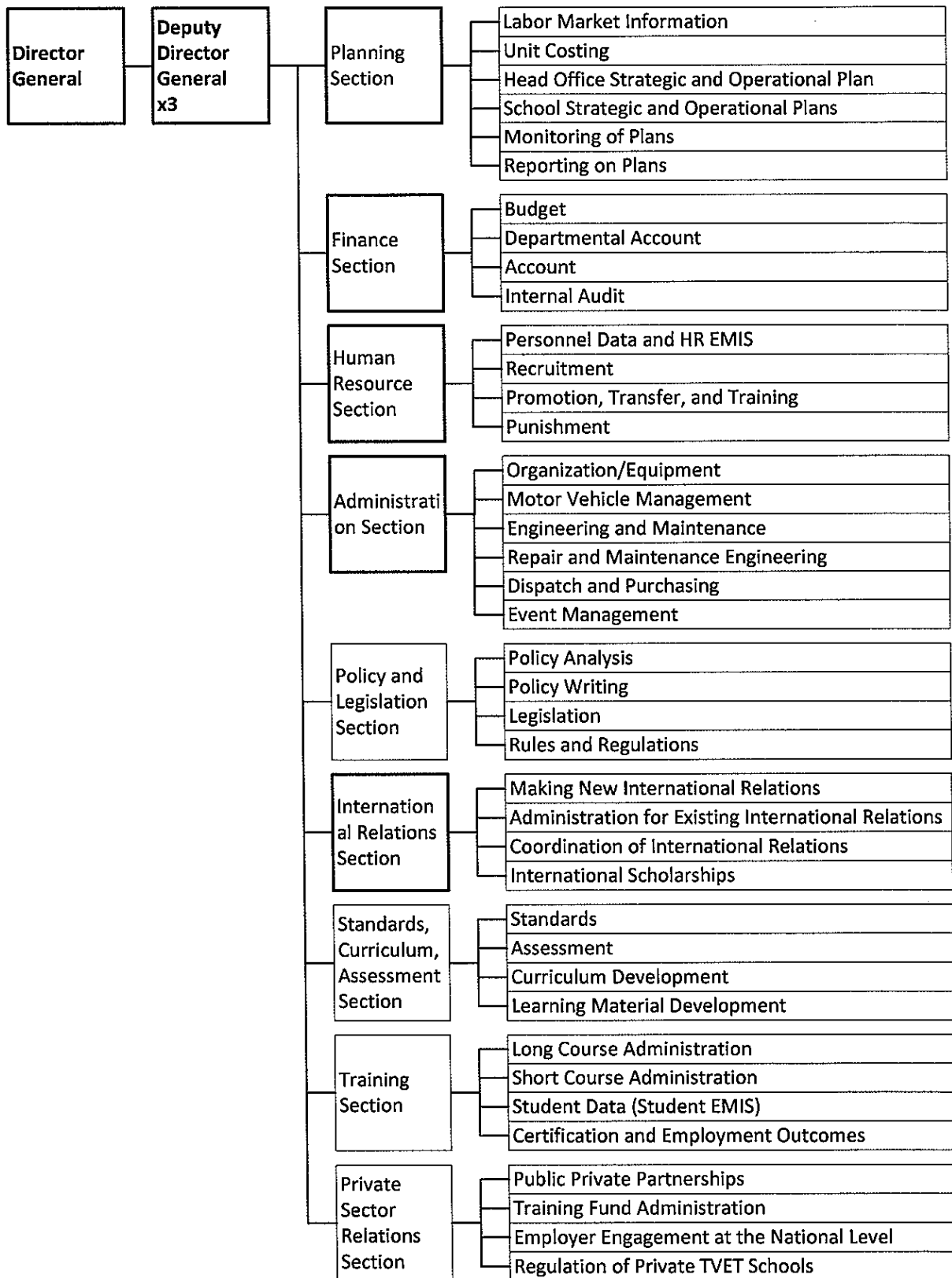


Figure 2 Project Site Zoning

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Annex 2 Organization chart of Department of Technical and Vocational Education and Training



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ANNEX 3a : Facility Component

Section	Component	Nos. of rooms	Description
Academic	Automotive Technology Workshop	1 block	General car services, Car-lift practice, welding, painting, metal work, frame adjustment and inspection lane
	Electrical Engineering Workshops	3	workshops for measurement, control and electrical work.
	Classroom	6	40 seats
	Computer room	1	40 seats
	Drawing room	1	40 seats
	Library	1	
	Chemical laboratory	1	
Non-academic	Principal room, Vice-principal room	1 for each	
	Administration room	1	
	Dispensary	1	
	Trainer's room	2	
	Counseling room	1	
	Large meeting room	1	
	Small meeting room	2	
Printing room	1		
Assembly hall		1	270 seats, flat floor and stage
Covered Canteen		1 block	
Hostel		2 blocks	40 beds for girl, 80 beds for boys
Services	toilets, locker room, storage and building services		

Annex 3b Equipment List

No.	Equipment Name	Qty	unit
1	Valve spring compressor	11	sets
2	Automobile mechanics tool sets	30	sets
3	Socket wrench set	11	sets
4	Gear bearing puller	2	sets
5	Oil filter wrench	2	sets
6	Waste oil drainer	2	sets
7	ATF changer	1	set
8	Cord reel (mobile)	9	sets
9	Cord reel (fixed)	5	sets
10	Hand grease gun	4	sets
11	Rigid rack Two legs set	4	sets
12	Quick battery charger	2	sets
13	Booster cable	2	sets
14	Strut Spring compressor	5	sets
15	Cross wrench set	10	sets
16	Impact wrench	6	sets
17	Scraper set	5	sets
18	Snap ring pliers	10	sets
19	Sliding hammer	5	sets
20	Slide hammer type puller	5	sets
21	Clutch alignment tool set	2	sets
22	Universal joint bearing press with adapter	1	set
23	Tie-rod end and ball joint puller	5	sets
24	Front bearing hub tool	1	set
25	Hold-down spring and return spring tool	5	sets
26	Caliper piston removal tool	5	sets
27	Service creeper, steel frame type	5	sets
28	Garage lamp	5	sets
29	Solder-less terminal kit	11	sets
30	Soldering irons	20	sets
31	Tire repair set, tubeless tire	20	sets
32	Tube repair set	1	set
33	Cleaning pan	20	sets
34	Air blow gun	10	sets
35	Air hose	5	sets

36	Paint spray with container	5	sets
37	Double action sander	5	sets
38	Polisher	5	sets
39	Protective tool for painting	21	sets
40	Arc welding machine	5	sets
41	Gas welding and cutting machine	5	sets
42	Fume collector	5	sets
43	Helmet for welding	5	sets
44	2 cylinder engine model	11	sets
45	4 cylinder engine model	9	sets
46	6 cylinder engine model	11	sets
47	Diesel engine model	11	sets
48	Gasoline engine trainer	2	sets
49	Diesel engine trainer	5	sets
50	Transmission with clutch	9	sets
51	Automatic transmission	9	sets
52	Differential	9	sets
53	Drive shaft	9	sets
54	Rear axle	11	sets
55	Starter motor	18	sets
56	Alternator	18	sets
57	Cut-away model, planetary gear	1	set
58	Cut-away model, torque convertor	1	set
59	Cut-away model, turbo charger	1	set
60	Cut-away model, gasoline engine	1	set
61	Cut-away model, engine with chassis	1	set
62	Cut-away model, automatic transmission	1	set
63	Cut-away model, CVT	1	set
64	Lighting and electric ignition system trainer	1	set
65	Car air conditioning system trainer	1	set
66	Car air conditioning maintenance tool	1	set
67	On-board diagnostics scan tool type A	6	sets
68	Vise	5	sets
69	Hacksaw	20	sets
70	Taps and dies set	4	sets
71	Hydraulic press	1	set
72	Bench grinder	2	sets

F
E
A

73	Drilling machine	2	sets
74	Electric drill	4	sets
75	Iron work file set	19	sets
76	Flat chisel	19	sets
77	Center punch	19	sets
78	Magnetic base	20	sets
79	Surface plate	10	sets
80	V-blocks	19	sets
81	Vernier caliper	10	sets
82	Digital vernier caliper	6	sets
83	Micrometer set	20	sets
84	Dial gauge	20	sets
85	Cylinder gauge	20	sets
86	Thickness gauge	20	sets
87	Straight edge Tool	10	sets
88	Compression gauge	5	sets
89	Engine oil pressure gauge	5	sets
90	Timing light	5	sets
91	Digital tester	20	sets
92	Analog tester	20	sets
93	Battery coolant tester	5	sets
94	Tire gauge	5	sets
95	Radiator cap tester	5	sets
96	Preset type torque wrench set	6	sets
97	Digital type torque wrench	6	sets
98	A-plate type torque wrench set	10	sets
99	Turning radius gauge	5	sets
100	Camber, caster, kingpin gauge	5	sets
101	DC power supply	6	sets
102	Thermometer	100	sets
103	Buried-type car lift	6	sets
104	Garage jack	4	sets
105	Work bench (small)	9	sets
106	Work bench (large)	2	sets
107	Engine lifter	2	sets
108	Air hose reel	10	sets
109	Hot water high pressure washer	1	set

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110	Tire changer	1	set
111	Wheel balancer	1	set
112	Wheel weight set	10	sets
113	Balance weight tool	1	set
114	Leader bench	1	set
115	Head light tester	1	set
116	Combination tester	1	set
117	Exhaust gas tester	1	set
118	Opacimeter	1	set
119	Steel cabinet	4	sets
120	Parts rack	10	sets
121	Sink	1	set
122	Forklift	1	set
123	Analog tester	21	sets
124	Digital tester	21	sets
125	DC power supply	10	sets
126	Multimeter	10	sets
127	Oscilloscope	10	sets
128	Function generator	10	sets
129	IC trainer set	10	sets
130	Bread board	21	sets
131	crocodile clip	12	sets
132	Watt meter	4	sets
133	Voltage transformer for measurement	7	sets
134	Insulation tester megger	4	sets
135	Test phase shifter	4	sets
136	Current transformer	4	sets
137	Voltage transformer	4	sets
138	Electroscope	10	sets
139	Clamp meter	4	sets
140	Miniature plier	10	sets
141	Miniature cutter	10	sets
142	Motor (1 phase)	19	sets
143	Motor (3 phase)	4	sets
144	Motor (3 phase) for Star-delta	4	sets
145	Magnetic contactor	21	sets
146	AUX contactor unit	21	sets

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147	Thermal relay	21	sets
148	Earth leakage breaker	21	sets
149	Laptop computer	40	sets
150	Printer	2	sets
151	Programmable logic controller practice set	40	sets
152	Push button	21	sets
153	Lamp set	21	sets
154	Tool set	40	sets
155	Trainer for sensors	21	sets
156	Trainer for Pneumatic system	42	sets
157	Inverter training system	2	sets
158	Servo training system	2	sets
159	Electric drill	6	sets
160	Projector	3	sets
161	Screen	3	sets
162	Wiring practice board	21	sets
163	Pipe vendor	21	sets
164	Torch burner	21	sets
165	Line wire	11	sets
166	Electric works tool set	42	sets
167	Spirit level	42	sets
168	Earth tester	6	sets
169	Pipe thread cutter	21	sets
170	Pipe vise	21	sets
171	Electric works practice kit	4	sets
172	Work table	40	sets
173	Stool	120	sets
174	Chair	6	sets
175	Desktop PC	42	sets
176	Server	1	set
177	Switching hub	2	sets
178	Black and white printer	2	sets
179	Color printer	1	set
180	Large format printer	1	set
181	Projector (Small)	9	sets
182	Screen (Small)	9	sets
183	Projector (Large)	1	set

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184	Screen (Large)	1	set
185	Audio visual equipment	1	set
186	Drawing table	42	sets
187	First Aid kit	1	set
188	Chemical experiment equipment set	1	set
189	Chemical experiment table for teacher	1	set
190	Chemical experiment table for student	4	sets
191	Physical experiment equipment set	1	set
192	Movable white board	9	sets
193	Kitchen equipment	1	set

FA

Annex 4 Total estimated costs to be included in the budget proposal for parliament's approval

An implementing agency of the Government of Myanmar is responsible for submitting a budget proposal to be approved for the next fiscal year's (FY) budget or the current year's supplementary budget. The budget proposal shall include both estimated costs borne by the Government of Myanmar and the grant provided by the Government of Japan. If the proposed budget spans multiple years, it must be appropriated and approved for each fiscal year.

*Expenses to be borne by the Government of Myanmar are subject to change depending on the progress of project implementation. The actual amount to be requested each FY shall be amended accordingly.

	Items	FY2018/19	FY2019/20	FY2020/21	FY2021/22
Expenses to be borne by the Government of Myanmar [million MMK]	UXO detection of B and C zone		186.5		
	Payment charge to the Japanese bank	2.3	4.0	18.6	15.7
	Payment charge to the Myanmar bank	14.0	9.3		
	Extension of power supply for expansion of electricity		100.0		
	Boundary fence construction				186.7
	Relocation of a bus stop and removal of electric poles			27.8	
	Extension of city water		6.9		
Total amount to be borne by Myanmar – (a)		16.3	306.7	46.4	202.4
Grant to be provided by the Government of Japan [million JPY]	Construction work		88	876	1,011
	Equipment work		41	403	35
	Consultant Service	164	26	57	85
	Contingencies		107		
Total amount to be borne by Japan – (b)		164	262	1,336	1,131
Amount to be requested each FY for budget approval - (a+b)					
Total project expenses					

Budget preparation/approval process in Myanmar

Budget proposal for next fiscal year	Budget proposal for supplementary budget of current year	Process
March - May	March	Line ministries and departments prepare and submit budget proposal to the Ministry of Planning and Finance (MOPF)
April - July	April - May	The Budget Department scrutinizes and compiles budget proposals, which are to be vetted by a Vice-President and submitted to the Financial Commission
July - August	May - June	The Financial Commission discusses the budget proposals and submits them to the Cabinet with recommendations
July - August	May - June	Union Budget Bill is discussed and approved by the Cabinet
August - September	June	Union Budget Bill is discussed and approved by Pyidaungsu Hluttaw
September	July	Union Budget Law is enacted by Pyidaungsu Hluttaw and approved by the President
October -	July	MOPF allocates budget to each ministry for execution

*The schedule is subject to change every year.

**If the budget proposal cannot be processed and approved at the above-mentioned timings, the implementation agency shall seek alternative ways to secure the necessary budget.

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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 of 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.

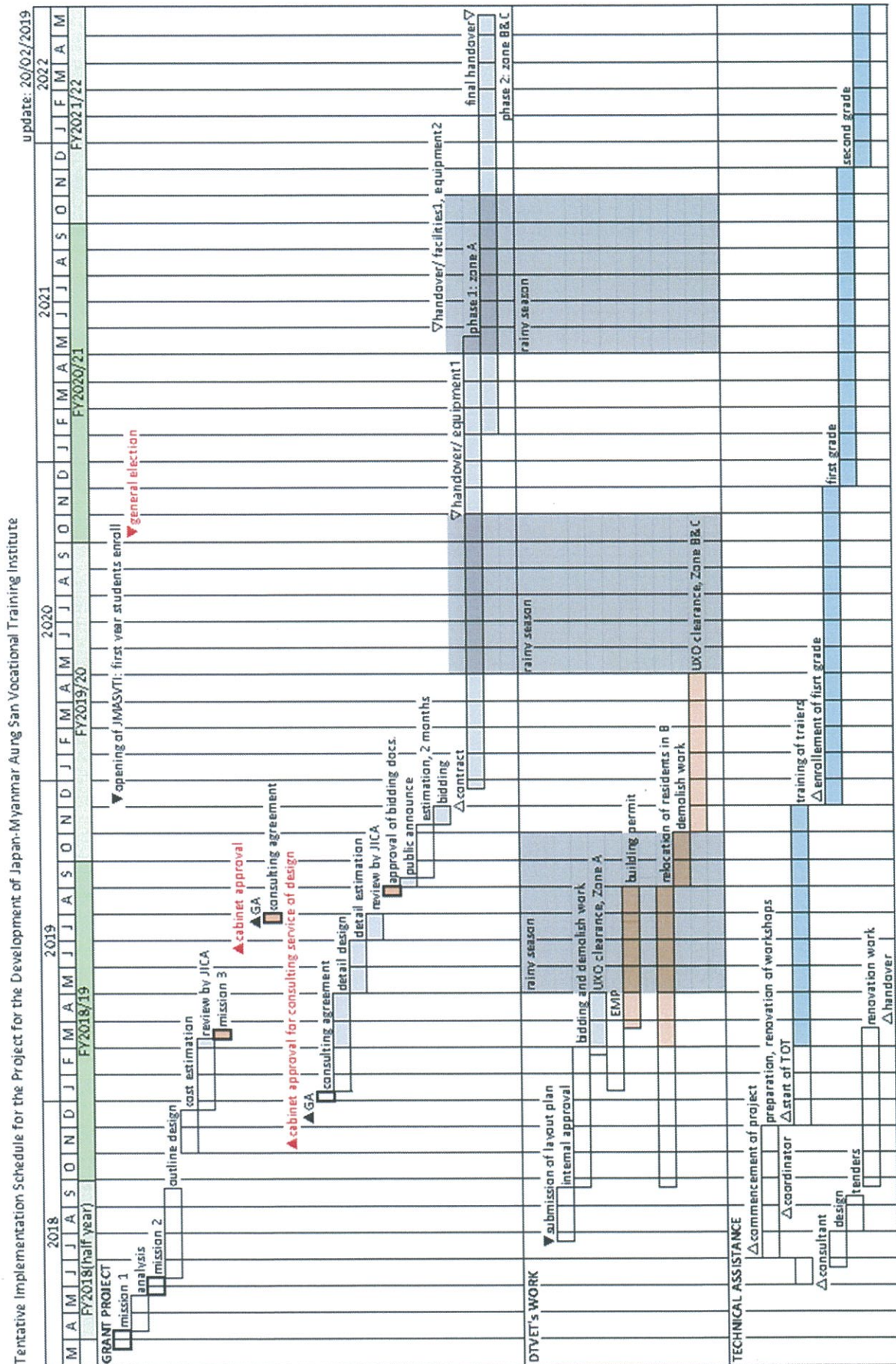


4) Export and Re-export

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



Annex 6: Project Implementation Schedule



Annex 7: Major Undertakings to be taken by the Government of Myanmar

1. Specific obligations of the Government of Myanmar which will not be funded with the Grant

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost (million MMK)	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	DTVET	-	
2	To issue authorization to pay (A/P) to a bank in Japan (the Agent Bank) for the payment to the consultant and a Japanese company to conduct a UXO exploration	within 1 month after the signing of the contract	MFTB	14.0	
3	To approve EMP and secure the necessary budget for implementation.	before notice of the bidding document(s)	MONRE C		
4	To bear payment commission	for each payment	DTVET	2.3	
5	To secure and clear the following lands - former Aung San GTHS premises	before notice of the bidding document(s)	DTVET	-	
6	To obtain the planning, zoning, building permit	before notice of the bidding document(s)	DTVET	-	
7	To clear, level and reclaim the following sites 1) removal of existing buildings and utilities of B and C zone for the phase 2 of the Project 2) clearance of UXO buried in the ground of B and C zone for the phase 2 of the Project	by the end of April, 2020	DTVET	186.5	
8	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding document(s)	DTVET	-	

(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)	MFTB	9.3	
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A		DTVET	-	
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)		-	
	2) Payment commission	for each payment		38.3	
3	to ensure prompt unloading and customs clearance at ports of disembarkation in the country of the Recipient and to assist the Supplier(s) with internal transportation therein	during the Project	DTVET	-	
4	To accord Japanese physical persons and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services	during the Project	DTVET	-	

	such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work				
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 exempted	during the Project	DTVET	-	
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	DTVET	TBC	
7	To submit Project Monitoring Report	every month	DTVET		
	1) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)		-	
8	To submit a report concerning completion of the Project	within six months after completion of the Project	DTVET	-	
9	To provide necessary power and water supply to the procured equipment and the new workshop, and other incidental facilities necessary for the implementation of the Project		DTVET		
	1) Electricity - Upgrading of the contract capacity with YESC - Extension of high-voltage cables to the new-installed transformer	6 months before completion of the phase 1		100.0	
	2) Water Supply - Connection with the planned water supply network in the site.	2 months before completion of the phase 1		6.9	
	3) Furniture and Equipment - Furniture which are not provided by the Project - Stationaries and electrical appliance - Curtains, sheets, pillows, blankets - Textbooks and reference books - Telephone and internet device	1 month before completion of the construction		TBC	
10	To take necessary measure for safety construction - fence	1 month before completion of the construction	DTVET	186.7	
11	To relocate of a bus stop and move power poles facing Lower Mingalodon road	3 months before completion of the phase 1	DTVET	27.8	

(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	DTVET		

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2. Other obligations of the Government of Myanmar funded with the Grant

NO	Items	Deadline	Amount (Million Japanese Yen)*
1	To construct buildings and to procure equipment 1) To conduct the following transportation a) Marin (Air) transportation of the products from Japan to the recipient country b) Internal transportation from the port of disembarkation to the project site 2) To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities a) Electricity - The drop wiring and internal wiring within the site - The main circuit breaker b) Water Supply - The supply system within the site (receiving and/or elevated tanks)		/
2	To implement detailed design, bidding support and procurement supervision (Consulting Service)		
3	Contingencies		
	Total		XXX

*The Amount is provisional. This is subject to the approval of the Government of Japan.



<p><u>Project Monitoring Report</u> on <u>Project Name</u> Grant Agreement No. <u>XXXXXXXX</u> 20XX, Month</p>

Organizational Information

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

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)

2-3 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 (1,000 Taka)	
	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:
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.

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%)	

Date:

Ref. No.

JAPAN INTERNATIONAL COOPERATION AGENCY

JICA XXX OFFICE

[Address specified in the Article 5 of the Grant Agreement]

Attention: Chief Representative

Ladies and Gentlemen:

NOTICE CONCERNING PROGRESS OF PROJECT

Reference : Grant Agreement, dated 署名日 (signed date of the G/A), for プロジェクト名 (name of the Project)

In accordance to the Article 6 (3) of the Grant Agreement, we would like to report on the progress of the Project up to the following stages:

[Common]

- Preparation of bidding documents - result of detailed design
- Completion of final works under construction/procurement contract

[Construction]

- Monthly progress [Month/Year]

[Procurement of Equipment]

- Shipping/delivery, hand-over (take over) of equipment
- Installation works
- Operational training

- Other _____

Please see the details as per attached Project Monitoring Report (PMR).

Very truly yours,

[Signature]

[Name of the signer]

[Title of the signer]

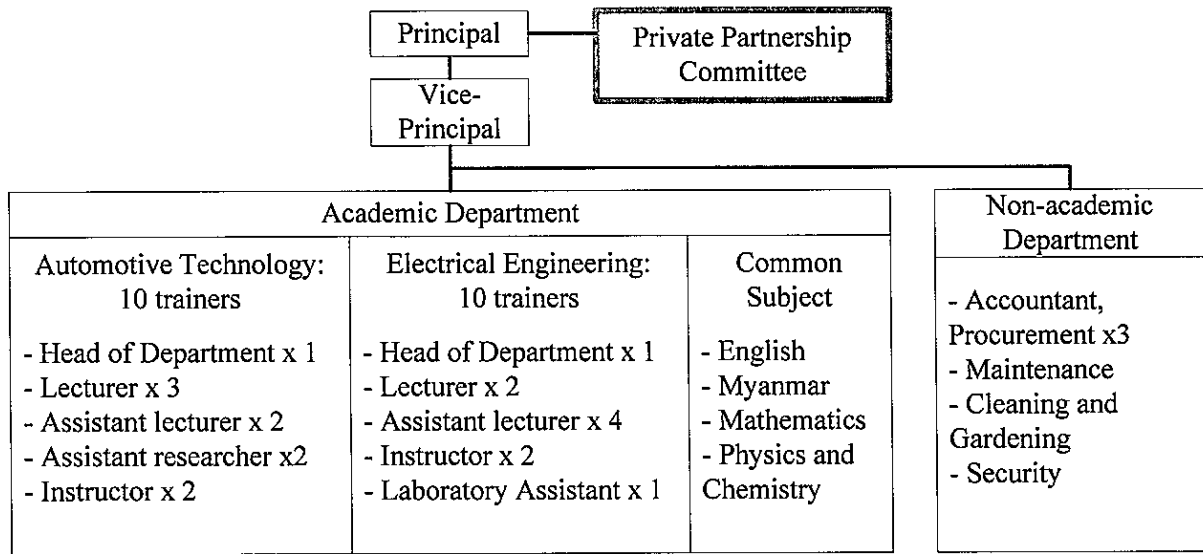
[Name of the executing agency]



cc:
Director General
Financial Cooperation Implementation Department
Japan International Cooperation Agency
[Address specified in the Article 5 of the Grant Agreement]



Annex 9 Organization chart of JMASVTI



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30th March, 2018, Naypyidaw

**TECHNICAL NOTE for the Preparatory Survey for
the Project for Establishment of
Japan Myanmar Vocational Training Institute (Aung San), Mission 1**

Department of Technical and Vocational Education and Training, Ministry of Education (hereinafter referred to as "DTVET") and the Consultant Team confirmed the followings through a series of discussion on 29th and 30th March between DTVET and the Consultant Team (hereinafter referred to as "both parties")

1. Basic concept

- This Project aims to establish JMVTI for automobile maintenance course and electrical course at the former Aung San Technical High School site. And the number of students is forty for each course. The whole number of students is 240, which is forty multiplied by two courses and three grades.
- In the future, DTVET will offer new courses depend on regional needs that related to automobile maintenance and electrical courses. DTVET doesn't have an idea to establish Technical High School in the same site.

2. Project site

- Both sides agreed to develop two options of the layout plan for the Project: (a) space behind the former main building and space where workshops which will be renovated by the technical cooperation project, (b) space where eight houses stand along the main road and space behind the main building.
- Both sides agreed that the park can be included in the design.

3. Facility component

- DTVET requested workshops, classrooms, computer room, laboratories for chemistry and physics, drawing room, administration rooms, library, canteen, shrine room, assembly hall and space for sport activities for facility component.
- The Consultant Team explained canteen, assembly hall or space for sport activities need huge space and these components can be excluded depend on the extent of the site and the budget.

4. Main building of former Aung San GTHS

- A heavy renovation which reinforces the structure takes time and cost, which affects the implementation schedule. The Consultant Team proposed that DTVET carry out a light renovation of deteriorated elements.
- DTVET doesn't consider that the renovation work needs structural reinforcement and requests an official letter if Japanese side suggests the renovation work by the Ministry of Education.

5. DTVET's work

- DTVET will submit Ministry of Education to send a letter to the Ministry of Defense in order to arrange of the initial screening of UXO for the areas of option (a) and (b) described in the item 2 and inform the result to JICA in the mission 2.
- DTVET needs to demolish existing buildings and trees to be designated the Consultant prior UXO clearance and agreed to commence the demolition work as soon as the construction site is decided.
- DTVET will submit Ministry of Education to send the letter to MONREC (Ministry of Natural Resource and Environment) to confirm whether this Project is required of IEE (Initial Environmental Examination) or EIA (Environmental Impact Assessment) or not. The DTVET to provide the answer in the mission 2.
- The Consultant Team explained the payment steps of the Grant Aid system and DTVET agreed to take procedures of Banking Arrangement (B/A) and Authorization to Pay (A/P).
- DTVET agreed to acquire a Building Permit of the Project prior the announcement of the tender, tentatively by August 2019 and the Consultant Team provides necessary information for the procedures.

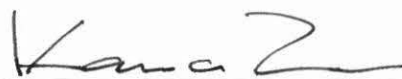
6. Others

- DTVET requests the Consultant Team to submit rough estimated amount of the consulting fee for Detail Design and the advance payment of the consulting fee for supervision, to register for FY 2018/19 budget, by 5 April 2018.



Dr. Aye Myint

Director General
Department of Technical and Vocational
Education and Training
Ministry of Education
Myanmar



Mr. Kenji Kawazoe

Chief Consultant
Matsuda Consultants Intl. Co., Ltd.

**TECHNICAL NOTE for the Preparatory Survey for
the Project for Establishment of
Japan Myanmar Vocational Training Institute (Aung San), Mission 2**

Department of Technical and Vocational Education and Training, Ministry of Education (hereinafter referred to as “DTVET”) and the Consultant Team confirmed the followings through a series of discussion on 6th and 7th June between DTVET and the Consultant Team (hereinafter referred to as “both parties”)

1. Block plan and building design

- The Consultant Team proposed two options of block plan (Annex 1); option 1 using A zone, option 2 using A and B zone:

*Option 1: Facility components except hostels are set in A zone. B zone may be used for future additional workshops.

*Option 2: Facility components except hostels are set in A and B zone. Future additional workshops may be built in A zone.

- The Consultant Team showed features of each option as follows:

	option 1: A	option 2: A+B
site area	10,500 sqm 2.60 acre	14,300 sqm 3.53 acre
building area*	6,000 sqm	5,000 sqm
building coverage ratio	59%	35%
length of façade	65m	120m

* The area is based on preliminary study and can be changed.

- According to the discussion, Option 2 has advantages over option 1 with followings;

* Option 2 tends to get people’s attention with wide façade.

* Option 1 is a rather crowded and has less opening space, which is not considered to be rich educational environment.

- DTVET will inform the final decision to the Japanese side by early July through internal procedure.

If option 2 will be chosen,

- a) DTVET explained that the residents of zone B need to move and it takes time. The Consultant Team proposed two-stage construction; priority components are set in A zone and built first. Additional components, e.g. assembly hall, library, meeting rooms and so on, are set in B zone and built when residents move away and UXO are cleared.

- b) The Consultant Team showed a summary of buildings in zone A+B in response to a demand of DTVET for internal approval of usage of B zone.



- The Consultant Team explained preconditions of this proposal as follows;

- *DTVET is required to remove all existing buildings in A zone and manage moves of residents in B zone for each option.
- *The pathway between A and B zone is cancelled so that both zones unite. (refer Annex 2)
- *The pathway between A zone and park can be used for maintenance and emergency purpose. This change enables smooth traffic of students between both zones.
- *The existing transformer is replaced with a bigger and dual-voltage (6.6kV and 11kV) one by this Project. This replacement enables activities in other zones other than this Project and suit a future voltage change which YESC (Yangon Electricity Supply Corporation) plans.
- *DTVET is required to obtain agreement from the authorities and prepare necessary budget for the followings; relocation of the bus stop by YRTA (Yangon Region Transport Authority), relocation of power cables to a telephone tower and a cabinet along Lower Mingaladon Road by MPT, and removal of nine power poles along north boundary of zone B and installing a new power cable and poles. (refer Annex 2)

- Hostels can be built in C zone. The capacity is decided on the budget. Two north buildings are recommended to be removed in terms of future program.
- A chemistry laboratory is planned to carry out science experiments by handling dangerous chemicals, but physics laboratory is not planned because physics experiment can be done in classrooms.

2. Equipment list

- Both parties confirmed a requested equipment list (Annex 3).

3. DTVET's work

- DTVET explained the procedure of UXO clearance as below table. DTVET will try to get a budget of excavation in FY 2018/19.

2018							2019				
J	J	A	S	O	N	D	J	F	M	A	M
FY2018/19											
▼ submission of layout plan											
internal approval											
bidding and demolish work											
clearance of UXO											
▲ submission of foundation plan											
-research by Ministry of Defense and digging by DTVET											

- The Consultant Team explained that DTVET is required bank commission, around USD 2,100 for Japanese bank at DTVET's cost and surplus commission for Myanmar bank for issuance of Authorization to Pay (A/P).
- DTVET confirmed an oral answer by ECD (Environmental Conservation Department) that this Project is not required for EIA and IEE, but EMP (environmental

management plan) is required. DTVET explained that ECD is preparing an official letter for this issue.

4. Others

- The Consultant Team informed that the technical assistant project by JICA is planning 40-students practice for electricity course and planned the building design and the equipment list with this condition. Concerning automobile course, the unit is 20-students.



Dr. Aye Myint

Director General
Department of Technical and Vocational
Education and Training
Ministry of Education
Myanmar



Mr. Kenji Kawazoe

Chief Consultant
Matsuda Consultants Intl. Co., Ltd.

- Annex 1: Proposed building plan
- Annex 2: Site conditions
- Annex 3: Final requested equipment list

Annex 1: Proposed plan

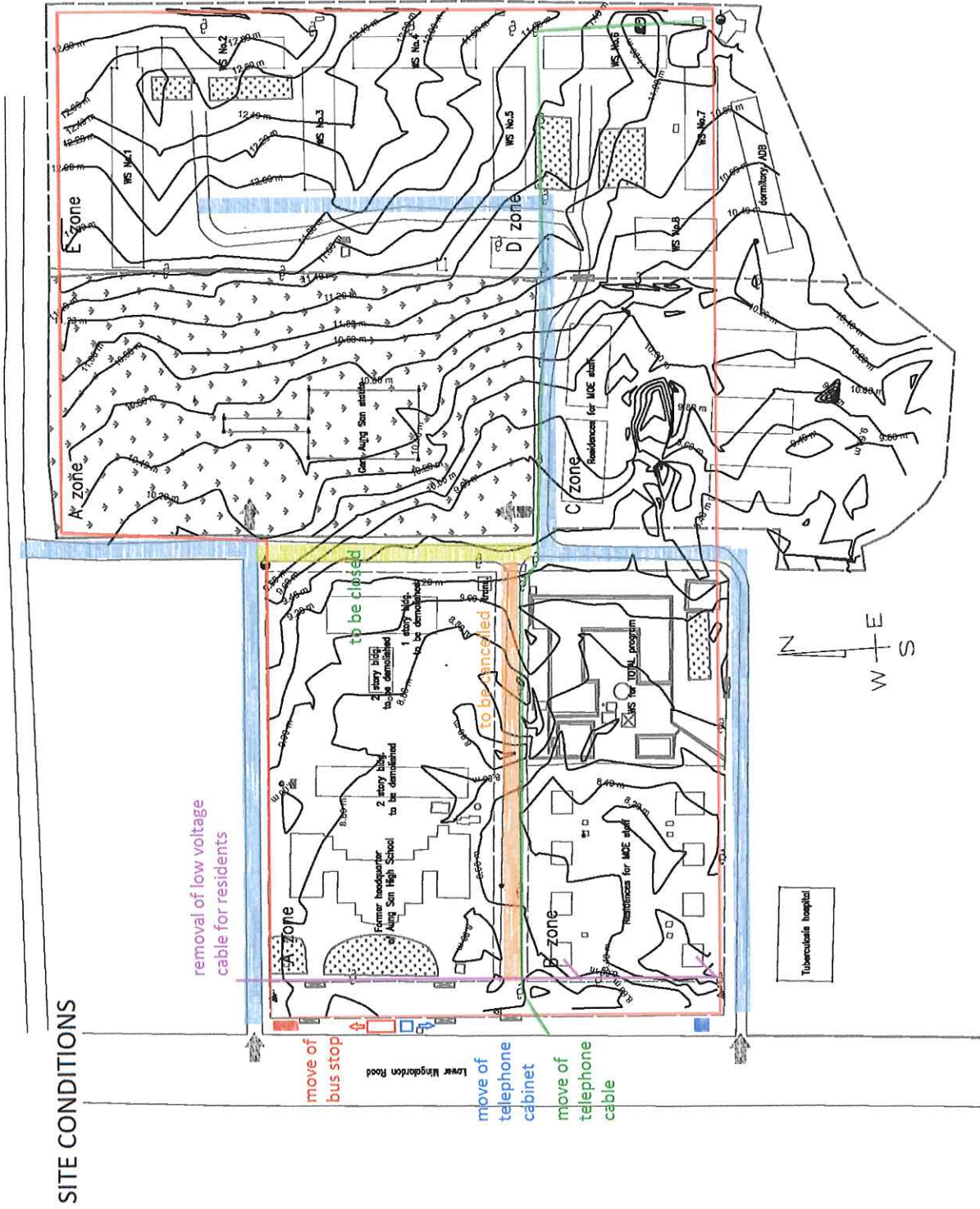


Option 1: A+C

Option 2: A+B+C



Annex 2: Site conditions



Annex 3: Final requested equipment list *the items in bold is modified ones

No.	Description	Q'ty	Priority
1	Valve spring compressor	11	A
2	Automobile mechanics tool sets	33	A
3	Socket wrench set	11	A
4	Gear bearing puller	2	A
5	Oil filter wrench	2	A
6	Waste oil drainer	2	A
7	Oil bucket pump	2	C
8	ATF changer	1	A
9	Cord reel (mobile)	10	A
10	Cord reel (fixed)	5	A
11	Hand grease gun	5	A
12	Rigid rack Two legs set	10	A
13	Quick battery charger	2	A
14	Booster cable	2	A
15	Strut Spring compressor	5	A
16	Cross wrench set	11	A
17	Impact wrench	6	A
18	Scraper set	6	A
19	Snap ring pliers	11	A
20	Sliding hammer	5	A
21	Slide hammer type puller	5	A
22	Clutch alignment tool set	2	A
23	Universal joint bearing press with adapter	1	A
24	Control arm bushing tool	1	A
25	Tie-rod end and ball joint puller	5	A
26	Front bearing hub tool	1	A
27	Hold-down spring and return spring tool	5	A
28	Caliper piston removal tool	5	A
29	Service creeper, steel frame type	5	A
30	Garage lamp	5	A
31	Solder-less terminal kit	11	A
32	Soldering irons	21	A
33	Tire repair set, tubeless tire	20	A
34	Tube repair set	1	A
35	Cleaning pan	20	A
36	Air blow gun	10	A
37	Air hose	5	A
38	Paint spray with container	5	A
39	Double action sander	5	A
40	Polisher	5	A
41	Protective tool for painting	21	A
42	Arc welding machine	5	A
43	Gas welding and cutting machine	5	A
44	Fume collector	5	A
45	Helmet for welding	5	A
46	2 cylinder engine model	11	A
47	4 cylinder engine model	11	A
48	6 cylinder engine model	11	A
49	Diesel engine model	11	A
50	Gasoline engine trainer	5	A
51	Diesel engine trainer	5	A
52	Mission with clutch	11	A
53	Automatic mission	11	A
54	Differential	11	A
55	Drive shaft	11	A
56	Rear axle	11	A
57	Starter motor	21	A
58	Alternator	21	A
59	Cut-away model, planetary gear	1	A
60	Cut-away model, torque convertor	1	A
61	Cut-away model, turbo charger	1	A
62	Cut-away model, carburetor	1	C
63	Cut-away model, gasoline engine	1	A
64	Cut-away model, engine with chassis	1	A
65	Cut-away model, automatic transmission	1	A
66	Cut-away model, CVT	1	A
67	Lighting and electric ignition system trainer	1	A
68	Car air conditioning system trainer	1	A
69	Light bulb & wiring set	21	A
70	Resistance, diode, electrical-transistor set	2	B
71	Refrigerant recovery equipment	1	B

72	Car air conditioning maintenance tool	1	B
73	On-board diagnostics scan tool type A	6	A
74	On-board diagnostics scan tool type B	6	A
75	On-board diagnostics scan tool type C	1	B
76	Laptop computer	6	A
77	Vise	6	A
78	Hacksaw	21	A
79	Taps and dies set	5	A
80	Hydraulic press	1	A
81	Bench grinder	2	A
82	Drilling machine	2	A
83	Electric drill	5	A
84	Iron work file set	20	A
85	Flat chisel	20	A
86	Center punch	20	A
87	Magnetic base	20	A
88	Surface plate	10	A
89	V-blocks	20	A
90	Vernier caliper	11	A
91	Digital vernier caliper	6	A
92	Micrometer set	21	A
93	Dial gauge	21	A
94	Cylinder gauge	21	A
95	Thickness gauge	21	A
96	Straight edge Tool	11	A
97	Compression gauge	6	A
98	Engine oil pressure gauge	6	A
99	Timing light	6	A
100	Digital tester	21	A
101	Analog tester	21	A
102	Battery coolant tester	6	A
103	Tire gauge	6	A
104	Radiator cap tester	6	A
105	Preset type torque wrench set	6	A
106	Digital type torque wrench	6	A
107	A-plate type torque wrench set	11	A
108	Turning radius gauge	5	A
109	Camber, caster, kingpin gauge	5	A
110	DC power supply	6	A
111	Thermometer	100	A
112	Buried-type car lift	6	A
113	Parts cleaner	2	C
114	Air compressor	1	A
115	Garage jack	5	A
116	Work bench (small)	15	A
117	Work bench (large)	4	A
118	Floor crane	5	C
119	Engine lifter	2	A
120	Air hose reel	10	A
121	Hot water high pressure washer	1	A
122	Exhaust duct	1	C
123	Tire changer	1	A
124	Wheel balancer	1	A
125	Wheel weight set	10	A
126	Balance weight tool	1	A
127	Starter generator test stand	1	C
128	Leader bench	1	A
129	Head light tester	1	A
130	Combination tester	1	A
131	Exhaust gas tester	1	A
132	Opacimeter	1	A
133	Steel cabinet	4	A
134	Parts rack	10	A
135	Sink	1	A
136	Forklift	1	A
137	Analog tester	42	A
138	Digital tester	42	A
139	DC power supply	21	A
140	Multimeter	21	A
141	Oscilloscope	21	A
142	Function generator	21	A
143	IC trainer set	21	A
144	Bread board	42	A

145	crocodile clip	21	A
146	Power factor meter	6	A
147	Watt meter(1 phase)	6	A
148	Watt meter(3 phase)	6	A
149	Voltage transformer for measurement	11	A
150	Insulation tester megger	6	A
151	Test phase shifter	6	A
152	Current transformer	6	A
153	Voltage transformer	6	A
154	Electroscope	21	A
155	Clamp meter	6	A
156	Miniature plier	21	A
157	Miniature cutter	21	A
158	Motor(1 phase)	21	A
159	Motor(3 phase)	6	A
160	Motor(3 phase) for Star-delta	6	A
161	Magnetic contactor	42	A
162	AUX contactor unit	42	A
163	Thermal relay	42	A
164	Earth leakage breaker	42	A
165	Laptop computer	42	A
166	Printer	2	A
167	Network equipment	1	C
168	Programmable logic controller practice set	42	A
169	Push button	42	A
170	Lamp (Red)	42	A
171	Tool set	42	A
172	Trainer for sensors	21	A
173	Trainer for Pneumatic system	42	A
174	Electric drill	6	A
175	Projector	3	A
176	Screen	3	A
177	Wiring practice board	21	A
178	Pipe vendor	21	A
179	Torch burner	21	A
180	Line wire	11	A
181	Electric works tool set	42	A
182	Spirit level	42	A
183	Earth tester	6	A
184	Pipe thread cutter	21	A
185	Pipe vise	21	A
186	Electric works practice kit	42	A
187	Work table	40	A
188	Stool	120	A
189	Chair	6	A
190	Desktop PC	42	A
191	Server	1	A
192	Disk device	1	A
193	Switching hub	2	A
194	Black and white printer	2	A
195	Color printer	1	A
196	Large format printer	1	A
197	Power Supply	1	C
198	Back up Soft for Server	1	A
199	Back up Soft for Client CP	42	A
200	Anti-Virus Software	42	A
201	MS Office Personal	42	A
202	Auto CAD (2 Dimension CAD)	42	A
203	Solid Works (3 Dimension CAD)	42	A
204	UPS	42	A
205	Projector (Small)	8	A
206	Screen (Small)	8	A
207	Projector (Large)	1	A
208	Screen (Large)	1	A
209	Audio visual equipment	1	A
210	Drawing table	43	A
211	First Aid kit	5	A
212	Chemical experiment equipment set	1	A
213	Chemical experiment table for teacher	1	B
214	Chemical experiment table for student	4	B
215	Physical experiment equipment set	1	A
216	Movable white board	9	A
217	Kitchen equipment	1	A