Ministry of Education
Palestine

Preparatory Survey Report on the Project for Construction of Schools for Improvement of Quality and Environment of Education in Palestine

August 2020

Japan International Cooperation Agency (JICA)

Mohri, Architect & Associates, Inc.
International Development Center of Japan Inc.

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SUMMARY

1. Overview of Palestine

(1) Land and Nature

The Palestinian Authority (hereinafter "Palestine") consists of West Bank adjoining the Jordan River and Gaza Strip (hereinafter "Gaza") facing the Mediterranean Sea, and has a total area of 6,020 sq.km (West Bank: 5,655sq.km, Gaza: 365sq.km). West Bank features the Mediterranean climate and its temperature is overall warm with some variation according to the altitude. Project sites in West Bank are located in the highlands, the altitude of which are between 500-1000 m above sea level and feature undulating landscapes. Summer is hot and dry, but winter features sufficient precipitation there. On the other hand, the topography of Gaza is overall flat and even the highest land is only at 100 m above sea level. The climate is typical Mediterranean, hot and dry in summer and warm and humid in winter.

West Bank and Gaza are geographically split by Israel, and owing to the political complexity, Palestinians in West Bank are not allowed to visit Gaza, and vice versa, except for special cases.

(2) Society and Economy

The population of Palestine is about 4.95 million (West Bank: 3.00 million Gaza: 1.94 million: 2017), and its population growth rate is 2.5% per year. The GDP per capita was USD 3,664 in 2018. The economy grew at more than 10% until 2011. However, since the economic slowdown at a 2.3 % growth in 2013, the economy has been stagnating. The GDP growth remained at 0.9% in 2018. Because the population growth rate is high, the GDP per capita stagnates. The unemployment rate in 2018 was recorded at 31%, and the same in Gaza was more than 40%. The state finances rely heavily on foreign assistance, with expenditure constantly surpassing the revenue.

2. Background of the Project

Palestine has marked a relatively high net enrollment ratio of primary education at 94.8%, which has been achieved by schools operating under double or triple shifts, or renting rooms that were not constructed for educational purposes. These facts negatively affect the quality of education (UNESCO 2018). For example in Gaza, two-thirds of schools operate under double or triple shift, thereby reducing lesson hours per day to 4.5. It has been reported that the multiple shift school operation and crowded classrooms increase the likelihood of drop-out amongst the students (UNICEF 2018). Moreover, the population growth rate of Palestine is high at 2.5% (World Bank 2018), and accordingly, increasing classrooms and schools is an urgent matter to cope with the school age population increase.

The Ministry of Education (MoE) of Palestine promulgated “Education Sector Strategic Plan (ESSP) 2017-2022,” in which “improvement of quality of education,” “maintaining the high enrollment and survival rate,” and “increase enrollment at kindergarten” are prioritized. Additionally, in order to improve the quality of education, ESSP promotes to equip schools with necessary educational tools including digital learning materials.

The Project for Construction of Schools for Improvement of Quality and Environment of Education, (hereinafter “the Project”) will construct basic and secondary education schools including classrooms for kindergarten in areas where schools operate double or triple shifts or where schools rent space for classes, thereby improving the quality and environment of education. The Project is deemed indispensable and a highly prioritized project to materialize the purpose of ESSP.

3. Outline of the Study and the Contents of the Project

JICA carried out Field Survey I between February and March 2019. During the survey, the survey team surveyed 19 requested schools (West Bank: 11 schools, Gaza: 8 schools). After Field Survey I, the final requested schools were reduced to 16 (West Bank: 9 schools, Gaza:7 schools). Following the analysis in Japan, JICA dispatched the survey team in November 2019 (Field Survey II) to explain the preliminary outline of the Project to the Palestinian side for discussion. Following the discussions, the outline of the Project was finalized.

(1) Project Schools and Setting the Size of Project Schools

Considering the available budget and priority set by the Palestinian side, the Project covers the following 10 school sites (West Bank: 5 schools, Gaza: 5 schools). The number of classrooms to be built for each Project school was set based upon the projected enrollment of 2023/24, the target year of construction completion. All schools except for W-5 Noba Secondary Boys School shall have the number of classrooms as requested by the Palestinian side. As for W-5 school, while the requested number of classrooms is 12, 9 classrooms will be built according to the above-mentioned projected enrollment. As for kindergarten classrooms, one classroom per one grade is planned.

Project schools and the number of classrooms to be built

No.	School Name	Directorate	Grade/Gender	No. of CRs to be built
West Bank				
W-1	Al Karmel Basic Boys school	Yatta	Boys1-4	12
W-2	Meslieh Basic Coed School	Qabatia	KG Coed1-4	8+KG
W-3	Salem Secondary Girls School	Nablus	Girls5-12	14
W-4	Beta Basic Coed School	South Nablus	KG Coed1-4 Girls5-9	9+KG
W-5	Noba Secondary Boys School	North Hebron	Boys10-12	9
Total				**52+2KG**
Gaza Strip				
G-1	Jam'ia Land Secondary Girls School	North Gaza	Girls10-12	20
G-3	Moharbeen Al Kudama Girls School	North Gaza	KG Girls1-9	20+KG
G-4	Osama El-Najar Basic Girls School	Khan Younis	KG Girls1-9	20+KG
G-5	Salam Basic Coed School	Rafah	KG Coed1-4 Girls5-9	16+KG
G-6	Boraq Land 1 Secondary Girls School	Khan Younis	Girls10-12	22
Total				**98+3KG**

(2)-1 Facility Components

All Project schools except for W-3 which has continuously usable buildings will have new school buildings of full size with complete components and necessary furniture according to the standard.

Facility Components by School

			West Bank					Gaza Strip				
			W-1	W-2	W-3	W-4	W-5	G-1	G-3	G-4	G-5	G-6
Classroom		Grade 1-4	12	8		4			8	8	8	
		Grade 5-10			12	5	3	8	12	12	8	8
		Grade 11-12			2		6	12				14
Library		Grade 1-4	1	1								
		Others				1	1	1	1	1	1	1
Admin.	Headmaster Room		1	1		1	1	1	1	1	1	1
	Secretary		1	1		1	1	1	1	1	1	1
	Archive and Copier		1	1		1	1	1	1	1	1	1
	Teachers Room	S (abt 2Bay)	2		1			2	1			2
		L (abt 3Bay)		1		2	1	1	2	3	3	1
	Social Worker		1	1	1	1	1	1	1	1	1	1
	First Aid		1	1	1	1	1	1	1	1	1	1
	Door Keepers and Kitchen		1	1		1	1	1	1	1	1	1
	Sport Store		1	1		1	1	1	1	1	1	1
	Administration Toilet		2	2		2	2	2	4	4	4	4
Multi-purpose Hall			1	1	1	1	1	1	1	1	1	1
Lobby			1	1	1	1	1					
Science Lab+Store+Prep.						1	1	2	1	1	1	2
Technology Lab (Computer Space + Work Space)					1	1	1	2	1	1	1	2
Resource Room			1	1		1			1	1	1	
General Store		S (abt 1Bay)	1		1		1	3	3	3	3	4
		M (abt 2Bay)	1		1						1	1
		L (abt 3Bay~)		1		1			1	1		
Toilet (Booth)		Western-Style	11	6	13	8	7	10	11	11	8	13
		Arabic-Style	1	2	1	1	1	9	10	9	8	11
		Disabled	1	1	1	1	1	1	1	1	1	1
Canteen			1	1	1	1	1	1	1	1	1	1
Kindergarten (Classroom+Toilet+Kitchen)				1		1			1	1	1	

(2)-2 Equipment Components

During Field Survey I, equipment for the following facilities were requested. 1) Classroom, 2) Library, 3) Administration Unit, 4) Multi-purpose Hall, 5) Science Lab, 6) Technology Lab, 7) Resource Room, 8) Kindergarten, and 9) Others (network equipment). Considering the necessity for the new curriculum and the Digitalized School concept introduced by MoE, the Project shall procure the following equipment for the rooms. As for the quantity to be procured, the Project refers to the standardized quantity set item by item.

Equipment Plan

Facility	Equipment to be Procured
Classroom	Computer (laptop), Interactive projector, etc.
Library	Computer (desktop), Interactive projector
Administration unit (Headmaster's room, Secretary's room, Archive/copier, Teachers' room etc.)	Computer (desktop), Laser printer, Copier
Multi-purpose hall	LCD Projector, Computer (laptop)
Science lab + prep	Computer (laptop) ,Laser printer, Linear air track kit, Ruhmkorff commutator, Micrometer, Periodic table of elements, Hoffman apparatus, Human circulatory system charts, Human torso, Stereo microscope
Technology lab (Computer space and Carpentry work space)	Hammer drill, Combination miter/table saw, Power supply AC/DC, Caustic welding tin, Pliers meter measure, Screw driver set, Combination wrench set, Parts (switch, ICs, relay), Oscilloscope, etc.
	Computer, Laser printer, Interactive projector
Resource room	Computer (laptop), Laser printer, Educational toy set, Educational tool set, etc.
Kindergarten (Classroom, toilet, kitchen, entrance)	Round table, Chair, Wood shelf, Parachute, Kitchen corner, Puzzles, Wooden geometric shapes, Computer (laptop),Laser printer, Swing, Seesaw, Slide , etc.
Others (Network equipment)	Firewall, Access point

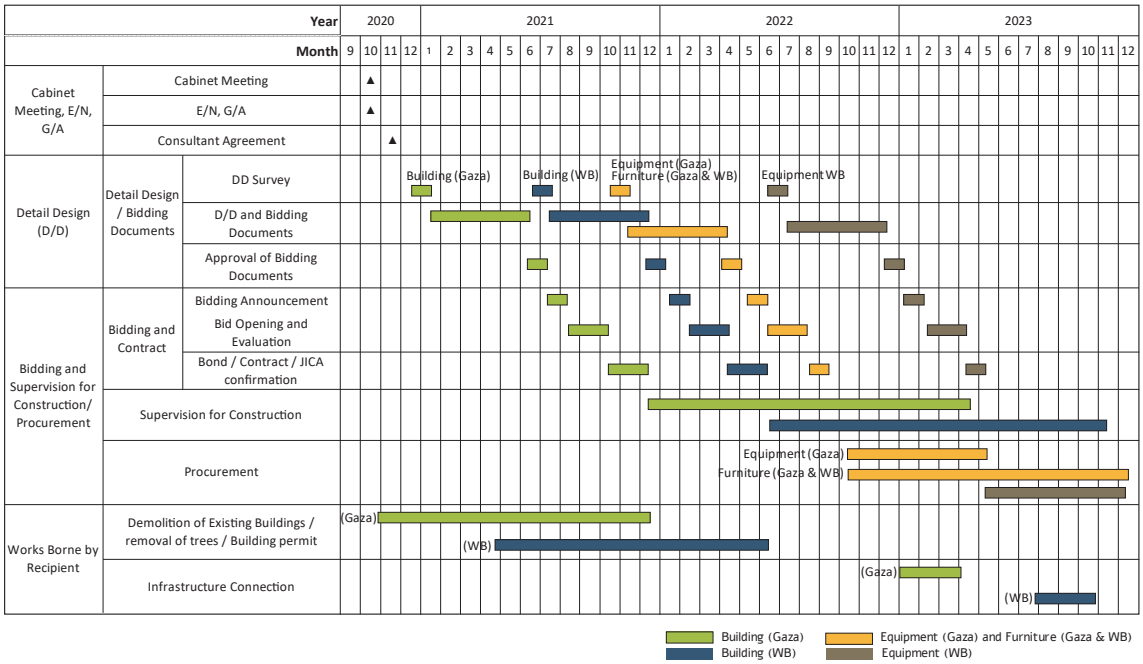
4. Implementation Schedule

Following the signing of E/N and G/A, MoE shall sign an agreement with a Project consultant, who carries out the detailed design survey and the detailed design. Then, the consultant shall assist MoE in putting together a set of bidding documents, evaluating the bidding results, and getting approval/concurrence from relevant authorities including JICA, and thereafter MoE signs a contract with contractors and suppliers. It is estimated to take about 7 months from the detailed design survey to finalizing the bidding documents. Furthermore, it will take about 5 months for the bid results to be approved or concurred by relevant authorities. The construction period is set at 14-16 months, while the construction supervision period is set at 16-18 months, taking into account inspections, report and delivery of equipment and furniture.

Bidding for equipment shall be planned so that the delivery of equipment shall be made at construction completion. The delivery of equipment to schools in both West Bank and Gaza is possible about 5 months after the equipment supply contract. Imported materials to Gaza which may be converted into military use are called "Dual Use" and inspected thoroughly. In order to facilitate the smooth delivery of the equipment to Gaza schools, detailed lists of imported materials shall be handed to GRM in

advance. It takes about a month to install equipment, check the function, and carry out necessary training after importing.

Project Implementation Schedule



5. Project Evaluation

(1) Relevance

The Project shall construct 10 basic and secondary schools both in West Bank and in Gaza and procure educational equipment, thereby improving the education environment and the quality of education. This meets the assistance policy of the Government of Japan toward Palestine, as it upholds construction of infrastructure in the education sector for stabilizing and improving the Palestinian society based upon the concept of human security as one of the priority issues. Furthermore, the Project contributes to realize the construction of school infrastructure with ICT equipment, and promotion of public kindergarten, which are stipulated in ESSP.

(2) Effectiveness

The Project is expected to bring about the following results.

(2)-1 Quantitative Results

Quantitative Outcomes

	Baseline value (2019)	Target value (2026: 3 years after completion)
No. of students who learn in continuously usable classrooms in Project schools	2000	7590
No. of students who learn in small, rented, or dilapidated classrooms	2430	0

(2)-2 Qualitative Results

- Students' time for learning is expected to increase as some targeted schools will change to single-shift from double-shift. Furthermore, it is expected that students at such schools will maintain a regular school life, as they may come to and leave school at a regular time.
- It is expected that teachers may instruct students better, as congestion in classrooms will be eased.
- Students are expected to concentrate more on classes by having schools closer to their home and thereby having less physical and mental stress from commuting.
- It is expected that students will have more interest in science as there will be more science experiments subsequent to the procurement of equipment.

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Appendices

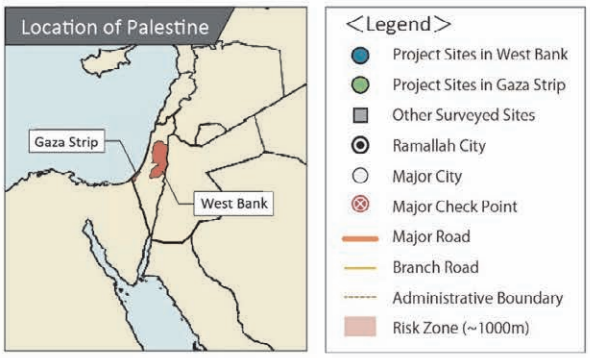
Tables and Figures

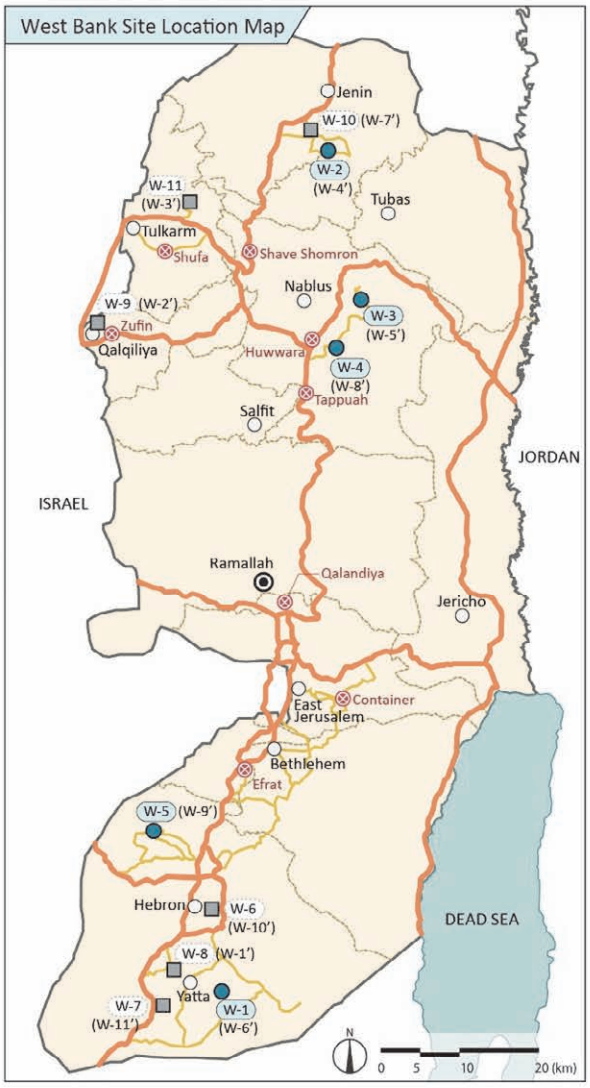
List of Surveyed School Sites

West Bank			
ID No.	ID No.' (M/D1)	Governorate	School Name
W-1	W-6'	Yatta	Al Karmel Basic Boys School
W-2	W-4'	Qabatia	Meslieh Basic Coed School
W-3	W-5'	Nablus	Salem Secondary Girls School
W-4	W-8'	south Nablus	Beta Basic Coed School
W-5	W-9'	North Hebron	Noba Secondary Boys School
W-6	W-10'	Hebron	Wad al Nasarah Basic Girls School
W-7	W-11'	South Hebron	Al samoo' Basic Coed School
W-8	W-1'	Yatta	Al Dar Al Baida' Basic Coed School
W-9	W-2'	Qalqelia	Qalqelia Basic Boys School
W-10	W-7'	Qabatia	Qabatia Secondary Girls School
W-11	W-3'	Tulkarem	Bal'a Basic Girls School
Gaza Strip			
G-1	G-1'	North Gaza	Jam'ia Land Secondary Girls School
G-2	G-2'	North Gaza	Halawa Land Basic Boys School
G-3	G-3'	North Gaza	Moharbeen Al Kudama Girls School
G-4	G-5'	Khan younis	Osama El-Najar Basic Girls School
G-5	G-7'	Rafah	Salam Basic Coed School
G-6	-	Khan younis	Boraq Land 1 Secondary Girls School
G-7	-	East Khan yonis	Al Ouda Secondary Boys School
G-8	G-8'	Khan younis	Hamad city 1 Secondary Girls School

Project Sites Out of Scope Sites

Site Location Map





Perspective (West Bank)

Perspective (Gaza)

Abbreviations

A/P	Authorization to Pay
AED	Automated External Defibrillator
B/A	Banking Arrangement
CCTV	Closed-Circuit Television
CFP	Claim for Payment
COGAT	Coordination of Government Activities in the Territories
DS	Digitalized School
E/N	Exchange of Notes
EIA	Environmental Impact Assessment
EQA	Environment Quality Authority
ESDP	Education Development Strategic Plan
G/A	Grant Agreement
GDP	Gross Domestic Product
GRM	Gaza Reconstruction Mechanism
ICT	Information and Communication Technology
IEE	Initial Environmental Examination
JICA	Japan International Cooperation Agency
JIS	Japan Industrial Standard
MoE	Ministry of Education
MoEHE	Ministry of Education and Higher Education (former MoE)
MoF	Ministry of Finance
NIS	New Israel Shekel
PLO	Palestine Liberation Organization
PSM	Project Security Manager
PTA	Parent-Teacher Association
RFD	Request for Disbursement
SMS	Short Message Service
TI	Transfer Instruction
TOR	Terms of Reference
UBC	Uniform Building Code
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNOPS	United Nations Office for Project Services
VAT	Value Added Tax

CHAPTER 1 BACKGROUND OF THE PROJECT

Chapter 1 Background of the Project

1-1 Background of the Project

Palestine has marked a relatively high net enrollment ratio of primary education at 94.8%, which has been achieved by schools operating under double or triple shifts, or renting rooms that were not constructed for educational purposes. These facts negatively affect the quality of education (UNESCO 2018). For example, in West Bank, lessons are taught in rented rooms inside a mosque or small rooms which were temporarily added to school facilities. On the other hand, in Gaza, two-thirds of schools operate under double or triple shift, thereby reducing lesson hours per day to 4.5. It has been reported that the multiple shift school operation and crowded classrooms increase the likelihood of drop-out amongst the students (UNICEF 2018). In fact, the JICA's preparatory survey team heard that the afternoon shift disturbs the family life and the periodic change of the morning and afternoon shifts imposes hindrances to smooth implementation of lesson and students' life. Moreover, there are students who have to commute a long distance for schooling, as the number of schools is in short supply.

Furthermore, the population growth rate of Palestine is high at 2.5% (World Bank 2018). UNFPA estimates that the school age population will increase by one million between 2015 and 2050. Thus, increasing classrooms and schools is an urgent matter to cope with the school age population increase.

The Government of Palestine considers education crucial to realize an independent nation and its development in the future. Thus, Palestine sets "quality education for all" as a national priority, and upholds a policy to improve the school enrollment and completion ratios in its "National Policy Agenda 2017-2022." In line with this, the Ministry of Education (MoE) sets "ensuring safe, inclusive, and equitable access to quality education at all levels of the system" as one of the main goals in its "Education Sector Strategic Plan (ESSP) 2017-2022." In order to achieve the goal, it aims to "increase enrollment at kindergarten" and "maintain high enrollment and survival rate." Additionally, in order to improve the quality of education, Palestine makes an effort to equip schools with necessary educational tools including digital learning materials.

The Project for Construction of Schools for Improvement of Quality and Environment of Education, (hereinafter "the Project") was requested by the Government of Palestine. The Project will construct basic and secondary education schools including classrooms for kindergarten in areas where schools operate double or triple shifts or where schools rent space for classes, thereby improving the quality and environment of education. The Project is deemed indispensable and a highly prioritized project to materialize the purpose of ESSP.

1-2 Social and Environmental Consideration

Social and environmental considerations have been administered by the Environment Quality Authority (EQA) in Palestine. “Law No.7 for the year 1999 concerning the environment” and “The Palestine Environmental Assessment Policy April 2000” concern environmental issues. Stakeholders of any construction projects, including officers of relevant ministries, refer to the law and the policy above and take necessary actions. In Palestine, no Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) is necessary for a school construction project.

CHAPTER 2 CONTENTS OF THE PROJECT

Chapter 2 Contents of the Project

2-1 Basic Concepts of the Project

The Project constructs a total of 10 basic and secondary schools, i.e. 5 schools each in West Bank and Gaza, and provides necessary furniture and equipment including Information Communication Technology (ICT) equipment. By doing so, the project aims to improve the environment of education, thereby contributing to the improvement of quality education.

2-2 Outline Design of the Japanese Assistance

2-2-1 Design Policy

2-2-1-1 Basic Policy

（1） Selecting Project School

The Project selects Project schools from 19[1] candidate school sites (11 in West Bank and 8 in Gaza), the list of which was submitted by MoE during Field Survey I. In selecting, the Project considers 1) the available project budget, 2) the selection criteria of the candidate schools agreed in the Minutes of Discussions during Field Survey I, and 3) the priority set by MoE. Furthermore, the Project selects schools from both West Bank and Gaza respectively according to the priority list.

[1] The final requested schools were reduced to 16 (9 in West Bank, 7 in Gaza), as described in 2-2-2-1 “Details of the Request”

Table 2-1 List of Requested Schools

No.	School Name	Directorate	Grade/Gender	Requested No. of CRs	Request type
West Bank					
W-1	Al Karmel Basic Boys school	Yatta	Boys1-4	12	Relocation
W-2	Meslieh Basic Coed School	Qabatia	KG Coed1-4	8+KG	Relocation
W-3	Salem Secondary Girls School	Nablus	Girls5-12	14	Rebuilding (partial)
W-4	Beta Basic Coed School	South Nablus	KG Coed1-4 Girls5-9	9+KG	Relocation
W-5	Noba Secondary Boys School	North Hebron	Boys10-12	12	Relocation
W-6	Wad Al Nasarah Basic Girls School	Hebron	Girls5-9	15	Relocation
W-7	Al Samoo' Basic Coed School	South Hebron	KG Coed1-4 Girls1-9	13+KG	Relocation
W-8	Al Dar Al Badia' Basic Coed School	Yatta	KG/ Coed1-4 Girls5-9	13+KG	Relocation
W-9	Qalqelia Basic Boys School	Qalqelia	Boys1-9	18	New establishment
W-10	Qabatia Secondary Girls School	Qabatia	Girls1-12	12	New establishment
W-11	Bal'a Basic Girls School	Tulkarem	Girls5-9	10	New establishment
Total				**121+4KG**	
Gaza Strip					
G-1	Jam'ia Land Secondary Girls School	North Gaza	Girls10-12	20	New establishment
G-2	Halawa Land Basic Boys School	North Gaza	Boys1-9	20	New establishment
G-3	Moharbeen Al Kudama Girls School	North Gaza	KG Girls1-9	20+KG	New establishment （Partial relocation)
G-4	Osama El-Najar Basic Girls School	Khan Younis	KG Girl1-9	20+KG	Rebuilding
G-5	Salam Basic Coed School	Rafah	KG Coed1-4 Girls5-9	16+KG	New establishment (Partial relocation)
G-6	Boraq Land 1 Secondary Girls School	Khan Younis	Girls10-12	22	New establishment
G-7	Al Ouda Boys Secondary School	East Khan Younis	Boys 10-12	22	Rebuilding
G-8	Hamad City 1 Secondary Girls School	Khan Younis	Girls10-12	22	New establishment
Total				**162 +3KG**	

（２） Selecting Project Components

１） Facility/Furniture

Apart from W-3 Salem Secondary Girls School, the Project constructs full-scale school facilities. Some schools involve relocation from other sites, other schools require replacement of old facilities, and others are the establishment of new schools. As for W-3, classrooms, a multi-purpose hall, an entrance lobby, a first aid room, a teacher’s room, a social worker’s room, a technology lab, a canteen, toilets stalls and storerooms shall be built.

２） Equipment

Necessary equipment for the following rooms shall be covered by the Project: 1) classroom, 2) library,

3) administrative unit, 4) multi-purpose hall, 5) science lab, 6) technology lab, 7) resource room, 8) kindergarten, and 9) others (network equipment).

Specification of equipment to be procured follows the standard for equipment and the grade of equipment shall be equivalent to the ones recommended in the standard.

（３） Setting the School Size

The Project builds the necessary number of classrooms for each Project school based upon the projected enrollment of 2023/24, the target year of construction completion. However, in the case where the number of necessary classrooms is larger than the number of requested classrooms, the number of requested classrooms is planned to be built.

2-2-1-2 Policy for Architectural Design

In Palestine, there is no such thing as school prototype design because: 1) many school sites have unique topographic features, 2) the sites are not always large enough, and, 3) there are a variety of school types which cover different grades/genders and the necessary facility components are not always the same. Accordingly, each school has a unique floor plan.

On the other hand, there are strict rules and standards concerning the size of each room, function, safety and environmental requirements, exterior planning, etc. and all school construction projects, regardless of the source of funding, are required to comply with such rules. All facility components for new schools to be established are standardized by school type and they are almost identical both in West Bank and Gaza. Furthermore, the Building Department of MoE checks in detail whether or not a school design meets the standards, apart from the building permit to be issued by the local government.

As a result of complying with the MoE standard, schools constructed by foreign donors are generally alike. This Project incorporates unique features in building design, which will be a landmark in their neighborhoods, while following the standard design. Specifically, all schools shall have a clock tower. Furthermore, Project schools in West Bank feature a wall mural made from local tiles under the clock. Project schools in Gaza feature pointed arches between piloti, on terrace walls, etc.

2-2-1-3 Policy for Natural Conditions

（１） Climate Conditions

In terms of facility planning, the Project designs according to the following policies, considering the

standard design of MoE and the climate conditions both in West Bank and Gaza.

1） West Bank

Classrooms do not face east to avoid the strong sunlight in the morning. While it is most desirable for classrooms to face north, if such design is not possible and a classroom faces south or west[2], louvers shall be installed on windows. In addition, heat insulation material is to be installed so that the room temperature is comfortable. Although a request for installation of air-conditioners exists and there are some schools with air-conditioners in administration rooms, the current standard design does not cover them, and accordingly, the Project shall not install air-conditioners. Considering the low temperature in wintertime, rooms are laid out around the entrance lobby, and windows are installed in the corridor. This school design is called “Closed school” in Palestine.

2） Gaza

Sunbreakers shall be installed above all windows to avoid the strong sunlight between the morning and early afternoon. No windows are to be installed at openings in the corridor, as it is not cold in wintertime. To avoid the strong sunlight in summer and rain in winter, a roof shall be installed over spaces where the morning assembly and other school activities take place.

（2） Topography

About half of the requested school sites in West Bank are on slopes and need land development and leveling prior to construction. Thus, buildings shall be arranged to minimize the amount of land development for the sake of cost reduction.

In Gaza, all school sites are almost flat and most of them do not need leveling or land development.

（3） Soil Conditions

When the soil condition surveys were carried out at 10 sites, 4 boreholes were basically tested in the respective sites. According to the results, each site has sufficient allowable soil bearing capacity. As for W-3 site, only 1 borehole was tested at this stage because there are existing buildings in the site, and an additional 4 boreholes will be tested in the detailed design stage. The test results are as follows.

[2] For classes which finish in the early afternoon at a single shift school, a classroom facing west is not a big issue compared to one facing east. While standard classrooms may not face east, special purpose classrooms may.

Table 2-2 Bearing capacity of soil in the respective sites

West Bank	Gaza Strip
W-1：310kPa	G-1：170kPa
W-2：240kPa	G-3：180kPa
W-3：410kPa (result of one borehole)	G-4：170kPa
W-4：210kPa	G-5：220kPa
W-5：220kPa	G-6：140kPa

（４） Earthquake

The rift valley that stretches via the Jordan River from the Dead Sea to the Red Sea is an earthquake epicenter and earthquakes have been recorded long into the past. The earthquake zones are indicated in “the seismic hazard map for building code in the Levant” published by the Urban Planning and Disaster Risk Reduction Center of An-Najah National University in Nablus. The Project refers to this map for structural design.

2-2-1-4 Policy for Socio-Economic Conditions

（１） Security

１） Security Measures at Project sites

For this Project, security measures shall be similar to ones commonly taken at construction sites in Palestine, considering the present security situation, security measures commonly taken at local construction sites, and the assignment plan of Japanese resident engineers.

２） Security Measures for Japanese Resident Engineers

The Project plans to assign Japanese engineers to Palestine for construction supervision during the entire construction stage. For the Japanese engineers and consultants, JICA shall support necessary security arrangement, such as a security briefing when travelling from Japan to Palestine, entering into Gaza, arrangement of a bullet-proof car, arrangement of evacuation from Palestine, etc.

In order for the Japanese resident engineers to be informed with up-to-date security information and cope with an emergency, a Palestinian Project Security Manager (PSM) shall be hired and necessary safety items shall be procured. Furthermore, a Japanese security consultant shall be dispatched to Palestine intermittently to check the security situation and the security measures.

As there is almost no case in which foreigners are targeted, and staffing armed security guards may provoke unnecessary disputes/conflict and increase the Project cost, the Japanese resident engineers

shall be equipped with minimum goods/tools necessary to protect themselves.

3） Others

MoE and relevant local governments confirm that there are no unexploded ordinance or mines in the construction sites. The survey team obtained clearance letters on the sites of West Bank and Gaza from MoE or local governments. Therefore, no special countermeasure is necessary.

As for road blockage, according to past grant aid project experiences, any blockage was usually lifted in a few hours or a day and it did not significantly affect the delivery of construction materials to sites. But, as there is no telling whether this relatively stable security situation may last or not, the construction contract shall include a force majeure article and construction periods shall allow a little margin.

（2） Religion and Gender

The majority of students who will attend Project schools are Muslims, though there are Christians in Palestine. In Palestine, the educational policy is to separate boys and girls from an early school year. Though some schools adopt co-education at low grades (Grade 1-4) with female teachers due to lack of facilities, students and parents prefer separating the genders at schools. Moreover, in principle, male teachers are assigned only to boys' schools and female teachers are assigned only to girls' schools. At the site survey, it turned out that some female teachers had been assigned to boys' schools, but not vice versa.

Furthermore, in a school which accommodates boys and girls at Grade 1-4, at Grade 5 or higher, only girls are taught. This is in consideration for girls of Grade 1-4. Moreover, kindergartens (KG) are hosted only in a girls' school covering Grade1-4 or a coed school of Grade 1-4. This is in consideration for female KG teachers not to be assigned to boys' schools where teachers are male.

Since religion and gender are well considered in school arrangement, no further consideration is necessary in designing school facilities.

（3） Consideration for Students under the Prolonged Conflict

1） Social Worker's Room

As there are many students with psychological problems due to the prolonged conflict, building a social worker's room is required in a school facility. Therefore, a social worker's room will be built at each Project school. Since many of the students do not want schoolteachers or staff to find out that

they have psychological problems, the social worker's room shall be arranged considering the privacy of students.

2） Barrier-Free

Barrier-free design is required so that handicapped students can access education without any obstacles. Therefore, a ramp shall be installed for level differences so that a student in a wheelchair may move from the school gate to the school building on his/her own. In compliance with the policy, at a minimum, a classroom, the multi-purpose hall, the lobby, a universal toilet, the first-aid room, and the kindergarten room shall be built on the ground level floor or the entrance level floor. However, from a cost reduction point of view, the barrier-free policy can be exempted for floors other than the ground floor level. Given this, the Project shall apply the barrier-free policy at least to the ground floor level.

（4） Solar Panel (Gaza)

Power supply has been a big problem in Gaza. At the time of Field Survey I, power was on and off at an 8-hour interval. Thus, school lessons which require power are significantly disturbed. Considering the situation, the Project shall procure solar panels which generate the minimal power required for school operation. On the other hand, in West Bank, power outage is not usual, and thus no solar panels shall be procured for the schools there.

2-2-1-5 Policy for Procurement of Construction Materials

While most construction materials are produced in West Bank, some materials are imported either from Asia or Europe. These imported materials are easily available in the local market and all the necessary materials for the Project are procurable in West Bank.

On the other hand, in Gaza, besides sand and stone, most construction materials are imported from Israel or other countries. And those imported materials may be transported into Gaza only through Kerem Shalom Gate. Previously, it took a long time (3-6 months) for materials to pass the gate due to strict inspections by the Israeli authority. Particularly, steel, iron, and electrical/telecommunication materials, which may be manufactured into arms and telecommunication devices and are called "Dual Use," were subject to severe inspection. In 2014, the Gaza Reconstruction Mechanism (GRM) was established under UNOPS to facilitate smoother transportation of materials into Gaza. Thereby, the approval process has been accelerated. Thus, the Project shall facilitate use of GRM by local construction companies for smoother material procurement.

2-2-1-6 Policy for Use of Local Contractors and Local Consultants

（１） Contractors

The National Committee for Classification categorizes contractors into classes according to the value of owned equipment, the maximum value per contract, the total amount of contracts, the value of past contracts, the size of office, etc. The categorization is reviewed every two years by the Committee, consisting of relevant ministries and engineering associations. There are 37 building contractors in West Bank and 47 in Gaza which are classified as Category A1, the highest level.

Table 2-3 Category of Contractors

(Thousand Jordanian Dinar)

Category	No. of building contractors		Capital	Value of owned equipment	Value of works to be assigned	Total value of works to be assigned	Value of Experience	Floor Area (㎡)
	WB	Gaza						
A1	37	47	400	300	6,000	15,000	9,000	150
A2	74	76	250	150	3,000	6,000	3,000	125
B	93	139	100	75	1,000	2,000	1,000	100
C	53	71	70	30	500	1,000	500	70
D	30	29	30	15	250	500	150	50
E	91	86	10	10	100	200		30

MoE usually sets one site as one contractual lot for a school construction project and Category A1 and A2 contractors may bid on such a project. Following this practice, MoE strongly requested the survey team to set one contractual lot for one site. However, in addition to one contractual lot with one site, the Project shall adopt one contractual lot with two sites to reduce the volume of work concerning bidding, bid evaluation, contracts, etc. For a contractual lot with two sites, the Project shall only invite Category A1 contractors to bid for the following reasons.

- A2 Category contractors are likely to fail to complete construction within the construction period, assuming that they are contracted at 2 or 3 sites. This is because they may not be able to mobilize sufficient labor for multiple sites.

- In a case where an intermediate payment is delayed for some reason, A2 Category contractors are likely to have a serious problem with cash-flow, which causes delay in construction.

As for a contractual lot with one construction site, both Category A1 and A2 contractors may bid for

the Project.

（２） Local Consultant

Many Palestinian architectural consultants shall be mobilized for this Project, as MoE obliges contractors to assign one resident construction supervision engineer per site.

As architectural consultants in West Bank may not travel to Gaza and vice versa, the Project shall hire consultants in the respective regions. In order to establish the construction supervision organization, the Japanese consultant shall enter into a contract with a consulting company in West Bank, which shall subcontract a consulting company in Gaza.

2-2-1-7 Policy for Furniture and Equipment Procurement

As it is difficult for equipment and furniture to be delivered to Gaza from outside, bid packages shall be set separately for West Bank and Gaza. However, the Project shall allow suppliers in West Bank and Gaza to bid on both packages, following the bidding practices of MoE. That is, in this Project, a supplier in Gaza may bid on a package in West Bank and vice versa.

The Project procures many different types of equipment, and there is no single Palestinian supplier which can procure all items. Accordingly, separate bids shall be called for the respective equipment types.

Concerning W-3 Salem Secondary Girls School, the Project does not procure furniture for the existing library, existing administrative unit, and the existing science laboratories, as the school plans to continuously use these existing facilities. But there is almost no equipment available in these rooms, and their computers are either too old or out of order, thus equipment, including computers, shall be procured.

2-2-1-8 Policy for Setting Grades of Facilities and Equipment

Since the standard design and requirements set by MoE are well thought-out in terms of functionality, construction, cost, durability and safety, all the school buildings, regardless of whether they are self-funded or donor assisted, are of good quality. Thus, the Project follows the standard design in principle. Regarding furniture and equipment, the Project follows the item lists and specifications provided by MoE.

2-2-1-9 Policy for Quality Control

（１） Facility

As stated, the Project requires mobilization of many Palestinian private consultants to control quality. While the level of private consultants is generally much higher than that of their Asian and African counterparts, their awareness of safety control and quality control has some room for improvement. Hence, in the system where the Japanese consultant as the prime consultant hires a local consultant as a sub-consultant, it is desirable that the Japanese engineers advise and guide the local engineers to enhance the local consultants' construction supervision capacity. Regarding safety control, "The Guidance for the Management of Safety for Construction Works in Japanese ODA Projects" which is published by JICA will be utilized properly. In particular, special attention shall be made to construction sites in Gaza, as the Japanese consultant may only supervise on a visit basis. The following are specific examples to improve quality control.

- Assign one construction supervisor to each site.
- Include quality control check items in the TOR or in the contract of the local consultant company.
- The Japanese engineer, in tandem with the local consultant company, puts together a checklist for construction supervision.
- All the construction supervisors are summoned before construction (and during construction if necessary) for a seminar so that the quality control methods are shared among the concerned parties. In doing so, the level of the quality control is raised overall.

（２） Equipment

Any manufacturer's products may be procured as long as they meet the specifications by MoE. The Project may require bidders to submit a sample of some items to check the quality and the functions required by the specifications in the bidding documents.

In the process of procurement/delivery, a Japanese equipment consultant shall supervise the installation and training. As for procurement in Gaza, since no Japanese consultant may stay there for a long time, a consultant in Gaza shall be hired. In order to secure the quality of procurement/delivery, the Japanese consultant will communicate the supervising methods and procedures to the local consultants.

2-2-1-10 Policy for Construction Period

The Project shall follow the standard construction period for a school construction project set by MoE. For the supervision period of the consultant, two months (one month for inspection/reporting and one

month for delivery of furniture/equipment) are added to the standard construction period. Table 2-4 shows the standard construction period and the supervision period.

（１） West Bank

MoE sets a construction period of 14 months for a 3-storey school building and 16 months for a 4-storey one except for special cases. Accordingly, the supervision periods are 16 months for 3-storey buildings and 18 months for 4-storey buildings, as two additional months for inspection/reporting and delivery of furniture/equipment) are added.

（２） Gaza

MoE sets a construction period of 12 months and 14 months for a 3-storey building and a 4-storey building respectively. Since the Project only plans 4-storey buildings, the supervision period is 16 months. Generally, contractors in Gaza keep to the standard construction period and construction delay is not common, although an exceptional extension of 50 days was approved in 2009 and 2012 when conflicts with Israel erupted.

Table 2-4 Construction and Supervision Periods

Area	Number of stories	Construction period	Supervision period
West Bank	3−storey or less	14 months	16 months
	4−storey	16 months	18 months
Gaza	4−storey	14 months	16 months

2-2-1-11 Policy for Operation and Maintenance

At existing Project schools or feeder schools for the Project schools, school administration, parent-teacher association (PTA), etc. have sufficient capacity in general. Thus, initial assistance for using ICT equipment, or starting up a PTA is deemed unnecessary. According to Field Survey I, PTAs do not provide funding but assist schools by providing materials in-kind and labor. Based on the above, the Project shall not include assistance for school building maintenance or operation.

2-2-2 Basic Plan (Facility)

2-2-2-1 Details of the Request

（１） Requested Sites and Selection Criteria

１） Requested Sites

MoE submitted a list of 19 requested sites (West Bank: 11, Gaza: 8) to the Japanese side during Field Survey I. The Japanese consultant surveyed all 19 sites. Following Field Survey I, the final requested schools were reduced to 16 (West Bank: 9, Gaza: 7) as described in 2-2-2-1 Details of the Request. Schools with complete facility components (i.e. all necessary rooms and facilities for a newly established school) were requested, except for W-3 site.

２） Selection Criteria

During Field Survey I, the Japanese side and the Palestinian side agreed on the following selection criteria for sites to be shortlisted for the Project.

[Preconditions]

- Land use right or land ownership certificate of the government, local government, or MoE is presented
- There is no overlapping project with the government and/or other development partners near the requested site.
- There is no hindrance for construction in the site. (Ex. The site is accessible by construction vehicle; the site is suitable for construction in terms of topography and land size.)
- There is no risk of natural disaster.
- The school construction need from the viewpoint of enrollment is confirmed.
- Effective teacher deployment plans for the requested schools are verified.
- There will be no negative impact on environment and will involve no resettlement of residents.
- No security risk is confirmed (A school site with high security risk may be considered to be excluded from the Project)

[Priority matters]

- The site has few cost increasing factors such as pilings, a large-scale land development, etc.
- The site does not have any hindrance for Japanese construction supervisors to access to.
- MoE’s priority as below;

- Double or triple shift schools
- Schools using rented building
- Poor condition of school building
- Highly crowded schools
- Schools expecting natural increase of students

➢ The construction need is higher than others.

➢ No excessive security measure is required

（２） Requested Components

In addition to classrooms, other necessary rooms such as special purpose classrooms, administrative unit, etc. were requested. Refer to Table 2-11 for details.

2-2-2-2 Plan

（１） Project school sites

The consultant confirmed that the construction need is high at all requested sites both in West Bank and Gaza, as the following issues were observed at existing requested schools and feeder schools of requested sites. 1) Schools operates under double-shift or rent space for classrooms, 2) students need to commute long distances for schooling, as there are few schools in the neighborhood, and 3) schools are getting more and more congested due to population increase. However, after Field Survey I, MoE and the consultant agreed that the following 3 school sites shall not be covered by the Project and the final requested sites were 16 in total.

Table 2-5 Sites Excluded from the Project

Site	Reasons
W-6	Site belongs to an area of high security risk.
W-9	MoE cancelled the request: An individual donor shall fund the school construction.
G-2	MoE cancelled the request: There is a dispute about land use right.

Excluding the above 3 sites and considering the available budget and priority, the Project covers the following 10 school sites.

Table 2-6 List of the Project Schools

No.	School Name	Directorate	Grade/Gender	Request type
West Bank				
W-1	Al Karmel Basic Boys school	Yatta	Boys1-4	Relocation
W-2	Meslieh Basic Coed School	Qabatia	KG Coed1-4	Relocation
W-3	Salem Secondary Girls School	Nablus	Girls5-12	Rebuilding (partial)
W-4	Beta Basic Coed School	South Nablus	KG Coed1-4 Girls5-9	Relocation
W-5	Noba Secondary Boys School	North Hebron	Boys10-12	Relocation
Gaza Strip				
G-1	Jam'ia Land Secondary Girls School	North Gaza	Girls10-12	New establishment
G-3	Moharbeen Al Kudama Girls School	North Gaza	KG Girls1-9	New establishment （Partial relocation)
G-4	Osama El-Najar Basic Girls School	KhanYounis	KG Girls1-9	Rebuilding
G-5	Salam Basic Coed School	Rafah	KG Coed1-4 Girls5-9	New establishment (Partial relocation)
G-6	Borag Land 1 Secondary Girls School	Khan Younis	Girls10-12	New establishment

（２） Setting the Size of Schools

１） Projection of Future Enrollment

The size of each Project school is set based upon the projected enrollment of 2023/24, the target year of construction completion. The projection is made by the following formula for each Project school.

- Projected number of students (2023/24) = $A \times (1 + \mathrm{B}\%/100)$ [5]

A: Expected No. of students to transfer from the feeder schools to the Project school (2018/19)

B : The annual student increase rate[3] from the relevant education directorate

For example, the student enrollment projection of W-1 (Al Karmel Basic Boys School) is shown below.

Table 2-7 Student Enrollment Projection of W-1 (example)

	G1	G2	G3	G4	Total
Expected number of students to transfer to the Project school (2018/19)	73	73	78	84	308
Projected number of students (2023/24)	81	82	87	93	343

[3] The boy students' increase rate is applied to a boys' school, the girl students' rate for a girls' school, and the average increase rate for a coed school.

２） Number of Necessary Classrooms

The number of necessary classrooms as of 2023/24 is calculated taking into account the following points.

- The Project shall plan at least one classroom per grade
- (In principle), the number of classrooms is calculated grade by grade
- The number of students per classroom is 40 (round-up)
- A single shift
- The Project shall plan at least one classroom per grade and course for Grade 10-12

As for schools with Kindergarten, many of them have private kindergartens in their neighborhoods. Thus, it gathers from that there are a sufficient number of children of the age in the catchment of the Project schools. Now that KG 2 is compulsory education, and considering that the private kindergarten is not free of charge, it is deemed that there is sufficient need for a public kindergarten. Furthermore, since only 1 classroom is requested for Kindergarten use per school (only for KG2), this request is deemed appropriate.

As an example, the necessary number of classrooms for W-1 (G1-4) is shown below.

Table 2-8 Necessary No. of Classrooms for W-1

	G1	G2	G3	G4	TOTAL
Projected number of students (2023/24) ①	81	82	87	93	343
Necessary number of classrooms (①÷40:round up)	3	3	3	3	12

Remarks: Refer to Appendix 5 for the result of all schools.

（３） Number of Classrooms to be Built

According to the result of the above (2), the number of classrooms to be built for the respective schools are as follows. As previously stated, in the case where the necessary number of classrooms is larger than the requested number of classrooms, the requested number of classrooms shall be built.

Table 2-9 Number of Classrooms to be Built

No.	School Name	Directorate	Grade/Gender	No. of CRs to be built
West Bank				
W-1	Al Karmel Basic Boys school	Yatta	Boys1-4	12
W-2	Meslieh Basic Coed School	Qabatia	KG Coed1-4	8+KG
W-3	Salem Secondary Girls School	Nablus	Girls5-12	14
W-4	Beta Basic Coed School	South Nablus	KG Coed1-4 Girls5-9	9+KG
W-5	Noba Secondary Boys School	North Hebron	Boys10-12	9
Total				**52+2KG**
Gaza Strip				
G-1	Jam'ia Land Secondary Girls School	North Gaza	Girls10-12	20
G-3	Moharbeen Al Kudama Girls School	North Gaza	KG Girls1-9	20+KG
G-4	Osama El-Najar Basic Girls School	Khan Younis	KG Girls1-9	20+KG
G-5	Salam Basic Coed School	Rafah	KG Coed1-4 Girls5-9	16+KG
G-6	Boraq Land 1 Secondary Girls School	Khan Younis	Girls10-12	22
Total				**98+3KG**

As for W-5 Noba Secondary Boys School, the number of classrooms to be built is 9, which is smaller than the request. MoE has already agreed that 9 classrooms are to be built and the classrooms shall be used as follows.

Table 2-10 Use of Classrooms at W-5

Grade	Use of Classrooms
G-10	Academic course(2CR),Tech/Vocational course(1CR)
G-11	Science(1CR), Literature(1CR), Commercial(1CR)
G-12	Science(1CR), Literature(1CR), Commercial(1CR)

（４） Planned Components

Table 2-11 Planned Components

Type	Components
Room	Classroom, Library, Administrative unit (Headmaster's room, Secretary's room, Archive and copier, Teachers' room, Social worker's room, First Aid room, Doorkeeper's room and kitchen, Sport storeroom, Administration toilet)

	Multi-purpose hall, Science lab/preparation room, Technology lab (computer and carpentry work spaces), Resource rooms, General storerooms, Student toilet, Canteen, Kindergarten (Entrance, Classroom, Toilet, Kitchen)
Furniture	For classroom, special purpose classroom, and administration rooms

Table 2-12 Facility Components of Respective Project Schools

			West Bank					Gaza Strip				
			W-1	W-2	W-3	W-4	W-5	G-1	G-3	G-4	G-5	G-6
Classroom		Grade 1-4	12	8		4			8	8	8	
		Grade 5-9			12	5	3	8	12	12	8	8
		Grade 10-12			2		6	12				14
Library		Grade 1-4	1	1								
		Others				1	1	1	1	1	1	1
Admin.	Headmaster Room		1	1		1	1	1	1	1	1	1
	Secretary		1	1		1	1	1	1	1	1	1
	Archive and Copier		1	1		1	1	1	1	1	1	1
	Teachers Room	S (abt 2Bay)	2		1			2	4			2
		L (abt 3Bay)		1		2	1	1		3	3	1
	Social Worker		1	1	1	1	1	1	1	1	1	1
	First Aid		1	1	1	1	1	1	1	1	1	1
	Door Keepers and Kitchen		1	1		1	1	1	1	1	1	1
	Sport Store		1	1		1	1	1	1	1	1	1
	Administration Toilet		2	2		2	2	2	4	4	4	4
Multi-purpose Hall			1	1	1	1	1	1	1	1	1	1
Lobby			1	1	1	1	1					
Science Lab+Store+Prep.						1	1	2	1	1	1	2
Technology Lab (Computer Space + Work Space)					1	1	1	2	1	1	1	2
Resource Room			1	1		1			1	1	1	
General Store		S (abt 1Bay)	1		1		1	3	3	7	4	3
		M (abt 2Bay)	1		1						1	
		L (abt 3Bay~)		1		1				1		1
Toilet (Booth)		Western-Style	11	7	13	8	7	16	11	11	10	12
		Arabic-Style	1	1	1	1	1	11	11	9	8	12
		Disabled	1	1	1	1	1	1	1	1	1	1
Canteen			1	1	1	1	1	1	1	1	1	1
Kindergarten (Classroom+Toilet+Kitchen)				1		1			1	1	1	

2-2-2-3 Architectural Plan

（1） Technical Specifications and the Standard to be Followed

MoE has its own technical specifications for all school construction projects regardless of source of funds. Palestinian contractors know the specification in detail, and accordingly, it is requested by MoE

for the Project to follow the specifications. The specification was made referring to the British Standard, and the Project design follows it.

（２） Building Permit

A building permit is necessary for a governmental school construction project. An application for the permit is made to the local government of each site. In particular, any construction project must strictly follow setbacks from roads and adjacent land set by the local government. Furthermore, future planned roads must be considered. In principle, MoE is an agent which applies for the building permit to local governments, but in actuality an architectural consultant with a Palestinian license does so. (It should be noted that a consultant with only a foreign architectural license is not allowed to do so.)

A Palestinian consultant submits a set of design documents to the General Department of Safety & Prevention, General Directorate of Civil Defence and the Urban Planning and Disaster Risk Reduction Center for their approval, after which he or she shall submit an application for a building permit to the local government.

（３） Following the Standard Design

In principle, the Project shall follow MoE's standard design and design guidelines concerning the size of each room, function, safety/environmental design, exterior plan, etc. But if necessary, minor modifications shall be made in consultation with MoE.

（４） Layout Plans

Concepts of Layout plans which are set by MoE and common for West Bank and Gaza are as follows. The Project follows them in designing school buildings.

① The ground floor level is set higher than the level of the school gate, according to the standard.
② If the access road falls on a future planned road, it shall follow the future plan.
③ A passage between the school gate and the ground floor shall be barrier-free, so a student in a wheelchair may move on his/her own.
④ A basketball court, with stair-type benches if possible, shall be provided.
⑤ A yard shall be designed in front of the entrance lobby for a morning assembly. The basketball court may double as the yard.
⑥ Fences shall be installed along the site boundary lines. Retaining walls also can be used as fences. If possible, a parking area shall be planned within the site boundary but outside the fences.
⑦ While it is preferable for rooms to surround the entrance lobby in West Bank and to surround the courtyard in Gaza, they will be arranged according to the shape of the respective sites. Rooms

may be laid out in parallel, linearly, or along a corridor.

⑧ In West Bank, classrooms shall not face east in order to prevent the strong morning sunshine from coming in. A classroom facing north is ideal, but if there is no choice but to design them to face south or west, window sun screens shall be installed to cope with the strong sunlight from morning time to early afternoon. On the other hand, in Gaza, there is no rule concerning the direction of a classroom. In order to avoid the strong sunshine, eaves shall be built above the windows for schools in Gaza.

⑨ Toilets shall be built to the southeast, as the wind blows from the northwest throughout the year.

⑩ One staircase shall be built when the number of students is less than 400. Two staircases shall be built for a building when the number of students is between 400 and 799, and three staircases for a building when the number of students is between 800 and 1199. Travel distance from the door to the nearest staircase shall not be more than 20m.

⑪ A staircase in a school in West Bank shall be an evacuation staircase with a fire-proof door and walls. This rule may not be applied to a school in Gaza, as stairs face outside.

⑫ The space for queuing for the canteen shall be located under a sun screen or piloti.

⑬ A kindergarten shall have its own entrance and yard. The kindergarten yard shall be separated from the yard of the basic school to protect the privacy and safety of kindergarten pupils.

⑭ Green space shall cover approximately 30 % of the site area.

Most of the school sites in the West Bank are rocky slopes. Therefore, leveling, retaining walls, exterior works and building layout are highly interrelated works. As it is difficult to design them separately, an integrated site plan shall be made. The site plan follows the following concepts sets by MoE:

① To minimize the quantity of land leveling and retaining walls to save construction cost.

② To divide the site into several zones and set the level differences taking advantage of the hilly topography

③ Part of a building may be under ground level, in line with natural topography.

④ The ground floor level shall be set higher than the level of the front road considering sewage from the toilet.

⑤ Rainwater shall not flow into a neighboring site which is at a lower level than the school site. It shall permeate into the ground of the site or be piped into a sewer.

⑥ The level gap between each zone shall be designed to look natural by building flower beds, stairs, audience seats, and so forth.

（５） Floor Plans

In principle, the floor plans of the necessary rooms shall be in conformity with MoE's standard design

for West Bank and Gaza. Standard sizes, design conditions of the rooms, and remarks are shown in the Table below.

Table 2-13 Standard Size and Design Conditions for Each Room

	Room Name	Required Area (m2)			Permitted Noise Level(dB)
		Grade 1-4	Grade 5-9	Grade 10-12	
1	Classroom (40 students)	50	50	50	40
2	Library	84 (65 at Small School)	65	65	35
3	Administration Unit				
	a- Headmaster Room	30	30	30	40
	b- Secretary	20	20	20	
	c- Archive and Copier	15	15	15	
	d- Teachers Room (up to 14 classrooms)	50	50	50	
	Teachers Room (15-16 classrooms)	65	65	65	
	Teachers Room (more than 17 classrooms)	100	100	100	
	e- Social Worker	15	15	15	
	f- First Aid	15	15	15	
	g- Door Keeper & Kitchen	10	10	10	
	h- Administration Toilet	15	15	15	
	i- Sport Store	15	15	15	
4	Multi-Purpose Hall	50 (West Bank) 84 (Gaza Strip)	50 (West Bank) 84 (Gaza Strip)	50 (West Bank) 84 (Gaza Strip)	45
5	Lobby	50 (West Bank)	50 (West Bank)	50 (West Bank)	50
6	Science Lab + Store + Prep.	--------	84	84	40
7	Technology Lab (Computer Space + Work Space)	--------	84	84	40
8	Resource Room	35	-------	--------	40
9	General Store	40	40	40	
10	Toilet	1booth for 1 classroom			50
11	Canteen	16	16	16	
12	Kindergarten (Classroom + Toilet + Kitchen)	70	--------	------	40
Note	The percentage of space dedicated for movement does not exceed 30% Percentage of movement= area dedicated for movement/ (total area excluding walls +movement area)				
	When preparing the engineering designs for school buildings, the following considerations should be taken: 1- The width of corridors must not be less than 2.3 m in the Single Band System. and not less than 3.2 The width of corridors must not be less than 3.2 m in the Double band. 2- The width of each side of the stairs is not less than 1.6 m. 3- The structural design shall be planned in consideration of the extension to 4 stories even for buildings with 3 stories or less.				

1） Classroom

The capacity of each classroom is 40 students and the size of the standard design is followed. One table per two students and a chair for each student shall be procured for 40 students.

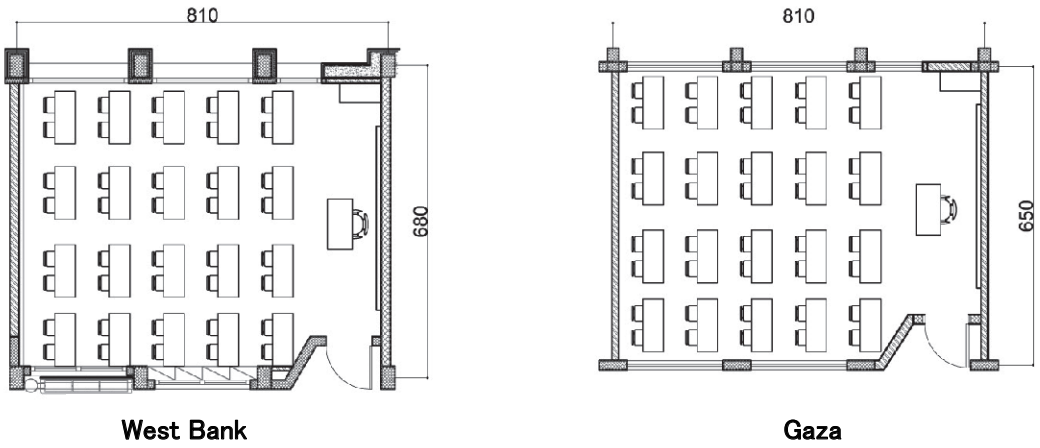


Figure 2-1 Plan of Classroom

２） Library

There are two different designs for libraries. One is a library for a school covering G1-4 and the other is for a school covering higher grades. For the former, a computer corner with 8 computers is set for ICT education, as a technology lab, which is described later, shall not be built for a school for G1-4. One computer shall be procured for every library for use of teachers. In addition, all libraries shall be equipped with an interactive projector, as part of Arabic and English lessons are taught in the library. As for W-3 Salem Secondary Girls School, because it will continuously use its existing library, the Project shall not build a library for the school.

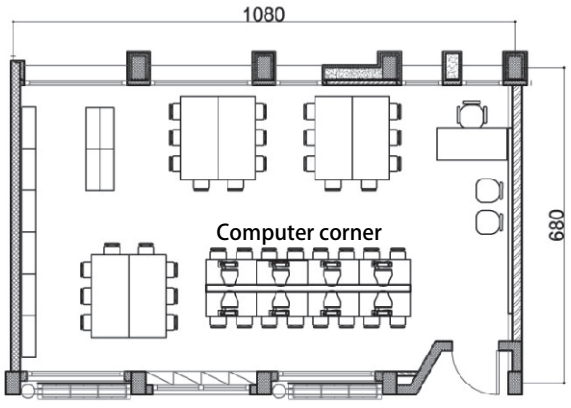


Figure 2-2 Plan of Library（for Grade 1-4）（Only for West Bank）

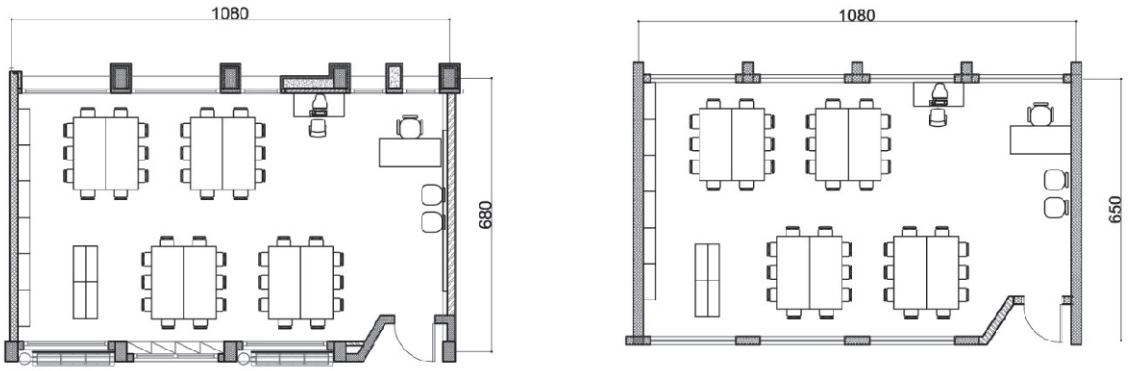


Figure 2-3 Plan of Library

3） Administrative Unit

An administrative unit consists of a headmaster room, a secretary room, a teachers' room, a first aid room, kitchen/doorkeeper's room, a social worker's room, an archive/copier room, sport storeroom, and an administration toilet. The unit is indispensable for school administration. As for W-3 Salem Secondary Girls School, it has an existing administrative unit, and the Project will not provide a whole administrative unit but only a first aid room, a social worker's room, and a teachers' room, as the existing facility does not have them or the existing room does not meet the standard size.

① Headmaster's Room, Secretary's Room

Following the common layouts of existing schools and for the sake of easy use, the headmaster's room and secretary's room shall be laid out together. Generally, existing schools in Gaza which operate under double-shift usually have two sets of headmaster's and secretary's rooms for morning shift and evening shift respectively. However, as the Project assumes single-shift, one set of 2 rooms shall be built per school. In order to control students' and visitors' entering and leaving, the rooms shall be laid out near the entrance of the school building.

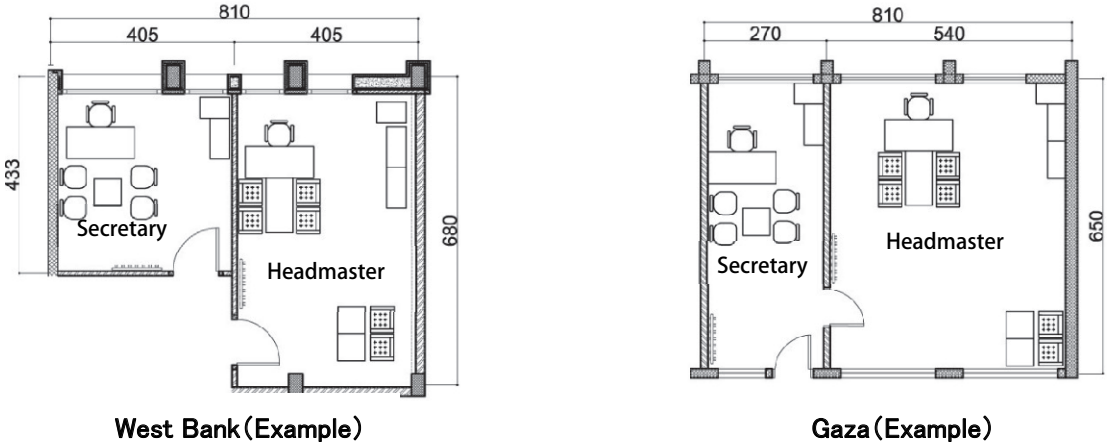


Figure 2-4 Plan of Headmaster's & Secretary's Room

② Teachers' Room

A teachers' room is necessary in every school, as teachers need to do miscellaneous work such as paperwork during breaks and after school. A teachers' room needs to be large as every teacher may have a desk for his/her exclusive use, and the total required area of the teachers' room is determined according to the number of classrooms in the school. However, if a total required area of the teachers' room exceeds 50 ㎡, it is encouraged to divide it into 2 or 3 rooms. (Refer to the following table.) The Project schools secure the total required area by combining small and large size teachers' rooms.

Table 2-14 Required Size of Teachers' Room

No. of Classrooms	12	16	18	20	22
Total Required Area of Teachers' Rooms (㎡)	49.8	74.7	99.6	124.5	149.4

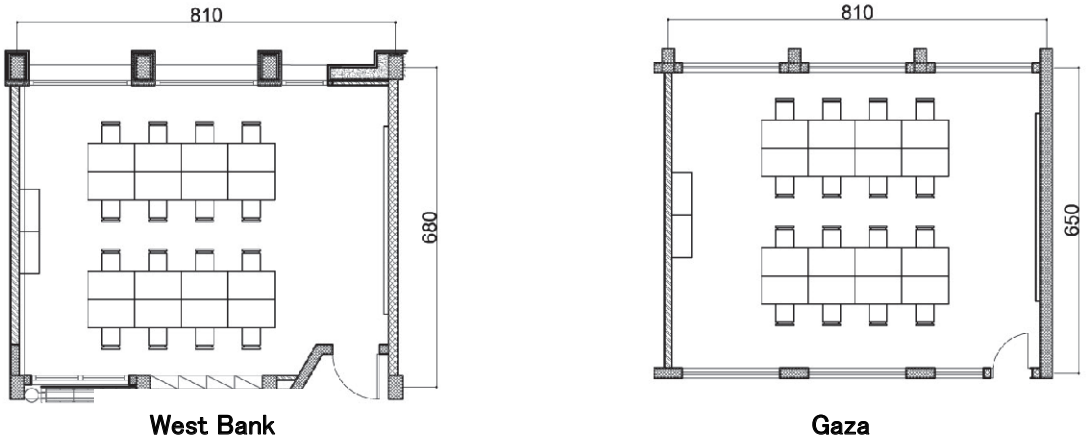


Figure 2-5 Plan of Teachers' Room（L）

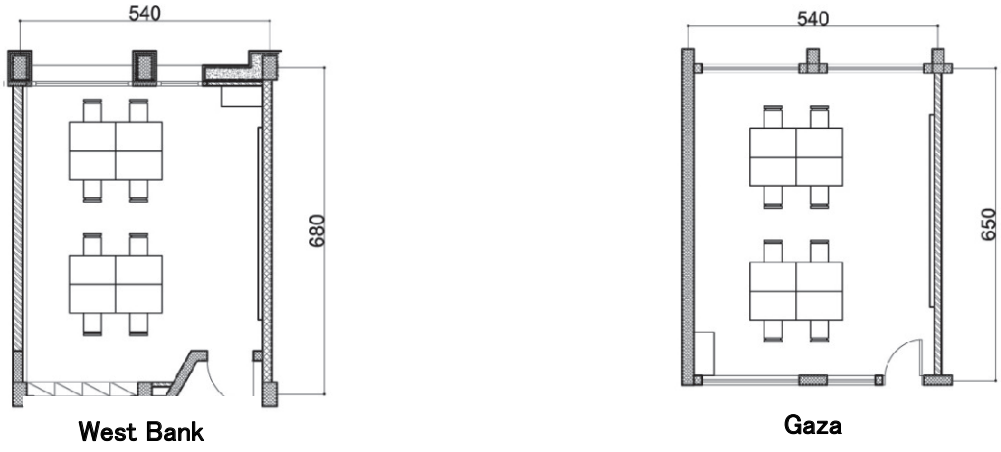


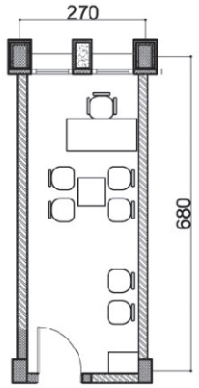
Figure 2-6 Plan of Teachers' Room （S）

③Social Worker's Room

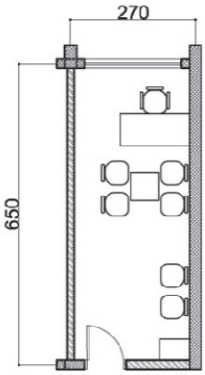
As there are many students with psychological problems due to the prolonged conflict, social workers are assigned to most schools. For this reason, it is necessary to build a social worker's room at each Project school. Since many students do not want schoolteachers or staff to find out that they have a psychological problem, the social worker's room must be located on a different floor than the teachers' room or at a corner with privacy.

④ First Aid Room

A first aid room is a necessary facility for students' health care.

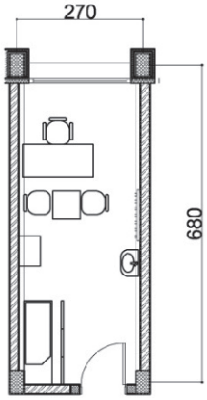


West Bank

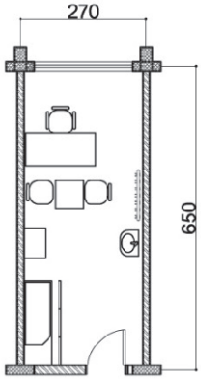


Gaza

Figure 2-7 Plan of Social Worker's Room



West Bank



Gaza

Figure 2-8 Plan of First Aid Room

4） Lobby and Multi-Purpose Hall

The Project schools in West Bank shall have a double height lobby at the entrance. The lobby serves not only as an entrance but also as a space for display and functions. On the other hand, schools in Gaza shall not have an entrance lobby. However, piloti and a semi-open space under the overhead roof serves as such a space.

A multi-purpose hall shall be built adjacent to the lobby or the piloti so that the two spaces may be used as one for school functions. A large door, as long as the span between two columns, shall be installed for a large opening. The multi-purpose room shall usually be used for theater, music and art activities.

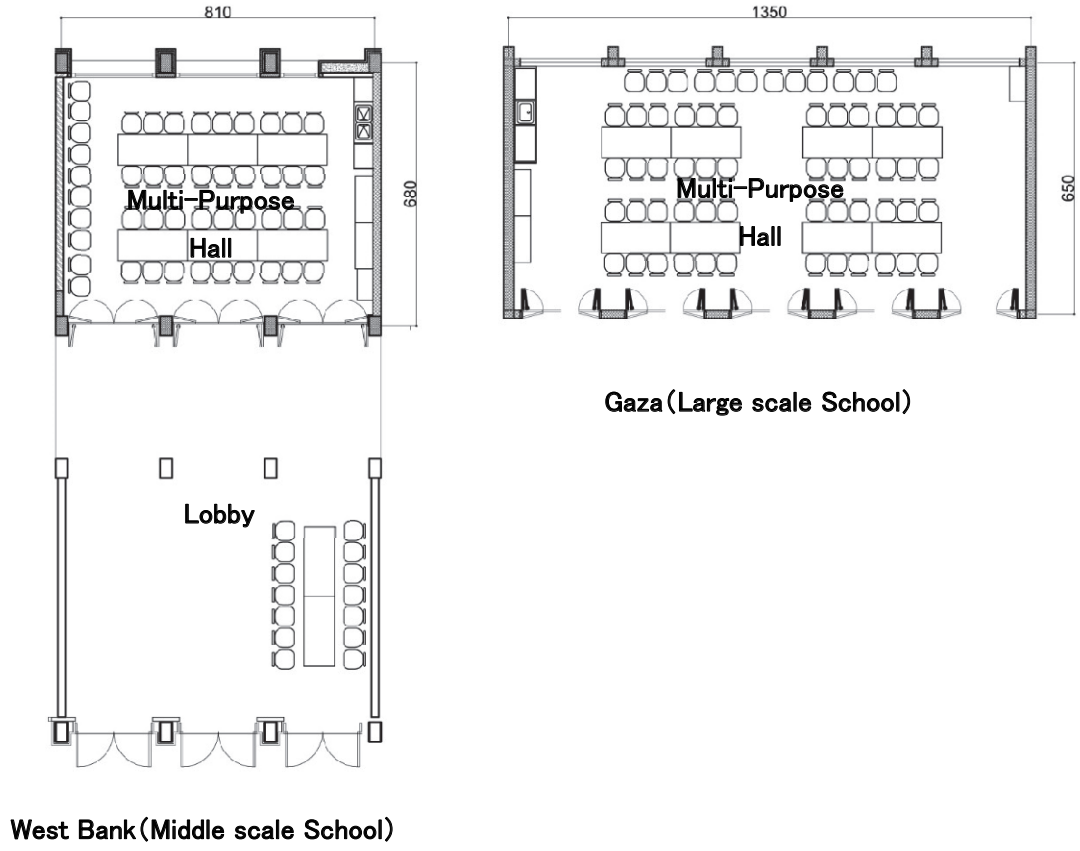


Figure 2-9 Plan of Multi-purpose Hall

５） Science Lab

A science lab is planned for schools covering G5 or higher grades. The size of a science lab with a preparatory room and storeroom shall be 1.7 times as large as a classroom. Usually, a school has one science lab, but if the school has a large number of students (a school with more than 20 classrooms for G5 or higher), two labs shall be built. The specification of the two labs is the same. A water supply and drainage system and LP gas system shall be built. As for W-3 Salem Girls Secondary School, the school has a Science Lab available for use, thus no science lab will be provided to the school.

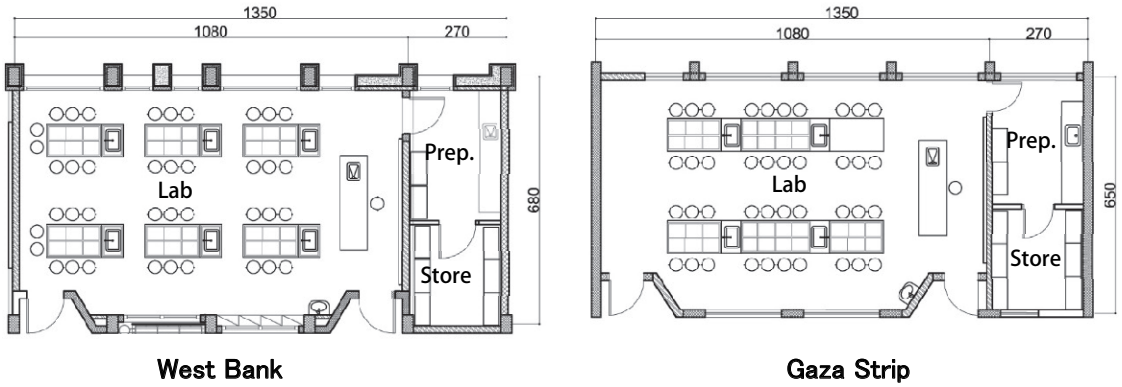


Figure 2-10 Plan of Science Lab

6） Technology Lab (Computer and Carpentry Work)

Likewise, a technology lab is planned for schools covering G5 or higher grades. The size of a technology lab shall be 1.7 times as large as a classroom. Usually, a school has one technology lab, but if the school has a large number of students (a school with more than 20 classrooms for G5 or higher), two labs shall be built. In the lab, carpentry work and computer education are taught. The lab shall be divided into two spaces for carpentry and computer education respectively, so that dust from carpentry work does not damage the computers and the noise does not disturb computer science education. A door with a glass window shall be installed between the two spaces so that users can move and see from one side to the other.

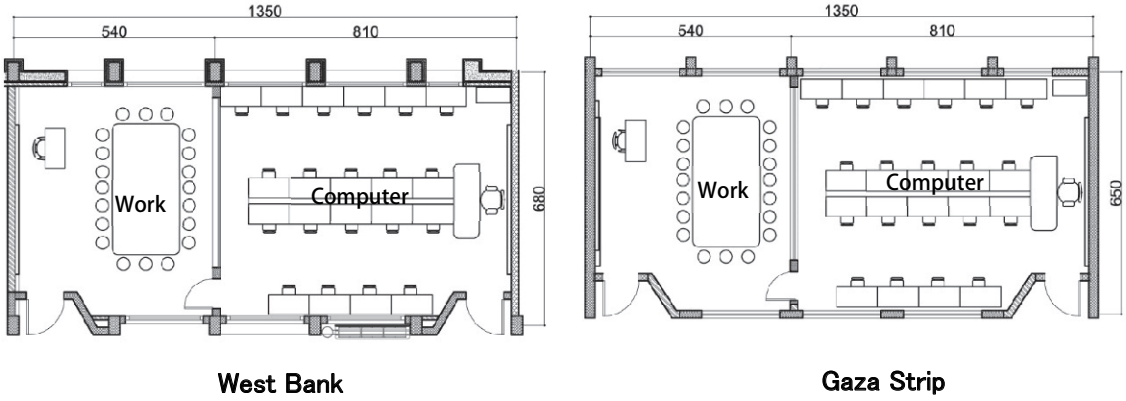


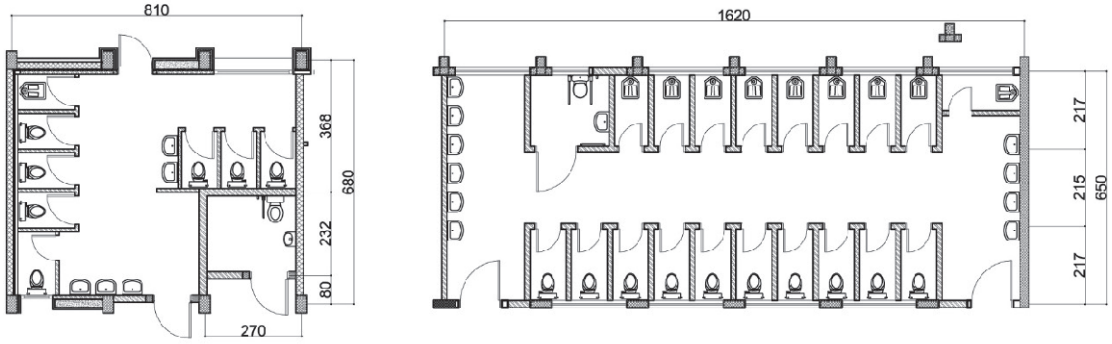
Figure 2-11 Plan of Technology Lab

7） Storeroom

Each Project shall have at least one storeroom to keep teaching materials, equipment and textbooks, as the necessity of a storeroom is high.

８） Student Toilet

The size and the number of toilets are determined by the number of students. A universal toilet shall be installed on the ground floor. For Project schools in West Bank, a multiple number of toilets shall be located on different floors, considering easier access from different rooms. On the other hand, all toilets are built in one place on the ground floor, considering easier hygienic management for Project schools in Gaza. Western type or Arabic type toilets shall be installed and no urinals shall be built. Thus, boys' toilets and girls' toilets have the same specification.



West Bank （Example） Gaza Strip （Example）

Figure 2-12 Plan of Student Toilet

９） Canteen

School starts early in the morning and closes at about 1 pm in Palestine. Therefore, schools do not have a lunch break. However, there is a relatively long break (about 25 min) after the 3rd lecture. During this break, students buy refreshments at the canteen. Many of the students use the canteen rather than bring a lunchbox from home. Hence, a canteen is an indispensable part of a school. A roof shall be installed in front of the canteen so that students will not be disturbed by rain or sunlight and can wait comfortably in line.

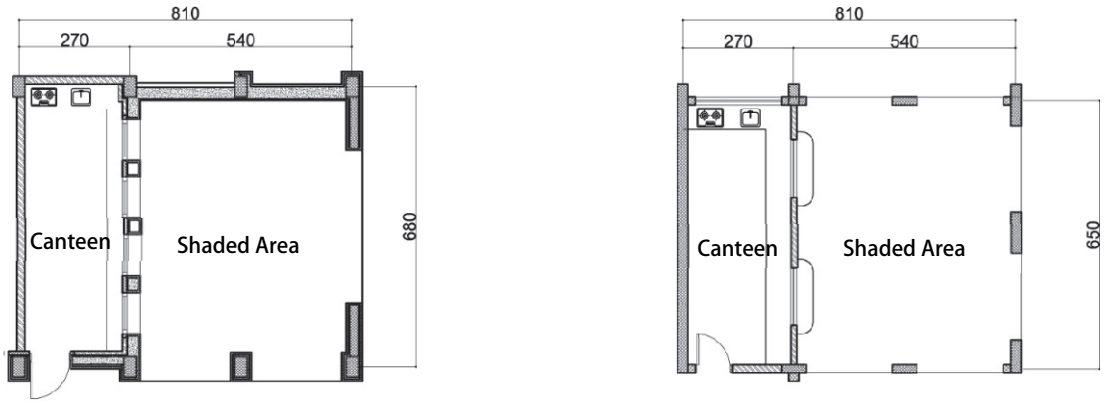


Figure 2-13 Plan of Canteen

１０） Kindergarten (Classroom, Entrance, Toilet and Kitchen)

Now that KG2 is part of compulsory education, a room for KG2 shall be built at girls' schools or coed schools teaching Grade 1-4. Since there are many private kindergartens around the Project schools, it is not necessary for the Project schools to accommodate all pupils in the respective neighborhoods. As a trial of the new policy, only one room shall be built for the relevant schools based upon the policy of MoE. In addition to the classroom, an entrance, a toilet, a kitchen, and a yard for exclusive use of kindergarten pupils shall be provided and the circulation of the kindergarten and the basic school shall be completely separated.

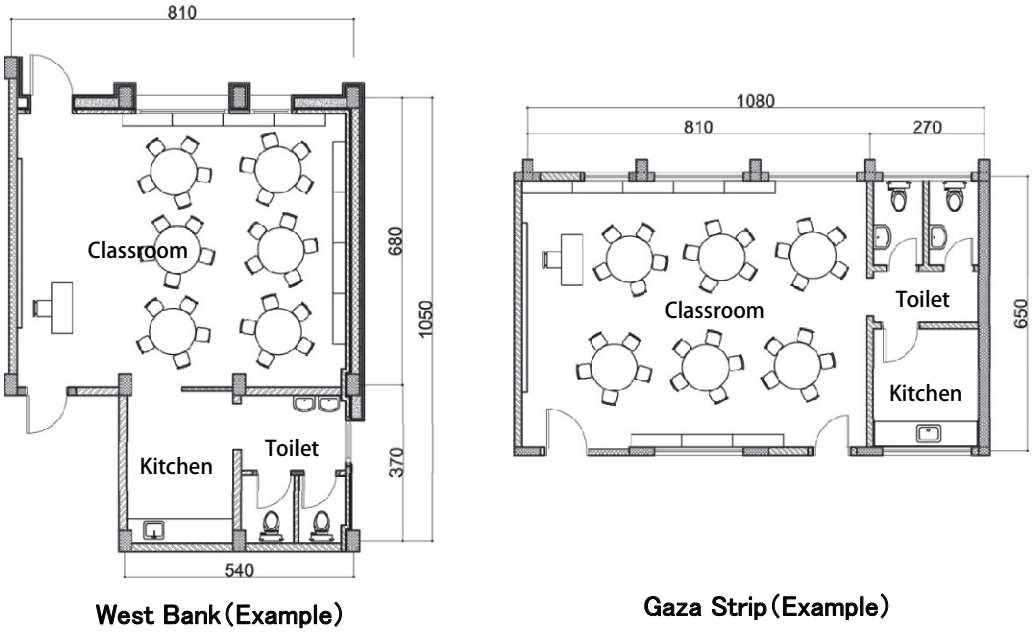


Figure 2-14 Plan of Kindergarten

（６） Section Plan

The section plan policies are as follows.

- The number of stories shall be 4 or less.
- In general, the more stories and the simpler the building shape, the less the construction cost. Thus, Project schools in principle shall be full three or four-storied buildings, with some exceptions in Gaza. Some schools in Gaza shall build a terrace for part of the 4th level. Furthermore, taking into account the site slope, part of the building may be under the ground floor level.
- The floor height is 3.64m in West Bank and 3.52m in Gaza as per the standard design.
- In West Bank, for exterior walls, reinforced concrete or concrete structure shall be covered by local stone as finishing and insulation will be sandwiched between the exterior walls and concrete hollow block walls. The exterior face of columns and beams are finished with stone as well. On the other hand, in Gaza, concrete walls shall be finished by mortar plaster and paint.
- Sliding aluminum windows and steel grills will be installed. If classroom windows face south, east or west, sunshade louvers shall be installed for the schools in West Bank, and eaves for the schools in Gaza.
- The roof is a flat type with parapet walls and covered by asphalt membrane waterproofing.
- The entrance lobby shall be double-height in West Bank. In Gaza, a yard surrounded by rooms shall be covered by a roof or located within the piloti. Acoustic insulation materials shall be used for the yard and lobby in West Bank.

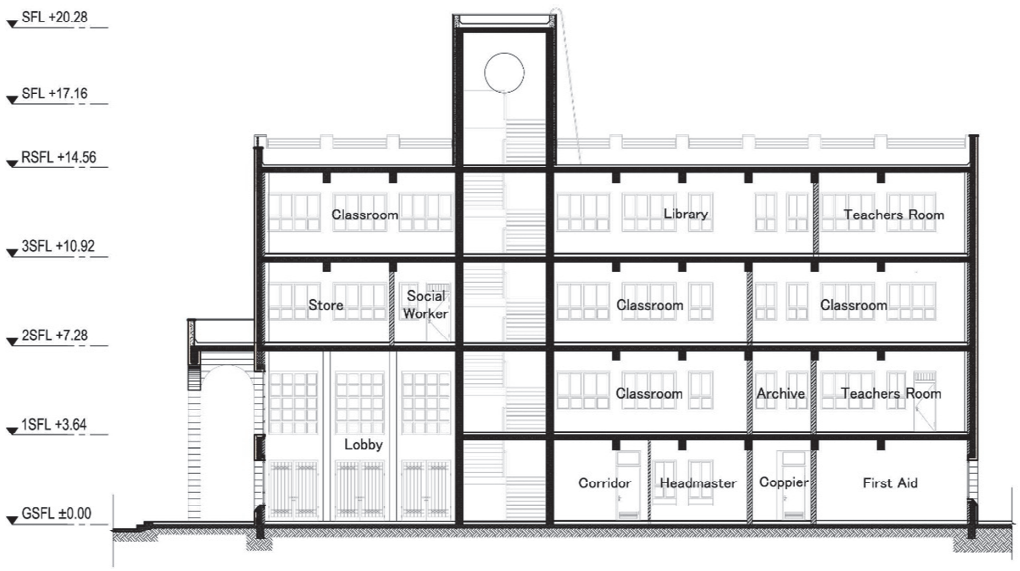


Figure 2-15 Section of School in West Bank（W-1）

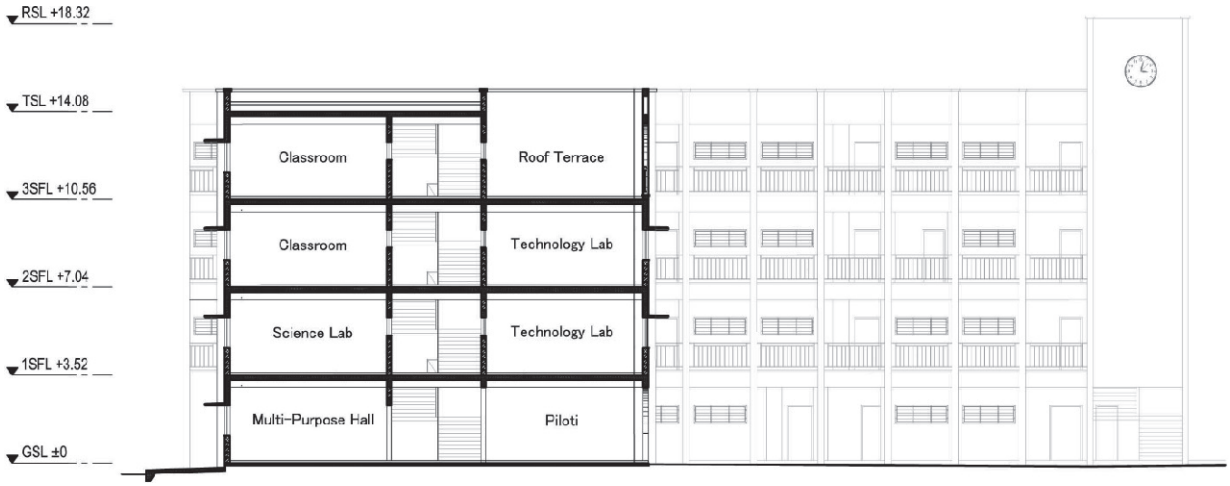


Figure 2-16 Section of School in Gaza（G-1）

（７） Construction Materials and Finishing

The following finishing materials shall be used.

Table 2-15 Finishing Materials

Parts	West Bank	Gaza
Exterior		
Roof	Asphalt roofing	Ditto
Exterior wall (Including external surface of column)	Local stone, Insulation foam	Plaster and paint
Exterior door	Steel frame door	Ditto
Window frame	Aluminum	Ditto
Window sill・Parapet	Local marble stone	Local marble stone, Asphalt roofing
Window grill	Steel	Ditto
Expansion joint cover	Aluminum ready made	Ditto
Interior		
Ceiling	Thin plaster and paint	Ditto
Interior wall	Plaster and paint	Ditto
Floor	Terrazzo tiles	Ditto
Skirting	Terrazzo tiles	Ditto
Stair risers and treads	Local marble stone	Terrazzo tiles
Handrail of stairs	Steel handrail with steel baluster	Ditto
Toilet floor and wall	Tile	Ditto
Interior door	Steel frame door	Steel frame and wooden flush door

（８） Structural Plan

１） Soil Conditions

The building foundation will be designed following the result of the soil investigation survey. (Refer to 2-2-1-3.)

２） Structure Design

The foundation shall be designed based on the soil survey. The foundation must be built on natural ground and must avoid filled areas. The superstructure of the building is concrete rigid frame. The partition walls are made of concrete hollow blocks. Concrete lintels shall be installed at the sill level and lintel level. The floor is of joist slabs with cast-in hollow blocks. For a 3-story building, the structure is designed to be as strong as a 4-story one, assuming construction of an additional story in the future.

３） Materials and Strength

The specification of concrete is Japan Industrial Standard (JIS) FC250 or equivalent or higher. Reinforcing bar is JIS SD295A for D10-13 and SD345 for D16-25 or equivalent or higher. The compressive strength of concrete blocks shall be 3.5N/mm2.

４） Seismic Design

The Jordan Valley is located in the “Dead Sea Active Fault Zone” and has had frequent earthquakes since ancient times. The further the distance from the Fault, the less frequent the occurrence and the lower the magnitude of an earthquake. The Urban Planning and Disaster Risk Reduction Center of An-Najah National University in Nablus made a hazard map which categorizes Palestine into 4 seismic zones.

Table 2-16 Seismic Zones

Zone	1	2A	2B	3
Z	0.075	0.15	0.20	0.30

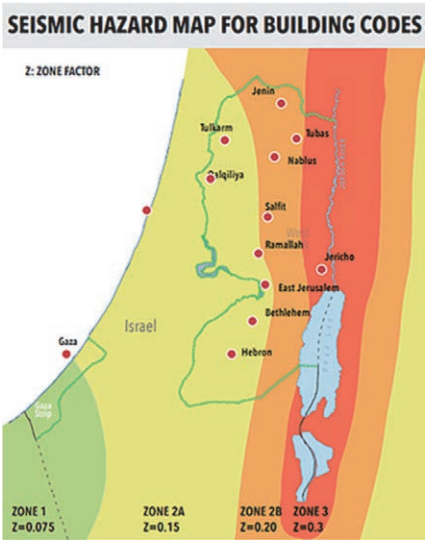


Figure 2-17 Seismic Hazard map

Among all 10 project sites, the north part of West Bank belongs to 2B, the south part of West Bank and the north part of Gaza to 2A, and the south part of Gaza to 1. As for the maximum seismic force, this hazard map shall be referred to for the structural calculation.

In Palestine, the calculation of seismic force is based on UBC-1997 (Uniform Building Code), and the Project follows this code. The base shear coefficient is calculated by the following formula.

Base shear coefficient ＝ Cv I/R T

Cv：Factors determined by seismic zone and geology

I：Importance factor (1.25 for school)

R：Response modification factor(5.5 for RC rigid frame structure)

T：Natural period

５） Design Load, Allowable Stress

In Palestine, design loads other than seismic force (Dead load, Live load, Wind load, etc.) are based on the design standards of the neighboring country of Jordan, and the Project follows this standard. The long-term allowable bearing capacity is calculated for each site based on the geological survey results, and the short-term allowable stress is 1.33 times the long-term allowable bearing capacity.

2-2-2-4 Electrical and Mechanical Design Plan

（１） Electrical Plan

In Palestine, all electricity is imported from Israel. Electricity is supplied to the entire West Bank and Gaza, and the Project sites are no exception. However, as previously mentioned, power is cut off in Gaza according to a schedule and it is a serious problem. For schools, it is not common for high voltage electricity (33kV) to be connected, but connecting 380/220V city supply lines from electric poles installed near the road is common.

１） Supply Method

The Project shall install conduits underground for 3 phase - 4 wire low voltage 380/220V to connect between lead-in poles installed in the site and the main switchboard. The power supply company shall carry out wiring work between the lead-in poles and the main switchboard. In addition, a ground wire or lightning protection system shall be installed.

２） Power Supply

To pump water to the elevated water tank, 380-volt power shall be supplied to the pump control board.

３） Lighting and Receptacles

LED as a supplemental lighting system during early morning and for bad weather shall be installed. The uppermost part of the exterior wall shall be equipped with a lighting system to light up the yard.

４） Telephone

Telephone line shall be connected to a lead-in pole in each site and then transferred to a terminal board in the teachers' room. Telephone units shall be of the mutual transfer type.

５） Bell System

Bell system to announce the starting and finishing time of classes shall be installed.

６） Broadcasting System

Broadcasting system, including an amplifier, microphone, speaker and loudspeaker shall be installed for announcements.

７） Emergency Devices

According to the standard design, a fire alarm system shall be installed. It includes a push button and siren and will work together with smoke detectors and heat detectors. Furthermore, in conformity with

direction from the “General Department of Safety & Prevention, General Directorate of Civil Defense, Ministry of Interior,” clean agent suppression at power boards, illuminated emergency exit signs, and emergency lighting shall be provided.

８） Security Installation

A set of CCTV cameras shall be installed to monitor visitors and blind spots, and prevent unknown visitors from entering the school building. Interior cameras for the entrance lobby and corridors, and exterior cameras for the school yard and entrance, shall be procured respectively. Monitors shall be installed in the headmaster’s room.

９） Computer System

Powerline for computer equipment shall be installed.

１０） Solar Power Generation (Photovoltaic) System (Gaza schools only)

Project schools in Gaza shall be equipped with a solar power generation panel equivalent to 10kW with accessories such as an inverter and battery. (Refer to 2-2-2-6. Setting the capacity of Solar Power Panel.)

（２） Mechanical Design Plan

Public water and sewage are available at all Project sites. On top of that, lately, rainwater is also collected and used for effective use of natural resources. In Gaza, city water is often cut off and is available only 1 or 2 days per week in the dry season. Furthermore, city water in Gaza is not good for drinking as it contains salt, and citizens rely on water supply tanks.

１） Water Supply Method

Water shall be received in receiving tanks, pumped up to elevated tanks and then distributed to each necessary point by gravity flow.

２） Water Receiving Tank

A city water receiving tank of 40 cubic meters shall be installed underground near the school gate in West Bank, while a polyethylene resin tank shall be installed on the ground in Gaza.

３） Elevated Water Tank

A city water tank and a rainwater storage tank of polyethylene resin shall be connected to each other and placed on the rooftop of the school both in West Bank and Gaza.

４） Water Cooler for Drinking

A water cooler for drinking shall be provided for each school in West Bank.

５） Water Heater

A water heater using solar power shall be provided and placed on the rooftop for each school in Gaza.

６） Fire Fighting Equipment

Following the direction of “the General Department of Safety & Prevention, General Directorate of Civil Defense, Ministry of Interior”, connected water supply pipe facility, fire hydrant and fire extinguishers shall be supplied to each school in West Bank. In Gaza, only fire extinguishers shall be provided.

７） Treatment of Sewage and Waste Water

In a school where a public sewer system is available, drainage pipes shall be connected to the public main. If it is not the case, septic tanks and infiltration pits shall be built.

８） Rainwater Treatment

At several Project sites in Gaza, rainwater shall be piped into the public rainwater pipe installed underground at the front road. For the other sites, rainwater shall be allowed to permeate into the ground.

９） Toilets

No urinals are planned. Accordingly, the specification of toilets shall be the same for male and female toilets. In West Bank, one toilet booth for students shall have an Arabic type toilet, and the remaining booths shall have Western type toilets. In Gaza, the same number of Arabic type and Western type toilet booths shall be built. Toilets for teachers and the handicapped shall be Western type.

１０） Gas Supply

LPG shall be supplied for the science lab from a gas tank.

（３） Ventilation Facilities

Ventilation fans shall be installed at students’ toilets, administration toilets, and science labs both in West Bank and Gaza. According to MoE, ceiling fans are not allowed in classrooms or administrative unit in West Bank or Gaza.

2-2-2-5 Exterior and Land Development Plan

In the Project, fences, gates, slopes, parking lots, paving areas around buildings and schoolyards, flag poles, basketball courts, etc. will be constructed as exterior works. These works were included in past grant aid projects and other donor funded school construction projects. Therefore, these exterior works shall be included in the undertakings by the Japanese side of the Project for the reasons described in 2-2-5-3.

2-2-2-6 Setting the Capacity of Solar Power (Photovoltaic) System

Blackouts are no longer frequent in West Bank, but in Gaza, the power is on and off at an 8-hour interval and this is likely to continue. Needless to say, school lessons are negatively affected during the power-off time. Furthermore, city water, which is supplied for 1 or 2 days per week, may be pumped up to the elevated tank on the rooftop only when power is available. Thus, if the timing of power supply and water supply is not the same, schools may not use water at all. Therefore, a solar power system is indispensable for the Project schools to cover the necessary power during blackouts and the Palestinian side has strongly requested installation of it.

For a school whose floor area is around 3,000 sqm, the maximum instantaneous power consumption reaches up to 24 KW even without air-conditioners (Refer to column A in the table below). However, assuming that all electric appliances are not used simultaneously, it is estimated that the actual maximum instantaneous use is about 13KW (refer to column B).

Moreover, from a cost reduction viewpoint, the Project procures a solar power system at the minimum necessary for school operation. The Project assumes the following points to set the capacity of the solar power system.

- lighting fixtures cover a third of a classroom
- water pump is only for city water and not for rainwater
- half of the computers shall be used simultaneously
- use of power drills is limited.

Considering these points, the maximum instantaneous power consumption may be reduced to around 7kW (Refer to column C). Even assuming 30% power loss of the solar panel, 10KW solar panel is enough to cover the power consumption at a school.

Table 2-17 Estimation of Power Consumption of a School in Gaza

Item	Power Consuption (W)	A Maxmum Consumption		B Reduced by Simultaneous Use		C Eco Mode	
		Number	Total Consumption (W)	Number	Total Consumption (W)	Number	Total Consumption (W)
LED interior	33	170	5,610	85	2,805	50	1,650
LED corridor & stairs	30	130	3,900	65	1,950	0	0
Pump1 city water	1,000	1	1,000	0.5	500	0.5	500
Interactive Projector	500	6	3,000	6	3,000	4	2,000
PC	100	30	3,000	30	3,000	15	1,500
Other (office, emergency)			3,000	0.5	1,500		1,500
Electric tools for Tecnology Lab			5,000	0.2	0	0	0
Total			24,510		12,755		7,150

In addition, a set of battery and inverters is necessary for a solar power generation system. Their specifications, which are shown below, are ones commonly seen in Palestine.

・Solar Panel: About 10kW (ex. 320W x 33 panels)
・Battery:12V200Ah×12 pcs
・Inverter:10 kW×1pc (with a battery recharger)

2-2-2-7 Furniture

Based upon the standard, the following furniture shall be planned for the project schools.

ID	Room Name / Item Name	Classroom	Headmaster	Secretary	Teachers Room (L)	Teachers Room (S)	Social Worker	Science Lab	Technology Lab (Computer Space)	Technology Lab (Work Space)	First Aid	Library	Library (Grade 1-4)	Multi-Purpose Hall	Resource Room	Guard House	Kindergarten
A-1	Student Desk 4 (Grade 1-4)	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A-2	Student Chair 4 (Grade 1-4)	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-1	Student Desk 5 (Grade 5-10)	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B-2	Student Chair 5 (Grade 5-10)	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-1	Student Desk 6 (Grade 11-12)	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C-2	Student Chair 6 (Grade 11-12)	40	-	-	-	-	-	-	-	-	-	41	40	-	-	-	-
D-1	Teacher Desk (Classroom)	1	-	-		-	-	-	-	1	-	-	-	-	-	-	-
D-2	Teacher Desk (Teacher Room)	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-
D-3	Teacher Chair	1	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-
E-1	Reading Table	-	-	-	-	-	-	-	-	-	-	8	6	8	-	-	-
E-3	Computer Table	-	-	-	-	-	-	-	-	-	-	1	8	-	-	-	-
E-4	Stool Chair	-	-	-	-	-	-	41	-	-	-	-	-	-	-	-	-
E-5	Examination Bed	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
E-6	Medical Privacy Screen	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
F-1	Headmaster/Officer Desk	-	1	1	-	-	1	-	-	-	1	1	1	-	1	-	-
F-2	Middle Table (L)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F-3	Middle Table (S)	-	2	1	-	-	1	-	-	-	1	-	-	-	-	-	-
F-4	Book Shelf	-	-	-	-	-	-	-	-	-	-	10	10	-	-	-	-
F-5	Closet Shelves	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
F-6	Headmaster/Officer Chair	-	1	1	-	-	1	-	-	-	1	1	1	-	1	-	-
F-7	Visitor Chair	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F-8	Multi-purpose Chair	-	-	4	-	-	6	—	—	—	2	2	2	60	-	-	-
G-1	Metal File Cabinet	-	1	1	-	-	1	-	-	-	1	-	-	-	-	-	-
G-2	Locker (2 doors)	1	-	1	-	-	-	-	1	-	-	-	-	1	-	-	-
G-3	Locker (Teacher)	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-
G-4	Lab Locker	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-
G-5	Sport Cabinet	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
H-1	Student Desk/ Resource Room	-	-	-	-	-	-	-	-	-	-	-	-	-	7		-
H-2	Student Chair/ Resource Room	-	-	-	-	-	-	-	-	-	-	-	-	-	7	-	-
H-3	Computer Table/ Resource Room	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
I-1	Student Chair 6/ Technology Lab	-	-	-	-	-	-	-	20	-	-	-	-	-	-		-
I-2	Stool Chair/ Technology Lab	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-
I-4	Teacher Chair/ Technology Lab	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-
J-4	Computer Table/ Technology Lab	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-
K-1	Round Table/ Kindergarten	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
K-2	Kindergarten Chair	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30
K-3	Wooden shelf Compartment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
K-4	Wooden Book Shelf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
L-1	Headmaster/Officer Desk/ Guard House(only Gaza)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
L-2	Teacher Chair/ Guard House(only Gaza)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
L-3	Multi-purpose Chair/ Guard House(only Gaza)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-
L-4	Middle Table (S)/ Guard House(only Gaza)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
L-5	Closet Shelves/ Guard House(only Gaza)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-
L-6	Examination Bed/ Guard House(only Gaza)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-

＊ The number of required teacher number + 2 in total

2-2-3 Equipment Plan

2-2-3-1 Overview of the Request

Equipment for the following facilities were requested. 1) Classroom, 2) Library, 3) Administration Unit, 4) Multi-purpose Hall, 5) Science Lab, 6) Technology Lab, 7) Resource room, 8) Kindergarten, and 9) Others (network equipment).

2-2-3-2 Selection Criteria

The Project selected items meeting the following conditions.

- Items which are necessary for the new curriculum.
- Items which have been used and confirmed in their effectiveness.
- Items which may be maintained within the school budget.
- Items which may be procured in Palestine. (If this is not the case, items which may be procured from a neighboring country agent may be considered.)
- Items for which aftersales service by Palestinian agents or neighboring country agents is available.
- Items whose spare parts and consumables are available in Palestine or from a neighboring country.
- As for ICT equipment, it has to be easily handled and maintained by school teachers and considered effective to produce educational outcomes.

The following items are not covered by the Project.

- Items which are usually procured within the school budget.

2-2-3-3 Rules for Procuring ICT Equipment

MoE has been promoting “Digitalized Schools (DS),” under the concept of which ICT and digital equipment are installed in schools with cooperation from local governments and organizations. As of March 2019, 160 schools in municipalities which levy the education tax became DSs and equipped with ICT and digital tools. The overview of DS is as follows.

Table 2-18 Overview of Digitalized School

Target Grade/Students	All students at Grade 5–12
Equipment to be Installed	① Interactive projector ② Lap top computer (for teachers) ③ Tablet with a keyboard (for students) *(Remark 1)* ④ Wireless communication tool ⑤ Internet connection ⑥ Speaker with amplifier *(Remark 2)*
Training for Teachers *(Remark 3)*	① Computer literacy ② Class management and making teaching materials for class

(Source: MoE DG of Educational Technology "DS (Digitalized School)" (rev October 2019)

(Remark 1) Shared among students at each school which teaches the target grades. The number of computers to be provided depends upon the number of classrooms, however, in general it is recommended that at least 50 computers be provided per school.
(Remark 2) Optional. The equipment is procured as a part of the building.
(Remark 3) The details of the training is as below.

The Project shall equip the schools with ICT and digital items/tools to meet the standard. The training programs for teachers on ICT are administrated by DG of Training and Educational Supervision, which develops training programs and implement them. There are two training levels, the details of which are as follows.

Table 2-19 ICT Training for Teachers

	Level 1	Level 2
Content	How to use software How to use internet General computer literacy	How to use ICT tools (including Tablet) to make teaching materials. How to manage classrooms, including effective and safe use of ICT equipment.
Timing Duration Venue	Throughout a year 30 hours (at maximum) Ramallah and all over Palestine	Throughout a year 60 hours (at maximum) Ramallah and all over Palestine
No. of sessions offered	・In Ramallah:160 courses/year ・Outside Ramallah:17 courses/year	
Beneficiary	・Teachers ・School administrators ・Supervisors Remark :15–20 participants per course	
Purpose	・For Techers Computer literacy, how to use ICT tools to make teaching materials, how to manage a classroom, and how to use ICT tools ・For School administrators and supervisors To follow up teachers	

(Source: MoE DG of Training & Educational Supervision)

2-2-3-4 Equipment and Surrounding Conditions

（１） West Bank

Overall, there is no problem about power supply and the voltage is stable, although there are occasional power outages in winter. In order to prevent damage to hardware and data, UPS (Uninterruptible Power Supply) shall be installed for desktop computers.

（２） Gaza

Considering that power is available for a few hours a day, laptop computers with a rechargeable battery, which may be used for a while without power supply, shall be procured.

（３） Consumables

In Palestine, there are a number of equipment agents who may supply consumables and spare parts for the equipment. Therefore, consumables and spare parts shall not be covered by the Project. However, one toner cartridge, which is used up quickly, shall be procured for both printers and copiers.

2-2-3-5 Setting the Quantity of Equipment

The number of each item to be procured was considered according to the quantity specified item by item by MoE. The following is the base to determine the quantity for each item.

Table 2-20 Base to Set the Quantity

Facility	Equipment	Base to set the quantity
Classroom (West Bank)	Tablet with a keyboard	At least 50 per school (for G5-12 classroom)
	Laptop Computer	One per teacher
	Interactive Projector	One per classroom
Classroom (Gaza)	Laptop Computer	One per subject teacher group
	Interactive Projector	One per G5-6 classroom
Library (G1-4)	Computer	9
Library (G5-12)	Computer	1
Science Lab	Major experiment tools	Assumption: 6 experiment groups per class (if the number of students per group exceeds 8, 6 or more groups are assumed.)
Technology Lab	Major tools	Assumption: 6 work groups per class. (if the number of students per group exceeds 8, 6 or more groups are assumed.)
Others (network equipment)	Access points	8 per school

2-2-3-6 Evaluating the Requests

Taking into account the selection criteria and setting the quantity of equipment, the requests were evaluated and plans were made. The following table shows deleted items/or quantity changed from the requested equipment list.

Table 2-21 Equipment changed from the Original List [Facility other than Technology Lab]

Facility	Equipment	Remarks
Library	Network system	One set for G1-4 school (To be procured as a part of the building)
Doorkeeper's room and Kitchen	Boiler	One per school (To be procured as a part of the building)
	Gas range	One per school (To be procured as a part of the building)
Secretary's room	Paper Shredder	**NOT covered by the Project** [Reason] Not necessary equipment for the new curriculum
	Electrical cleaning machine	One per school (To be procured as a part of the building)
Sport Storeroom	Mattress, ball set (basketball, volleyball ,football) Badminton set, Table tennis set	**NOT covered by the Project** [Reason] They are usually purchased with the school budget
Multi-purpose hall	Sound system set	One per school (To be procured as a part of the building)
Science lab	Chemicals	**NOT covered by the Project** [Reason] They are usually purchased with the school budget
Resource room	Bookbinding machine	**NOT covered by the Project** [Reason] Not necessary equipment for the new curriculum.
	Mirror	One per school (To be procured as a part of the building)

Table 2-22 Equipment changed from the Original List [Technology Lab]

Equipment	Q'ty per school				Remarks
	G 5-9		G 10-12		
	WB	Gaza	WB	Gaza	
Network Equipment Set (Switch POE and Distribution Cabinet and Complete Network Point and Enterprise Access Point with Plastic Box and Firewall)	1	1	1	1	Access point with Plastic Box shall be procured as equipment. The rest shall be procured as a part of the building.
Office Pro 2016 Educational	21	21	21	21	To be installed in the computers
Arduino software			21	21	S4A (Scrach for Arduino) shall be installed in the above computers
Arduino & Bluetooth Simulation Library			21	21	To be installed in the computers
App Inventor software			21	21	
Web Page Maker			21	21	
Ink Space			21	21	
Gimp			21	21	
Audacity 1			21	21	
VSDC			21	21	
Proteus 8.6			21	21	
Arduino C			21	21	
Scratch 2	21	21			
Scribus	21	21			
Google web designer	21	21			
Visual Basic	21	21			

2-2-3-7 List of Planned Equipment

A summary of the planned equipment is as follows.

Table 2-23 Outline of Equipment to be procured

Facility	Equipment to be Procured
Classroom	Computer (laptop), Interactive projector, etc.
Library	Computer (desktop), Interactive projector
Administration unit (Headmaster's room, Secretary's room, Archive/copier, Teachers' room etc.)	Computer (desktop), Laser printer, Copier
Multi-purpose hall	LCD Projector, Computer (laptop)
Science lab + prep	Computer (laptop) ,Laser printer, Linear air track kit, Ruhmkorff commutator, Micrometer, Periodic table of elements, Hoffman apparatus, Human circulatory system charts, Human torso, Stereo microscope
Technology lab (Computer space and Carpentry work space)	Hammer drill, Combination miter/table saw, Power supply AC/DC, Caustic welding tin, Pliers meter measure, Screw driver set, Combination wrench set, Parts (switch, ICs, relay), Oscilloscope, etc.
	Computer, Laser printer, Interactive projector
Resource room	Computer (laptop), Laser printer, Educational toy set, Educational tool set, etc.
Kindergarten (Classroom, toilet, kitchen, entrance)	Round table, Chair, Wood shelf, Parachute, Kitchen corner, Puzzles, Wooden geometric shapes, Computer (laptop), Laser printer, Swing, Seesaw, Slide , etc.
Others (Network equipment)	Firewall, Access point

Table 2-24 Specification of Main Equipment

No.	Equipment	Qty		Basic Specification	Purpose
		WB	Gaza		
W-1	Tablet with a keyboard	240	–	Specification: Type:2-in-1 detachable keyboard Memory:4GB DDR3L RAM or equivalent storage *:64GBor equivalent LCD/Touch panel:10 inch or equivalent Camera: available	To assist "active learning" at classroom. Using it with an interactive projector enables teacher and students to interact better.

No.	Equipment	Qty		Basic Specification	Purpose
		WB	Gaza		
W-2, W-13,W-14 W-270, W-273, W-304,G-1 G-3,G-5 G-7,G-8 G-12,G-13 G-268, G-271, G-301	Computer (laptop)	86	186	Specification: CPU:Intelcorei5or equivalent Memory:8GB DDR4 or equivalent HDD:1TB Sata or equivalent Monitor:14LED Monitor or equivalent Optical Drive: DVD R/W Software: Office Pro2016Educational	For teachers: to create teaching materials and to carry out administrative works. For students: to study.
W-3,W-5 W-272, W-275, W-305,G-2 G-4,G-270	Interactive projector	65	22	Specification: Brightness:3500 ANSI lumens or equivalent Native Display Resolution: WXGA 1280x800 or equivalent Speaker: 16W or equivalent Touch panel: Finger touch camera for projector Lamp duration:9000 hours or equivalent	To assist “active learning” at classroom, resource room and kindergarten. It allows teachers to save time to write on blackboard. It enables class to use different educational media.
W-4,W-6, W-8,W-9, W-269	Computer(desktop)	99	–	Specification: CPU:Intelcorei5 or equivalent Memory:8GB DDR4 or equivalent HDD:512GB SSD M.2 NVMe or equivalent Monitor:21inch LED Monitor or equivalent, with speaker Software: Office Pro 2016 Educational	For teachers: to create teaching materials and to carry out administrative works. For students: to study.
W-11,G-10	Copier	5	5	Specification: Copy speed (black & white) :45ppm or equivalent Resolution:1200x1200dpi or equivalent DSDF scan: possible Scan preview: possible Self-Encrypting Drive FIPS140-2:320GB or equivalent	To print out /copy teaching materials, exams and other necessary documents.

No.	Equipment	Qty		Basic Specification	Purpose
		WB	Gaza		
W-7,W-10 W-271, W-274, W-306,G-6, G-9,G-269, G-272, G-302	Laser printer	24	26	Specification: Function: Print out, scan, copy ,fax Automatic Document feeder: possible Resolution: 600dpi or equivalent Network connection possible Print speed:30 ppm or equivalent	To print out /copy teaching materials, exams and other necessary documents.
W-15,G-14	Color Laser printer	2	2	Specification: Type: Color laser printer Print speed (color/black & white): 30ppm or equivalent Resolution 1200dpi or equivalent Network connection: possible	To be used in science lab. Colored science teaching materials facilitate easier understanding by students.
W-141, G-140	Multipurpose Experiment Equipment Set	2	2	Composition: Tablet for Data Logger, Portable Data Logger, Software for analyzing, Sensors Set, Accessories needed for Experiments Specification: Tablet processor:1GHz or equivalent Tablet Memory:1GB RAM or equivalent Tablet Display:10inch LCD or equivalent, with Touch Screen Sensors Set: Voltage, Current, Temperature, Photogate, Rotary ,Magnetic Field,PH,CO2,Force,Motion ,Humidity,GasPressure,Conductivity,Wind Speed, Heart Rate	Collecting data on temperature/moisture, etc. and assist students in understanding natural phenomena.

No.	Equipment	Qty		Basic Specification	Purpose
		WB	Gaza		
W-310, G-306	Firewall	5	5	Specification: Firewall Throughput :4Gbps or equivalent Concurrent Sessions:1.3 million or equivalent Internal storage:128GB SSD or equivalent Firewall Latency:3 μ sor equivalent Application Control Throughput:900Mpbs or equivalent	To prevent outsiders from accessing computers through internet.
W-311, G-307	Access point	40	40	Specification: Data Link Protocol:IEEE802.11b,g,n,AC Data Speed: 1/10/100/1000Mbps PoE Power Requirement:802.3af Recommended User Support:50 active clients or equivalent Plastic Box: Provided	To connect computers at school internally and externally.

2-2-4 Outline Design Drawings

As attached in Appendix 6.

2-2-5 Implementation and Procurement Plans

2-2-5-1 Construction and Procurement Policy

（1） Project Implementation under Japanese Project Grant Type II

This Project will be implemented under the Japanese Project Grant Type II scheme, and MoE, as the Employer, will implement the Project in cooperation with JICA and the Japanese consultant.

The Japanese consultant who has been employed for the preparatory survey will be appointed as the consultant for the Project, with recommendation from JICA. The consultant will undertake the consulting services including detailed design work, assistance with bidding procedures, construction supervision and assistance to project financial/administrative management, based on a consultant agreement made between MoE and the consultant. The following figure shows the implementation

structure.

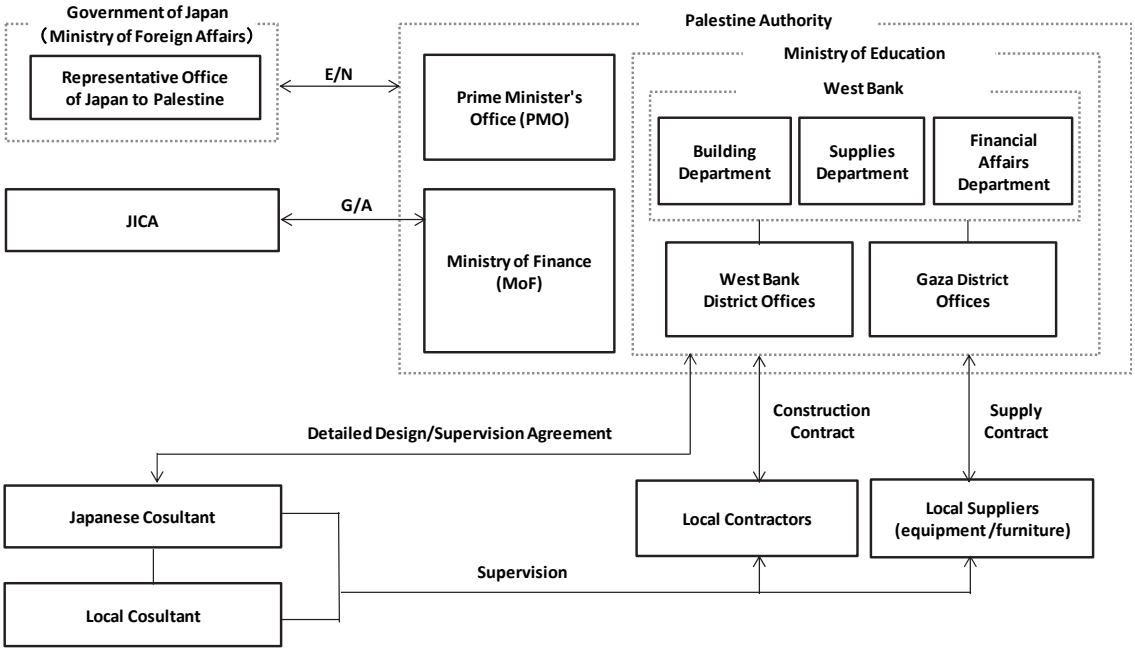


Figure 2-18　Project Implementation Organization

（２）　Project Implementation Organization of Palestinian side

１）　Relevant Authorities and Implementation Structure

The Government of Japan and the Palestinian Liberation Organization (PLO) shall sign an Exchange of Notes (E/N), while JICA and Ministry of Finance (MoF) sign a Grant Agreement (G/A). MoE shall be the executing agency and be responsible for signing contracts with the consultant, Palestinian contractors and equipment suppliers.

２）　Implementation Organization of MoE

Though West Bank and Gaza are separated geographically, education in both regions is administrated by MoE Headquarters in Ramallah. Accordingly, all matters, including ones in Gaza, are determined by MoE Headquarters. Bids are called and handled by the Headquarters.

Building construction of the Project is administrated by the Contracts & Documents Division and Design Division of Department of School Buildings, while the equipment procurement of the Project is administered by the Department of Supplies.

There are counterparts in the departments in MoE Gaza Office, and they will be supporting the project. Each education directorate in Gaza has engineers, who are expected to attend various inspections during detailed design surveys and construction.

（３） Contractors and Equipment and Furniture Suppliers

Contractors and equipment/furniture suppliers shall be selected through competitive bidding, in which only Palestinian companies may bid. The selected contractors and suppliers shall construct buildings and procure equipment/furniture according to the contracts.

In principle, a company in Gaza may bid in a lot in West Bank and vice versa. However, considering the reality that Palestinians may not move between the two regions, contractors/suppliers in West Bank only bid lots in West Bank and Gaza contractors/suppliers only bid in Gaza.

（４） Financial Flow of Project Grant Type II

Under the Project Grant Type II scheme, the Executing Agency, namely MoE, will act as the Employer, and the Employer will make contracts with the Japanese consultant and the contractor(s) / supplier(s) in Palestine.

Payments to the consultant will be made based on the Authorization to Pay (A/P) to be issued from the designated bank in Palestine to the Agent Bank in Japan, in a manner similar to the one under the past General Grant Aid of Japan scheme. In contrast to this, for payments to the local companies engaged as contractors and/or suppliers, a different payment method that is similar to “Transfer A method” for Japanese Loan projects will be adopted.

Financial flows for the Japanese consultant and for local contractor(s)/supplier(s) are shown in Figure2-19 and Figure 2-20, respectively.

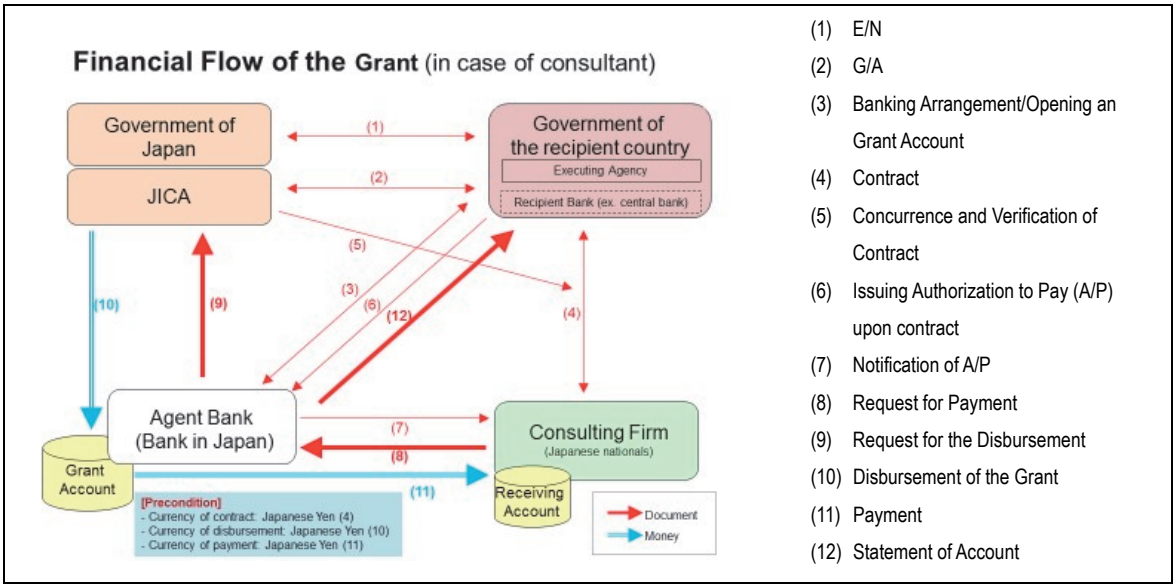


Figure 2-19 Financial Flow under Project Grant Type II (in case of Japanese consultant)

In case of payments to local contractors/suppliers, the Executing Agency, namely MoE, will compile all the CFP (shown as (6) in the following figure) of the month submitted by each contractor and/or supplier, and then RFD (shown as (7) in the following figure) and TI (shown as (8) in the following figure) with the CFPs attached will be submitted to Japan side.

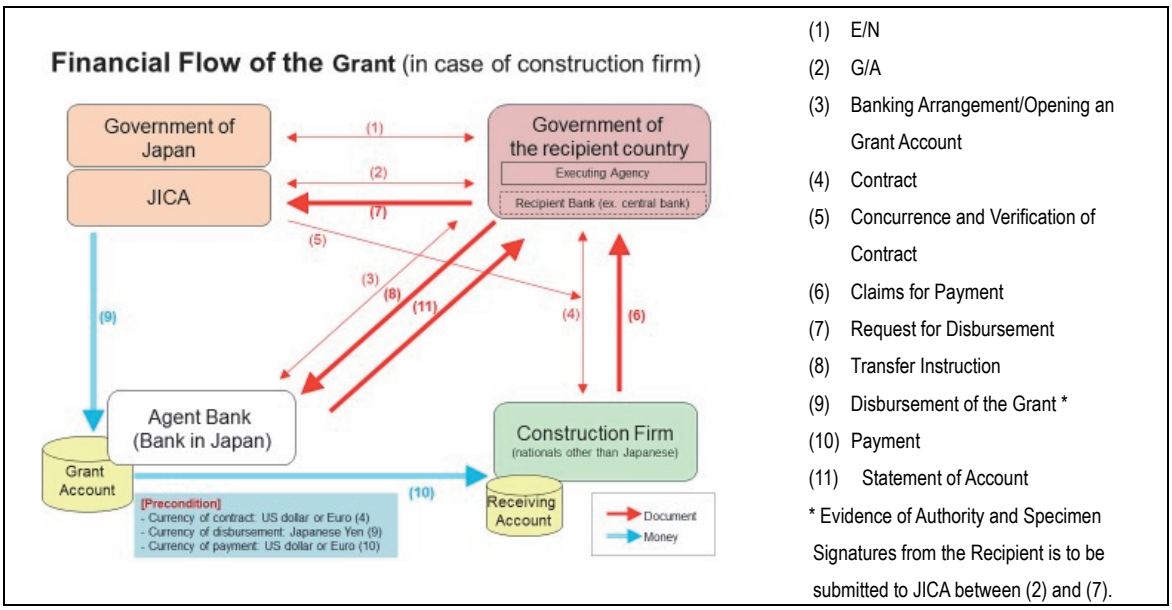


Figure 2-20 Financial Flow under Project Grant Type II (in case of local contractors/suppliers)

2-2-5-2 Implementation Conditions

（１） Implementation under Japanese Project Grant Type II

While the Government of Palestine implemented Japanese-funded projects under different Grant Aid schemes in the past, this Project will be implemented under the new scheme of Japanese Grant, Project Grant Type II for the first time. For smooth implementation of the Project, the consultant will assist the project implementation at every stage of detailed design, bidding, contract, preparation of commencement of works and construction/procurement.

（２） Payment Mechanism for Palestinian Contractors/Suppliers

It is crucial for both Japanese and Palestinian sides to establish a solid implementation system where payments to contractors/suppliers are made as quickly as possible. This is because if a payment is delayed, Palestinian contractors/suppliers shall be short on cash, thereby causing a construction delay. Thus, a simple, transparent and accountable payment mechanism as well as implementation structure will be established at the Detailed Design stage for smooth payment settlement.

（３） Tax Exemption

In implementing the Project, 1) Value-Added Tax (VAT), 2) Corporate tax, 3) Personal income tax and 4) Customs tax are subject to exemption. The scope, important issues to be considered, procedures, etc. are described below.

１） Value-Added Tax

There are two methods of VAT exemption. First is “Zero-VAT”, where a contractor/supplier purchases goods without VAT. Second is “VAT Refund,” where a contractor/supplier purchases goods by paying the price and VAT and gets the VAT refunded later.

① Consultant Agreement (Zero-VAT)

The consultant agreement, which shall be signed between the Japanese consultant and MoE shall be subject to Zero-VAT, based upon the E/N and G/A which stipulates the VAT exemption. A consultant agreement for donor funded projects in Palestine is usually VAT exempted.

② Construction Contract (Zero-VAT)

Likewise, construction contracts which shall be signed between contractors and MoE shall be subject to Zero-VAT, based upon the E/N and G/A which stipulates the VAT exemption. In order to enjoy Zero-VAT, the contractor needs to submit to MoF a letter of VAT exemption request from MoE, a contract that clearly stipulates VAT exemption, contractor’s registration number and a sample form of invoice.

Then, a Zero-VAT approval letter is usually issued after about 5 business days.

③ Contractors' Purchasing Construction Materials (VAT Refund)

The contractors of the Project shall purchase goods with VAT and the VAT shall be refunded when they submit necessary documents (such as receipts) to MoF. In principle, a refund is made within a month after a claim is made. However, in reality, it takes longer, because of the financial situation of the government.

④ Sub-consulting agreement (Zero-VAT)

The sub-consulting agreement which shall be signed between the Japanese consultant and a Palestinian architectural consultant is also subject to Zero-VAT. The procedure for obtaining a Zero-VAT approval letter is the same as ②.

２） Corporate Tax

The Japanese consultant's corporate tax shall be exempted, based upon the E/N and G/A, while the corporate tax of Palestinian contractors, suppliers and sub-consultant shall not be exempted.

３） Personal Income Tax

The personal income tax of the Japanese consultant staff shall be tax exempted, based upon the E/N and G/A, while the same of any Palestinian project staff shall not be tax exempted.

４） Customs Tax

The customs tax on materials/equipment to be imported to Palestine shall be exempted. The customs clearance on goods to be imported to Palestine is handled by Israel on behalf of Palestine. Thus, a tax-exemption application must be filed to the Israeli tax authority through Palestinian MoF.

The Israeli customs inspects goods to be imported to Palestine to confirm that they may not be used for military purposes. Some goods take a long time to be cleared, or worse, they may not be approved to be imported to Palestine. Therefore, it is essential to submit a list of all goods to be imported to the Israeli authority via MoF to confirm approval in advance.

In transporting goods to Gaza, in addition to the above procedure, it is necessary to submit a list of goods to JICA Palestine office which shall consult with Coordination of Government Activities in the Territories (COGAT) for approval beforehand.

The following steps are taken for the customs tax exemption. While "Dual Use" items, which may be

converted into military use, require 4 months for clearance, most items require about 3 months for clearance.

- MoE submits to MoF a letter for customs tax exemption for importing goods.
- MoF issues a donation number and submits necessary documents to COGAT.
- COGAT files the customs tax exemption to the Israeli tax authority.
- The Israeli tax authority approves the tax exemption.
- Goods may be transferred from an Israeli port into Palestine territory.

（４） Condition of Contracts

The following are general conditions required in a construction contract for a school construction project in Palestine.

- Bid Guarantee: 2-3 % of estimated price
- Advance Guarantee: 100 % of advance payment
- Performance Guarantee: 10% of contract price
- Defect Liability: 5% of contract price
- Defect Liability Period: 730 days (If a donor's standard defect liability period is one year, it may follow the donor's rule.)
- Third Party Inspection: None
- Construction Insurance (property damage) :115% of the contract price
- Construction Insurance (third party): USD 150,000 per project
- Construction Insurance (workers' accident): 20% of the contract price

2-2-5-3 Scope of Works

（１） Land Development and Exterior Works

MoE strongly requested the following works in West Bank to be covered by the Japanese side.

① Land Development: Owing to the complex topographic conditions in the respective sites, it is difficult to completely separate building works from land development and constructing retaining walls. This is partly true of sites in Gaza.

② Exterior Works: For security reasons, fences and gates must be constructed at the same time as the construction of school buildings. In Palestine, the construction budget for education sector is from donors and there is no telling if the necessary budget is available in a timely manner.

Since past grant aid projects and other donor's projects covered these works, it is deemed appropriate for the Project to cover these works.

（２） Other works

MoE covers the following works with assistance from local governments, schools and residents.

① Replanting existing trees (olives, etc.)
② Demolition of existing buildings
③ Planting trees in school yards

2-2-5-4 Project Implementation of the Consultant

Roles and responsibilities of the consultant under the Japanese Project Grant Type II are as follows.

【Detailed Design/Tender Stages】

- To visit Project school sites to collect necessary information to determine the feasibility of the implementation and to carry out detailed design.
- To carry out detailed design and put together drawings, specifications and bill of quantities.
- To put together bidding documents (invitation to bid, bid conditions, draft contracts, etc.).
- To assist MoE Headquarters with bids (announcement of bids, evaluation, and contract negotiations).
- To assist MoE in putting together documents to be submitted to JICA.

【Construction Stage】

（Construction Supervision）

- To visit sites to inspect the quality, schedule and safety of the construction and report the progress to MoE (both in West Bank and Gaza)
- To carry out a construction completion inspection and report to MoE.
- To carry out a defect inspection one year after completion and report to MoE.
- To assist MoE in putting together a monthly progress report to be submitted to JICA.

（Assistance in Financial Management）

- To check Claim for Payment drafted by the construction company prior to submission to MoE.
- To assist MoE in drafting a Request for Disbursement and Transfer Instruction prior to submission to JICA.

The Japanese consultant, as a prime consultant, will subcontract with a Palestinian consultant company to execute the above-mentioned works. The Japanese consultant shall set up a construction supervision

office in Ramallah, where two Japanese resident engineers and several Palestinian engineers shall be posted. Furthermore, a Palestinian architectural chief engineer, a Palestinian electrical, a Palestinian mechanical engineer, and an administrative staff shall be posted in the supervision office in Ramallah. A supervision office in Gaza shall also be set up and staffed with a chief Palestinian architectural engineer, a Palestinian electrical engineer, a Palestinian mechanical engineer, and an administrative staff.

The following is the supervision organization of the consultant.

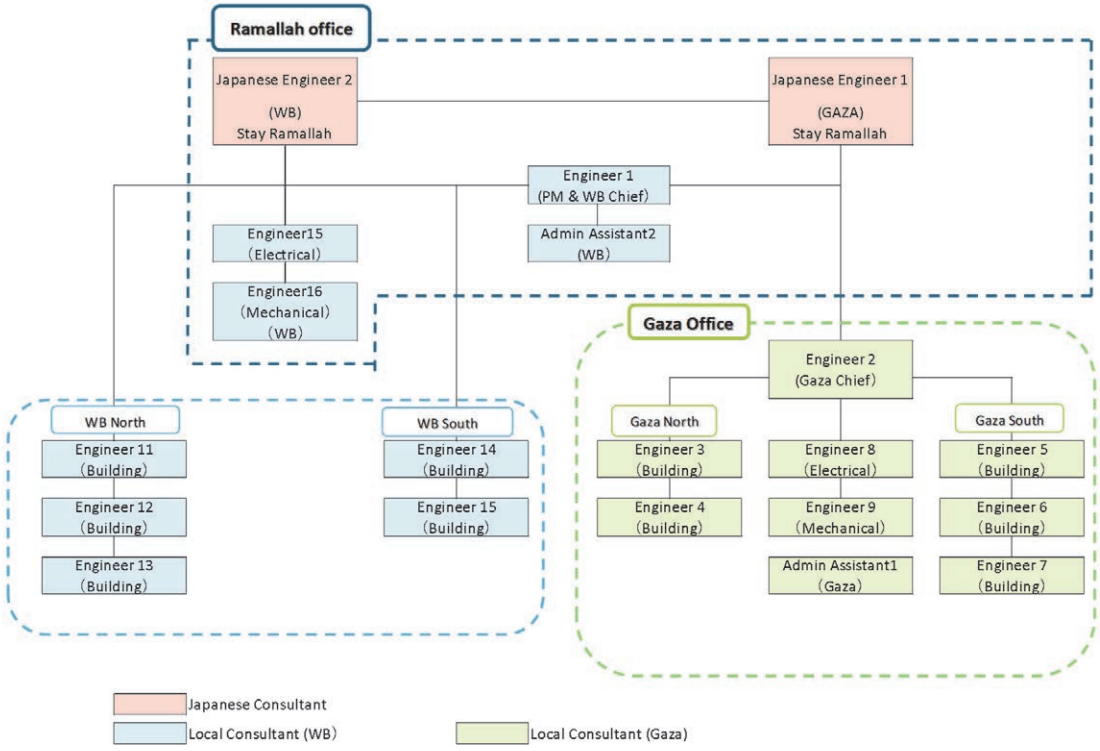


Figure 2-21 Consultant's Organizational Chart during the Construction Stage (Draft)

The followings are roles and responsibilities of each consultant staff.

（1） Japanese Resident Engineers

1） Japanese Resident Engineer (Chief/In-charge of West Bank)

He or she shall oversee the entire construction and cover the supervision in West Bank

2） Japanese Resident Engineer (In-charge of Gaza/Financial Management)

He or she shall visit Gaza for about 5 days a month to supervise the construction, as staying in Gaza for a long time is difficult. He or she shall be in charge of checking the progress report and assist MoE

and the contractors in putting together documents for payment/invoice.

（２） Palestinian Engineers

１） Engineer 1 (Project Manager/Chief in West Bank)

An engineer is hired as a project manager, and responsible for overseeing the construction works in West Bank.

２） Engineer 2 (Chief in Gaza)

As no Japanese engineer may reside in Gaza and no consultant in Gaza may leave there, an engineer in Gaza shall be hired as a chief in Gaza and be responsible for overseeing the construction works in Gaza.

３） Site Engineer (building)

Based upon the instruction by MoE, a (young) site engineer shall be assigned to each site.

４） MEP Engineer (mechanical, plumbing and electrical)

A mechanical and plumbing engineer, and an electrical engineer shall be hired for West Bank and Gaza respectively. A total of 4 MEP engineers shall be hired.

５） Assistant for Construction Bid (short-term)

An assistant for the Japanese resident engineer shall be hired short-term at the time of bidding of construction.

６） Assistant for Equipment Bid (short-term)

An assistant for the Japanese resident engineer shall be hired short-term at the time of bidding of equipment.

７） Assistant for Equipment Delivery (short-term)

An assistant for the Japanese equipment consultant shall be hired at the time of delivery of equipment to check the items.

2-2-5-5 Quality Control Plan

（１） Facility

Major quality control items, methods, and frequency by construction stage are shown in the table

below.

Table 2-25 Major Quality Control Items during Structural Works Stage

Works	Items	Method	Frequency
Excavation	Check the bottom of excavation	Observation	On completion of the excavation
Re-bar and Forms	Re-bar material	Check the mil sheets or tensile test result	Every diameter (3 pieces per size)
	Re-bar arrangement	Inspection of the re-bar arrangement	Before concrete pouring
	Forms	Inspection of the forms	Before concrete pouring
Concrete	Strength, Slump, Air contents, Temperature	Compression test, In situ concrete tests	Upon trial mix Upon every pour
Concrete Hollow Blocks	Strength	Compression test	Upon making the sample

（２） Equipment

The consultant shall closely communicate with MoE on the delivery schedule, details of work, and layout plan, in order to put together an appropriate equipment procurement plan for the Project. After finalizing the items to be procured, the equipment consultant shall closely coordinate with the architectural consultants for smooth procurement. The following matters are important at the time of procurement.

- Details of each item, layout plan of each item, power consumption, etc. shall be communicated to the architectural consultants by the equipment consultant after the equipment supply contract is signed.
- When the supplier installs and/or delivers items, the Japanese or Palestinian equipment consultant shall be dispatched to the site and coordinate with the architectural consultant, according to the layout plan.
- At the time of final handover inspection, the quantity of each item, specifications/functions, etc. shall be checked.

2-2-5-6 Procurement Plan of Materials and Equipment

In West Bank, major construction materials are produced in the area, and there is no problem with quality and supply. On top of that, in the market, there are materials available which are not produced in the area. On the other hand, only aggregates and concrete blocks are produced in Gaza, and most materials and equipment are imported by construction material suppliers from outside. Accordingly,

major materials such as cement and rebar can be procured in the market in Gaza. As for construction projects assisted by international donors, “Dual Use” items, such as electrical wire, and materials required in bulk, such as cement and reinforcing bars, are imported by contractors directly, with assistance from GRM. Nevertheless, import of materials may be stopped for several months at the border due to inspections by the Israeli side, but local contractors are accustomed to this situation, and they can make procurement and construction plans to minimize the delay.

Table 2-26 Suppliers of Major Materials and Equipment

Items	Suppliers		
	Local	Japan	Other countries
[Material]			
Portland cement*	○		
Aggregates	○		
Reinforcing bars*	○		
Forms for concrete	○		
Concrete hollow blocks	○		
Timber	○		
Metal hardware	○		
Aluminum window	○		
Glass	○		
Paint	○		
Roofing metal sheet	○		
Distribution board	○		
Cable & wire*	○		
Conduit pipe	○		
Lighting fixture	○		
Pipes	○		
Valves & pipe fittings	○		
[Construction Machinery]			
Bulldozer	○		
Hydraulic excavator	○		
Dump truck	○		
Ratio	100%		

Remarks: Item with asterisks (*) are imported directly by contractors in Gaza through GRM.

2-2-5-7 Operational Guidance Plan

（１） Solar Panel (Photovoltaic)

At the time of school opening, the solar panel supplier shall explain the method of use to each school. Since regular maintenance is necessary for a solar panel to keep functioning safely, the Project requests MoE to have professional maintenance service once a year.

（２） Equipment

An initial operation guidance shall be provided to each school by technicians from the equipment supplier at the time of installation. The guidance shall cover method of use, important points when using, daily maintenance, trouble-shooting and regular maintenance.

2-2-5-8 Implementation Plan

（１） Lot Plan

１） Facility

In the Project, since construction sites are scattered in different districts in West Bank and Gaza, it is necessary to use multiple contractors which have experience of building construction in each area. Therefore, multiple construction groups should be planned according to factors such as geography and construction quantities, and multiple lots which include a maximum of 2 sites shall be planned.

In West Bank, the north sites and the south sites are far apart, therefore it is difficult for one contractor to construct in the north sites and south sites at the same time. Thus, 2 lots including the north 3 sites and 1 lot including the south 2 sites shall be planned.

In Gaza, 5 sites are scattered in the north and south. 1 lot for 2 sites in Gaza city, 1 lot for 2 sites in Khan Younis, and 1 lot for Rafah are planned.

Table 2-27 List of Facility Construction Lots

Construction Group	Lot No.	School ID	Directorate	School Name	Category of Contractors
West Bank	West Bank1 (South)	W-1	Yatta	Al Karmel Basic Boys School	A1
		W-5	North Hebron	Noba Secondary Boys School	
	West Bank 2 (North)	W-3	Nablus	Salem Secondary Girls School	A1
		W-4	South Nablus	Beta Basic Coed School	
	West Bank 3 (North)	W-2	Qabatia	Meslieh Basic Coed School	A1 or A2
Gaza	Gaza 1 (North)	G-1	North Gaza	Jam'ia Land Secondary Girls School	A1
		G-3	North Gaza	Moharbeen Al Kudama Girls School	
	Gaza 2 (Mid south)	G-4	Khan Younis	Osama El-Najar Basic Girls School	A1
		G-6	Khan Younis	Boraq Land 1 Secondary Girls School	
	Gaza 3 (South)	G-5	Rafah	Salam Basic Coed School	A1 or A2

2） Equipment and Furniture

Equipment/furniture procurement for West Bank and Gaza shall be set separately. Accordingly, a separate bid shall be called for a package in West Bank and in Gaza. However, the Project allows all Palestinian suppliers, regardless of whether they are in West Bank or in Gaza, to bid on both packages. As items of equipment vary, there is no single Palestinian supplier which can procure all of them. Thus a bid shall be called for each equipment type. The following is the minimum number of lots for the equipment procurement.

Table 2-28 Type of Equipment

Type of Equipment	
①	ICT equipment (Computer, Interactive projector, etc.)
②	Office equipment (copier) for administrative unit, etc.
③	Science lab equipment
④	Technology lab equipment
⑤	Educational tools, toys, etc. for kindergarten and resource room
Furniture	
①	Furniture for classrooms, special purpose classrooms and administrative unit

（2） Plan of Implementation Schedule

After returning from Field Survey I, the following information was obtained from a Palestinian

consultant regarding the standard construction period set by MoE and the actual state of compliance. MoE prefers not to change the construction period, and hopes to apply the standard construction period to the Project.

1） West Bank

Previously, the standard construction period was 12 to 14 months, but in comparison with Gaza, there are many factors which make the construction period longer, such as site development, retaining wall construction, stone pitching work on exterior wall, complicated architectural design and so on. Therefore, MoE reviewed the standard construction period, and changed the construction period to 14 months for a 3-storey building and 16 months for 4-storey building.

Considering the construction supervision period for the consultant, the period shall be 16 months for a 3-storey building and 18 months for a 4-storey building including an additional one month for inspections and reports and one month for delivery of furniture/equipment. The main cause of delay (not including furniture and equipment) is delays in the interim payment procedures by donors.

Table 2-29 Recent Cases of Significant Construction Delay

School	Donor	Start	Construction Period	No. of story	No. of months delayed	Reason
Kharouba Basic Boys School	Arab Monetary Fund	2017	12 months	3	7 months	・ Major design change ・ Cash flow problem due to delayed intermediate payments
Ibn Sina Basic Boys School	Arab Development Bank in Africa	2017	12 months	3	10 months	・ Design change due to land expansion ・ Cash flow problem due to delayed intermediate payments

2） Gaza

The standard construction period of MoE is 12 months for a 3-storey building and 14 months for a 4-storey building. As all 5 Project schools in Gaza are 4-storey buildings, the construction supervision period in Gaza is set 16 months.

In 2009 and 2012, when there was a dispute with Israel, a 50-day exceptional extension of construction period was granted, but Gaza contractors basically keep the construction period. It is rare not to keep the construction period, but even if it happens, construction is generally completed within one month after the construction period. As for material imports which have a risk of delay due to the relationship

with Israel, serious impact on the construction period can be avoided if well-crafted procurement plans are implemented. However, if the approval process of interim payments by donors is significantly delayed, the contractor may fall into financial difficulties, leading to the delay of construction.

Table 2-30 Standard Construction Period and Supervision Period

Area	Number of stories	Construction period	Supervision period
West Bank	3-storey or less	14 months	16 months
	4-storey	16 months	18 months
Gaza	4-storey	14 months	16 months

3） Countermeasure for Construction Delay by Delayed Intermediate Payment

In order to prevent delays due to delays in interim payments, it is essential for JICA, consultants, and MoE to expedite the process of reviewing and approving interim payments. However, it is better to select a large-scale contractor with sufficient financial capacity to absorb impact on cash flow even if the payment process is delayed. In addition, in order to decentralize payment review and approval work, it is proposed that interim payments shall be executed every other month, and the procedure shall alternate between Gaza and West Bank.

In consideration of the above information, the construction period of the Project shall follow the standard construction period of MoE. On the other hand, the period of construction supervision shall add an additional two months to the standard construction period, one month for inspection and reporting and one month for delivery of furniture and equipment. The Project implementation plan is shown below.

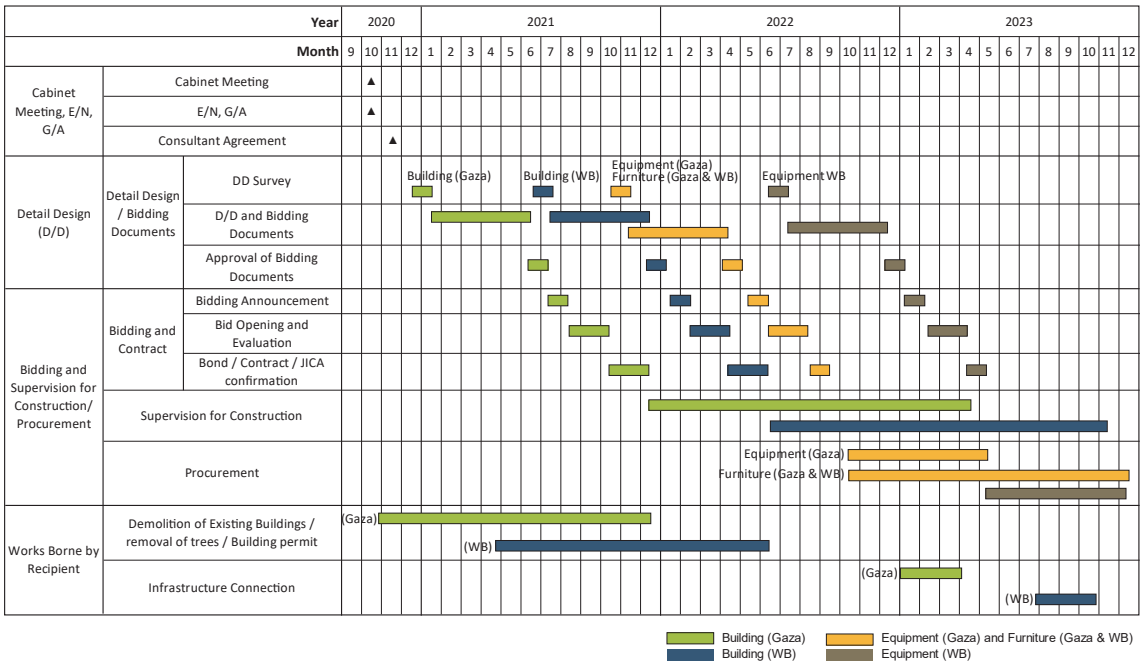


Figure 2-22 Project Implementation Plan

4） Equipment Procurement/Delivery Plan

Bidding for equipment shall be planned so that the delivery of equipment shall be made at construction completion. The delivery of equipment to schools in both West Bank and Gaza is possible about 5 months after the equipment supply contract. As previously mentioned, imported materials to Gaza, which may be converted into military use are called “Dual Use” and inspected thoroughly. In order to facilitate the smooth delivery of the equipment to Gaza schools, detailed lists of imported materials shall be handed to GRM in advance. It takes about a month to install equipment, check the function, and carry out necessary training after importing.

2-2-6 Security Plan

2-2-6-1 Basic Security Organization

（１） Hiring a Project Security Manger (PSM)

As a basic security measure for the Japanese resident engineers, the Project shall hire a Palestinian security manager who has been engaged in security analysis/advising in Palestine and Israel. He or she shall be in charge of the following works for 24 hours a day and 7 days a week, however, the security officer is not required to work in the resident engineer's office, but may work in his or her own office.

① Collect real-time security information from exiting media
② Advise the resident engineers on their trips to construction sites (whether or not they may visit, safe routes, etc.)
③ Inform the resident engineers of security incidents by SMS, email and phone calls
④ Advise /give instruction to the resident engineers at a time of emergency
⑤ Others
- Security briefing whenever necessary
- Putting together a security report as requested by the engineers
- Putting together a weekly report on security (This weekly report shall be attached to a monthly construction progress report for stakeholders to be briefed about the security situation in Palestine.)

（２） Intermittent Visit to Palestine by Japanese Security Consultant

A Japanese security consultant shall be dispatched to Palestine twice (once a year) during construction. The Japanese security consultant shall monitor the security measures taken by the resident engineers and give advice for improvement, if any. Visit construction sites to check the security situation

① Analyze risks based upon meeting with the PMS and the resident engineers
② Determine the necessity to modify the overall security measures

2-2-6-2 Security measures at construction sites, etc.

（１） Security measures at construction sites

Hiring guards and installing surveillance cameras are generally taken as countermeasures for theft at construction sites in Palestine, but special measures, such as building a protective barrier, are not observed. The Project follows the local practice and shall not incorporate any special security measures. The Project shall require construction companies to take countermeasures against common crimes.

（２） Safety measures for the Japanese Consultants

The following safety measures are planned. When JICA's security rules changes, the following measures may be modified.

① The Japanese consultant, including resident engineers, shall be based in West Bank and visit Gaza according to necessity, and only on weekdays.

② An office shall be rented in a safe neighborhood in West Bank and equipped with an AED (Automated External Defibrillator).

③ In Gaza, a bullet-proof car shall be used for movement. It is assumed that the car is rented from JICA or a UN agency each time. No back-up car or security car shall accompany the car in which the resident engineers ride both in Gaza and West Bank. In addition, the Japanese consultants shall be equipped with a medical kit, bullet proof jacket, helmet, and emergency water/food (2-week supply) on the assumption that an emergency occurs while in the car.

④ A safe residence shall be rented for the resident engineers in West Bank. When in Gaza, they shall stay in a hotel recommended by JICA. For other Japanese consultants who visit Palestine, they shall stay in a hotel recommended by JICA both in West Bank and Gaza.

⑤ The Japanese consultant shall be equipped with a satellite telephone for their work, when in Gaza.

（３） Security Measures in Facility Planning

In Palestine, existing schools are not equipped with protective barriers or shelters for a security emergency. The Project's facility planning follows this local practice.

（４） Measures against Unexploded Ordinance, etc.

MoE and relevant local governments confirm that there are no unexploded ordinance or mines in the construction sites. On top of that, the possibility of such danger is deemed low. Thus, no search clearance before the construction shall be carried out.

（５） Others

In principle, the Japanese engineers protect themselves from danger. In this light, he or she shall take security and first-aid courses before being dispatched to Palestine.

2-3 Obligations of the Recipient Country

In implementing the Project under Japanese Project Grant Aid Type II, specific obligations of the Palestinian Authority which will not be funded with the Grant are as follows.

2-3-1 General

2-3-1-1 Before the Bidding

NO	Items	Deadline	In charge
1	To sign the banking arrangement (B/A) with a bank in Japan (the Agent Bank) to open bank account (B/A)	within 1 month after the signing of the G/A	MoF
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract	MoF
3	To bear the following commissions to the Agent Bank for the banking services based upon the B/A		
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	MoE
	2) Payment commission for A/P	Advance payment for the Consultant	MoE
4	To secure the project sites with the land ownership documents	before notice of the bidding document	MoE
5	To obtain the building permits	before notice of the bidding document	MoE through local consultant
6	To demolish existing facilities (W-1, W-3, G-4) and remove trees (W-2, W-4, G-3)	Before signing of the Construction Contract	MoE/ Municipality
7	To secure temporary facilities to accommodate users of the existing school buildings to be demolished during construction period for following sites; W-3 G-4	before the demolition works	MoE
8	To move and store necessary furniture and equipment from the existing buildings to be demolished for reconstruction	before the demolition works	MoE
9	1) To finalize a draft of Project Monitoring Report (with the result of Detailed Design by the consultant) 2) To submit Project Monitoring Report	before preparation of the bidding documents	MoE
10	To ensure smooth implementation of the bidding	before the bid notice	MoE

	procedures and to bear necessary expenses relevant to the bidding procedures including, but not limited to, the following - Printing and binding of bidding documents (by the consultant) - Bid notices on major newspapers (expenses to be borne by the successful bidder) - Securing places for pre-bid meeting - Securing places for bid openings - Bid result notices in accordance with regulations on the public procurement of Palestine		

2-3-1-2 During the Implementation

NO	Items	Deadline	In charge
1	To bear the following commissions to the Agent Bank for the banking services based upon the B/A		
	1) Payment commission for A/P	every payment for consultant	MoE
	2) Remittance charge for local contractors and suppliers	every payment	MoE
2	To conduct necessary procedures such as "Request for disbursement" to JICA (upon certificate issued by the Consultant on construction firms' and/or procurement firms' (suppliers') invoices), "Application of remittance" to Bank (upon certificate issued by the Consultant on construction firms' and/or procurement firms' (suppliers') invoices)	during the Project	MoE/MoF
3	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in the country of the Recipient	during the Project	MoF
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 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	MoE
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	MoF

6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MoE
7	To notify JICA promptly of any incident or accident, which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers.	during the construction	MoE
8	1) To finalize a draft of Project Monitoring Report by the consultant 2) To submit Project Monitoring Report	every month	MoE
	3) To finalize a draft of Project Monitoring Report (final) (including as-built drawings, equipment list, photographs, etc.) prepared by the consultant 4) To submit Project Monitoring Report (final) (including as built-drawings, equipment list, photographs, etc.)	within 1 month after signing of Certificate of Completion for the works under the contract(s)	MoE
9	1) To finalize a draft of a report concerning completion of the Project 2) To submit a report concerning completion of the Project	within 6 months after completion of the Project	MoE
10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s) as follows;		
	1) Electricity - The distributing line to the site	before start of the construction	MoE/ Municipality
	2) Water Supply - The city water distribution main to the site (if existing)	6 months before completion of the construction	MoE/ Municipality
	3) Drainage - The city drainage main (for storm, sewer and others) to the site (if existing)	6 months before completion of the construction	MoE/ Municipality
	4) Furniture and Equipment - General furniture other than the ones procured by the Project	at appropriate time	MoE
	5) Telecommunication line	Before start of the school operation	
11	To take necessary measures for the security of the Project site and the persons related to the implementation of the Project, in cooperation with relevant authorities within MOE's capacity if issue is beyond the contractor's ability.	during the construction	MoE

2-3-1-3 After the Project

NO	Items	Deadline	In charge
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	MoE
2	To allocate teachers and staff required for school operation and management	After completion of the construction	MoE

2-3-2 Preparation Works by the Palestinian Side

The following works are required to be undertaken by the Palestinian side prior to construction commencement.

Table 2-31 Preparation works to be undertaken by the Palestinian side

	Item	Sites
a)	Removing (relocating) existing trees(olives)	W-2, W-4, G-3
b)	Demolition of existing buildings (including footings)	W-1, W-3, G-4

2-4 Project Operation Plan

2-4-1 Management Plan

Education directorates are responsible for staffing schools with teachers and administrative staff in Palestine. When necessary, the education directorates request MoE to staff additional teachers and administration staff and the necessary budget for staffing. In Palestine, schools manage themselves under the supervision of the respective education directorates.

（1） Staffing Teachers

Each Project school is required to be staffed with the necessary number of teachers according to the rule on the number of teachers per class set by MoE. Based upon the number of classrooms to be built, the necessary number of additional teachers at each Project school has been studied. In the calculation, the following points were assumed:

- For a Project school which relocates from existing facilities or demolishes the old building and rebuilds, teachers presently assigned will continue working.
- For a Project school which shall accommodate one of the two shift schools (G-3, G-5), its teachers will be allocated to the new Project school. If the number of teachers is not sufficient in light of the size of the school, additional teachers shall be hired.
- If a school is newly established, new teachers shall be hired.

Table 2-32 Teacher Staffing Plan (West Bank)

No.	Directorate	School Name	Grade/ Gender	No. of CRs	Request Type	Necesasry No. of Teachers (a)	No. of currently assigned teachers (b)	No. of new teachers to be staffed (a)-(b)	Remarks
W-1	Yatta	Al Karmel Basic Boys School	Boys1-4	12	Relocation	14	9	5	As the number of available classrooms will increase with the relocation, about 5 more teachers need to be staffed.
W-2	Qabatia	Meslieh Basic Coed School	Coed1-4	8+KG	Relocation	10	9	1	As students and teachers will be relocated from two existing schools, no additional teacher is necessary for Basic school. One kindergarten teacher need to be staffed.
W-3	Nablus	Salem Secondary Girls School	Girls5-12	14	Rebuilding	19	19	0	Rebuilding of the school requires no additional teacher staffing.
W-4	South Nablus	Beta Basic Coed School	Coed1-4 Girls5-9	9+KG	Relocation	13	5	8	There are 3 feeder schools. New teachers are necessary to be staffed for G5-9 and KG.
W-5	North Hebron	Noba Secondary Boys School	Boys10-12	9	Relocation	15	13	2	As students and teachers will be relocated from the existing school. As G10 will have a new TVET class, 2 new teachers are needed to be stafffed.
							Total No. of New Teachers to Staffed	16	

Table 2-33 Teacher Staffing Plan (Gaza)

No.	Directorate	School Name	Grade/ Gender	No. of CRs	Request Type	Necesasry No. of Teachers (a)	No. of currently assigned teachers (b)	No. of new teachers to be staffed (a)-(b)	Remarks
G-1	North Gaza	Jam'ia Land Secondary Girls School	Girls 10-12	20	New establishment	29	0	29	As this is a new school to be established, all teachers will be newly hired.
G-3	North Gaza	Moharbeen Al Kudama Girls School	Girls1-9	20+KG	New establishment (Partial relocation)	28	25	3	Teachers of one shift of the double-shift schools will be assigned. 3 additional teachers and one KG teacher will be necessary to be hired.
G-4	Khan Younis	Osama El-Najar Basic Girls School	Girls1-9	20+KG	Rebuilding	28	27	1	No additional teachers will be necessary for Basic education, as the school rebuilds an old building. One KG teacher will be necessary to be hired.
G-5	Rafah	Salam Basic Coed School	Coed1-4 Girls5-9	16+KG	New establishment (Partial relocation)	23	25	1	Teachers of one shift of the double-shift schools will be assigned.One KG teacher will be necessary to be hired.
G-6	Khan Younis	Boraq Land 1 Secondary Girls School	Girls10-12	22	New establishment	31	0	31	As this is a new school to be established, all teachers will be newly hired.
							Total No. of New Teachers to Staffed	65	

（２） Staffing Administration Staff

In Palestine, schools are staffed with a director, a vice-director (if the enrollment is less than 800, a teacher doubles as a vice-director), a social worker, an administrative secretary, and 1 or 2 janitor (s).

Table 2-34 Required Number of Staff per School

Staff	No. per school
・ Director	1
・ Vice director (if the school enrollment is less than 800, a teacher doubles as the vice-director)	1
・ Social Worker (SW)	1
・ Administrative secretary	1
・ Janitor	1 or 2
TOTAL	5 or 6

The table below shows the schools that require new administrative staff. In the estimation, the following points are assumed.

Among 10 Project schools, it is not necessary for schools which shall be relocated/rebuilt to hire new administrative staff, as they are assumed to be assigned to the new school.
As the following two schools are newly established schools, new administrative staff shall be hired.

Table 2-35 Project Schools which Require New Administrative Staff

No.	Directorate	School	Grade/ gender	No. of Classrooms	Director	Vice	SW	Secretary	Janitor
G-1	North Gaza	Jam'ia Land Secondary Girls School	Girls 10-12	20	1	1	1	1	2
G-6	Khan-Younis	Boraq Land 1 Secondary Girls School	Girls 10-12	16	1	1	1	1	2
TOTAL					2	2	2	2	4

（３） School Operation and Maintenance Plan

Major costs for school operation and maintenance in Palestine are as follows. They are paid either by MoE (Education directorate) or by school budget. In West Bank, the school budget consists of a school fee (NIS 40-50 / each student), education tax, and if any, part of the sales from the canteen and donation. Part of the school budget is collected by the education directorate. On the other hand, in Gaza, schools do not collect fees from students due to its difficult economic situation.

In Palestine, each school has a PTA which assists the school whenever necessary, though it does not provide financial assistance. For example, a PTA provides the school with in-kind materials and contributes labor when the school facilities need maintenance.

Table 2-36 Major Operation and Maintenance cost and the source of Budget

Item	Source of Budget
Water	MoE (Education directorate)
Electricity	Ditto
Fuel	Ditto
Telephone/Internet	Ditto
Repainting column/beams/walls/ceiling	Ditto
Maintenance of solar panel and sceptic tank	Ditto
Furniture/maintenance of facility	School budget (or Municipality)
Consumables (ex. stationary)	School budget

Moreover, standard school facility maintenance (ex. re-tiling corridors, partial repairs of walls), is also assisted by the municipality. Large municipalities collect the education tax, and the part of it is spent for the school facility maintenance.

Thus, for schools newly established by the Project, it is expected that they will involve parents and the municipality to establish a functioning operation and maintenance organization, as is the case with other existing schools.

According to MoE, the average cost of electricity and water is NIS 3,300 per school per year. Regarding the Project schools in West Bank, as their feeder schools currently rent spaces smaller than the project school buildings, it is important to bear in mind that the electricity and water cost will increase subsequent to relocation to the new school building. On the other hand, for the Project schools

in Gaza, since solar panels are introduced, the electricity cost may decrease.

（４） Operation and Management Plan for Equipment

There is no technical staff who specializes in checking, maintaining and repairing equipment at school. When such after-sale services are necessary, the school usually requests an equipment supplier directly or through its education directorate. The supplier has not only necessary spare parts for repair, but also a service center, which may provide necessary service when requested by customers.

The ICT equipment including a tablet with a keyboard and an interactive projector usually have a 3-year warranty, during the period of which the customers may enjoy repair service. After the period, schools and the supplier sign on a maintenance service agreement, which covers a monthly visit and check by technicians and on-call maintenance service. The cost for this maintenance service agreement is about NIS 5,000 (USD 1,440) per school and are usually borne by the local government.

Computers and interactive projectors to be procured by the Project, do not require repair so often that signing a maintenance agreement or payment per repair service shall be selected considering the cost effectiveness. On the other hand, a tablet with a keyboard for students may require repair more often, as students are not used to handling it, thus, a maintenance agreement may be signed for maintenance and repair.

Moreover, consumables such as chemicals for science equipment, cartridge for printers, and stationary are purchased with the school budget.

2-5 Project Cost Estimation

2-5-1 Initial Cost Estimation

（１） Total Cost to be borne by the Palestinian side

The total initial cost to be borne by the Palestinian side is shown in the table below. The amount was estimated by the consultant based upon information obtained in February - March 2019.

Table 2-37 Cost to be borne by the Palestinian Side

Item	Amount (USD)	Remarks
Replanting existing trees (at 3 sites)	750	Borne by relevant municipality
Dismantling existing school buildings (3 sites)	104,000	Borne by MoE
Connecting electricity (10 sites)	150,000	
Connecting water (10 sites)	12,000	
Connecting public sewage (6 sites)	3,400	
Bank Charge	19,167	
Total	289,317	

(2) Conditions of Estimation

① Time of Estimation：March 2019

② Exchange rate ：1USD =JPY 111.62, 1NIS=JPY 30.270

③ Construction/procurement period: As per the Project implementation schedule

④ Others ：Cost estimation was made according to the rues of Japanese Grant Aid.

2-5-2 Operation and Maintenance Cost

(1) Salary for Teachers

As shown in 2-4-1, 10 Project schools shall need an additional 81 teachers (including kindergarten teachers). The annual cost to hire the additional teachers is calculated as follows.

Table 2-38 Additionally Required Teachers and Annual Salary

		West Bank	Gaza	Total
Kindergarten teachers	No of teachers	2	3	5
	Salary (NIS)	40,488	60,732	101,220
Basic and Secondary school teachers	No of teachers	14	62	76
	Salary (NIS)	372,792	1,650,936	2,023,728
TOTAL	No of teachers	16	65	81
	Salary (NIS)	413,280	1,711,668	2,124,948

The additional total cost to hire the new teachers is estimated at NIS 2,124,948[4] per year, the

[4] The monthly salary for a teacher is assumed at NIS 2,219 (basic education), and NIS 1,687 (kindergarten), both of which are the average salary for a teacher with 10 years' experience.

breakdown of which is: NIS 413,280 (16 teachers) for West Bank and NIS 1,711,668 (65 teachers) for Gaza.

（２） Salary for Administrative Staff

Likewise, as shown in 2-4-1 (2), a total of 12 additional administrative staff are required to be hired. The additional total cost to hire the new staff is estimated at NIS 296,448.[5]

Table 2-39 Additionally Required Staff for the Project Schools and Their Annual Salary

	Salary (NIS)	No. of new staff	Annual Personnel cost (NIS)
Director	3,426	2	82,224
Vice director	2,894	2	69,456
Social worker	1,947	2	46,728
Administrative secretary	1,585	2	38,040
Janitor	1,250	4	60,000
TOTAL	－	12	296,448

（３） School Operation and Management Costs

As stated in 2-4-1 (3), main school operation costs such as water, electricity, fuel, telephone/internet, are borne by MoE and the cost per school is about NIS 3,300 per year, though in Gaza, as the solar panels are to be installed, schools will save some electricity cost. In addition, repainting walls, columns, beams and ceilings shall be necessary several years after construction completion. Cleaning of the septic tank and maintenance of solar panels will be necessary as well.

Table 2-40 Annual Operation and Management Cost for All 10 Schools

	No. of schools	Average O & M cost	Total	Remarks
West Bank	5	5 x 3,300 = 16,500 5 x 7,550 = 37,750 4 x 1,000 = 4,000	58,250	＊ Water, electricity, fuel, telephone/internet (NIS3,300/school) ＊Repainting （NIS 75,500/school) Once every 10 years ＊Cleaning the septic tank (NIS1,000/time/school) Once a year
Gaza	5	5 x 2,310 = 11,550 5 x 17,680 = 88,400	126,450	＊ Water, electricity, fuel, telephone/internet (NIS2,310/school) － 70% cost of that

[5] Based upon a salary table acquired through MoE.

		5 x 5,300 = 26,500		of a West Bank school, as the solar panel reduces the electricity bill. ＊ Repainting （NIS176,800/school）Once every 10 years ＊Maintaining solar panels（NIS 5,300/time/school）Once a year
Total			184,700	

(Remarks) 4 schools in West Bank shall be provided with a septic tank. The remaining schools shall be connected to public sewer.

From the above table, an additional cost of NIS 184,700 per year shall be borne by MoE subsequent to the construction of the new school buildings.

（４） Total Operation and Maintenance Cost

From (1) and (2), the additional personnel cost per year is about NIS 2,421,396. This accounts for only about 0.1% of "Salary and Wages" of MoE's budget (NIS 2,447,161,931) in 2018. Likewise, the additional school operation cost per year is about NIS184,700, i.e. 0.01% of "Social Contributions" of MoE's budget (NIS 244,718,307). Therefore, it is deemed possible for MoE to cover the additional operation and maintenance costs.

Table 2-41 MoE's Budget 2018

Item	Budget in USD	Budget in NIS[6]
Salaries and wages	694,494,000	2,447,161,931
Developmental expenses	186,612,000	657,557,563
Social contributions	69,450,000	244,718,307
Transportation Allowances	32,458,000	114,371,013
Goods and services	25,083,000	88,384,007
Capital expenditure	361,000	1,272,042
Others	33,432,000	117,803,059
TOTAL	1,041,890,000	3,671,267,922

Source: Citizens' Budget 2018 (MoE)

[6] As per exchange rate of September 2019 (JICA's rate)

CHAPTER 3 PROJECT EVALUATION

Chapter 3 Project Evaluation

3-1 Preconditions

The followings are preconditions for the Project to be implemented.

- Necessary budgets of the Palestinian side are secured
- Tax exemption is committed
- Banking arrangement is made
- Necessary lands for construction are secured
- Obstacles in the Project sites such as old buildings and trees are removed
- Security remains stable in Gaza
- Japanese consultants/other staff secure permit to stay and necessary status to implement the Project without delay.

3-2 Necessary inputs by the Recipient Country

The Palestinian side is requested to commit the following in order for the outcomes of the Project to be realized and sustained.

- Staff the Project schools with the necessary number of teachers
- Allocate necessary teaching materials, equipment, etc. to the Project schools
- Allocate necessary budget to the Project schools for operation and maintenance
- Use and maintain the school building properly

3-3 Important Assumptions

The followings are critical external factors for the Project to produce effective and sustainable outcomes. These may not be controlled by the activities of the Project.

- The Project is not suspended or significantly delayed by policy changes, worsened security or natural disasters
- There will be no newly established schools near the Project schools, which may cause significant decline in school construction needs
- Necessary construction materials, etc. are delivered to Gaza as planned and there will be no significant delay in delivery
- There will be no significant price increase or exchange rate change and materials and labor, etc. are procured as planned.

3-4 Project Evaluation

3-4-1 Relevance

The Project is deemed relevant to be implemented by Japanese Grant Aid because of the following reasons.

(1) The basic and secondary education sectors in Palestine have observed a rapid enrollment growth, 2.07% per year for boys and 2.21 % per year for girls for the past 5 years. (The number of students will double in 35 years, assuming 2% growth.) On the other hand, school infrastructure has not increased as much. Moreover, many existing school facilities are dilapidated, and thus the school construction need is very high.

(2) ESSP 2017-2022 identifies the followings as major issues to be tackled.

- Construction of school infrastructure (with ICT equipment)
- Securing qualified full-time teachers in Gaza
- Promoting public kindergarten

(3) The survey team confirmed the necessity of school construction in the requested areas as follows.

- West Bank: Schools rent rooms and/or add temporary rooms to the existing buildings to cope with the increasing number of students. Accordingly, students have no choice but study in an inappropriate environment.
- Gaza: Many schools operate under double-shifts and two schools use one facility.

(4) The Government of Japan upholds construction of infrastructure in education sector as one of the priority issues in its assistance policy towards Palestine. More specifically, the Government of Japan plans to construct schools to assist Palestine in educating the youth, including women, and in solving the lack of school facilities. Thus the Project meets the Japanese Government's assistance policy toward Palestine.

3-4-2 Effectiveness

（１） Quantitative Outcomes

Table 3-1 Quantitative outcomes

	Baseline value (2019)	Target value (2026: 3 years after completion)
No. of students who learn in continuously usable classrooms in Project schools (Remark 1)	2000	7590
No. of students who learn in small, rented, or dilapidated classrooms (Remark 2)	2430	0

(Remark 1) Small, rented, dilapidated classrooms are defined as “classrooms not continuously usable,” while the rest are defined as “continuously usable classrooms.” The baseline value is derived from the existing continuously usable classrooms (a total of 50, consisting of 14 classrooms of W-5, 16 classrooms of G-3, and 20 classrooms of G-5) multiplied by 40 for basic and secondary schools and 30 for KG, according to the accommodation capacity per classroom. The target value adds the number of classrooms to be constructed by the Project to the existing continuously available classrooms. However, as 14 classrooms of W-5 shall be taken over by a basic school, they are excluded from the target value.

(Remark 2) As of 2019, the number of students of the feeder schools of the Project who study in small, rented, or dilapidated classrooms are as follows and this is set as the baseline value.

	School	No. of students study in small, rented, or dilapidated CRs.	No. of CRs to be constructed by the Project
W-1	Al Karmel Basic Boys school	235	12
W-2	Meslieh Basic Coed School	233	8
W-3	Salem Secondary Girls School	624	14
W-4	Beta Basic Coed School	112	9
G-4	Osama El-Najar Basic Girls School	1226	20
Total		2430	63

A total of 63 new classrooms to be constructed replace the small, rented, or dilapidated classrooms. As the accommodation capacity of a new classroom is 40 students, those new classrooms can accommodate 2,520 students, which is higher than the baseline value. Thus, the target value is set at 0.

（２） Qualitative Outcomes

- Students’ time for learning is expected to increase as some targeted schools will change to single-shift from double-shift. Furthermore, it is expected that students at such schools will maintain a regular school life, as they may come to and leave school at a regular time.
- It is expected that teachers may instruct students better, as congestion in classrooms will be eased.
- Students are expected to concentrate more on classes by having schools closer to their home and

thereby having less physical and mental stress from commuting.

- It is expected that students will have more interest in science as there will be more science experiments subsequent to the procurement of equipment.

From the above, the relevance and the effectiveness of the Project is deemed high.

Appendices

Appendix 1. Member List of the Study Team

(1) Field Survey I

No	Name	In-charge	Affiliation
1	Chie EZAKI	Team Leader	Human Development Department, JICA
2	Kozo KAWATA	Planning Management	
3	Takahiro YOKOTA	Implementation Management	Financial Cooperation Implementation Department, JICA
4	Hisafumi MICHIKAWA	Chief Consultant/Architectural Planning	Mohri, Architect & Associates, Inc. (Consultant)
5	Tomohiro SHITARA	Deputy Chief Consultant/ Architectural Planning 2/ Natural Condition Survey	
6	Takeshi FUKUSHIMA	Architectural Design /Mechanical & Electrical Design	
7	Yoshiaki ICHIBAGASE	Construction Planning/Cost Estimate/Procurement Planning	
8	Minako TAKAHASHI	Procurement Information	
9	Yo TAKAHASHI	Equipment Planning/Cost Estimate	
10	Koji SATO	Educational Planning	International Development Center of Japan (Consultant)
11	Ryusuke TSUCHIE	Security Measures Planning	Mohri, Architect & Associates, Inc. (Consultant)
12	Kaoru MATSUMIYA	Architectural Design2	
13	Tomoko FUJIKAWA	Architectural Design 3	

(2) Field Survey II

No	Name	In-charge	Affiliation
1	Kazuro SHIBUYA	Team Leader	Human Development Department, JICA
2	Keiko YOKOI	Planning Management	
3	Hisafumi MICHIKAWA	Chief Consultant/Architectural Planning	Mohri, Architect & Associates, Inc. (Consultant)
4	Tomohiro SHITARA	Deputy Chief Consultant/ Architectural Planning 2/ Natural Condition Survey	
5	Yo TAKAHASHI	Equipment Planning/Cost Estimate	

(1) Field Survey I

			A	B	C	D	E	F	G	H	I	J	K
			JICA Officials	Chief Consultant／Architectural Planning	Deputy Chief Consultant／Architectural Planning 2／Natural Condition Survey	Architectural Design／Mechanical & Electrical Design	Construction Planning／Cost Estimate／Procurement Planning	Procurement Information	Equipment Planning／Cost Estimate	Education Planning	Security Planning	Architectural Design 2	Architectural Design 3
				Hisafumi MICHIKAWA	Tomohiro SHITARA	Takeshi FUKUSHIMA	Yoshiaki ICHIBAGASE	Minako TAKAHASHI	Yo TAKAHASHI	Koji SATO	Ryusuke TSUCHIE	Kaoru MATSUMIYA	Tomoko FUJIKAWA
			12 days	29 days	29 days	23 days	23 days	23 days	23 days	23 days	23 days	29 days	15 days
1	15-Feb	Fri		Tokyo(Narita)→Hongkong	Tokyo(Narita)→Hongkong					Tokyo(Narita)→Hongkong		Tokyo(Narita)→Hongkong	
2	16-Feb	Sat	Tokyo(Narita)→Moscow→ Tel Aviv→ Ramallah	→Hongkong→ Tel Aviv→ Ramallah	→Hongkong→ Tel Aviv→ Ramallah					→Hongkong→ Tel Aviv→ Ramallah		→Hongkong→ Tel Aviv→ Ramallah	
3	17-Feb	Sun	Meeting with JICA, Courtesy call for MoEHE and relevant agencies	Same as A	Same as A					Same as A		Same as A	
4	18-Feb	Mon	Discussion with MoEHE, Site and existing school visit	Same as A	Same as A					Same as A		Same as A	
5	19-Feb	Tue	Discussion with MoEHE	Same as A	Same as A					Same as A		Same as A	
6	20-Feb	Wed	School visit in Gaza Strip	Same as A	Preparation for subcontracting					Same as A		Same as C	
7	21-Feb	Thu	Discussion and signing on M/D with MoEHE, Report to EOJ	Same as A	Same as A					Same as A		Same as A	
8	22-Feb	Fri	Tel Aviv→Moscow	Team meeting, Documentation	Team meeting, Documentation	Tokyo(Narita)→Hongkong		Tokyo(Narita)→Hongkong	Tokyo(Narita)→Hongkong	Team meeting, Documentation	Tokyo(Narita)→Hongkong	Team meeting, Documentation	
9	23-Feb	Sat	→Tokyo(Narita)	Team meeting, Documentation	Team meeting, Documentation	Hongkong→ Tel Aviv→ Ramallah		Hongkong→ Tel Aviv→ Ramallah	Hongkong→ Tel Aviv→ Ramallah	Team meeting, Documentation	Hongkong→ Tel Aviv→ Ramallah	Team meeting, Documentation	
10	24-Feb	Sun		(Gaza) Meeting with JICA Education Office suppliers, contractors' Union	Same as B	Survey on architectural design		Survey on procurement information	Discussion with MoEHE (Equipment)	Same as B	Same as B	Same as D	
11	25-Feb	Mon		(Gaza) Site survey G-5, G-7, UNRWA office	Same as B	Same as above		Same as above	Same as above	Same as B	Same as B	Same as D	
12	26-Feb	Tue		(Gaza) Site survey G-4,G-6, G-8, Meeting with Education Office	Same as B	Same as above		Same as above	Same as above	Same as B	Same as B	Same as D	
13	27-Feb	Wed		(Gaza) Site survey G-1, G-2, G-3 Procurement survey, Security survey	Same as B	Same as above		Same as above	Same as above	Same as B	Same as B	Same as D	
14	28-Feb	Thu		(Gaza) Meeting with Education Office, school visits	Same as B	Same as above		Same as above	Survey on equipment	Same as B	Same as B	Same as D	
15	1-Mar	Fri		Team meeting, Documentation	Team meeting, Documentation	Team meeting, Documentation		Team meeting, Documentation	Team meeting, Documentation	Team meeting, Documentation	Team meeting, Documentation	Team meeting, Documentation	Tokyo(Haneda)→Hongkong
16	2-Mar	Sat		Same as above	Same as above	Same as above		Same as above	Same as above	Same as above	Same as above	Same as above	Hongkong→ Tel Aviv→ Ramallah
17	3-Mar	Sun		Preparation for site survey	Preparation for site survey	Preparation for site survey		Preparation for site survey	Preparation for site survey	Preparation for site survey	Preparation for site survey	Preparation for site survey	Preparation for site survey
18	4-Mar	Mon		(West Bank : North) Site survey W-9, W-11	Same as B	(West Bank: South) Site survey W-1, W-8		Same as D	Same as D	(West Bank : North) Education survey W-9, W-11	Same as B	Same as D	Same as B
19	5-Mar	Tue		Survey on architectural planning	(West Bank North) Site Survey W-2, W-10	Same as above W-6, W-7		Same as D	Survey on suppliers	Same as above W-2, W-10	Survey on security planning	Same as C	Same as D
20	6-Mar	Wed		Site survey W-5	(West Bank North) Site Survey W-3, W-4	Same as B		Same as D	Same as C	Same as above W-3, W-4	(West Bank North) Site survey W-2, W-3,W-4,W-10	Same as C	Same as B
21	7-Mar	Thu		Survey on architectural planning	Survey on natural condition	Survey on architectural design		Survey on procurement information	Survey on suppliers	Education survey	Survey on security planning	Survey on architectural design	Survey on architectural design
22	8-Mar	Fri		Team meeting, Documentation	Team meeting, Documentation	Team meeting, Documentation	Tokyo(Narita)→Hongkong	Team meeting, Documentation	Team meeting, Documentation	Tel Aviv→	Team meeting, Documentation	Team meeting, Documentation	Team meeting, Documentation
23	9-Mar	Sat		Same as above	Same as above	Same as above	Hongkong→ Tel Aviv→ Ramallah	Same as above	Same as above	Hongkong→Tokyo(Haneda)	Same as above	Same as above	Same as above
24	10-Mar	Sun		Survey on architectural planning	Preparation for subcontracting	Survey on M & E design	(West Bank : South) Site survey W-5, W-6	Survey on procurement information	Survey on procurement of equipment		Survey on security planning	Survey on architectural design	Survey on architectural design
25	11-Mar	Mon		Discussion on T/N	Same as above	Same as above	Survey on cost estimate and construction	Same as above	Same as above		Same as above	Same as above	Same as above
26	12-Mar	Tue		Same as above	Same as above	Same as above	Same as above	Same as bove	Same as B		West Bank (South) Site Survey W-5	Same as B	Same as above
27	13-Mar	Wed		Signing on T/N, Report toJICA・EOJ	Same as above	Same as above	Same as above	Same as above	Same as B		West Bank (South) Site Survey W-1, W-8	Same as B	Same as above
28	14-Mar	Thu		Tel Aviv→	Same as B	Same as above	Same as above	Same as above	Survey on procurement of equipment		West Bank (South) Site Survey W-6, W-7	Same as B	Same as above
29	15-Mar	Fri		→Hongkong→Tokyo(Haneda)	→Hongkong→Tokyo(Haneda)	Tel Aviv→	Documentation	Tel Aviv→	Tel Aviv→		Tel Aviv→	→Hongkong→Tokyo(Haneda)	→Hongkong→ Tokyo(Haneda)
30	16-Mar	Sat				→Hongkong→Tokyo(Haneda)	Same as above	→Hongkong→Tokyo(Haneda)	→Hongkong→Tokyo(Haneda)		→Hongkong→Tokyo(Haneda)		
31	17-Mar	Sun					Survey on procurement						
32	18-Mar	Mon					Same as above						
33	19-Mar	Tue					Same as above						
34	20-Mar	Wed					Same as above						
35	21-Mar	Thu					Same as above						
36	22-Mar	Fri					Documentation						
37	23-Mar	Sat					Same as above						
38	24-Mar	Sun					Survey on procurement						
39	25-Mar	Mon					Same as above						
40	26-Mar	Tue					Same as above						
41	27-Mar	Wed					Same as above						
42	28-Mar	Thu					Same as above						
43	29-Mar	Fri					Tel Aviv→						
44	30-Mar	Sat					→Hongkong→Tokyo(Narita)						

(2) Field Survey Ⅱ

			Leader	Project Planning	Chief Consultant / Architectural Planning	Deputy Chief Consultant/ Architectural Planning 2	Equipment Planning/ Cost Estimate
			A) Kazuro Shibuya	B) Keiko Yokoi	C) Hisafumi MICHIKAWA	D) Tomohiro SHITARA	E) Yo TAKAHASHI
1	2019/11/22	Fri	Departure from Tokyo		Narita(18:00)→Hongkong(22:25, 01:30)→		
2	2019/11/23	Sat	Arrival at Tel Aviv		→Tel Aviv(07:25)→Ramallah		
3	2019/11/24	Sun	Meeting in JICA Palestine office		Same as A)	Same as A)	Same as A)
			Meeting with MoE (DG Building)		Same as A)	Same as A)	Same as A)
4	2019/11/25	Mon	Visit to schools constructed by other donors in Ramallah		Same as A)	Meeting in MoE	Same as D)
			Meeting with Deputy Minister		Same as A)	Same as A)	Same as A)
			Discussion on M/D with MoE (DG Building)		Same as A)	Same as A)	Same as A)
5	2019/11/26	Tue			Meeting with MoE	Same as C)	Same as C)
					Meeting with Local Consultant	Same as C)	Survey of Supplier
6	2019/11/27	Wed	Meeting with MoFP		Same as A)	Meeting with MoE and Local Consultant	Meeting with MoE
			Discussion on M/D with MoE (DG Building)		Same as A)		
					Meeting with MoE and Local Consultant	Same as C)	Survey of Supplier
7	2019/11/28	Thu	Meeting with MoE (Planning Dept)		Same as A)	Meeting with MoE and Local Consultant	Meeting with MoE
			Report to JICA office		Same as A)		Same as A)
			Signing M/D at MoE		Same as A)	Same as A)	Same as A)
			Report to the Representative office of Japan to Palestine				
8	2019/11/29	Fri	Departure from Tel Aviv		Ramallah→Tel Aviv(14:25)→		
9	2019/11/30	Sat	Arrival at Tokyo		→Hongkong(06:15, 08:55)→Haneda(13:45)		

Appendix 3. List of Parties Concerned in the Recipient Country

Ministry of Education

[West Bank]

Name	Position	Affiliation
Marwan Awartani	Minister	(at the time of Field Survey II)
Sabri Saidam	Minister	(at the time of Field Survey I)
Basri Saleh	Deputy Minister	-
Fakhri Safadi	Director General	Building Department
Nidal A. Abu Baker	Head	Building Department
Rami Ishtiwi	Engineer	Building Department
Khawla Shihadeh	-	Building Department
Murad Obaid	Director General	Financial Department
Imad Brighith	Project Manager	German Palestine Cooperation
Ma'moon Fahmi Jabr	General Director	Education Planning
Umniyat Abdul Majeed	Head	Division of Statistics
Amal Abedalleh Hammad	Head	Division of Planning
Mahdi Mohammad Hamdan	Head	Mapping Section
Mohammed Al Qarout	Director General	Procurement Department
Amjad Mahmoud Abu Husein	Director	Salaries and Allowances
Raed Mansour	Head	Employment Department
Samir Ishaq Rajab	Director General	Projects
Khalid Waleed Odeh	Director	Budget & Financial Monitoring
Mushir Sharif	Director General	Supply Department
Mohammad S.Qalalwa	Director	Supply Department
Mohammad Kayed Sabbah	Head	Division of School Laboratories
Jehad Draidi	Director General	Educational Technology and Information Technology
Ali Khader Abbas	Head	Educational Technology and Information Technology
Mustafa Mutair	Engineer	Educational Technology and Information Technology
Mohammad A. Al-Hawwash	General Director	Special Education Department
Rana A. Jaber	Head	Special Education Department
Tharwat L. M. Zaid	Head	Curriculum Center
Ahmad A. Sayareh	Director	Science Department of Curriculum Center
Rabiha Ellian	Director General	General Education Department
Suhair Awwad	Head	Gender Garten of General Education Department

[Gaza Strip]

Name	Position	Affiliation
Jamal Al Barg	Director General	Building Department
Ahram I. Hammad	General Director	Financial Affairs

Mazen K. Murshad	Direcotr	Enginnering Sevices Department
Zeyad Abo Hostafa	Chief	Contract Department
Shaher R. Mushtaha	Direcotr	Supply & Storages Department

Ministry of Finance and Planning

Name	Position	Affiliation
Nasser Jiaan	Director General	VAT
Rafrq Bishg	Deputy General	Income Tax

Environment Quality Authority

Name	Position	Affiliation
Zaghloul Samhar	Director General	Policies & Planning
Dalia Amleh	Environmental Engineer	Environment Quality Authority

Contractors' Union

[West Bank]

Name	Position	Affiliation
Taj Aldeen I.Juma	President	Palestine Construction Union
Zaher A. AlHmidat	General Secretary	Palestine Construction Union

[Gaza]

Name	Position	Affiliation
Ayman Juma	Chairman Deputy	Palestine Construction Union

Local Government and Educational Directorate Office

[Yatta]

Name	Position	Affiliation
Yaser Saleh	Director	
Hani Hamanh	Head	Planning Department
Iyad Hannad	Planning Engineer	Yatta Municipality
Hussein Abu Sabha	Head	Construction Department
Jihad Abu Zahra	Deputy Director	
Tawfiq Abu Malash	Mayor	Al Karmal Municipality

[South Hebron]

Name	Position	Affiliation
Khaled Abu Savav	Governor	
Yousef Slamin	Deputy Director	Directorate of Education
Fauzi Ghamib	Engineer	Directorate of Education

[Hebron]

Name	Position	Affiliation
Atef Atjamd	Manager	Directorate of Education
Mohammad Waqor	Head of Planning Division	Directorate of Education
Mohammad Atjalhameh	Engineer	Directorate of Education

[North Hebron]

Name	Position	Affiliation
Muneer Amleh	Head	Planning Department
Ranya Abu Ayyash	Head	
Abbas Aldabbas	Engineer	Nuba Municipality
Mahmod Al-shroof	Head	Nuba Municipality

[Qabatia]

Name	Position	Affiliation
Mohamed Mosa Sokawrer	Director	Education Division
Thabef Alieh	Engineer	Directorate
Wael Arda	—	Directorate
Sudai Jararr	—	Directorate
Hassan Nazzal	—	Directorate

[Nablus]

Name	Position	Affiliation
Thabet Taher Atiya	Engineer	Building Department, Directorate of Education

[South Nablus]

Name	Position	Affiliation
Adbulwahab Antari	Engineer	Building Department, Directorate of Education
Anwar Omair	Mayor	Bala' Municipality
Abdullah Omair	Deputy Mayor	Bala' Municipality
Wedad Malak	Engineer	Bala' Municipality
Mohammad Zahei	Engineer	Directorate of Education
Hani Jaidi		Building Department, Directorate of Education

[Tulkarem]

Name	Position	Affiliation
Ahmad Said Mansur	Mayor	

UNRWA

Name	Position	Affiliation
Miki Yoshida	Support Officer	UNRWA

An-Najah National University

Name	Position	Affiliation
Jalal Al Dabbeck	Director	Urban Planning and Disaster Risk Reduction Center

Ministry of Defense (Israel)

Name	Position	Affiliation
Sabina Elayev	Head of International Dept.	Coordination and Liaison Administration, Erez, Gaza
Zoë Avisar	GRM officer	

JICA Palestine Office

Name	Position	Affiliation
Toshiya Abe	Chief Representative	
Yuko Santo	Representative	
Ryoma Yamagishi	Representative	
Hiba Mashal	Program Officer	
Saher Younis	Chief Program Officer	

Appendix 4 Minutes of Discussions and Technical Notes

Appendix 4-1 Minutes of Discussions (Field Survey I)

Minutes of Discussions
on the Preparatory Survey for the Project for Construction of Schools for Improvement of Quality and Environment of Education

Based on the several preliminary discussions between the Palestinian Authority (hereinafter referred to as "Palestine") and Japan International Cooperation Agency (hereinafter referred to as "JICA") Palestine Office, with reference to the letter No.29/38/46637 dated September 27th, 2018), JICA dispatched the Preparatory Survey Team for the Outline Design (hereinafter referred to as "the Team") of the Project for Construction of Schools for Improvement of Quality and Environment of Education (hereinafter referred to as "the Project") to Palestine. The Team held a series of discussions with the officials of Palestine and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Ramallah, February 21st, 2019

Ms. Emie Ezaki
Team Leader
Japan International Cooperation Agency

Dr. Sabri Saidam
Minister
Ministry of Education and Higher Education
The Palestinian Authority

Dr. Shukry Bishara
Minister
Ministry of Finance and Planning
The Palestinian Authority

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the learning environment of primary and secondary education in the Palestine through construction of new schools and provision of educational equipment, thereby contributing to the improvement of the quality of the primary and secondary education.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as "the Preparatory Survey for the Project for Construction of Schools for Improvement of Quality and Environment of Education".

3. Project site

3-1. Both sides confirmed the list and the map of the candidate construction sites of the Project as shown in Annex 1.

3-2. Both sides also agreed that the construction sites for the Project would be selected from the list of candidate construction sites based on the criteria described in Annex 2. Based on the list, a field survey to the sites up to 8 sites in Gaza Strip (G1-G8) and 11 sites in West Bank (W1-W11) will be conducted by the Team and JICA Palestine Office. After the field survey, the revised list of the candidate sites will be proposed by the Team based on the criteria described in the Annex 2.The revised list will be agreed by the Ministry of Education and Higher Education (hereinafter referred to as "MoEHE") and attached to the Technical Note (T/N), which is expected to be concluded at the end of the first survey.

4. Components requested by the Palestine

Both sides confirmed that the components (facilities, furniture and equipment) of the Project including the specification would be determined based on local standards with necessary modifications. The Team will further discuss the components of the Project in detail with MoEHE and the detailed list of the components with priority will be attached to the T/N.

5. Final scope of the Project

5-1. JICA will assess the feasibility of the above candidate construction sites and the requested components 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.

5-2. The Palestine side shall submit an official request to the Government of Japan through a diplomatic channel before the appraisal of the Project, which is scheduled in November 2019.

6. Responsible authority for the Project

Both sides confirmed that MoEHE would be the executing agency responsible 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 chart are shown in Annex 3

7. Procedures and Basic Principles of Japanese Grant

7-1. The Palestine side agreed that the procedures and basic principles of Japanese Grant (hereinafter referred to as the "Grant") as described in Annex 4 shall be applied to the Project.

7-2. The Palestine side agreed to take the necessary measures, as described in Annex 5, for smooth implementation of the Project. The contents of the Annex 5 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 5 will be updated as the Preparatory Survey progresses, and eventually, will be used as an attachment to the Grant Agreement.

7-3. Both sides agreed that the eligible nationality of the prime constructing and/or procurement firms, are nationals of the recipient country or other country(ies). The eligible nationality will be examined, and will be agreed at the Preparatory Survey for the explanation of the Draft Preparatory Survey Report.

7-4. The bidding/selection and conclusion of contracts of the products and services covered by the Grant of the Project will be conducted at Palestine based on the result of the Survey. The Palestine side agreed that the products and services covered by the Grant of the Project will be solely procured in accordance with JICA's Procurement Guidelines for the Japanese Grants (for Japanese consultant and local contractors) (Tentative Type II), which is the condition under Japanese Grant.

7-5. The Palestine side agreed that the currency for contract of prime construction and/or procurement firms is internationally traded foreign currency acceptable to JICA, that is US dollar, which will be stipulated in the Grant Agreement. The Palestine side understood the flow of payment as shown in the Annex 4 and confirmed to take necessary measures for the payment in a timely manner. The Palestine side explained that the Bank of Palestine as the "Recipient Bank" will conclude the banking arrangement (hereinafter referred to as "the Banking Arrangement") with a bank in Japan (hereinafter referred to as the "Agent Bank"), which will be stipulated in the Grant Agreement.

7-6. The Palestine side agreed that the feasibility of issues mentioned above in 7-3, 7-4, and 7-5 will be further examined by Japanese side based on the result of this field survey and that the result of examination will be explained at the Preparatory Survey for the explanation of the Draft Preparatory Survey Report.

8. Schedule of the Survey

8-1. The Team will proceed with further survey in Palestine until March 29th, 2019.

8-2. MoEHE will answer to the Questionnaire submitted by the Team with relevant documents by March 8, 2016.

8-3. An official request to the Government of Japan will be submitted before August 2019.

8-4. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Palestine in order to explain its contents around November 2019.

8-5. If the contents of the draft Preparatory Survey Report is accepted and the undertakings for the Project are fully agreed by the Palestine side, JICA will finalize the Preparatory Survey Report and send it to Palestine around February 2020.

8-6. The above schedule is tentative and subject to change.

9. Environmental and Social Considerations

9-1. The Palestine side confirmed to give due environmental and social considerations during implementation, and after completion of the Project, in accordance with the JICA Guidelines for Environmental and Social Considerations (April 2010).

9-2. The Project is categorized as "C" from the following considerations:
Not located in a sensitive area, nor has it sensitive characteristics, nor falls it into sensitive sectors under the Guidelines, and its potential adverse impacts on the environment are not likely to be significant.

10. Other Relevant Issues

10-1. ICT Equipment

Both sides confirmed that the Project would cover a certain number of ICT equipment based on the standard, policy and future plan of MoEHE on the provision of ICT equipment. The final scope of the equipment will be decided by the Government of Japan as stated in the article 5-1.

10-2. Solar Power System in the Gaza Strip

Bothe sides agreed to consider including Solar Power Systems or designing that enables the future setup of the solar power system at the requested schools in the Gaza Strip due to the frequent blackout in the area. The team will study the feasibility through the Survey and the final scope of the equipment will be decided by the Government of Japan as stated in the article 5-1.

10-3. Bidding document and contract

The Palestine side requested to share the bidding document including contract incorporating general conditions for local contractors/suppliers and the Team will share it during the first survey. Regarding the payment for local contractors/suppliers, the Palestine side explained that the fixed exchange rate should be mentioned in the bidding document.

10-4. Land Preparation and Exterior Works

MoEHE requested JICA to include following works in the scope of the Project and the Team will assess the necessity through the Survey and consider including the works in the scope of the Project. The reasons of MoEHE's requests are as follows;

- ✓ Land preparation in some sites in West Bank

  In some sites in West Bank, due to their steep and complex topography, it is technically difficult to separate the land preparation work such as excavation and retaining walls from building design, and the same contractor should conduct both work.
- ✓ Exterior works

  Exterior works such as fences and gates need to be done in a timely manner to keep schools security. However, it is not necessarily possible to allocate the fund to implement the exterior works by MoEHE.

10-5. Exemption of Taxes, Duties and Levies

The Palestine side agreed to take necessary measures to ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Palestine with respect to the purchase of products and/or services to be exempted.

10-6. Measures to be taken in case that problems arise

The Palestine side confirmed that when problems such as delay of construction works or procurement of equipment by contractors/suppliers arises during the implementation of the Project, the Executing Agency will take necessary measures in accordance with technical opinion of the consultant in a timely manner.

10-7. Measures against the cost overrun

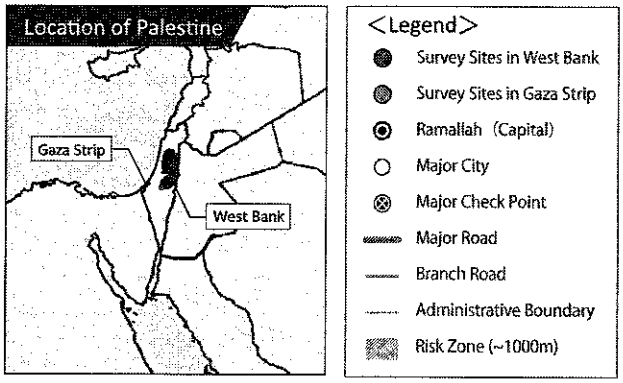
The Palestine side agreed that when the amount of the Grant, which includes the contingency, is not enough to cover the entire works or procurement of equipment on the implementation of the Project, the Palestine side will modify the scope of works and/or procurement of equipment that are covered by the Grant based on technical opinion of the consultant and be in charge of the other scope by its own side.

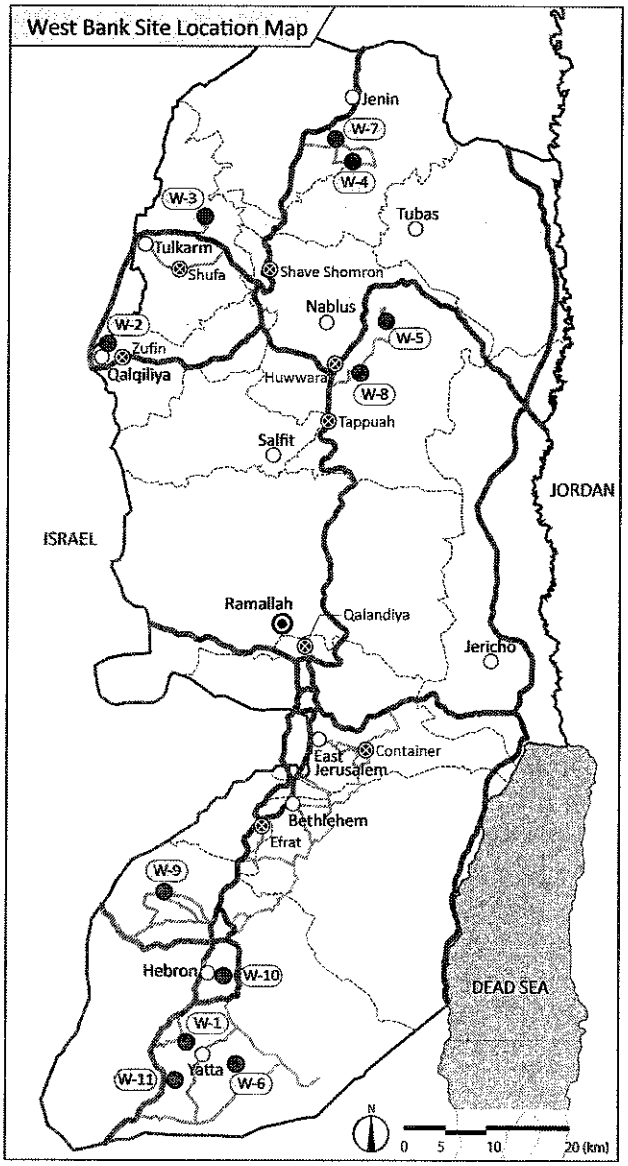
Annex 1 List and Map of the Candidate Construction Sites of the Project
Annex 2 Selection Criteria of Construction Sites for the Project
Annex 3 Organization Chart of MoEHE
Annex 4 Japanese Grant
Annex 5 Major Undertakings to be taken by the Government of Palestine

List of Survey Sites

West Bank		
ID No.	Governorate	School Name
W-1	Yatta	Al Dar AlBaida' Basic Coed school
W-2	Qalqelia	Qalqelia basic boys school
W-3	Tulkarem	Bal'a School Basic Girls
W-4	Qabatia	Meslieh Basic Coed School
W-5	Nablus	Salem Sec Girls School
W-6	Yatta	Al Karmel Basic Boys School
W-7	Qabatia	New school at Qabatia Sec girls school
W-8	south Nablus	Beta Basic Coed School
W-9	North Hebron	Noba Sec Boys School
W-10	Hebron	New school at wad al Nasarah
W-11	South Hebron	Alsamoo' Basic Boys School
Gaza Strip		
G-1	North Gaza	Jam'ia Land-Mas'od street-Jabalia
G-2	North Gaza	Halawa land 2 - Jabalia
G-3	North Gaza	Moharbeen qodama land
G-4	West Gaza	Qahera school
G-5	Khan younis	Osama El-Najar school
G-6	East Khan younis	Absan Alkabeera Land
G-7	Rafah	Salam area
G-8	Khan younis	Hamad city1

Site Location Map





Annex 2

Selection Criteria of Construction Sites for the Project

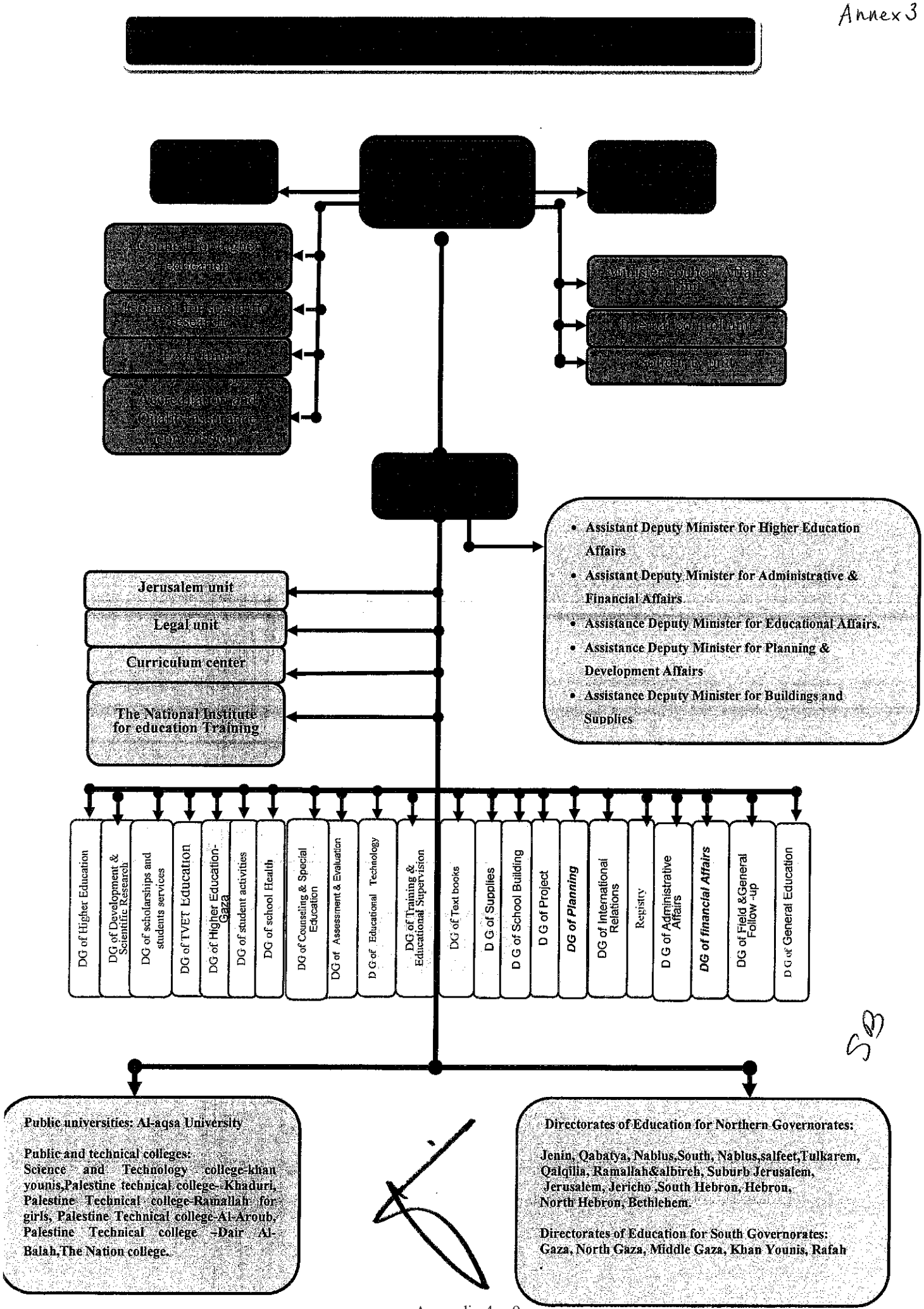
[Preconditions (Preliminary)]

- Land use right or land ownership certificate is presented
- There is no overlapping project with the government and/or other development partners near the requested site.
- There is no hindrance for construction in the site. (Ex. The site is accessible by construction vehicle; the site is suitable for construction in terms of topography and land size.)
- There is no risk of natural disaster.
- The school construction need from the viewpoint of enrollment is confirmed.
- Effective teacher deployment plans for the requested schools are verified.
- There will be no negative impact on environment and will involve no resettlement of residents.
- No security risk is confirmed (A school site with high security risk may be considered to be excluded from the Project)

[Priority matters (Preliminary)]

- The site has few cost increasing factors such as pilings, a large-scale land development, etc.
- The site does not have any hindrance for Japanese construction supervisors to access to.
- MoEHE's priority as below;
  - Double or triple shift schools
  - Schools using rented building
  - Condition of school building is bad
  - Highly crowded schools
  - Schools expecting natural increase of students
- The construction need is higher than others.
- No excessive security measure is required

Annex 3


Jerusalem unit
Legal unit
Curriculum center
The National Institute for education Training
• Assistant Deputy Minister for Higher Education Affairs
• Assistant Deputy Minister for Administrative & Financial Affairs
• Assistance Deputy Minister for Educational Affairs.
• Assistance Deputy Minister for Planning & Development Affairs
• Assistance Deputy Minister for Buildings and Supplies
DG of Higher Education
DG of Development & Scientific Research
DG of scholarships and students services
DG of TVET Education
DG of Higher Education-Gaza
DG of student activities
DG of school Health
DG of Counseling & Special Education
DG of Assessment & Evaluation
D G of Educational Technology
DG of Training & Educational Supervision
DG of Text books
D G of Supplies
D G of School Building
D G of Project
DG of Planning
DG of International Relations
Registry
D G of Administrative Affairs
DG of financial Affairs
DG of Field &General Follow -up
D G of General Education
Public universities: Al-aqsa University
Public and technical colleges:
Science and Technology college-khan younis,Palestine technical college-Khaduri, Palestine Technical college-Ramallah for-girls, Palestine Technical college-Al-Aroub, Palestine Technical college -Dair Al-Balah,The Nation college.
Directorates of Education for Northern Governorates:
Jenin, Qabatya, Nablus,South, Nablus,salfeet,Tulkarem, Qalqilia, Ramallah&albireh, Suburb Jerusalem, Jerusalem, Jericho ,South Hebron, Hebron, North Hebron, Bethlehem.
Directorates of Education for South Governorates:
Gaza, North Gaza, Middle Gaza, Khan Younis, Rafah

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 (contract with Japanese consultant and local contractors)

(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 singed 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 Grant" 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) In case of Japanese consultant, 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.

c) In case of local contractors, the Japanese Grant will be disbursed when requests for disbursement are submitted by the Recipient to JICA.

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 consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", while the prime constructing firm(s), which enter into contracts with the Recipient, could be nationals of the recipient country or other country(ies) if deemed it necessary .

6) Contracts and Concurrence by JICA

The Recipient will conclude the consultant contract denominated in Japanese yen with Japanese nationals and the construction/supplier contracts denominated in other internationally traded foreign currency acceptable to JICA with the local contractors. Those contracts shall be verified by JICA in order to be eligible for 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, if necessary. 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

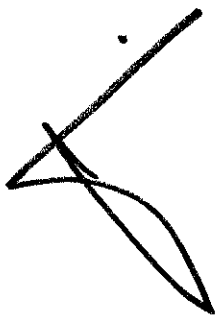
For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall 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.

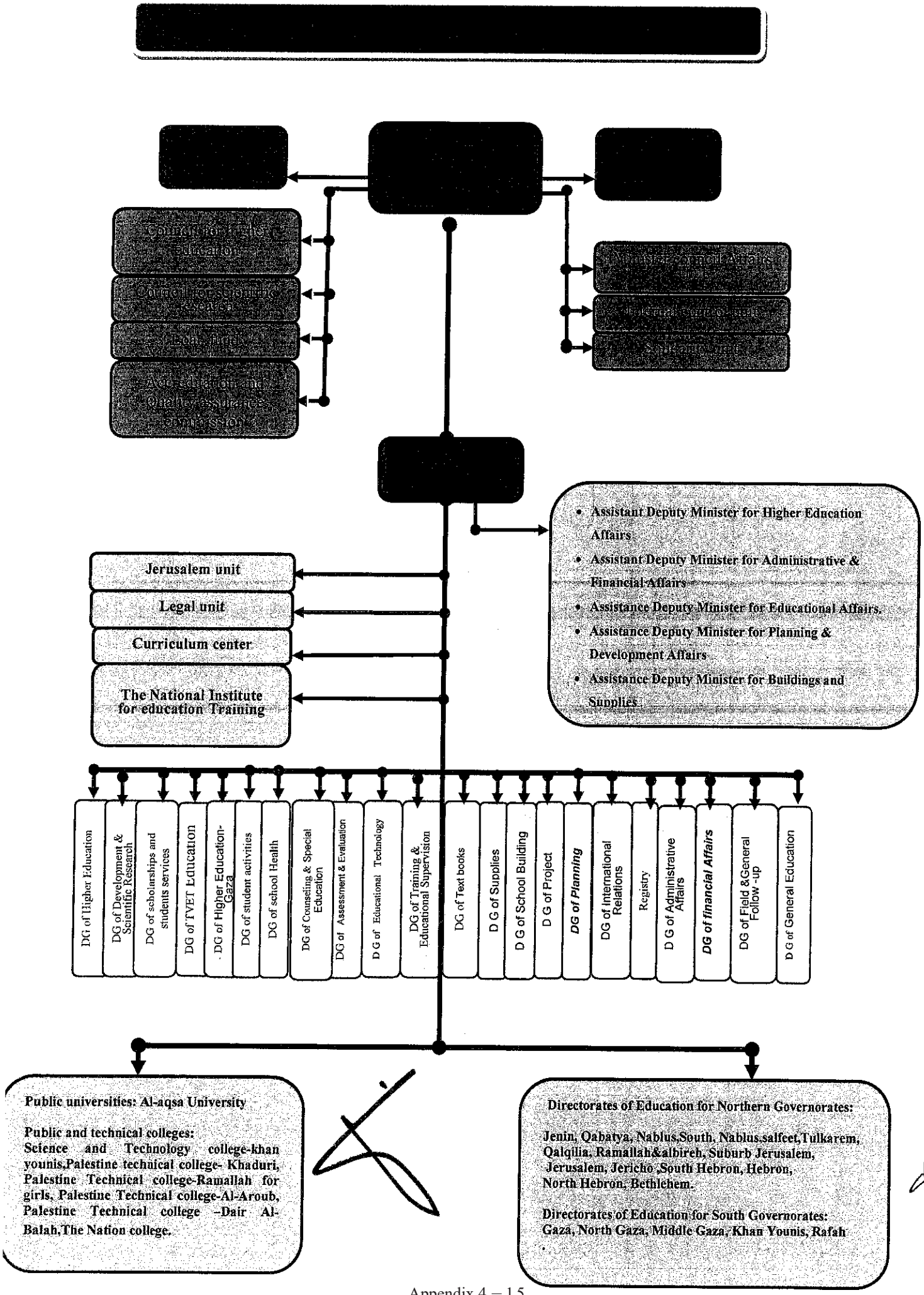
3) Proper Use

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.




Jerusalem unit
Legal unit
Curriculum center
The National Institute for education Training
• Assistant Deputy Minister for Higher Education Affairs
• Assistant Deputy Minister for Administrative & Financial Affairs
• Assistance Deputy Minister for Educational Affairs.
• Assistance Deputy Minister for Planning & Development Affairs
• Assistance Deputy Minister for Buildings and Supplies
DG of Higher Education
DG of Development & Scientific Research
DG of scholarships and students services
DG of TVET Education
DG of Higher Education-Gaza
DG of student activities
DG of school Health
DG of Counseling & Special Education
DG of Assessment & Evaluation
D G of Educational Technology
DG of Training & Educational Supervision
DG of Text books
D G of Supplies
D G of School Building
D G of Project
DG of Planning
DG of International Relations
Registry
D G of Administrative Affairs
DG of financial Affairs
DG of Field &General Follow -up
D G of General Education
Public universities: Al-aqsa University
Public and technical colleges:
Science and Technology college-khan younis,Palestine technical college- Khaduri, Palestine Technical college-Ramallah for girls, Palestine Technical college-Al-Aroub, Palestine Technical college –Dair Al-Balah,The Nation college.
Directorates of Education for Northern Governorates:
Jenin, Qabatya, Nablus,South, Nablus.salfeet,Tulkarem, Qalqilia, Ramallah&albireh, Suburb Jerusalem, Jerusalem, Jericho ,South Hebron, Hebron, North Hebron, Bethlehem.
Directorates of Education for South Governorates:
Gaza, North Gaza, Middle Gaza, Khan Younis, Rafah

PROCEDURES OF JAPANESE GRANT

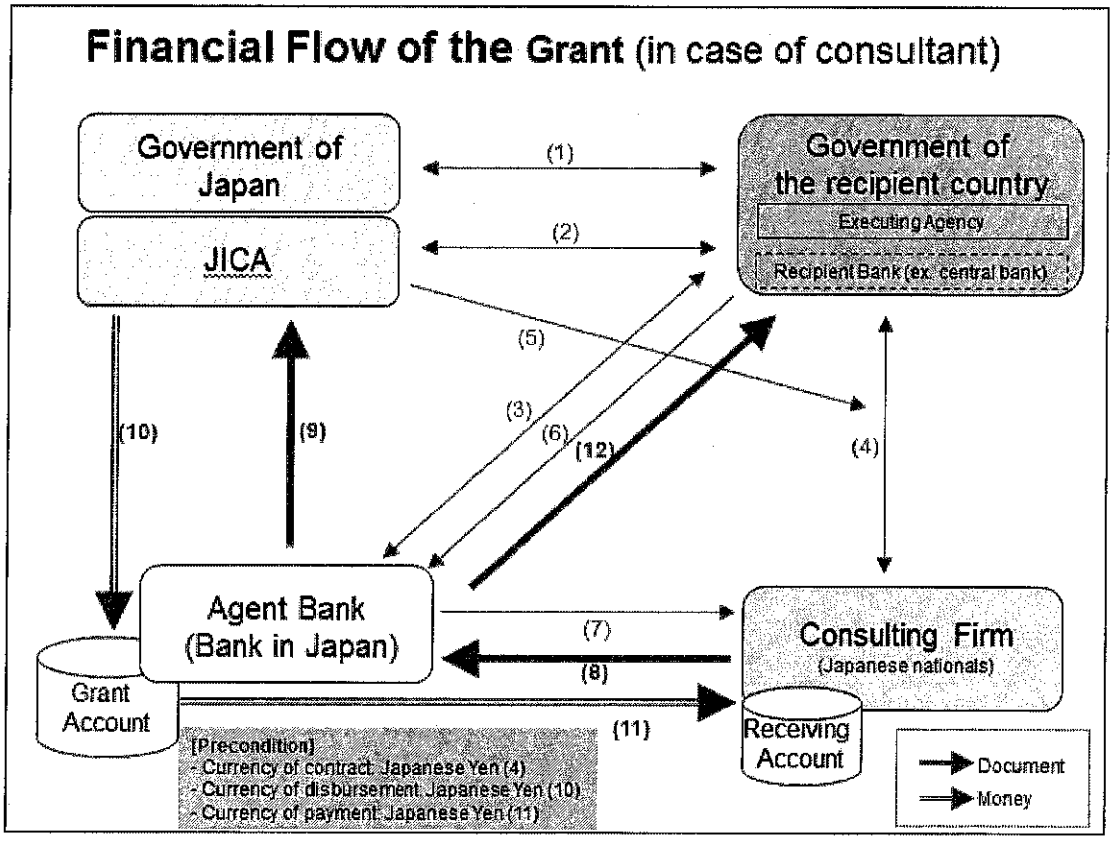
Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost 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	Concurrence by JICA is required Request for disbursement shall be made by the Recipient, in case of local contractor.	x		x		x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

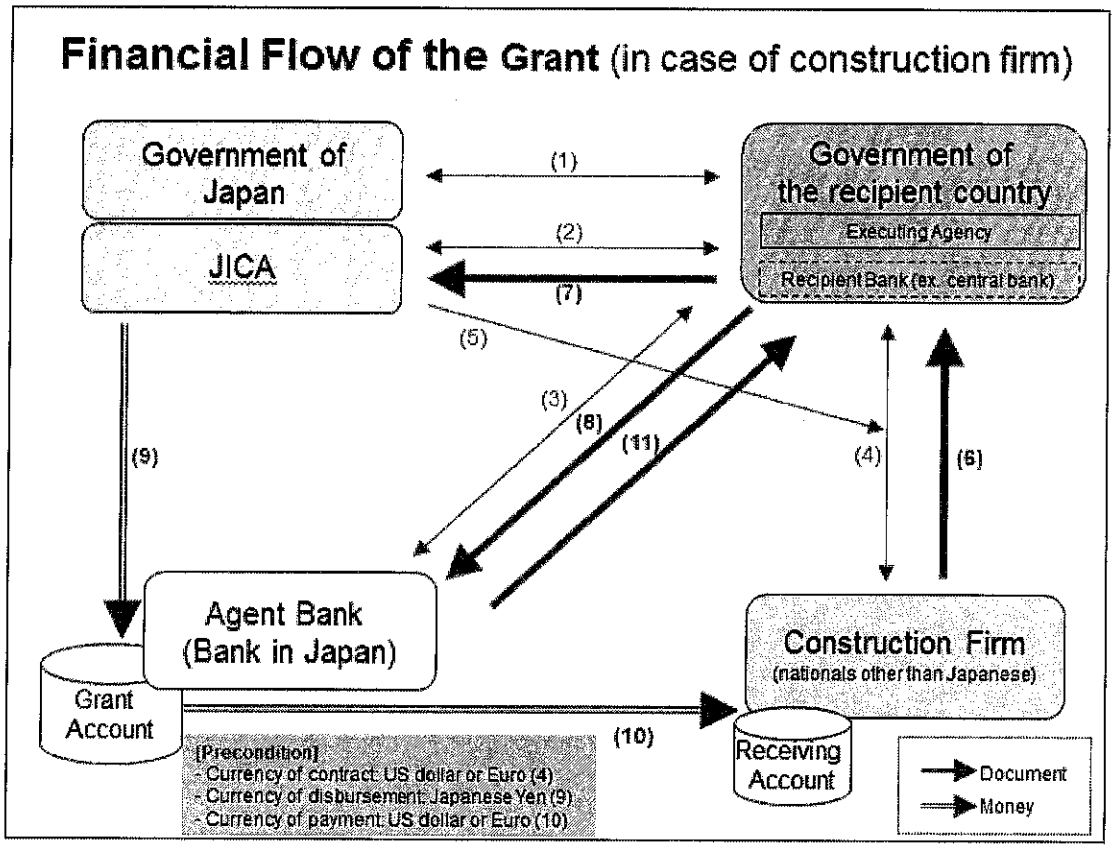
1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.

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

Financial Flow of Japanese Project Grant
(contract with Japanese consultant and local contractors)



(1) E/N
(2) G/A
(3) Banking Arrangement/Opening an Grant Account
(4) Contract
(5) Concurrence and Verification of Contract
(6) Issuing Authorization to Pay (A/P) upon contract
(7) Notification of A/P
(8) Request for Payment
(9) Request for the Disbursement
(10) Disbursement of the Grant
(11) Payment
(12) Statement of Account



(1) E/N
(2) G/A
Submission of Evidence of Authority and Specimen Signatures from the Recipient to JICA (prerequisite for the process of no. (7))
(3) Banking Arrangement/Opening an Grant Account
(4) Contract
(5) Concurrence and Verification of Contract
(6) Request for Payment
(7) Request for Disbursement
(8) Transfer Instruction
(9) Disbursement of the Grant *
(10) Payment
(11) Statement of Account

* The amount of disbursement in Japanese Yen ((9) in above chart) shall be calculated at the Telegraphic Transfer Selling (TTS) rate quoted by the Bank in Japan two business days before the date on which the disbursement is made.

Major Undertakings to be taken by the Palestine Authority

1. Specific obligations of the Palestine Authority 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	MOFP		
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract	MOFP		
3	To secure the necessary budget and implement land acquisition if necessary.	before notice of the bidding document	MoEHE		
4	To secure the project sites listed in the Annex 1 with the land ownership documents	before notice of the bidding document	MoEHE		
5	To obtain building permit.	before notice of the bidding document	MoEHE through Local consultant		
6	To clear, level and reclaim the following sites 1) remove obstacles such as trees and debris 2) remove existing facilities if necessary 3) (to be determined after analysis in Japan)clearing, leveling and reclaiming the sites except the sites where major excavation are necessary and will be conducted by Japanese side.	before notice of the bidding document	MoEHE / Municipality		
7	To secure temporary facilities to accommodate users of the existing school buildings to be demolished during construction period if necessary.	before the demolition works	MoEHE		
8	To move and store necessary furniture and equipment from the existing buildings to be demolished for reconstruction	before the demolition works	MoEHE		
9	1) To prepare a draft of Project Monitoring Report (with the result of Detail Design) by the consultant 2) To submit Project Monitoring Report	before preparation of bidding documents	MoEHE		
10	To ensure smooth implementation of the bidding procedures and to bear necessary expenses relevant to the bidding procedures including, but not limited to, the followings: - printing and binding of bidding documents (by the consultant) - bid notices on major newspapers - securing places for pre-bid meeting - securing places for bid opening - securing places for bid evaluation	before the bid notice	MoEHE		

(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 bear the following commissions to a bank in Japan for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	MoEHE		
	2) Payment commission for A/P	every payment for consultant	MoEHE		
	3) Remittance charge for local contractors and suppliers	every payment	MoEHE		
2	To conduct necessary procedures such as "Request for disbursement" to JICA (upon contract with construction firms and/or procurement firms (suppliers)), "Application of remittance" to Bank (upon contract with construction firms and/or procurement firms (suppliers))	during the Project	MoEHE /MOFP		
3	to ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in the country of the Recipient	during the Project	MOFP		
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 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	MoEHE		
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	MOFP		
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MoEHE		
7	1) To prepare a draft of Project Monitoring Report by the consultant 2) To submit Project Monitoring Report	every month	MoEHE		
	3) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	MoEHE		
8	1) To prepare a draft of a report concerning completion of the Project by the consultant 2) To submit a report concerning completion of the Project	within six months after completion of the Project	MoEHE		
9	To construct access roads outside the site	3 months before completion of the construction	MoEHE / Municipality		
10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s)				
	1) Electricity The distributing line to the site	before start of the construction	MoEHE / Municipality		
	2) Water Supply The city water distribution main to the site	6 months before completion of the construction	MoEHE / Municipality		
	3) Drainage The city drainage main (for storm, sewer and others) to the site	6 months before completion of the construction	MoEHE/ Municipality		
	4) Furniture and Equipment General furniture other than the ones procured by the Project	1 month before completion of the construction	MoEHE		

(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	MoEHE		
2	To allocate teachers and staffs required for school operation and management	After completion of the construction	MoEHE		

2. Other obligations of the Palestine Authority funded with the Grant

NO	Items	Deadline	Amount (Million Japanese Yen)*
1	To construct school facilities and procure furniture and equipment 1) To conduct the following transportation a) Marine(Air) transportation of the products from Japan/third countries to the recipient country, if necessary b) Internal transportation from the port of disembarkation to the project site, if necessary		
	2) To construct access roads within the sites		
	3) To provide facilities of electricity, water supply, drainage and other incidental facilities within the sites.		
	To implement detailed design, bidding support and construction supervision (Consulting Service)		
2	Contingencies		
3	Total		
			XXX

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

-End-

Appendix 4-2 Technical Notes (Field Survey I)

Technical Notes
on the Preparatory Survey for the Project for Construction of Schools for Improvement of Quality and Environment of Education

In February 2019, Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team (hereinafter referred to as "the Team") to Palestine for the Preparatory Survey on the Project for Construction of Schools for Improvement of Quality and Environment of Education (hereinafter referred to as "the Project").

After signing of the Minutes of Discussions dated February 21, 2019 (hereinafter referred to as "the M/D") by and between JICA, the Ministry of Education and Higher Education (hereinafter referred to as "MoEHE"), and the Ministry of Finance and Planning of the Palestinian Authority (hereinafter referred to as "PA"), the Consultant members of the Team (hereinafter referred to as "the Consultant") continued to hold a series of meetings with the concerned parties of PA and conducted field surveys at the requested school sites in the West Bank and Gaza Strip.

In the course of meetings and the field survey, MoEHE and the Consultant have confirmed the main points described in the attached sheets.

Ramallah
March 13, 2019

Fakhri Safadi
Director General
Building Department
Ministry of Education and Higher Education

Hisafumi Michikawa
Chief Consultant/Architectural Planning
Preparatory Survey Team
Joint Venture of Mohri, Architect & Associates, Inc. and International Development Center of Japan Inc.

CC. JICA Head Quarters and JICA Palestine Office

Attachment

1. Position of this Technical Notes

Both parties mutually understood that there might be alteration and/or modification of the contents of this Technical Notes as a result of analyses in Japan. Both parties also agreed that this Technical Notes are treated as an unofficial document but as a reference material for further preparation of the Project.

2. Further Schedule of the Site Surveys and Analysis in Japan

2-1. Topographic Surveys and Soil Investigations

The Consultant explained and MoEHE understood that the Consultant will conduct the topographic surveys and soil investigations, by employing local companies, basically at all the 19 candidate sites (11 sites in the West Bank, 8 sites in Gaza) as listed on Annex 1, in order to obtain technical data necessary for the outline design works. Such surveys and investigations are tentatively scheduled to conduct through March to April 2019. MoEHE agreed to coordinate with concerned authorities for smooth implementation of such surveys and investigations.

2-2. Further Analysis on the Results of Site Surveys

The Consultant explained and MoEHE understood that the results of the site surveys shall be further studied and analyzed in Japan based on the contents of the M/D in principle.

3. Candidate School Sites and the Priority

Based on Annex 2 "Selection Criteria of Construction Sites for the Project" of the M/D, MoEHE selected 19 candidate schools (11 sites in the West Bank, 8 sites in Gaza) as listed on Annex 1 of the M/D.

After signing the M/D, MoEHE made some changes to the list of the candidate school sites and put the priorities for West Bank and Gaza Strip, respectively as shown in Annex 2 of this Technical Notes. Based on the revised list, the Consultants conducted the field surveys.

The Consultant explained and MoEHE understood that the Team needs to analyze the gathered data further in Japan, including the result of the abovementioned topographic survey and the soil investigation, and the final priority will be determined based on the analysis and Annex 2 "Selection Criteria of Construction Sites for the Project" of the M/D in principle. As agreed on the M/D, the coverage and final scope of the Project will be decided by the Government of Japan.

MoEHE hopes to have the same number of schools in the West Bank and Gaza to be covered by the Grant Aid. If it is not the case due to budget constraints, MoEHE prefers to increase the number of schools in the West Bank by one.

4. Requested Components of the Candidate Sites

Requested components of the candidate sites are confirmed as follows.

1) Building component lists of the candidate sites are shown in Annex3.
2) Furniture lists are shown in Annex 4.
3) Equipment lists are shown in Annex 5.
4) Furniture and equipment lists of kindergarten are shown in Annex 6

Both sides reconfirmed that the solar power system is provided only to the schools in Gaza, as stipulated in M/D.

5. ICT Education and Equipment

For the promotion of ICT education, it is assumed that the following equipment is procured and installed at each school in accordance with the Digitalized School policy, while some modification will be necessary for Gaza Strip due to the shortage of electricity.

The quantity of each item to be covered under the Grant Aid will be finalized after the analysis in Japan and a tentative plan is referred in Annex 5.

- Tablet with a keyboard for all G-5 and G-6 students
- Desktop or laptop computers in the technology laboratory for students
- Printers in the technology laboratory
- Laptop computers for teachers
- WiFi covering the administration rooms, technology laboratory, library and G5-and G6 classrooms.
- Interactive projector (MoEHE requested to install interactive projectors in all the classrooms if the budget allows.)

6. Newly Introduced Facilities to Public Schools

MoEHE requested the following facilities which were newly introduced to schools.

1) Kindergarten

   One kindergarten classroom for schools with G1-4 girls or co-ed classes. An exterior playground with playground equipment is included.

2) Resource Room

   For schools with G1-4. Including necessary equipment.

3) Technology Laboratory

The Consultant explained and MoEHE understood that a computer laboratory should be added as an independent room and separated from a technology laboratory where technical education such as wood work and metal work are conducted as dusts from these works can negatively affect computers if they are used in the same room.

7. JICA's Bidding Documents

Further to 10-3 of the M/D, MoEHE in principle, agreed to procure construction works and equipment using JICA's bidding documents, according to the Procurement Guideline for the Japanese Grants (for Japanese Consultant local contractors) (Tentative Type II).

However, MoEHE considers that parts of JICA's bidding documents need to be modified, added and deleted, based on the procurement regulations and customs in PA. To this end, MoEHE agreed that it shall communicate points to be considered for modifications to the Consultant through email by March 31, 2019.

8. Proper size of procurement lots

MoEHE proposed to apply one contract for each school construction. However, MoEHE and The Consultant agreed to continue to consider the proper size of procurement lots based on selected schools and further information of construction sector in PA such as quality of construction work and financial stability of local contractors.

9. Security Planning

The Consultant received documents from MoEHE certifying that all candidate sites are safe and secured for construction. (Annex 7)

However, from the viewpoint of comprehensive safety and security reasons, MoEHE understood that, based on the safety and security analysis by the Consultant, the Project will possibly include some security measures to be taken during the construction period, and that might affect the priority of the candidate schools.

10. Specific Works to be Covered by the Palestinian Side

Based on Annex 5 "Major Undertakings to be taken by the Palestine Authority" of the M/D, MoEHE and the Consultant confirmed the necessity of the following specific works to be done by the Palestinian side before notice of bidding announcement to avoid delay of the construction work, if the respective sites are included in the final scope of the Project.

	Contents of works to be done by the Palestinian side	Site ID
a)	Logging or transplanting existing trees.	W-2, W-4, W-7, W-9, G-2, G-3
b)	Demolition and removal of existing aged buildings (including foundations) or existing fence.	G-4, G-7
c)	Removal of construction stone materials temporarily placed in the site.	W-11
d)	Removal of wastes.	W-6

11. Submission of Requested Documents

The Consultant requested MoEHE to prepare documents that have not been submitted by each organization concerned (see Annex 8) by the end of March 2019 and submit them to the Consultant by e-mail. MoEHE duly acknowledged this request.

Annexes:

Annex 1 Location Map of Candidate School Sites

Annex 2 Information on requested schools and feeder schools

Annex 3 Building Component Lists of the Candidate Sites (West Bank and Gaza Strip)

Annex 4 Furniture List

Annex 5 Equipment Lists

Annex 6 Furniture and Equipment List for Kindergarten

Annex 7 Certificate of Safety for Construction

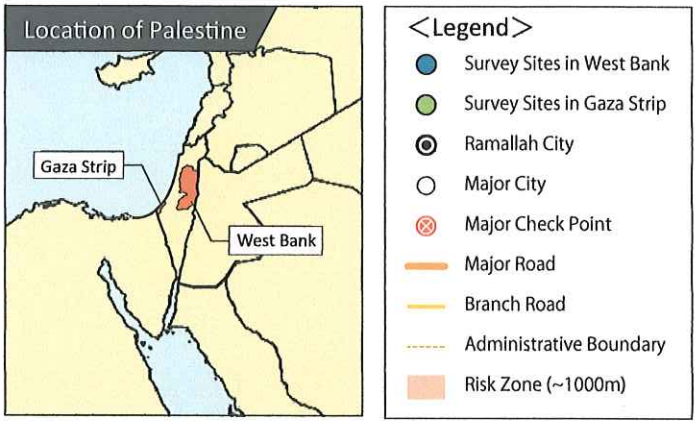
Annex 8 Requested Documents' List

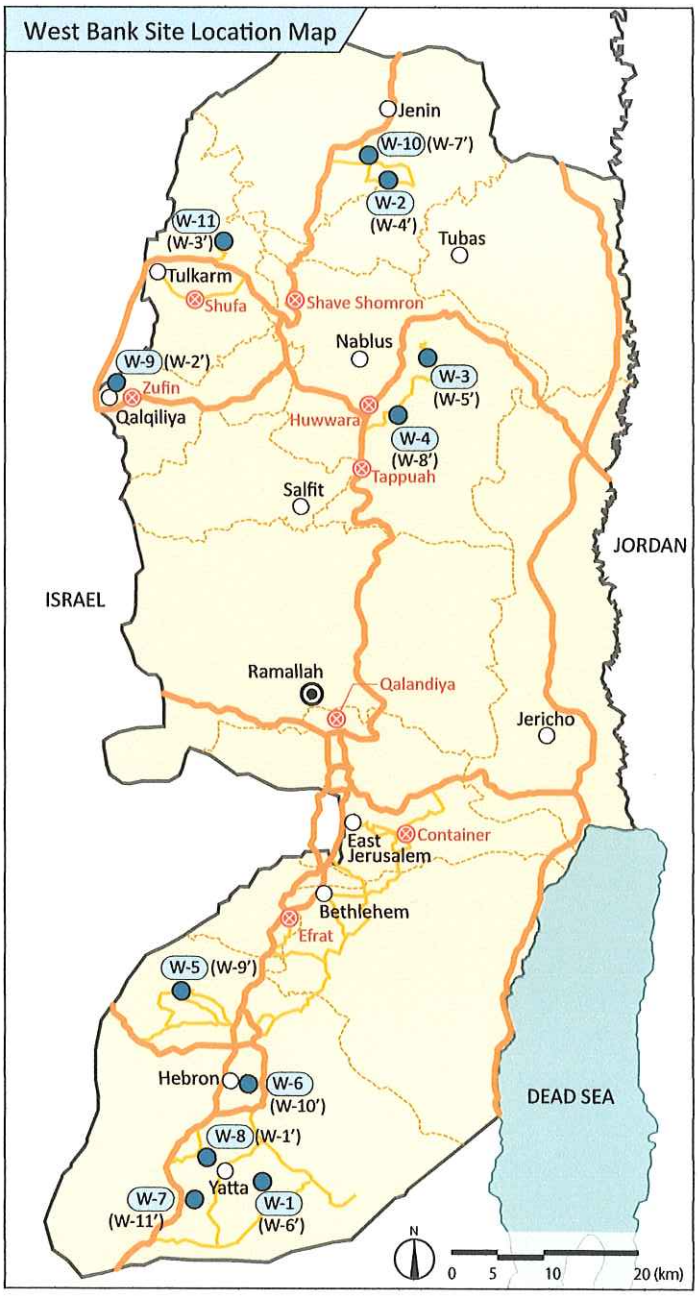
end

List of Candidate School Sites

West Bank			
ID No. (Revised)	ID No.' (M/D)	Governorate	School Name
W-1	W-6'	Yatta	Al Karmel Basic Boys School
W-2	W-4'	Qabatia	Meslieh Basic Coed School
W-3	W-5'	Nablus	Salem Sec Girls School
W-4	W-8'	south Nablus	Beta Basic Coed School
W-5	W-9'	North Hebron	Noba Sec Boys School
W-6	W-10'	Hebron	Wad al Nasarah Basic Girls School
W-7	W-11'	South Hebron	Alsamoo' Basic Coed School
W-8	W-1'	Yatta	Al Dar AlBaida' Basic Coed school
W-9	W-2'	Qalqelia	Qalqelia basic boys school
W-10	W-7'	Qabatia	Qabatia Secondary Girls School
W-11	W-3'	Tulkarem	Bal'a Basic Girls School
Gaza Strip			
G-1	G-1'	North Gaza	Jam'ia Land Basic Coed School
G-2	G-2'	North Gaza	Halawa land Basic Boys School
G-3	G-3'	North Gaza	Moharbeen Al Kudama Girls School
G-4	G-5'	Khan younis	Osama El-Najar Basic Girls School
G-5	G-7'	Rafah	Salam Basic Coed School
G-6	-	Khan younis	Boraq Land 1 Secondary Girls School
G-7	-	East Khanyonis	Al Ouda Secondary Boys School
G-8	G-8'	Khan younis	Hamad city 1 Secondary Girls School

Site Location Map





Annex 2. Inoformation on requested schools and feeder schools

【West Bank】

Priority	ID No. (Revised)	ID No. (M/D)	Governorate	School Name	Grade & Gender	No. of classrooms	Reason of the Request	Feeder School	Grade	Enrollment	Total in the catchment	No. of students to be transferred to the new school
1	W-1	W-6'	Yatta	Al Karmel Basic Boys School	1-4 Boys	12	Replace Rented	Al Karmel Basic Coed School	1-4	562	797	314
								Al Karmel Basic Boys School	1-4	235		
2	W-2	W-4'	Qabatia	Meslieh Basic Coed School	1-4 Coed	8 + Kg	Replace Rented	Meslieh Basic Girls School	1-4	115	446	233
								Meslieh Secondary Boys School	1-12	331		
3	W-3	W-5'	Nablus	Salem Sec Girls School	5-12 Girls	10	Replace bad classes	Salem Secondary Girls School	4-12	624	624	270
4	W-4	W-8'	South Nablus	Beta Basic Coed School	1-4 Coed 5-9 Gilrs	9 + Kg	Natural increase & mitigation of student no at crowded classes	Omar Bin Abdul Aziz Basic Coed School	1-4	112	1,249	242
								Beta Basic Coed (Only G1) School	1-9	572		
								Beta Basic Girls School	1-9	565		
5	W-5	W-9'	North Hebron	Noba Sec Boys School	10-12 Boys	12	Natural increase & mitigation of student no at crowded classes	Nuba Secondary Boys School	7-12	367	367	223
6	W-6	W-10'	Hebron	Wad al Nasarah Basic Girls School	5-9 Girls	15	Natural increase & mitigation of student no at crowded classes	Al Zahra Basic Girls School	7-9	531	3,525	399
								Jerusalem Basic Girls School	1-6	777		
								Johar Girls Primary School A	1-4	282		
								Johar Girls Primary School B	1-4	253		
								Fayhaa Basic Girls School	1-9	271		
								Al Ma'aref Basic Girls School	1-10	768		
								Taysir Mariqa Basic Girls School	1-10	529		
								Noreen Basic Girls School	1-4	114		
7	W-7	W-11'	South Hebron	Alsamoo' Basic Coed School	1-4 Coed 5-9 Girls	13 +Kg	Replace Rented, Natural increase	Al Samou Basic Coed School	1-4	88	1,093	357
								Muwaffaq al - Salti Basic Coed School	1-4	94		
								Male Ibn Khaldun Basic School	1-4	331		
								Khaleed Al Wazir Girls School	1-9	580		
8	W-8	W-1'	Yatta	Al Dar AlBaida' Basic Coed school	1-4 Coed 5-9 Gilrs	13+ Kg	Rented school	Al Dar Al Baida Coed School	1-4	236	905	438
								Eim Maminin Girls School	5-6	216		
								Hawa Secondary Grils School	7-12	453		
9	W-9	W-2'	Qalqelia	Qalqelia basic boys school	1-9 Boys	18	Rented school, & crowded classes	Mohammad Abu Ghazaleh Basic Boys School	5-9	400	3,996	700
								Almorabteen Basic Boys School	1-4	643		
								Turkish Basic Boys School	1-4	519		
								Shuhada Coed Basic School	1-4	595		
								Yousof Odah Coed Basic School	1-8	671		
								Al-sedek Basic Boys School	5-8	560		
								Palestine Basic Boys School	5-9	290		
								Mascut Basic Boys School	5-12	318		
10	W-10	W-7'	Qabatia	Qabatia Secondary Girls School	1-12 Girls	12*	Natural increase & mitigation of student no at crowded classes	West Qabatia Basic Girls School	1-7	650	1,099	250
								West Qabatia Secondary Girls School	8-12	449		
11	W-11	W-3'	Tulkarem	Bal'a Basic Girls School	5-9 Girls	10	Natural increase & mitigation of student no at crowded classes	Bal'a Higher Basic Girls School	5-8	342	698	369
								Bal'a Secondary Girls School	9-12	356		

*MoEHE explained that a kindergarten classroom is not necessary for W-10 school as there are enough number of private kindergartens nearby.

Annex 2. Inoformation on requested schools and feeder schools

【Gaza Strip】

Priority	ID No. (Revised)	ID No. (M/D)	Governorate	School Name	Grade & Gender	No. of classrooms	Reason of the Request	Feeder School	Grade	Enrollment	Total in the catchment	No. of students to be transferred to the new school
1	G-1	G-1'	North Gaza	Jam'ia Land Basic Coed School	1-4 Coed	20+Kg	To shorten commuting distance of students	Nusaiba Bent Kab (High) Basic Girls School A	8-10	538	2,534	824
								Nusaiba Bent Kab (High) Basic Girls School B	8-10	555		
								Fahed Girls Secondary School	6-12	1,052		
								Nour El Maref Privet School	1-10	389		
2	G-2	G-2'	North Gaza	Halawa land Basic Boys School	1-9 Boys	20	Relive overcrowding (Double shift)	Al Naqab Basic Boys School A	1-6	547	2,707	1,381
								Al Naqab Basic Boys School B	1-6	692		
								Al Rafea Basic Boys School A	1-6	679		
								Al Rafea Basic Boys School B	1-6	689		
3	G-3	G-3'	North Gaza	Moharbeen Al Kudama Girls School	1-9 Girls	20+Kg	Relive overcrowding (Double shift)	Awin Al Hertanin Co-ed School	1-6	606	1,223	606 or 959
								Sawari Secondary Girls School	7-12	617		
4	G-4	G-5'	Khanyonis	Osama El-Najar Basic Girls School	1-9 Girls	20+Kg	Relive overcrowding (Double shift)	Osama El Najar Basic Girls School A	1-3	636	1,226	1,226
								Osama El Najar Basic Girls School B	4-6	590		
5	G-5	G-7'	Rafah	Salam Basic Coed School	1-4 Coed 5-9 Girls	16+Kg	Relive overcrowding (Double shift)	Dair Yaseen Co-ed School A	1-7	726	1432	706
								Dair Yaseen Co-ed School B	1-7	706		
6	G-6	-	Khanyonis	Boraq Land 1 Secondary Girls School	10-12 Girls	22	To shorten commuting distance of students	New Khanyonis Primary Girls School (UNRWA)	4-9	897	3,333	829
								Al Amal Primary Girls School (UNRWA)	4-9	1,046		
								Tabaria Secondary Girls School	10-12	875		
								Eid Agha Basic Girls School	1-9	515		
7	G-7	-	East Khanyonis	Al Ouda Secondary Boys School	10-12 Boys	22	To replace old school, To shorten commuting distance of students	Al Aouda Boys Secondary School	10-12	599	2,500	1,061
								Abed Al Kareem Al Karmi Boys School B	8-9	681		
								Abd Muhsen Qattan Boys School	5-9	522		
								Ibn Nafees (Boys) School	1-9	349		
								Ibn Othaimeen Imam (Boys) School	1-9	349		
8	G-8	G-8'	Khanyonis	Hamad city 1 Secondary Girls School	10-12 Girls	22	To shorten commuting distance of students	Qrara Primary Girls School (UNRWA)	1-9	1,435	2,786	623
								Ailaboun Secondary School	9-12	836		
								Eid Agha Basic Girls School	1-9	515		

W-1	AL KARMEL BASIC BOYS SCHOOL	Level	1-4 Boys
		No. of CR	12

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		12	49.8	597.6
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	General Stores	-		2	20	40
6-	Toilet Stalls	-		1	49.8	49.8
7-	Canteen	-		1	16	16
8-	loby	-		1	60	60
10-	Resource room	-	-	1	35	35
	Total					1098.2
	Balance For Walls And Corridors 65% (estimate)					713.83
	Total Built-up Area					**1812.03**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

W-2	MESLIH BASIC COED SCHOOL	Level	1-4 Coed
		No. of CR	8+Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		8	49.8	398.4
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	General Stores	-		2	20	40
6-	Toilet Stalls	-		1	49.8	49.8
7-	Canteen	-		1	16	16
8-	loby	-		1	60	60
10-	Resource room	-	-	1	35	35
11-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					969
	Balance For Walls And Corridors 65% (estimate)					629.85
	Total Built-up Area					**1598.85**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

W-3	SALEM SECONDARY GIRLS SCHOOL	Level	5-12 Girls
		No. of CR	10

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		10	49.8	498
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1	49.8	49.8
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
	Total					1131.6
	Balance For Walls And Corridors 65% (estimate)					735.54
	Total Built-up Area					**1867.14**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

W-4	BETA BASIC COED SCHOOL	Level	1-4 Coed 5-9 Gilrs
		No. of CR	9+Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		9	49.8	448.2
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1	49.8	49.8
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
12-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					1186.8
	Balance For Walls And Corridors 65% (estimate)					771.42
	Total Built-up Area					**1958.22**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

W-5	NUBA SECONDARY BOYS SCHOOL	Level	10-12 Boys
		No. of CR	12

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		12	49.8	597.6
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1	49.8	49.8
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
	Total					1231.2
	Balance For Walls And Corridors 65% (estimate)					800.28
	Total Built-up Area					**2031.48**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

W-6	WAD ALNASARAH BASIC GIRLS SCHOOL	Level	5-9 Girls
		No. of CR	15

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		15	49.8	747
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (74.7m2)			1.5	49.8	74.7
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					209.7
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1.5	49.8	74.7
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
	Total					1430.4
	Balance For Walls And Corridors 65% (estimate)					929.76
	Total Built-up Area					**2360.16**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation					

W-7	AL SAMO'BASIC COED SCHOOL	Level	1-4 Coed 5-9 Girls
		No. of CR	13 +Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		13	49.8	647.4
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1	49.8	49.8
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
12-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					1386
	Balance For Walls And Corridors 65% (estimate)					900.9
	Total Built-up Area					**2286.9**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

W-8	AL DAR ALBAIDA BASIC COED SCHOOL	Level	1-4 Coed 5-9 Gilrs
		No. of CR	13+Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		13	49.8	647.4
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab. + Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1	49.8	49.8
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
12-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					1386
	Balance For Walls And Corridors 65% (estimate)					900.9
	Total Built-up Area					**2286.9**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

W-9	QALQILIA BASIC BOYS SCHOOL	Level	1-9 Boys
		No. of CR	18

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		18	49.8	896.4
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (99.6m2)			2	49.8	99.6
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					234.6
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		2	49.8	99.6
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
	Total					1664.6
	Balance For Walls And Corridors 65% (estimate)					1081.99
	Total Built-up Area					**2746.59**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation					

W-10	QABATIA SECONDARY GIRLS SCHOOL	Level	1-12 Girls
		No. of CR	12*

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		12	49.8	597.6
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					184.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	65
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1	49.8	49.8
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
	Total					1247.2
	Balance For Walls And Corridors 65% (estimate)					810.68
	Total Built-up Area					**2057.88**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

*MoEHE explained that a kindergarten classroom is not necessary for W-10 school as there are enough number of private kindergartens nearby.

W-11	BALÁ BASIC GIRLS SCHOOL	Level	5-9 Girls
		No. of CR	10

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		10	49.8	498
2-	Library including COMPUTER	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (49.8m2)			1	49.8	49.8
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store					
	Administration Unit area					169.8
4-	Multi-purpose hall	40	0.49	1	50	50
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1	49.8	49.8
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
	Total					1116.6
	Balance For Walls And Corridors 65% (estimate)					725.79
	Total Built-up Area					**1842.39**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-1	Jam'ia Land Basic Coed School	Level	1-4 Coed
		No. of CR	20 +Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		20	49.8	996
2-	Library including computer lab	-		1	84	84
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (124.5m2)			2.5	49.8	124.5
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (30 m2)			2	15	30
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					274.5
4-	Multi-purpose hall	40	0.49	1	84	84
5-	General Stores	-		2	20	40
6-	Toilet Stalls	-		2.5	49.8	124.5
7-	Canteen	-		1	16	16
8-	loby	-		1	60	60
9-	Resource room	-	-	1	35	35
10-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					1784
	Balance For Walls And Corridors 65% (estimate)					1159.6
	Total Built-up Area					**2943.6**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-2	Halawa land Basic Boys School	Level	1-9 Boys
		No. of CR	20

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		20	49.8	996
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (124.5m2)			2.5	49.8	124.5
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (30 m2)			2	15	30
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					274.5
4-	Multi-purpose hall	40	0.49	1	84	84
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		2.5	49.8	124.5
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
	Total					1863
	Balance For Walls And Corridors 65% (estimate)					1210.95
	Total Built-up Area					**3073.95**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-3	Moharbeen Al Kudama Girls School	Level	1-9 Girls
		No. of CR	20 +Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		20	49.8	996
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (124.5m2)			2.5	49.8	124.5
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (30 m2)			2	15	30
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					274.5
4-	Multi-purpose hall	40	0.49	1	84	84
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		2.5	49.8	124.5
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
12-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					1828
	Balance For Walls And Corridors 65% (estimate)					1188.2
	Total Built-up Area					**3016.2**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-4	Osama El-Najar Basic Girls School	Level	1-9 Girls
		No. of CR	20 +Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		20	49.8	996
2-	Library including computer lab	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (124.5m2)			2.5	49.8	124.5
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (30 m2)			2	15	30
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					274.5
4-	Multi-purpose hall	40	0.49	1	84	84
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		2.5	49.8	124.5
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
12-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					1695
	Balance For Walls And Corridors 65% (estimate)					1101.75
	Total Built-up Area					**2796.75**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-5	Salam Basic Coed School	Level	1-4 Coed 5-9 Girls
		No. of CR	16+Kg

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		16	49.8	796.8
2-	Library including computer lab	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (74.7m2)			1.5	49.8	74.7
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (15 m2)			1	15	15
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					209.7
4-	Multi-purpose hall	40	0.49	1	84	84
5-	Science lab+ Store+ prep.	40	0.98	1	84	84
6-	Technology lab (Computer space+Work space)	40	0.98	1	84	84
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		1.5	49.8	74.7
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
11-	Resource room	-	-	1	35	35
12-	Kinder garten 50m2 Toilets 12m2 Kitchen 8m2	-		1	70	70
	Total					1619.2
	Balance For Walls And Corridors 65% (estimate)					1052.48
	Total Built-up Area					**2671.68**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-6	Boraq Land 1 Secondary Girls School	Level	10-12 Girls
		No. of CR	22

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		22	49.8	1095.6
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (149.4m2)			3	49.8	149.4
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (30 m2)			2	15	30
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					299.4
4-	Multi-purpose hall	40	0.49	1	84	84
5-	Science lab+ Store+ prep.	40	0.98	2	84	168
6-	Technology lab (Computer space+Work space)	40	0.98	2	84	168
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		3	49.8	149.4
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
	Total					2145.4
	Balance For Walls And Corridors 65% (estimate)					1394.51
	Total Built-up Area					**3539.91**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-7	Al Ouda Secondary Boys School	Level	10-12 Boys
		No. of CR	22

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		22	49.8	1095.6
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (149.4m2)			3	49.8	149.4
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (30m2)			2	15	30
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					299.4
4-	Multi-purpose hall	40	0.49	1	84	84
5-	Science Lab+ Store+ prep.	40	0.98	2	84	168
6-	Technology lab (Computer space+Work space)	40	0.98	2	84	168
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		2	49.8	99.6
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
	Total					2095.6
	Balance For Walls And Corridors 65% (estimate)					1362.14
	Total Built-up Area					**3457.74**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

G-8	Hamad city 1 Secondary Girls School	Level	10-12 Girls
		No. of CR	22

Item	Academic and Communal	No. of Students per Unit	Frequency of use	No. of Units required	Net Area in m2 per Unit	Total Area in M2
1-	Number of Classrooms ,40 students per one class	40		22	49.8	1095.6
2-	Library including computer	-		1	65	65
3-	**Administration Unit**					
	A. Headmaster Room(30 m2)			1	30	30
	B. First Aid (15m2)			1	15	15
	C. Door Keepers and Kitchen(10m2)			1	10	10
	D. Teachers Room (149.4m2)			3	49.8	149.4
	E. Social Worker(15m2)			1	15	15
	F. Secretary (20m2)			1	20	20
	G.Administration Toilets (30m2)			2	15	30
	H.archive and coppier			1	15	15
	I.Sport store			1	15	15
	Administration Unit area					299.4
4-	Multi-purpose hall	40	0.49	1	84	84
5-	Science Lab+ Store+ prep.	40	0.98	2	84	168
6-	Technology lab (Computer space+Work space)	40	0.98	2	84	168
7-	General Stores	-		2	20	40
8-	Toilet Stalls	-		2	49.8	99.6
9-	Canteen	-		1	16	16
10-	loby	-		1	60	60
	Total					2095.6
	Balance For Walls And Corridors 65% (estimate)					1362.14
	Total Built-up Area					**3457.74**
	the total circulation area to not exceed 30%					
	the circulation % =circulation area / (net used area for building (excluding walls) + circulation area)					

Furniture Lists

No.	Item	Classroom	Headmaster Room	Secretary Room	Teacher Room	Social Worker Room	Science Lab	Technology Lab (Computer)	Technology Lab (Work)	Fast Aid	Library	Multi Purpose Room	Resource Room	Kindergarten Room
Group A Include :														
A-1	Student Desk4	20	–	–	–	–	–	–	–	–	–	–	–	–
A-2	Student Chair4	40	–	–	–	–	–	–	–	–	–	–	–	–
Group B Include :														
B-1	Student Desk5	20	–	–	–	–	–	–	–	–	–	–	–	–
B-2	Student Chair5	40	–	–	–	–	–	–	–	–	–	–	–	–
Group C Include :														
C-1	Student Desk6	20	–	–	–	–	–	–	–	–	–	–	–	–
C-2	Student Chair6	40	–	–	–	–	–	40	–	–	40	–	–	–
Group D Include :														
D-1	Teacher Desk (Classroom)	1	–	–	–	–	–	–	–	–	–	–	–	–
D-2	Teacher Desk (Staff room)	–	–	–	15	–	–	–	–	–	–	–	–	–
D-3	Teacher Chair	1	–	–	15	–	–	1	–	–	–	–	–	–
Group E Include :														
E-1	Reading Table	–	–	–	–	–	–	–	–	–	6	8	–	–
E-2	Working Table	–	–	–	–	–	–	–	–	–	–	–	–	–
E-3	Computer Table(Student)	–	–	–	–	–	–	21	–	–	–	–	–	–
E-4	Stool Chair	–	–	–	–	–	41	–	–	–	–	–	–	–
E-5	Examination Bed	–	–	–	–	–	–	–	–	1	–	–	–	–
E-6	Curation for Patient	–	–	–	–	–	–	–	–	1	–	–	–	–
Group F Include :														
F-1	Headmaster/Officer Desk	–	1	1	–	1	–	–	–	1	1	–	–	–
F-2	Set of Middle Table	–	1	–	–	–	–	–	–	–	–	–	–	–
F-3	Book Shelves	–	–	–	–	–	–	–	–	–	10	–	–	–
F-4	Wooden Closet Shelves with Two Bottom Doors	–	2	–	–	–	–	–	–	–	–	–	–	–
F-5	Headmaster/Officer Chair	–	1	1	–	1	–	–	–	1	1	–	–	–
F-6	Visitor Chair (Wood/Chrome)	–	6	–	–	–	–	–	–	–	–	–	–	–
F-7	Multipurpose Chair	–	–	6	–	6	–	–	–	2	2	100	–	–
Group G Include :														
G-1	Metal File Cabinet (4 Drawers)	–	1	1	–	1	–	–	–	1	–	–	–	–
G-2	Metal Cabinet (2 Doors)	1	–	1	–	–	–	–	–	–	–	1	–	–
G-3	Metal Cabinet (12 Doors)	–	–	–	2	–	–	1	–	–	–	–	–	–
G-4	Lab Locker	–	–	–	–	–	8	–	–	–	–	–	–	–
G-5	Sport Cabinet	–	–	–	–	–	–	–	–	–	–	2	–	–
Group H(Resource Room) Include :														
H-1	Student Desk	–	–	–	–	–	–	–	–	–	–	–	7	–
H-2	Student Chair	–	–	–	–	–	–	–	–	–	–	–	7	–
H-3	Computer Table	–	–	–	–	–	–	–	–	–	–	–	1	–
H-4	Teacher Desk (Classroom)	–	–	–	–	–	–	–	–	–	–	–	1	–
H-5	Teacher Chair	–	–	–	–	–	–	–	–	–	–	–	1	–
H-6	Wooden Closet Shelves with Two Bottom Doors	–	–	–	–	–	–	–	–	–	–	–	2	–
Group I (Technology lab) Include :														
I-1	Student Chair 6	–	–	–	–	–	–	–	–	–	–	–	–	–
I-2	Stool Chair	–	–	–	–	–	–	–	20	–	–	–	–	–
I-3	Teacher Desk (Classroom)	–	–	–	–	–	–	–	1	–	–	–	–	–
I-4	Teacher Chair	–	–	–	–	–	–	–	1	–	–	–	–	–
Group J (Technology Lab) Include :														
J-1	Technology Lab Bench	–	–	–	–	–	–	–	3	–	–	–	–	–
J-2	Lab Locker	–	–	–	–	–	–	–	2	–	–	–	–	–
J-3	Metal Cabinet (2 Doors)	–	–	–	–	–	–	–	1	–	–	–	–	–
J-4	Computer Table	–	–	–	–	–	–	–	–	–	–	–	–	–
Group K (Kindergarten Room) Include :														
K-1	Round Table	–	–	–	–	–	–	–	–	–	–	–	–	6
K-2	Kindergarten Chair	–	–	–	–	–	–	–	–	–	–	–	–	30
K-3	Wood shelf/Compartments	–	–	–	–	–	–	–	–	–	–	–	–	4
K-4	Stories Wood Shelf	–	–	–	–	–	–	–	–	–	–	–	–	4

This furniture list indicates the request of furniture for the school of West Bank. However, the number of furniture and the specification are not finalized perfectly yet. In addition, furniture list and the specification for the school of Gaza Strip are not yet submitted to the Consultant.

Equipment Lists

1) ICT Equipment for Classroom

Academic/Communal	Equipment	Q'ty for 1 school	Target range to be considered	Relatively low priority
FOR West Bank				
Classroom	Tablet with a keyboard	1 for student	All G-5 and G-6 students	
	Laptop Computer for teacher	1 for teacher	All G-5 and G-6 teachers ~All grades teachers	
	Interactive Projector	1 for classroom	All G-5 and G-6 classrooms ~All grades classrooms	
FOR Gaza Strip				
Classroom	Laptop Computer for teacher	1 for each subject(the faculty of the same subject shares one laptop Computer	All G-5 and G-6 teachers ~All grades teachers	

2) Equipment for Library

Academic/Communal	Equipment	Q'ty for 1 school				Relatively low priority
		1-4 grade		5-12 grade		
		West Bank	Gaza Strip	West Bank	Gaza Strip	
Library	Computer	9	9	1	1	
	Network System	1	1	-	-	
	Interactive Projector	1	1	1	1	

3) Equipment for Administration

Academic/Communal	Equipment	Q'ty for 1 school	Relatively low priority
Administration Unit			
Headmaster Room	Computer	1	
	Laser Printer	1	
Door Keepers and Kitchen	Boiler	1	○
	Gas Range	1	○
Teachers Room	Computer	2	
Secretary Room	Computer	1	
	Copier	1	
	Laser Printer	1	
	Paper Shredder	1	○
	Electrical Cleaning Machine	1	○
Sport Store	Mattress	10	
	Ball set (Basketball, Football and volleyball)	1	
	Badminton Set	10	
	Table Tennis Set	3	

4) Equipment for Multi-purpose Hall

Academic/Communal	Equipment	Q'ty for 1 school	Relatively low priority
Multi-purpose Hall	LCD Projector	1	
	Sound System Set	1	
	Lap top Computer	1	

5) Scientific Laboratory Equipment

Academic/Communal	Equipment	1-4 Grade		5-9 Grade		10-12 Grade		Q'ty for 1 school	Relatively low priority
		West Bank	Gaza Strip	West Bank	Gaza Strip	West Bank	Gaza Strip		
Science Lab	Lap top Computer					O	O	1	
	Color printer					O	O	1	
	LCD projector					O	O	1	
	Ball and Ring			O	O	O	O	6	
	Bar Magnet	O	O	O	O	O	O	6	
	Bell Jar with pump-plastic			O	O	O	O	1	
	Compass(pocket)	O	O	O	O	O	O	6	
	Compound Bar			O	O	O	O	3	
	Dynamo Hand Operated	O	O	O	O	O	O	3	
	Ebonite Rod (Pair)	O	O	O	O	O	O	3	
	Glass Rod (Pair)	O	O	O	O	O	O	3	
	Electronic Balance			O	O	O	O	6	
	Electroscope	O	O	O	O	O	O	6	
	Heat Conduction Apparatus			O	O	O	O	6	
	High voltage power supply					O	O	1	
	U - Shape Magnet	O	O	O	O	O	O	6	
	Lens Set	O	O	O	O	O	O	3	
	Linear Air Track Kit			O	O	O	O	1	
	Low Voltage Power Supply			O	O	O	O	6	
	Magnetic Field Chamber			O	O	O	O	3	
	Micrometer			O	O	O	O	6	
	Mirrors	O	O	O	O	O	O	6	
	Ripple Tank			O	O	O	O	1	
	Rushkoff Commutator			O	O	O	O	1	
	Slotted masses with hanger	O	O	O	O	O	O	3	
	Spring Balance Set	O	O	O	O	O	O	3	
	System To study Free Fall			O	O	O	O	1	
	Tellurium	O	O	O	O	O	O	1	
	Tuning Forks on Resonance Box			O	O	O	O	3	
	Tuning Forks	O	O	O	O	O	O	3	
	Van de Graff Generator			O	O	O	O	1	
	Vernier Caliper			O	O	O	O	6	
	Clamp , Universal	O	O	O	O	O	O	3	
	Double 45 Clamp	O	O	O	O	O	O	6	
	Rocks and Minerals Set	O	O	O	O	O	O	1	
	Stand ring	O	O	O	O	O	O	6	
	Tools set			O	O	O	O	1	
	Displacement vessel			O	O	O	O	6	
	Equal volume metal cubes			O	O	O	O	6	
	Simple Pendulum set			O	O	O	O	6	
	Linear Expansion Apparatus			O	O	O	O	6	
	Calorimeter Set			O	O	O	O	3	
	Demountable Transformer					O	O	1	
	Force Table			O	O	O	O	1	
	Laser Geoptic set			O	O	O	O	3	
	Hook's Law			O	O	O	O	6	
	Hope's Apparatus			O	O	O	O	1	
	Moving Coil Galvanometer (Microammeter)			O	O	O	O	6	
	Multimeter Digital			O	O	O	O	6	
	Optical Bench Set			O	O	O	O	1	
	Solar energy unit	O	O	O	O	O	O	6	
	Periodic Table of elements			O	O	O	O	1	
	Retort stand	O	O	O	O	O	O	6	
	Tripod stand	O	O	O	O	O	O	6	
	Basics of Electricity & Electronics kit					O	O	6	
	Light Refraction Apparatus			O	O	O	O	6	
	Lever Set			O	O	O	O	3	
	Force Between Two Parallel Currents Demonstrator					O	O	1	
	Apparatus to show force on a conductor in a magnetic field					O	O	3	
	Induction coils					O	O	6	
	Wire Gauze ,Ceramic center	O	O	O	O	O	O	6	
	Wash bottle			O	O	O	O	6	
	Simple circuits kit			O	O			6	
	Digital Vernier Caliper			O	O	O	O	3	
	2D magnetic field demonstrator			O	O	O	O	6	
	Fire Extinguisher			O	O	O	O	1	
	Hoffman Apparatus			O	O	O	O	3	

Academic/Communal	Equipment	1-4 Grade		5-9 Grade		10-12 Grade		Q'ty for 1 school	Relatively low priority
		West Bank	Gaza Strip	West Bank	Gaza Strip	West Bank	Gaza Strip		
	Hydrometer			O	O	O	O	6	
	Hygrometer (wet and dry)			O	O	O	O	3	
	Lab Burner-Gas Cartridge			O	O	O	O	6	
	Spectral Gas Tubes					O	O	1	
	Atomic structure Model			O	O	O	O	3	
	Beakers	O	O	O	O	O	O	3	
	Burette			O	O	O	O	3	
	Burrete Clamp			O	O	O	O	3	
	Distillation Apparatus			O	O	O	O	3	
	Erlenmeyer Flask	O	O	O	O	O	O	3	
	Graduated Cylinder	O	O	O	O	O	O	3	
	Pipette			O	O	O	O	3	
	Pipette Filler			O	O	O	O	3	
	Portable pH Meter			O	O	O	O	6	
	Test Tube			O	O	O	O	1	
	Test Tube Rack			O	O	O	O	6	
	Thermometers	O	O	O	O	O	O	3	
	Dissecting Set			O	O	O	O	1	
	Human Brain Model			O	O	O	O	1	
	Human Circulatory System Charts	O	O	O	O	O	O	1	
	Human Digestive System Chart	O	O	O	O	O	O	1	
	Human Ear Model	O	O	O	O	O	O	1	
	Human Eye Model	O	O	O	O	O	O	1	
	Human Heart Model	O	O	O	O	O	O	1	
	Human kidney Model			O	O	O	O	1	
	Human Muscular System Chart	O	O	O	O	O	O	1	
	Human Nervous System Chart			O	O	O	O	1	
	Human Respiratory System Chart	O	O	O	O	O	O	1	
	Human Skeleton Model	O	O	O	O	O	O	1	
	Human Torso (sex less)			O	O	O	O	1	
	Human Urinary System Chart	O	O	O	O	O	O	1	
	Monocular Microscope			O	O	O	O	6	
	Stereomicroscope			O	O	O	O	3	
	Digital blood pressure monitor			O	O	O	O	3	
	Human teeth model	O	O	O	O	O	O	1	
	Microscope slide set			O	O	O	O	3	
	DNA Model			O	O	O	O	3	
	Crucible with Lid			O	O	O	O	3	
	Stir Rod, Borosilicate Glass			O	O	O	O	1	
	Hand Magnifier	O	O	O	O	O	O	6	
	Safety Glasses			O	O	O	O	40	
	Glass Microscope Slides Plain			O	O	O	O	3	
	Glass Cover Slips			O	O	O	O	6	
	Dissecting Pan	O	O	O	O	O	O	3	
	Meter Rule Meter stick	O	O	O	O	O	O	3	
	Inclined Plane	O	O	O	O	O	O	3	
	Banana Plug Lead Stackable	O	O	O	O	O	O	1	
	Alligator Crocodile Clip Lead Medium Red and Black	O	O	O	O	O	O	1	
	Carbon Electrode Round			O	O	O	O	1	
	Prism Glass Equilateral			O	O	O	O	6	
	Prism Glass Right Angle			O	O	O	O	6	
	Slinky Spring Metal			O	O	O	O	3	
	Pipette Pump			O	O	O	O	6	
	Alcohol Lamp Burner	O	O	O	O	O	O	6	
	Manometer Demonstration			O	O	O	O	3	
	U' Shape Tube			O	O	O	O	6	
	Glass Funnel Borosilicate Glass			O	O	O	O	6	
	Borosilicate Glass Tube	O	O	O	O	O	O	1	
	Wooden Test tube holder			O	O	O	O	6	
	Digital Camera Eyepiece			O	O	O	O	6	
	Tablet for Data Logging					O	O	1	
	Portable data logger					O	O	1	
	Original Software for data logging and analyzing					O	O	1	
	Sensors Set (16pcs.)					O	O	1	
	Experiments Accessories Set					O	O	1	
	Chemical	O		O		O		1	O

6) Technology Laboratory Equipment

Academic/Communal	Equipment	5-9grade		10-12 grade		Q'ty for 1 school	Relatively low priority
		West Bank	Gaza Strip	West Bank	Gaza Strip		
Technology Lab	Hammer Drill	O	O	O	O	2	
	Angle Grinder	O	O	O	O	1	
	Jig Saw	O	O	O	O	2	
	Scroll Saw	O	O	O	O	2	
	Drill/Driver	O	O	O	O	6	
	Circular Saw	O	O	O	O	1	
	Combination Mire/Table Saw	O	O	O	O	1	
	Router	O	O	O	O	1	
	Belt Sander	O	O	O	O	1	
	Finishing Sander	O	O	O	O	1	
	Drill Press	O	O	O	O	1	
	Benchtop Abrasive Cutoff Saw	O	O	O	O	1	
	Meuleuse Double	O	O	O	O	1	
	13" Mini Wood Lathe	O	O	O	O	1	
	Power Supply AC & DC	O	O	O	O	6	
	Electric Welding	O	O	O	O	1	
	Combination pliers 7"	O	O	O	O	6	
	Diagonal Cutting Pliers	O	O	O	O	6	
	Long Nose Pliers	O	O	O	O	6	
	Wire Stripping Pliers 6"	O	O	O	O	6	
	Water Pump Pliers 10"	O	O	O	O	6	
	Tower Pincers	O	O	O	O	6	
	Caustic welding tin	O	O	O	O	6	
	Soldering Gun	O	O	O	O	1	
	Adjustable Helping Hand with Magnifying Glass	O	O	O	O	7	
	Utility Knife	O	O	O	O	6	
	Meters measure	O	O	O	O	6	
	Claw Hammer	O	O	O	O	6	
	Hammer	O	O	O	O	6	
	Phillips Screwdriver set	O	O	O	O	6	
	Stubby Screwdriver set	O	O	O	O	6	
	Voltage Tester	O	O	O	O	6	
	Safety Goggles & Ear Muffs & Goggli	O	O	O	O	20	
	Steel Cantilaver Tool Box	O	O	O	O	8	
	Multifunctional Parts Storage Box	O	O	O	O	4	
	26 Drawer Storage Cabinet	O	O	O	O	4	
	Sockets sets 1/4"	O	O	O	O	6	
	Combination Wrench Set	O	O	O	O	6	
	Screwdriver Bits set 1/4"	O	O	O	O	6	
	Step Drill Bit set	O	O	O	O	2	
	Wood Flat Drills Bits	O	O	O	O	2	
	Rubber Hammer	O	O	O	O	6	
	Tool Hex Set	O	O	O	O	6	
	Hand saw for metal cutting 12"	O	O	O	O	6	
	Hand copying saw	O	O	O	O	6	
	Back Saw	O	O	O	O	6	
	Combination Saw	O	O	O	O	6	
	Adjustable Wrenches set	O	O	O	O	6	
	Hot Glue Gun	O	O	O	O	6	
	Carpenters Square	O	O	O	O	6	
	Bevel Gage	O	O	O	O	6	
	Rasp for wood	O	O	O	O	6	
	Curved Jaw Locking Pliers	O	O	O	O	6	
	Smoothing Plane #4	O	O	O	O	6	
	Hand Riveter and Aluminum Rivets Set	O	O	O	O	2	
	Straight Chisel Set	O	O	O	O	6	
	F Clamp	O	O	O	O	10	
	Offset Tin Snips	O	O	O	O	6	
	Magnetic Torpedo Level	O	O	O	O	6	
	Steel Bench Vise	O	O	O	O	2	
	Clamp-on Vises	O	O	O	O	6	
	Staple Gun	O	O	O	O	6	

Academic/Communal	Equipment	5-9grade		10-12 grade		Q'ty for 1 school	Relatively low priority
		West Bank	Gaza Strip	West Bank	Gaza Strip		
	Drill Bit Set	O	O	O	O	6	
	Hole Saw set	O	O	O	O	2	
	Electronic Kits	O	O	O	O	10	
	FIRST LEGO LEAGUE System	O	O	O	O	1	
	Arduino Uno Microprocessor			O	O	10	
	Stepper Motor Drive			O	O	10	
	Bluetooth Module			O	O	10	
	Jumper Cables for Arduino Breadboard	O	O	O	O	6	
	Smart Robot Car Chassis Kit			O	O	10	
	Hand Held Digital Multi-meter	O	O	O	O	10	
	Test Board	O	O	O	O	15	
	Flat Head Wood Screws set (type A)	O	O	O	O	1	
	Flat Head Wood Screws set (type B)	O	O	O	O	1	
	Flat Head Wood Screws set (type C)	O	O	O	O	1	
	Iron Panel Pins (type A)	O	O	O	O	1	
	Iron Panel Pins (type B)	O	O	O	O	1	
	Iron Panel Pins (type C)	O	O	O	O	1	
	Phillips Pan Head Sheet Metal (type A)	O	O	O	O	1	
	Phillips Pan Head Sheet Metal (type B)	O	O	O	O	1	
	Phillips Pan Head Sheet Metal (type C)	O	O	O	O	1	
	Chemical Capacitors	O	O	O	O	200	
	Ceramic Capacitors	O	O	O	O	200	
	Resistors	O	O	O	O	250	
	Variable Resistor	O	O	O	O	200	
	Voltage Dependent Resistor (VDR)	O	O	O	O	50	
	Light Dependent Resistor (LDR)	O	O	O	O	50	
	Diode	O	O	O	O	160	
	Light Emitting LED	O	O	O	O	500	
	Zener Diode	O	O	O	O	200	
	Fuse Box	O	O	O	O	100	
	Thyrmistor	O	O	O	O	100	
	Soldering Tin Wire Reel	O	O	O	O	50	
	Switches (type A)	O	O	O	O	20	
	Switches (type B)	O	O	O	O	20	
	Switches (type C)	O	O	O	O	20	
	Switches (type D)	O	O	O	O	20	
	Switches (type E)	O	O	O	O	20	
	Ic Timer	O	O	O	O	50	
	Transistor	O	O	O	O	200	
	IC TTL	O	O	O	O	125	
	IC LM386	O	O	O	O	10	
	IC LM324	O	O	O	O	10	
	IC LM311	O	O	O	O	10	
	IC LM35	O	O	O	O	10	
	LM 7805, 7812	O	O	O	O	10	
	TDI 2003	O	O	O	O	10	
	IR-Rx	O	O	O	O	20	
	IR-Tx	O	O	O	O	20	
	7- Segment			O	O	10	
	Relay (type A)	O	O	O	O	20	
	Relay (type B)	O	O	O	O	20	
	Relay (type C)	O	O	O	O	20	
	Relay (type D)	O	O	O	O	20	
	Relay (type E)	O	O	O	O	10	
	Microswitch with Lever	O	O	O	O	12	
	Circuit breakers	O	O	O	O	10	
	Electrical Distribution Board	O	O	O	O	1	
	Switch	O	O	O	O	12	
	Speakers	O	O	O	O	50	
	Microphone	O	O	O	O	50	
	DC Motor	O	O	O	O	50	
	Electric Socket	O	O	O	O	10	
	OPTO Isolator			O	O	50	

Academic/Communal	Equipment	5-9grade		10-12 grade		Q'ty for 1 school	Relatively low priority
		West Bank	Gaza Strip	West Bank	Gaza Strip		
	Digital Oscilloscope	○	○	○	○	5	
	Stepper Motor	○	○	○	○	50	

7) Computer Equipment

Academic/Communal	Equipment	5-9 grade		10-12 grade		Q'ty for 1 school		Relatively low priority
		West Bank	Gaza Strip	West Bank	Gaza Strip	West Bank	Gaza Strip	
PC Room	Desktop Computer	○		○		about 20	-	
	Laptop Computer		○		○	-	about 20	
	Network Multifunctional Laser Printer	○	○	○	○	about 3	about 2	
	Interactive Projector	○	○	○	○	1	1	
	Network Equipment Set (Switch POE and *Distribution Cabinet and Complete Network Point* and Enterprise Access Point with Plastic Box and Firewall)	○	○	○	○	1	1	
	Office Pro 2016 Educational	○	○	○	○	about 20	about 20	
	Arduino software			○	○	about 20	about 20	
	Arduino & Bluetooth Simulation Library			○	○	about 20	about 20	
	Sql server 2012 SP2 Express			○	○	about 20	about 20	
	Visual Studio 2015 (VB.net + ASP.net)			○	○	about 20	about 20	
	Appinventor software			○	○	about 20	about 20	
	Web page maker			○	○	about 20	about 20	
	SketchUp software			○	○	about 20	about 20	
	InkSpace			○	○	about 20	about 20	
	Gimp			○	○	about 20	about 20	
	Audcity 1			○	○	about 20	about 20	
	VSDC			○	○	about 20	about 20	
	Proetus 8.6			○	○	about 20	about 20	
	Arduino C			○	○	about 20	about 20	
	Scratch 2	○	○			about 20	about 20	
	Scribus	○	○			about 20	about 20	
	Google web designer	○	○			about 20	about 20	
	Visual Basic	○	○			about 20	about 20	

8) Equipment for Resource Room

Academic/Communal	Equipment	West Bank	Gaza Strip	Q'ty for 1 school	Relatively low priority
Resource Room	Computer	○	○	1	
	Three in one printer	○	○	1	
	Interactive Projector	○		1	
	Educational toys set	○	○	1	
	Educational Tools Set	○	○	1	
	Musical Kit	○	○	1	
	Bookbinding Machine	○	○	1	
	Mirror	○	○	1	

9) Other

Academic/Communal	Equipment	Q'ty for 1 school	Relatively low priority
Best Location for WiFi covered area(administration rooms, library and G-5 and G-6 classrooms)	Enterprise Access Point with Plastic Box	Proper Q'ty	

Annex 6

Furniture and Equipment List for Kindergarten

Academic/Communal	Equipment	West Bank	Gaza Strip	Q'ty for 1 school	Relatively low priority
Kindergarten	Round Table	○	○	5	
	Chair	○	○	30	
	Wood Shelf (type A)	○	○	2	
	Wood Shelf (type B)	○	○	1	
	Sponge Mattress	○	○	1	
	Brashout	○	○	5	○
	Jumping Bag	○	○	2	○
	Bed Room Set	○	○	1	
	Medical Corner Set	○	○	1	
	Kitchen Corner(Oven)	○	○	1	
	Kitchen Corner(Refrigerator)	○	○	1	
	Kitchen Corner(Sink)	○	○	1	
	Kitchen Corner(Washing Machine)	○	○	1	
	Kitchen Corner(Kitchen Closet)	○	○	1	
	Colors Puzzle	○	○	1	
	Before and After Puzzle	○	○	1	
	Shape and Shade Puzzle	○	○	1	
	Job and Tools Puzzle	○	○	1	
	Relation Puzzle	○	○	1	
	Opposite Puzzle	○	○	1	
	Sewing Beads Set	○	○	1	
	Beads Box	○	○	1	
	Musical Kit	○	○	1	
	Wood Geometric Shapes	○	○	1	
	Large Beads Toy	○	○	1	
	Laptop Computer	○	○	1	
	Interactive Projector	○		1	
	Three in one printer	○	○	1	
	Swing (2 persons)	○	○	1	○
	Seesaw	○	○	1	○
	Slide	○	○	1	○

State of Palestine
Ministry of Education & Higher Education
D. G of Buildings

دولة فلسطين
وزارة التربية والتعليم العالي
الإدارة العامة للأبنية

Ref No.: 21/1/8026 Date: 3/3/2019

Certificate

By this letter, MEHE certifies that the following sites in West Bank are safe and secured for the construction process:

1- Al Dar AlBaida' Basic Coed school
2- Meslieh Basic Coed School
3- Salem Sec Girls School
4- Beta Basic Coed School
5- Noba Sec Boys School
6- New school at wad al Nasarah
7- Alsamoo' Basic Boys School
8- Al Karmel Basic Boys School
9- Qalqelia basic boys school
10- New school at Qabatia Sec girls school
11- Bal'a School Basic Girls

Best Regards

Fakhri Safadi
D. G of Buildings

State of Palestine Ministry of Education & Higher Education

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State of Palestine
Ministry of Education & Higher Education
Directorate General for Buildings

دولة فلسطين
وزارة التربيـــة والتـعليم العالـي
الادارة العـامـة للابنـيـــة

Ref : 1J/2019 Date : 28/02/2019

Certificate

By This letter , MEHE certefies that, the following sites and all surrounding areas are safe and secured (Land minning ,Uxo, etc....) to be used for the construction of the following schools at Gaza Strip :

1- New School at Salam Area
2- Rebuilding Awda School
3- New School at Boraq Land
4- New School at Hamad City
5- Rebuilding Osama Najar School
6- New School in Halawa Land
7- New School in M uharbeen Qudama Land
8- New School in Jam'ia Land
9- Rebuilding Qahera School

Best Regards

Jamal Abd El Bari

The Manager of
Directorate General for Buildings

Gaza: (08-2641260) Fax: (08-2641292) غزة: (08-2641260) فاكس:(08-2641292)
Email: info@mohe.ps

Annex 8

Requested Documents List

No.	Name of the document	Note
1.	Land ownership documents	The documents in the following sites are required. ・ W-3 Salem Sec Girls School ・ W-4 Bata Basic Coed School ・ G-6 New School at Boraq Land 1 ・ G-8 Hamad city1
2.	Faculty (Teacher) placement plan	The document in the following site is required. ・ G-1 Jam'ia Land-Mas'od street Jabalia
3.	Enrollment statistics of Khaleed Al Wazir Girls School (a feeder school of W-7: Alsamoo' Basic Coed School	The following statistical information is required: Number of Students by Grade from 2014/15- 2018/19 (past 5 years)
4.	Area Category Information on all candidates sites in West Bank	The document is required to issue the letter by MoEHE after confirming area category information by the related authorities in PA.
5.	List and specification of furniture	Documents of followings are required West Bank ・ Specification of furniture for Technology Lab, Resource Room and Kindergarten Room ・ Gaza Strip ・ List of all furniture ・ - Specification of all furniture
6.	List of Supplier for Equipment	The following supplier (3-5 companies) Data (company name, TEL, E-mail, Contact person) are required for West Bank and Gaza strip: ・ Computer companies(Desk top, Laptop, Tablet, Printer, etc.) ・ Computer Network Equipment companies(Switch, Access point, Firewall, etc.) ・ Computer Software Companies (Software for Technology Lab such as Arduino software, VSDC, Scratch2,etc.)

		• ITC equipment companies(Interactive projector, LED projector, etc.) • Companies of Sports Equipment • Electrical appliances Companies (such as Water Boiler, Gas Range for kitchen, Copier, Electrical Vacuum Cleaner, Sound System, etc.) • Stationary equipment companies(Paper Shredder, Bookbinding machine, Mirror for resource room (1.5mx1m approx.), etc.)
7.	Specifications of Equipment	The following specifications are required: • Resource room equipment (Educational toys set, Educational tools set, Bookbinding Machine and Mirror) • Equipment for sport store (Mattress, Ball set(Basketball, Football and Volleyball), Badminton set and Table tennis set) • Water Boiler, Gas range for kitchen, Paper shredder, Electrical Vacuum Cleaner and Sound System for Multi-purpose hall
8.	List of School Construction Project in the Past 5 Years	The list of all school construction project by MoEHE, development partners or NGO in both West bank and Gaza strip in the past 5 years is required. The following information shall be included in the list. • Location • School name • Number of classroom • Facility • Total floor area • Construction cost

END

Appendix 4-3　Minutes of Discussions (Field SurveyII)

Minutes of Discussions
on the Preparatory Survey for the Project for the Construction of Schools for Improvement of Quality and Environment of Education
(Explanation on Draft Preparatory Survey Report)

With reference to the minutes of discussions signed between Ministry of Education (hereinafter referred to as "MoE" and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on February 21st, 2019 and in response to the request from the Palestinian Authority (hereinafter referred to as "Palestine") dated October 7th, 2019, 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 the Construction of Schools for Improvement of Quality and Environment of Education (hereinafter referred to as "the Project").

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

Ramallah, November 28, 2019

Mr. Kazuro Shibuya
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan

Dr. Marwan Awartani
Minister
Ministry of Education
The Palestinian Authority

Dr. Shukry Bishara
Minister
Ministry of Finance
The Palestinian Authority

ATTACHEMENT

1. Project site
   Both sides confirmed that the list of the sites of the Project as shown in Annex 1.

2. Contents of the Draft Report
   After the explanation of the contents of the Draft Report by the Team, the Palestine side agreed to its contents.

3. Cost estimate
   Both sides confirmed that the cost estimate including the contingency explained by the Team is provisional and will be examined further by the Government of Japan for its approval. The contingency would cover the additional cost against natural disaster, unexpected natural conditions, fluctuation of exchange rate, etc.

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

5. Procedures and Basic Principles of Japanese Grant

5-1 The Palestine side agreed that the procedures and basic principles of Japanese Grant (hereinafter referred to as "the Grant") as described in Annex 3 shall be applied to the Project. In addition, the Palestine side agreed to take necessary measures according to the procedures.

5-2 Eligible nationality

The eligible nationality of consultant shall be Japanese physical persons or Japanese juridical persons controlled by Japanese physical persons, in the case of the consultant that will contract directly with the Recipient for the implementation of the Project.

The eligible nationality of the contractor(s)/supplier(s) shall be nationals of Palestine

or juridical persons incorporated and registered in Palestine who have their appropriate facilities for producing or providing the products and/or services in Palestine and actually conduct their business there, in the case of the other Supplier(s) that will contract directly with the Recipient for the implementation of the Project.

5-3 Flow of payment and currency of payment to prime contractor(s)

The Palestine side understood the flow of payment as shown in Annex 4 and confirmed to take necessary measures for the payment in a timely manner. The Palestine explained that it will nominate "the Bank of Palestine" as the "Recipient Bank" that conclude the banking arrangement (hereinafter referred to as "the Banking Arrangement") with a bank in Japan (hereinafter referred to as "the Agent Bank").

The Palestine side agreed that the currency for contract of prime construction and/or procurement firms is internationally traded foreign currency acceptable to JICA, that is US dollar, which will be stipulated in the Grant Agreement.

The Palestine side understood flow of approval during the execution of the contract and required documents for payments to prime contractor(s)/supplier(s) as Annex 4.

5-4 Bidding procedure and procurement guidelines

The bidding/selection of local contractor(s)/supplier(s) and conclusion of their contracts in addition to the consultant contract covered by Grant of the Project will be conducted at Palestine. The Palestine side understands that the products and services covered by Grant of the Project will be procured in accordance with JICA's Procurement Guidelines for the Japanese Grants (for Japanese consultant and local contractor). In particular, the Palestine side agreed to the following conditions.

1) The contract shall be concluded on the bases of a lump sum price.
2) The bidding shall be conducted by using JICA's standard bidding document's form.

6. Timeline for the project implementation

The Team explained to the Palestine side that the expected timeline for the project implementation is as attached in Annex 5.

7. Expected outcomes and indicators

Both sides agreed that key indicators for expected outcomes are as follows. The

Palestine side will be responsible for the achievement of agreed key indicators targeted in year 2026 and shall monitor the progress by the Executing Agency based on those indicators.

[Quantitative indicators]

-Number of students who learn in continuously available classrooms in the targeted schools.

-Number of students who learn in small, rented or dilapidated classrooms.

[Qualitative indicators]

-Students' time in school is expected to increase as some targeted schools will change to single-shift from double-shift. Furthermore, it is expected that students at such schools will maintain a regular school life, as they may come to and leave school at a regular time.

-It is expected that teachers may instruct students better, as congestion in classrooms will be eased.

-Students are expected to concentrate more on classes by having schools closer to their home and thereby having less physical and mental stress on commuting.

-It is expected that students will have more interest on science as there will be more science experiments subsequent to the procurement of equipment.

8. 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 Palestine side is required to provide necessary support for the data collection.

9. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 6. With regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in (2) 5 of Annex 6, both sides confirmed that such customs duties, internal taxes and other fiscal levies, shall be clarified in the bid documents during the implementation stage of the Project.

The Palestine 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 indicative, i.e. at Outline Design level. More accurate costs will be calculated at the Detailed Design stage.

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Both sides also confirmed that the Annex 6 will be used as an attachment of G/A.

Both sides confirmed that the Palestine side shall take necessary measures to ensure and maintain the security of the Project site and the persons related to the implementation of the Project, in cooperation with relevant authorities during the Project period. Such security measures shall reasonably reflect needs of the Consultant/the Contractor engaging in the Project, as shown in Annex 5.
Both sides agreed that in case the additional security cost would be necessary for the implementation of the Project, such cost shall be borne by the Recipient without using the Grant.

10. 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 7. The timing of submission of the PMR is described in Annex 6.

11. Project completion
Both sides confirmed that the Project completes when all the facilities are constructed and furniture/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.

12. Items and measures to be considered for the smooth implementation of the Project
Both sides confirmed the items and measures to be considered for the smooth implementation of the Project as follows;

12-1 The Palestine side confirmed that when problems such as delay of construction works or procurement of furniture/equipment by contractor(s)/supplier(s) arises during the implementation of the Project, the MoE will take necessary measures in accordance with technical opinion of the consultant in a timely manner. If the delay of construction works or procurement of furniture/equipment caused by negligence/fault of the consultant, the MoE will take necessary measures based on the contracts.

12-2 The Palestine side agreed that in case the amount of the Grant, which includes the contingency, is not enough to cover the entire cost of components as planned by

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the outline design, the Palestine side will take necessary measures, based on technical analysis and opinions of the consultant.

13. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Palestine side around February 2020.

14. Environmental and Social Considerations

14-1 Environmental Guidelines and Environmental Category

The Team explained that 'JICA Guidelines for Environmental and Social Considerations (April 2010)' (hereinafter referred to as "the Guidelines") is applicable for the Project. The Project is categorized as C because the Project is likely to have minimal adverse impact on the environment under the Guidelines.

15. Other Relevant Issues

15-1 Both sides confirmed to apply one (1) contractual lot with two (2) sites basically. As numbers of schools are odd number both in the West Bank and in the Gaza Strip, one (1) contractual lot out of three in each area shall be with one (1) site. To avoid delay in construction work, category of bidders shall be limited to A1 in case of one contractual lot with two sites. On the other hand, A1 or A2 category shall be allowed for the contractual lot with one site. The lot plan is shown in Annex 8.

15-2 The Palestine side shall be responsible for proper operation and maintenance of school facilities including its furniture/equipment constructed and procured under the Project, which includes, but not limited to, timely repair of the facilities, annual maintenance of solar power systems in the Gaza Strip, and allocation of budget and staff for them.

15-3 The Palestine side committed to assign appropriate teachers and staff required for school operation and management.

15-4 Both sides confirmed that a committee chaired by MoE and consists of representatives from relevant departments/organizations from both Palestine and Japan side shall be established for the smooth and effective implementation of the Project.

15-5 The Palestine side confirmed that the following works shall be done by the Palestine side before the signing of the construction contract.

-Logging or transplanting existing trees (W-2, W-4, G-3)

-Demolition and removal of existing aged buildings (including foundations) or existing fence (W-3, G-4) and unused toilet building (W-1). (See the drawings of Annex 9)

15-6 The Palestine side confirmed that the following facilities outside the sites shall be provided by the Palestine side by the time indicated below.

-Electricity: The distributing line to the site (Before start of the construction)

-Water Supply: The city water distribution main to the site (if existing) (6 months before completion of the construction)

-Drainage: The city drainage main (for storm, sewer and others) to the site (if existing) (6 months before completion of the construction)

-Furniture and Equipment: General furniture other than the ones procured by the Project (At appropriate time)

-Telecommunication line (Before start of the school operation)

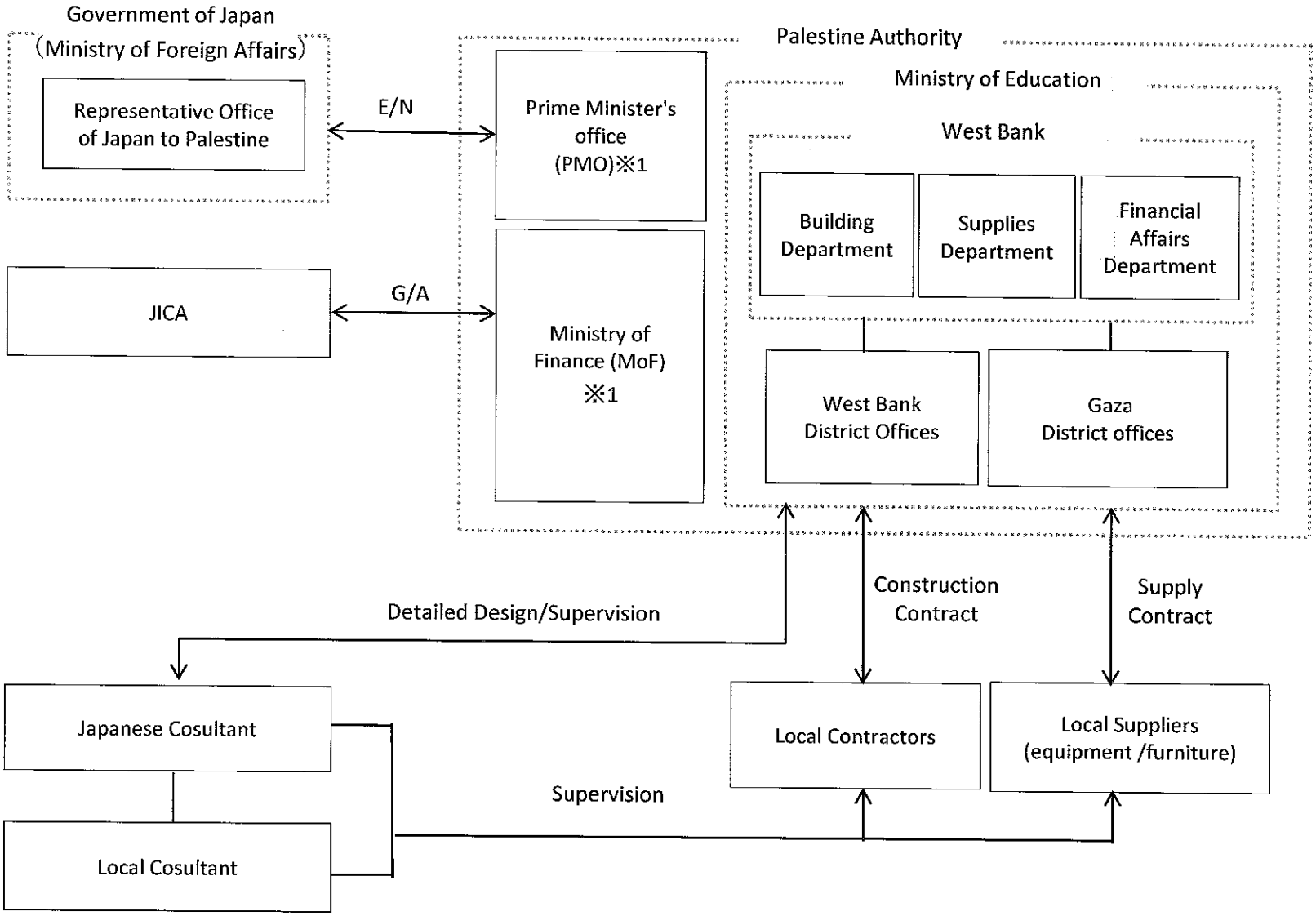
15-7 Both sides agreed that tablets with keyboard shall be installed at W-3, W-4, and W-5, which has grade 5 to 12 classes.

Annex 1 List of Project School Site
Annex 2 Organization Chart
Annex 3 Japanese Grant
Annex 4 Tentative Approval flow and required documents
Annex 5 Project Implementation Schedule
Annex 6 Major Undertakings to be taken by the Palestinian Authority
Annex 7 Project Monitoring Report (template)
Annex 8 Construction lot plan (tentative)
Annex 9 Buildings to be demolished by the Palestine side

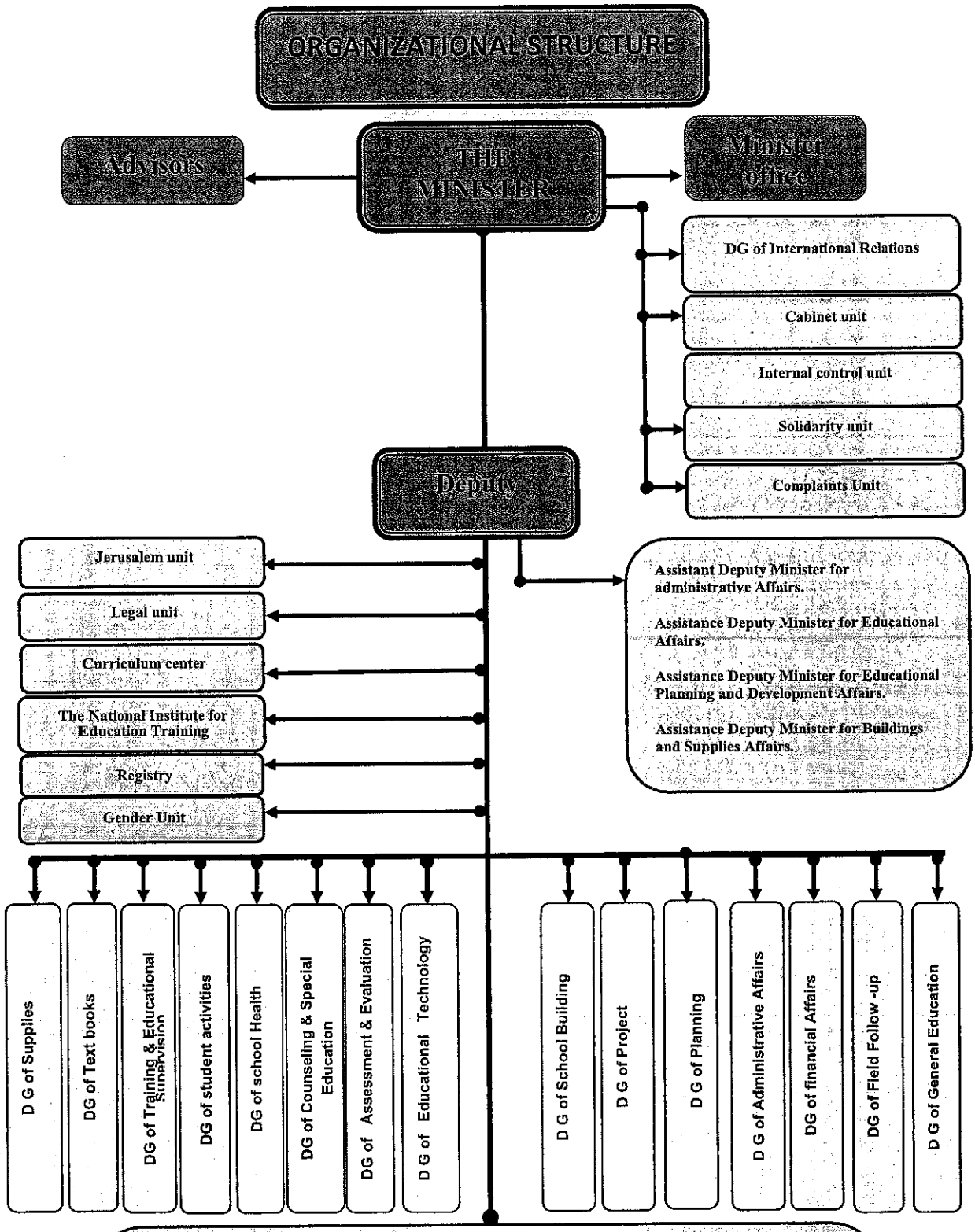
Annex1

List of Project School Sites

West Bank		
ID No.	Governorate	School Name
W-1	Yatta	Al Karmel Basic Boys School
W-2	Qabatia	Meslieh Basic Coed School
W-3	Nublus	Salem Secondary Girls School
W-4	South Nablus	Beta Basic Coed School
W-5	North Hebron	Noba Secondary Boys School
Gaza Strip		
ID No.	Governorate	School Name
G-1	North Gaza	Jam'ia Land Secondary Girls School
G-3	North Gaza	Moharbeen Al Kudama Girls School
G-4	Khan Younis	Osama El-Najar Basic Girls School
G-5	Rafah	Salem Basic Coed School
G-6	Khan Younis	Boraq Land 1 Secondary Girls School



※1: It was finalized and approved by the proxy issued by the President Mohmoud Abbas



Directorates of Education					
Directorates of Education for North Governorates				Directorates of Education for South Governorates	
1.	Jenin	10	Bethlehem	1.	North Gaza
2.	South Nablus	11	Yatta	2.	Khan Younis
3.	Nablus	12	Jericho.	3.	Rafah
4.	Salfeet	13	North Hebron	4.	Middle Area Dir.
5.	Tulkarem	14	Hebron	5.	East Gaza
6.	Qalqilia	15	South Hebron	6.	East Khan Younis
7.	Ramallah &	16	Qabatya	7.	West Gaza
8.	Jerusalem Subarbs	17	Tubas		
9.	Jerusalem				

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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

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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 (contract with Japanese consultant and local contractors)

(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 singed 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 Grant" 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) In case of Japanese consultant, 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.

c) In case of local contractors, the Japanese Grant will be disbursed when requests for disbursement are submitted by the Recipient to JICA.

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 consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", while the prime constructing firm(s), which enter into contracts with the Recipient, could be nationals of the recipient country or other country(ies) if deemed it necessary .

6) Contracts and Concurrence by JICA

The Recipient will conclude the consultant contract() denominated in Japanese yen with Japanese nationals and the construction/supplier contracts dominated in other internationally traded foreign currency acceptable to JICA with the local contractors. Those contracts shall be verified by JICA in order to be eligible for 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.

KN SB

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, if necessary. 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

KM SB

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	Concurrence by JICA is required Request for disbursement shall be made by the Recipient, in case of local contractor.	x		x		x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

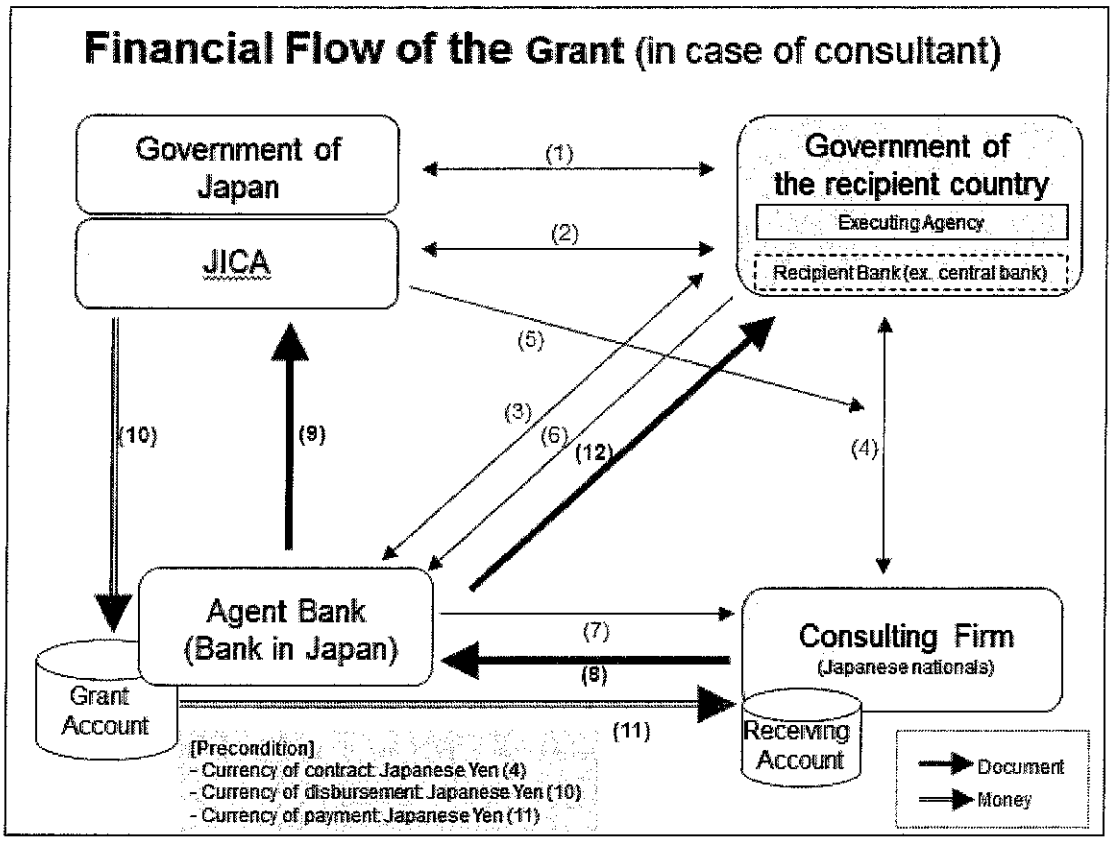
notes:

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

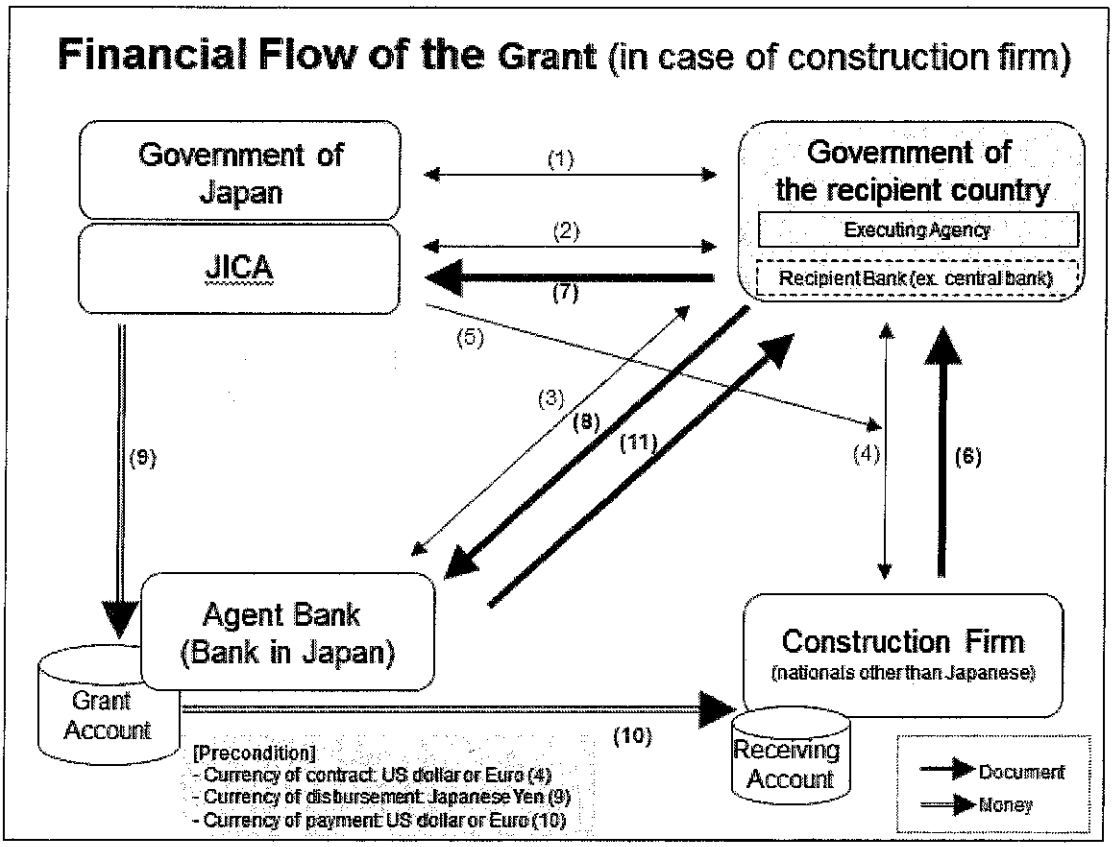
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

Annex 3
Attachment 2

Financial Flow of Japanese Project Grant
(contract with Japanese consultant and local contractors)



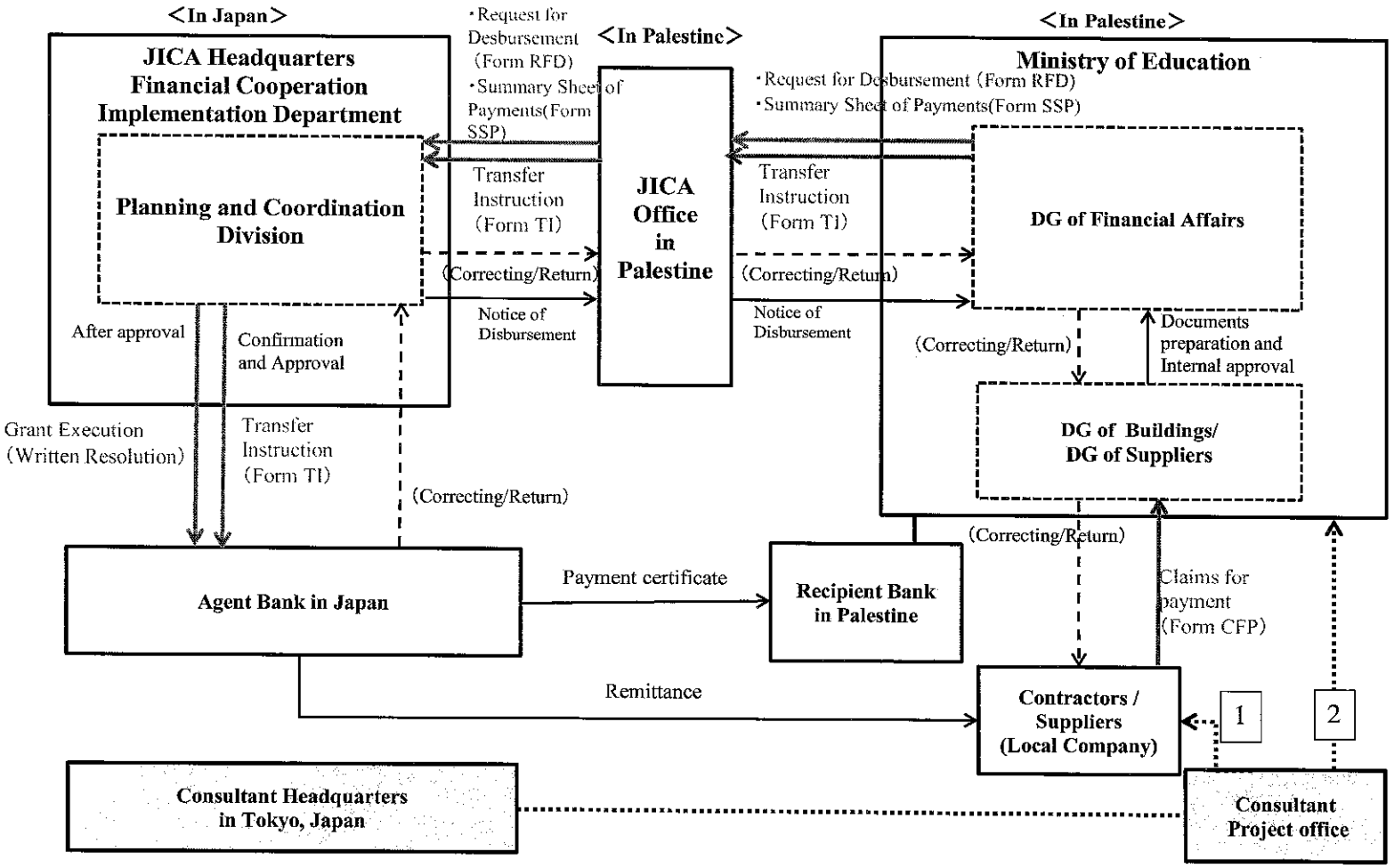
(1) E/N
(2) G/A
(3) Banking Arrangement/Opening an Grant Account
(4) Contract
(5) Concurrence and Verification of Contract
(6) Issuing Authorization to Pay (A/P) upon contract
(7) Notification of A/P
(8) Request for Payment
(9) Request for the Disbursement
(10) Disbursement of the Grant
(11) Payment
(12) Statement of Account



(1) E/N
(2) G/A
Submission of Evidence of Authority and Specimen Signatures from the Recipient to JICA (prerequisite for the process of no. (7))
(3) Banking Arrangement/Opening an Grant Account
(4) Contract
(5) Concurrence and Verification of Contract
(6) Request for Payment
(7) Request for Disbursement
(8) Transfer Instruction
(9) Disbursement of the Grant *
(10) Payment
(11) Statement of Account

* The amount of disbursement in Japanese Yen ((9) in above chart) shall be calculated at the Telegraphic Transfer Selling (TTS) rate quoted by the Bank in Japan two business days before the date on which the disbursement is made.

Tentative Approval flow and required documents for payments to the contractors/suppliers (local company)

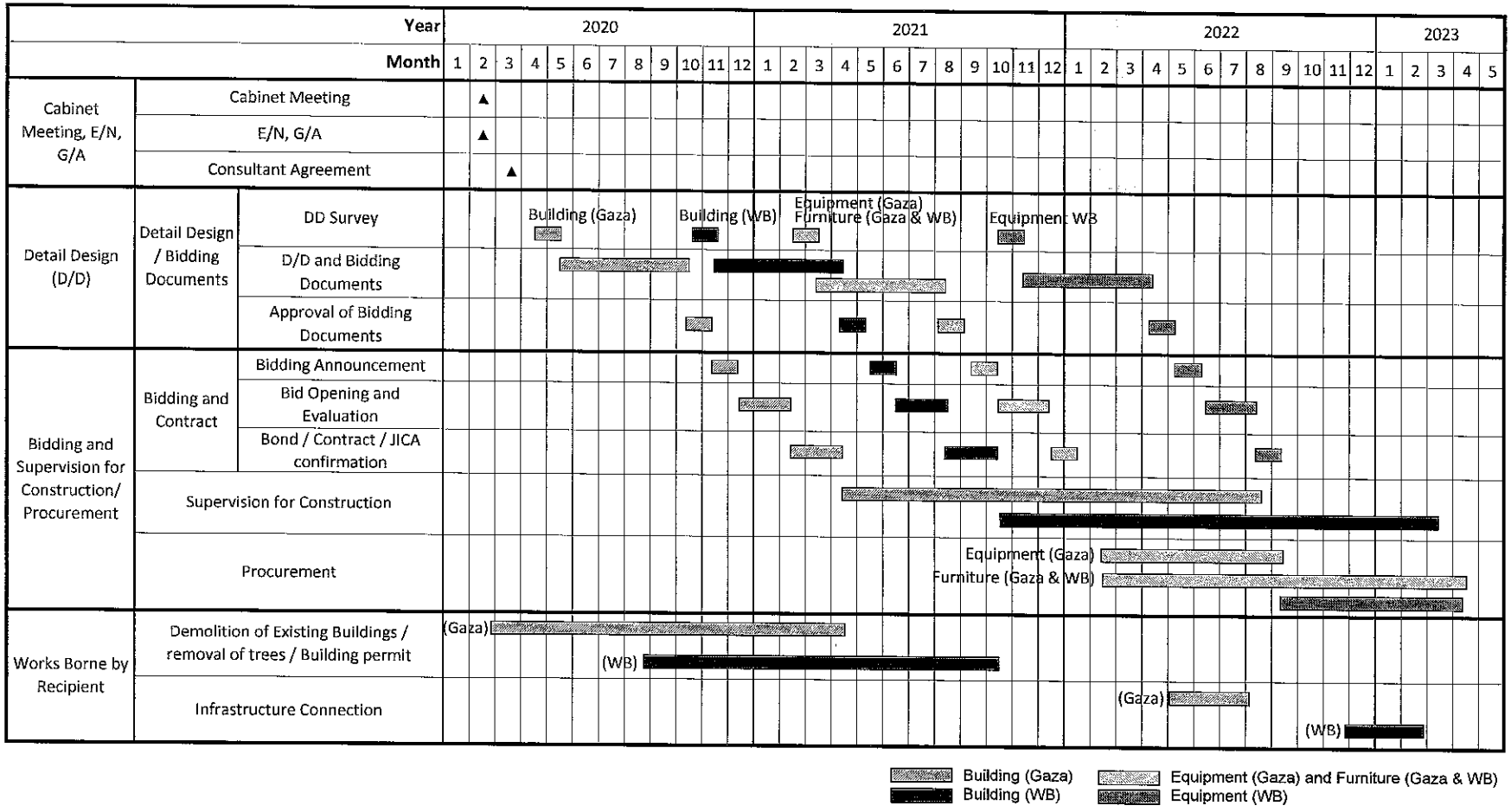


【Consultant's financial planning and payment support service】

1 Support for preparing invoice, pre-confirmation of documemts, promotion of document praparation, support for revision documents etc.

2 Promotion of approval of the Ministry(MoE), support for Request for Disbursement / Transfer Instruction, pre-confirmation of documents, promotion of document preparation, support for revision documents, etc.

Implementation Schedule (Draft) for D/D, Bidding and S/V



Annex 6

Major Undertakings to be taken by the Palestine Authority

1. Specific obligations of the Palestine Authority which will not be funded with the Grant

(1) Before the Bidding

NO	Items	Deadline	In charge	Estimated Cost (USD)	Ref.
1	To sign the banking arrangement (B/A) with a bank in Japan (the Agent Bank) to open bank account (B/A)	within 1 month after the signing of the G/A	MoF	---	
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract	MoF	---	
3	To bear the following commissions to the Agent Bank for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	MoE	44.8	5,000JPY
	2) Payment commission for A/P	Advance payment for the Consultant	MoE	1,858	0.1% of Advance payment (40% of Consultant fee)
4	To secure the project sites listed in the Annex1 with the land ownership documents	before notice of the bidding document	MoE	---	
5	To obtain the building permits	before notice of the bidding document	MoE through local consultant	---	
6	To demolish existing facilities (W-1, W-3, G-4) and remove trees (W-2, W-4, G-3)	Before signing of the Construction Contract	MoE/ Municipality	40,750	
7	To secure temporary facilities to accommodate users of the existing school buildings to be demolished during construction period for following sites; W-3, G-4	before the demolition works	MoE	---	
8	To move and store necessary furniture and equipment from the existing buildings to be demolished for reconstruction	before the demolition works	MoE	---	
9	1) To finalize a draft of Project Monitoring Report (with the result of Detailed Design by the consultant) 2) To submit Project Monitoring Report	before preparation of the bidding documents	MoE	---	

10	To ensure smooth implementation of the bidding procedures and to bear necessary expenses relevant to the bidding procedures including, but not limited to, the following - Printing and binding of bidding documents (by the consultant) - Bid notices on major newspapers (expenses to be borne by the successful bidder) - Securing places for pre-bid meeting - Securing places for bid openings - Bid result notices in accordance with regulations on the public procurement of Palestine	before the bid notice	MoE	---	

(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 (USD)	Ref.
1	To bear the following commissions to the Agent Bank for the banking services based upon the B/A				
	1) Payment commission for A/P	every payment for consultant	MoE	2,787	0.1% of payment (60% of Consultant fee in total)
	2) Remittance charge for local contractors and suppliers	every payment	MoE	4,390	98 times x5,000JPY
2	To conduct necessary procedures such as "Request for disbursement" to JICA (upon certificate issued by the Consultant on construction firms' and/or procurement firms' (suppliers') invoices) , "Application of remittance" to Bank (upon certificate issued by the Consultant on construction firms' and/or procurement firms' (suppliers') invoices)	during the Project	MoE/ MoF	---	
3	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in the country of the Recipient	during the Project	MoF	---	
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 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	MoE	---	
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	MoF	---	
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MoE	---	
7	To notify JICA promptly of any incident or accident, which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers	during the construction	MoE	---	
8	1) To finalize a draft of Project Monitoring Report prepared by the consultant 2) To submit Project Monitoring Report	every month	MoE	---	
	3) To finalize a draft of Project Monitoring Report (final) (including as-built drawings, equipment list, photographs, etc.) prepared by the consultant 4) To submit Project Monitoring Report (final) (including as-built drawings, equipment list, photographs, etc.)	within 1 month after signing of Certificate of Completion for the works under the contract(s)	MoE	---	
9	1) To finalize a draft of a report concerning completion of the Project 2) To submit a report concerning completion of the Project	within 6 months after completion of the Project	MoE	---	

10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s) as follows;				
	1) Electricity The distributing line to the site	before start of the construction	MoE/ Municipality	150,000	
	2) Water Supply The city water distribution main to the site (if existing)	6 months before completion of the construction	MoE/ Municipality	12,000	
	3) Drainage The city drainage main (for storm, sewer and others) to the site (if existing)	6 months before completion of the construction	MoE/ Municipality	3,400	
	4) Furniture and Equipment General furniture other than the ones procured by the Project	at appropriate time	MoE	---	
	5) Telecommunication line	before start of the school operation			
11	To take necessary measures for the security of the Project site and the persons related to the implementation of the Project, in cooperation with relevant authorities within MoE's capacity if issue is beyond the contractor's responsibility	during the construction	MoE	---	

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost (USD)	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	MoE	Approx. 55,512 (per year)	
2	To allocate teachers and staff required for school operation and management	After completion of the construction	MoE	Approx. 80,097 (per year)	

2. Other obligations of the Palestine Authority funded with the Grant

This part is closed due to the confidentiality

Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXX

20XX, Month

Organizational Information

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

General Information:

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

1: Project Description

1-1 Project Objective

1-2 Project Rationale

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

1-3 Indicators for measurement of "Effectiveness"

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

2: Details of the Project

2-1 Location

Components	Original *(proposed in the outline design)*	Actual
1.		

2-2 Scope of the work

Components	Original* *(proposed in the outline design)*	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)

2-3 Implementation Schedule

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

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

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

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

Components			Cost (Million Yen)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
	1.			
Total				

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

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
	1.			

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

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

(PMR)

2-6 Executing Agency

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

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

2-7 Environmental and Social Impacts

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

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

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

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

3-2 Budgetary Arrangement

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

Original *(at the time of outline design)*

KP SB

Actual *(PMR)*

4: Potential Risks and Mitigation Measures

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

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

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

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

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

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

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

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

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

Attachment

1. Project Location Map
2. Specific obligations of the Recipient which will not be funded with the Grant
3. Monthly Report submitted by the Consultant

Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
- Contractor's Main Staff List

4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
5. Environmental Monitoring Form / Social Monitoring Form
6. Monitoring sheet on price of specified materials (Quarterly)
7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final)only)
8. Pictures (by JPEG style by CD-R) (PMR (final)only)
9. Equipment List (PMR (final)only)
10. Drawing (PMR (final)only)
11. Report on RD (After project)

Attachment 6

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
1	Item 1	●●t	●	●	●	●	●
2	Item 2	●●t	●	●	●		
3	Item 3						
4	Item 4						
5	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
1	Item 1						
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

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

-

-

-

Attachment 7

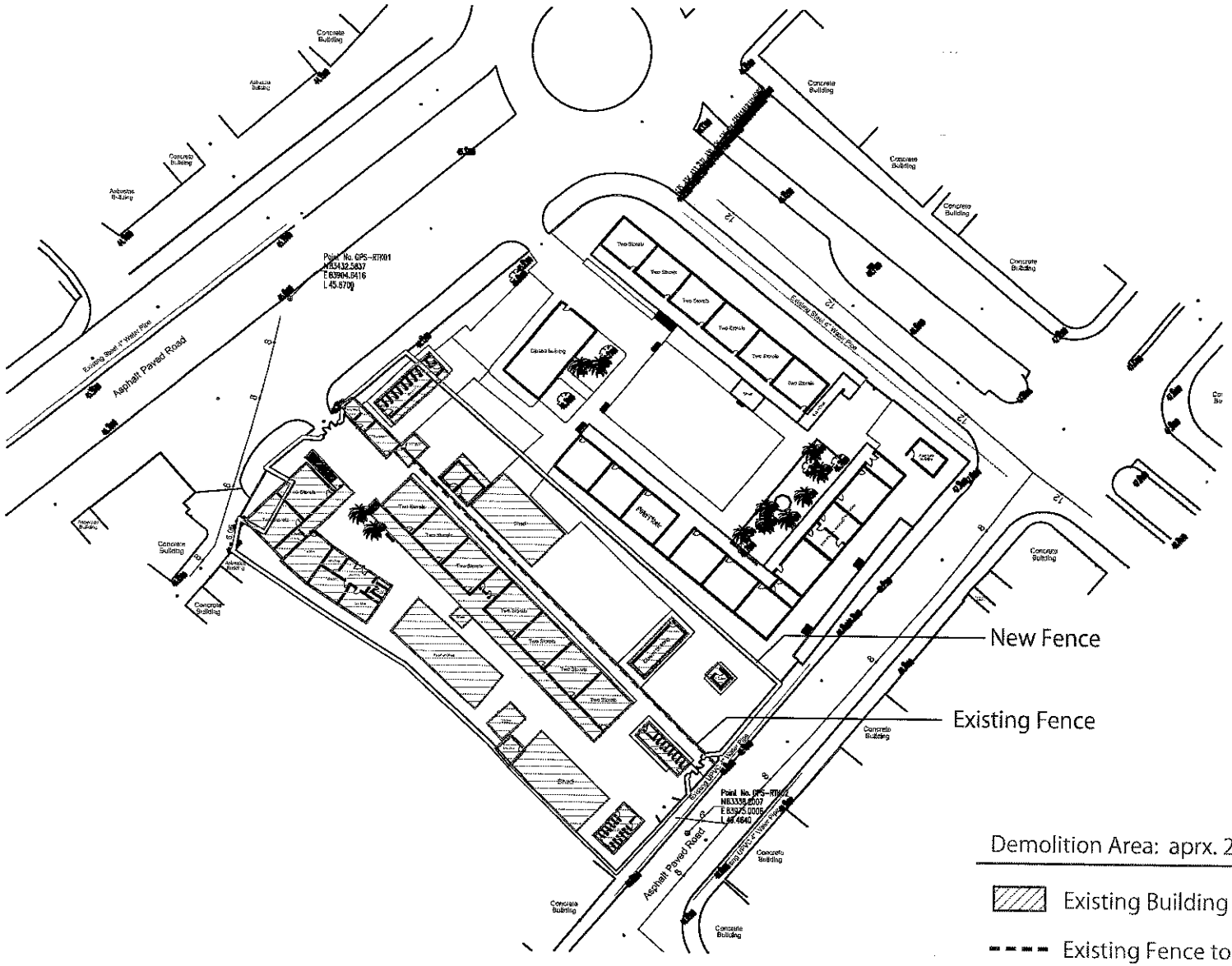
Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
(Actual Expenditure by Construction and Equipment each)

	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%)	

Annex 8

Lot Plan and Eligible Contractor's Category

Lot ID	School ID	Contractors' Category
Gaza 1	G-1 and G-3	A1
Gaza 2	G-4 and G-6	A1
Gaza 3	G-5	A1 and A2
WB 1	W-1 and W-5	A1
WB 2	W-3 and W-4	A1
WB 3	W-2	A1 and A2

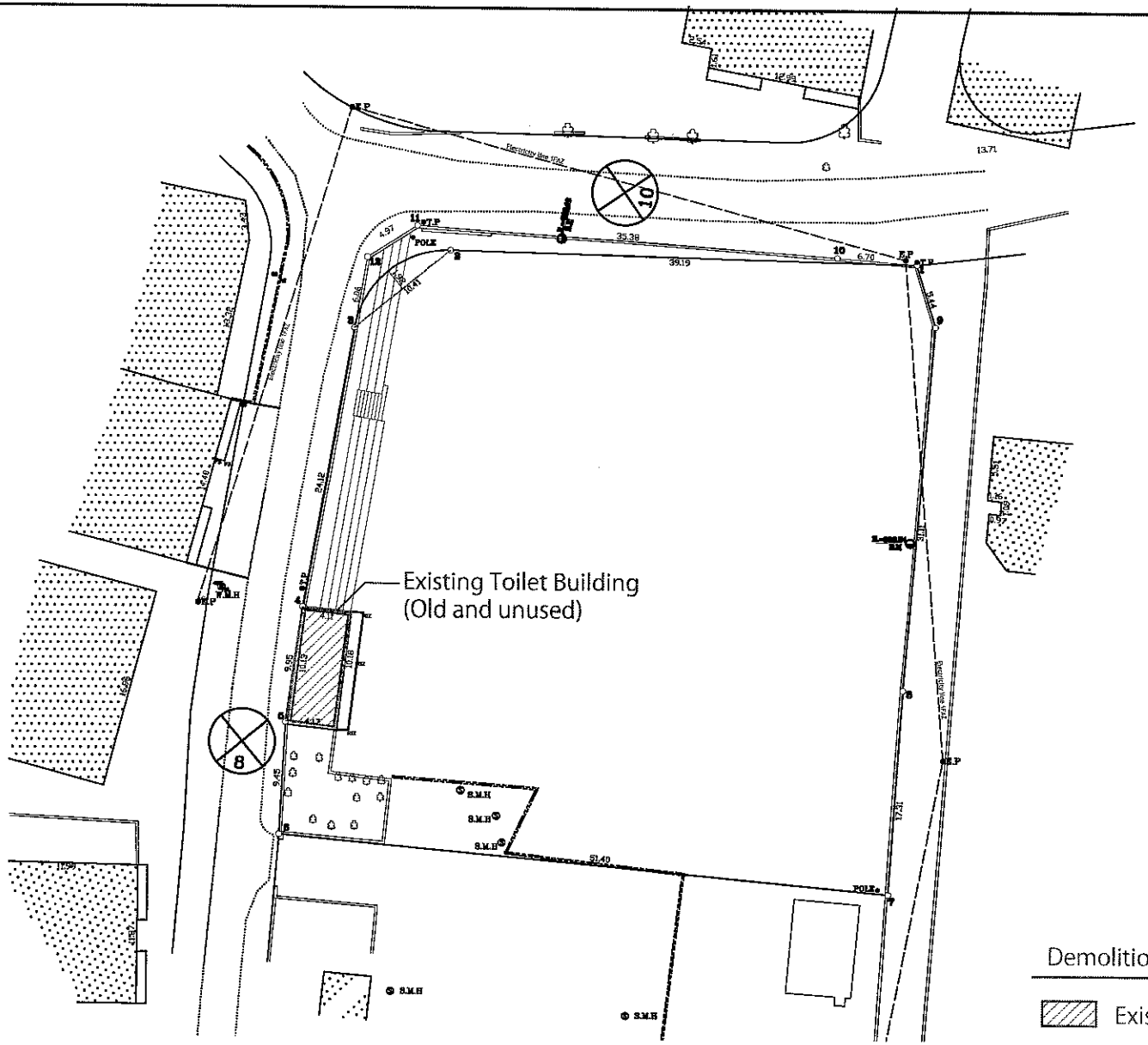


Demolition Area: aprx. 2,300 m²

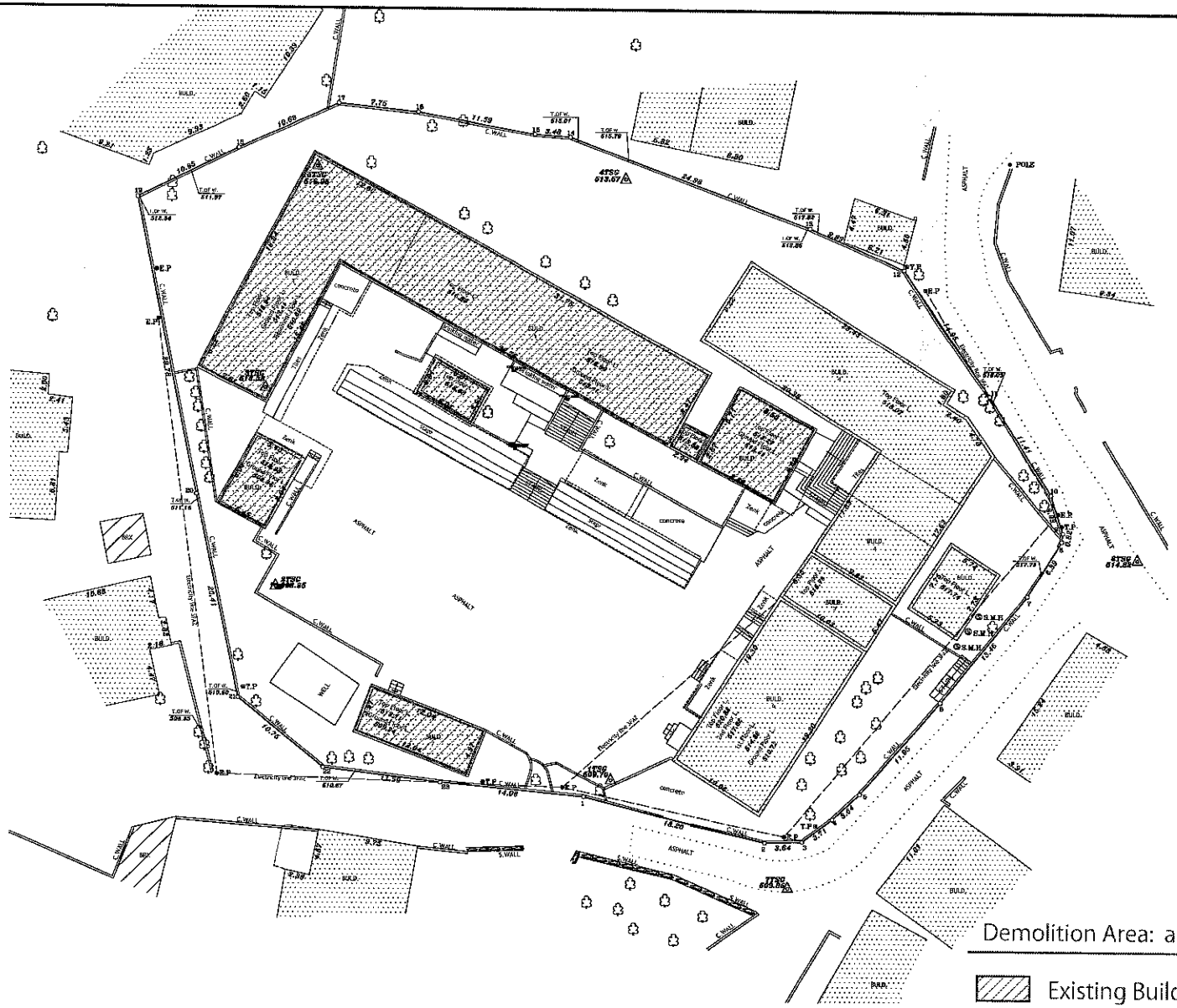
Existing Building to be Demolished

Existing Fence to be Demolished

W-1 Al Karmel Basic Boys School



W-3 Salem Sec Girls School



Appendix 5　Setting the size of each Project school

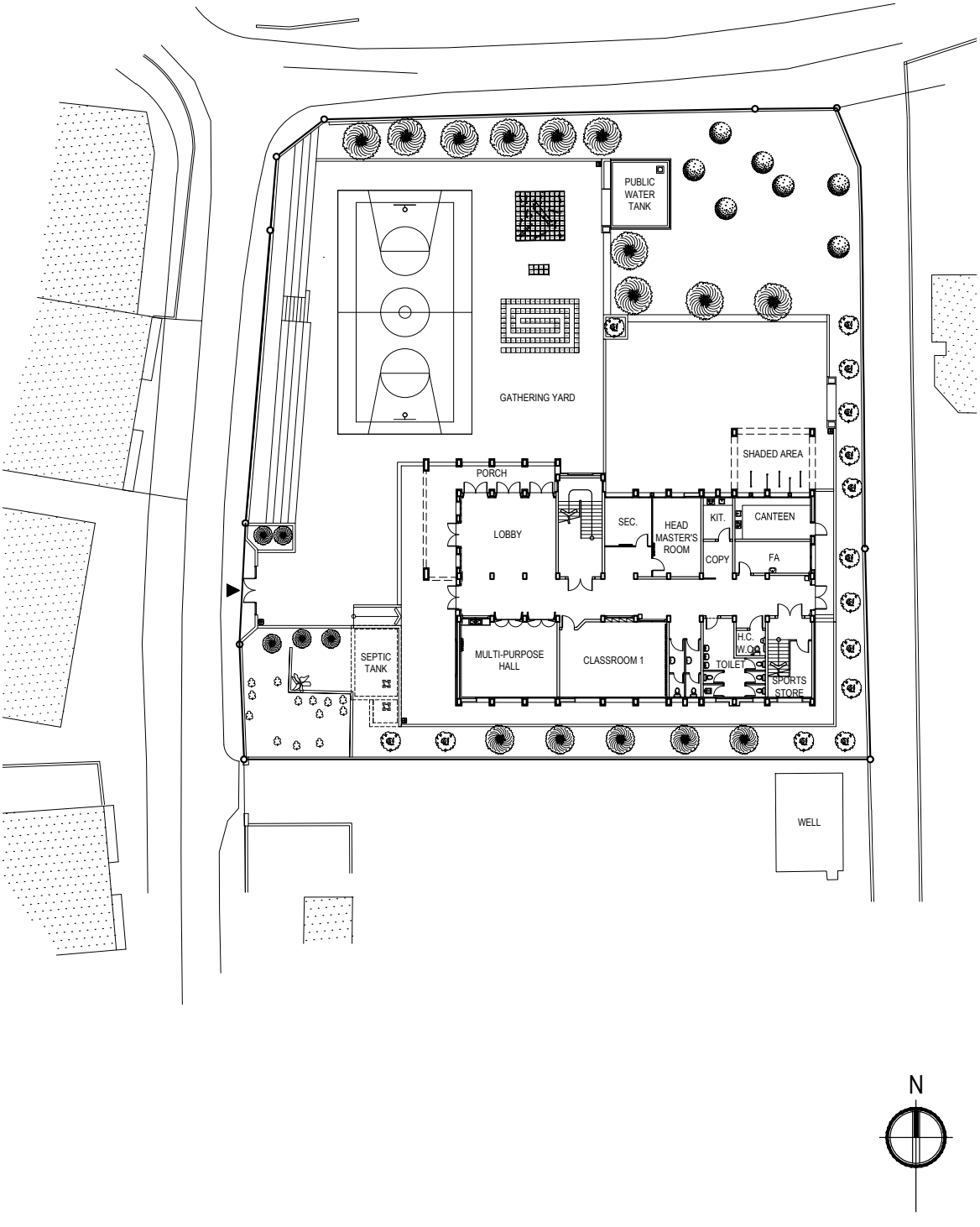
Appendix 5. Setting the size of each Project school

No.	School Name	Governorate	Grade/Gender	① Requested No. of CRs	Request Type	② No. of Students in the catchment	③ No. of students to be transferred to new school	④ Annual enrollment growth rate	⑤ 2023/24 Projected No. of students ③×(1+④) ^5	⑥ Necessary No. of CRs ⑤÷40	⑦ in case where ⑥＜①, ecessary CRs for all grades	No. of CRs to be built ① or ⑦ whichever smaller
W-1	Al Karmel Basic Boys school	Yatta	Boys1-4	12	Relocation	797	308	2.0%	343	9	12	12
W-2	Meslieh Basic Coed School	Qabatia	KG Coed1-4	8+KG	Relocation	446	233	0.6%	241	7	8	8+KG
W-3	Salem Secondary Girls School	Nablus	Girls5-12	14	Rebuilding (partial)	624	555	1.4%	595	15		14
W-4	Beta Basic Coed School	South Nablus	KG Coed1-4 Girls5-9	9+KG	Relocation	1,249	242	0.4%	247	7	9	9+KG
W-5	Noba Secondary Boys School	North Hebron	Boys10-12	12	Relocation	367	180	1.2%	192	5	9	9
G-1	Jam'ia Land Secondary Girls School	North Gaza	Girls10-12	20	New establishment	2,534	824	2.8%	947	24		20
G-3	Mohabeen Al Kudama Girls School	North Gaza	KG Girls1-9	20+KG	New establishment (Partial relocation)	1,223	959	2.8%	1,101	28		20+KG
G-4	Osama El Najar Basic Girls School	Khanyonis	KG Girls1-9	20+KG	Rebuilding	1,226	1,226	4.0%	1,492	38		20+KG
G-5	Salam Basic Co-ed School	Rafah	KG Coed1-4 Girls5-9	16+KG	New establishment (Partial relocation)	1,432	706	4.2%	868	22		16+KG
G-6	Boraq Land 1 Secondary Girls School	Khanyonis	Girls10-12	22	New establishment	3,333	829	4.0%	1,009	26		22

Appendix 6 Drawings

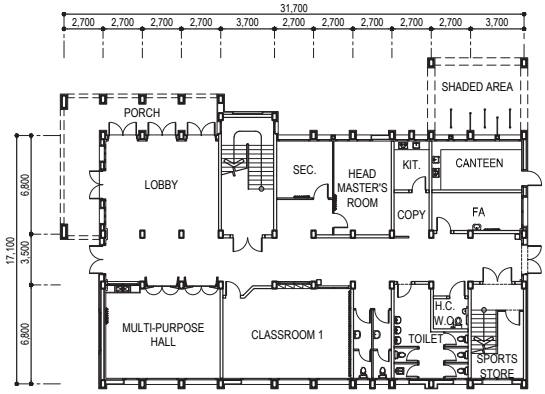
Appendix 6-1 Drawings (WB)

W-1 Al Karmel Basic Boys School S=1:500

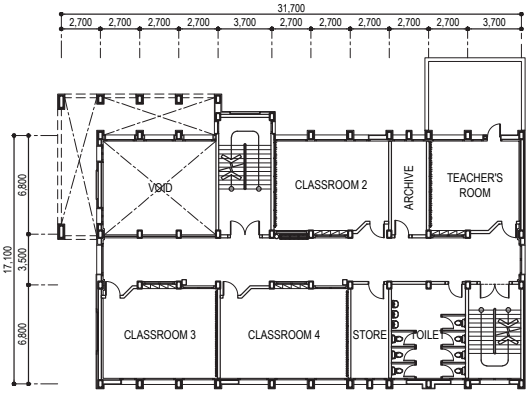


PROPOSED SITE PLAN

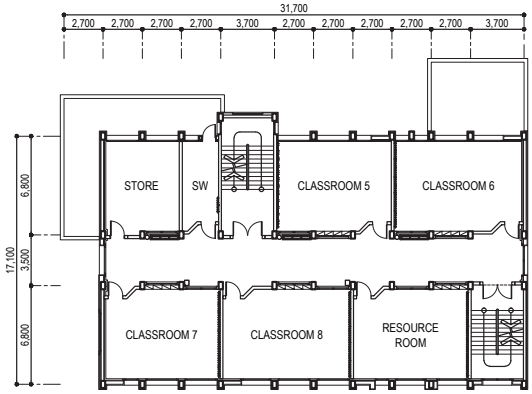
W-1 Al Karmel Basic Boys School S=1:500



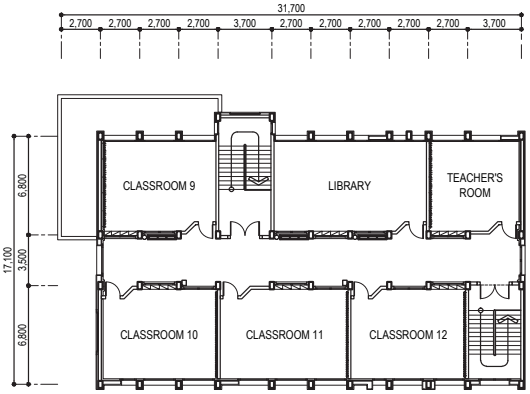
GF PLAN



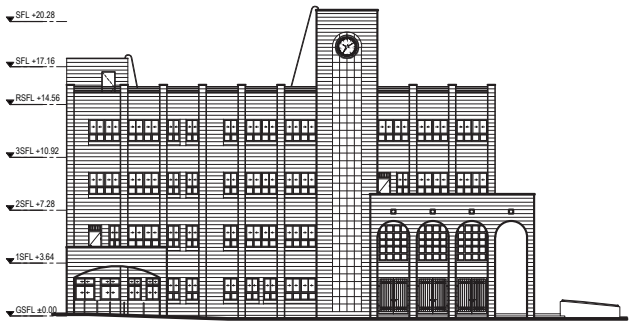
1F PLAN



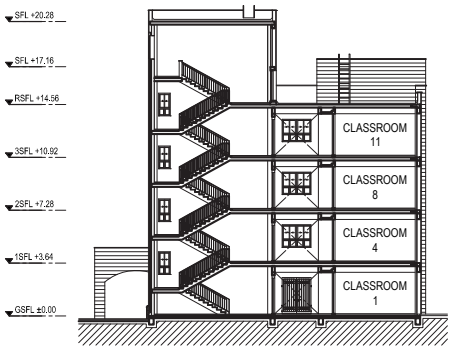
2F PLAN



3F PLAN



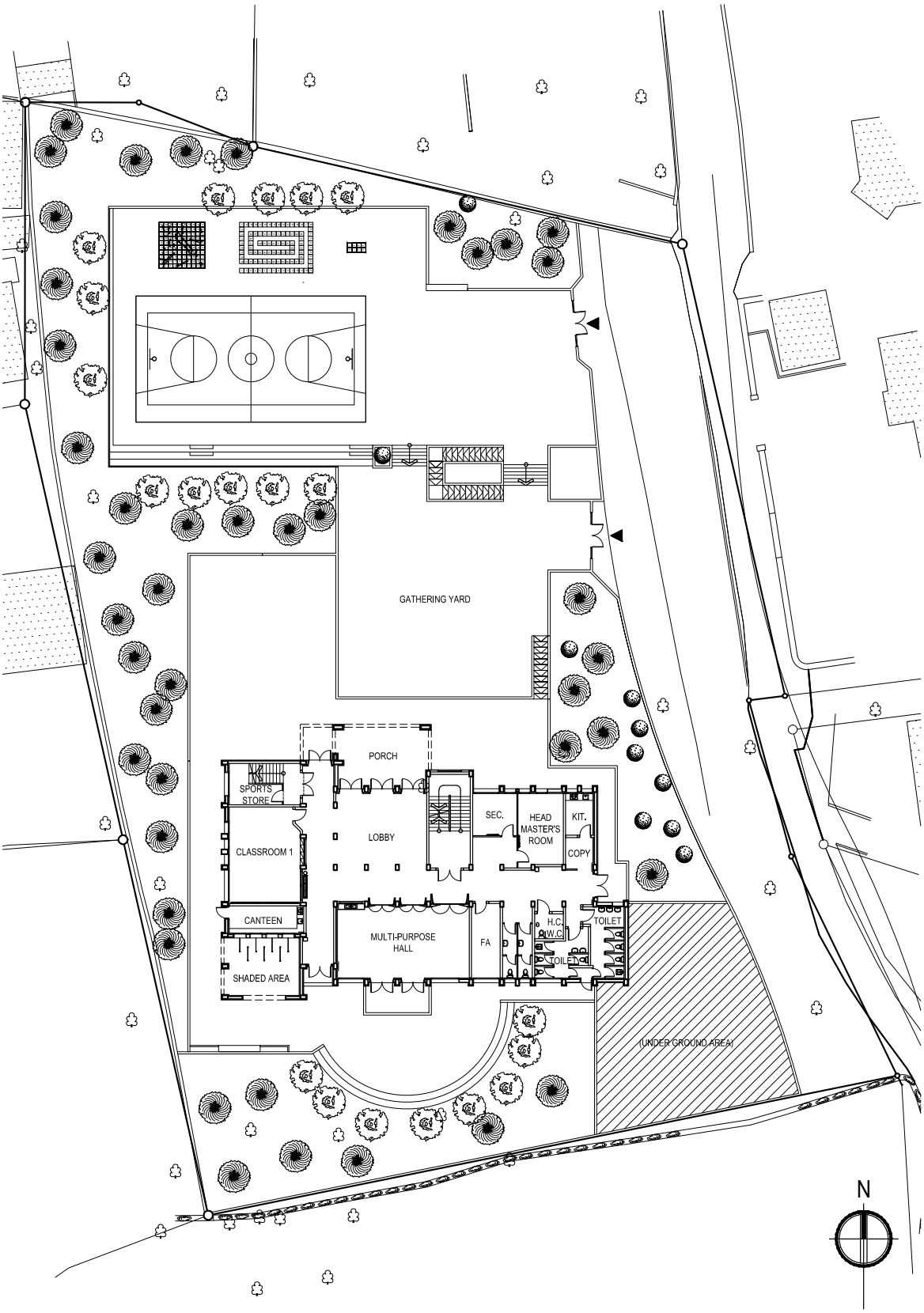
ELEVATION



SECTION

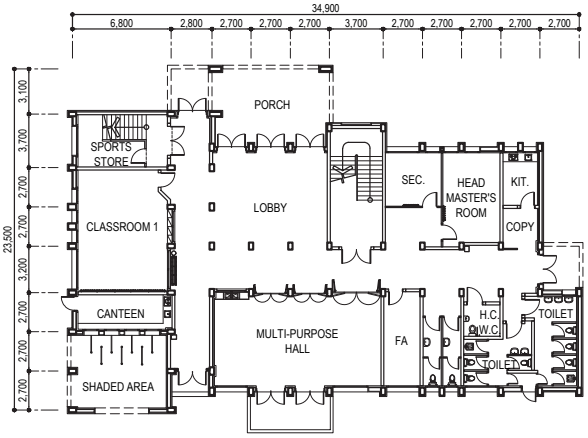
FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER : DOOR KEEPER

W-2 Meslieh Basic Coed School S=1:500

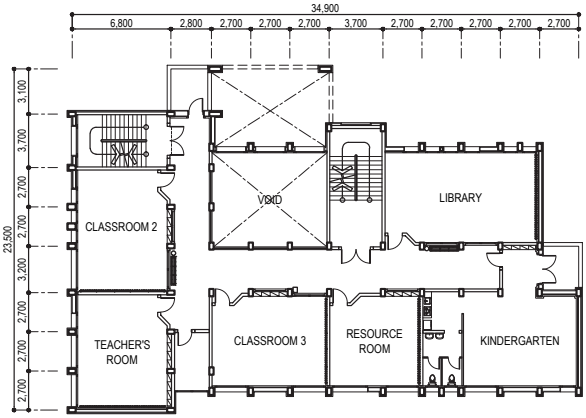


PROPOSED SITE PLAN

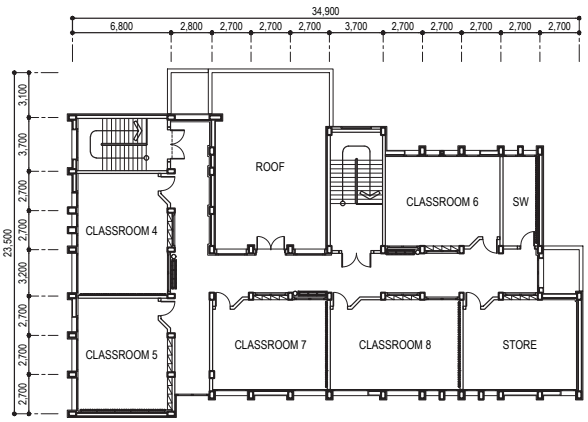
W-2 Meslieh Basic Coed School S=1:500



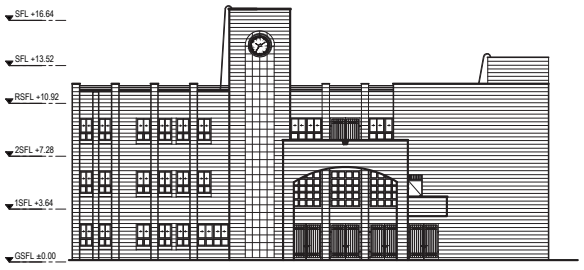
GF PLAN



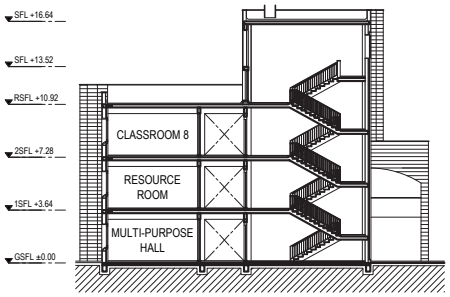
1F PLAN



2F PLAN

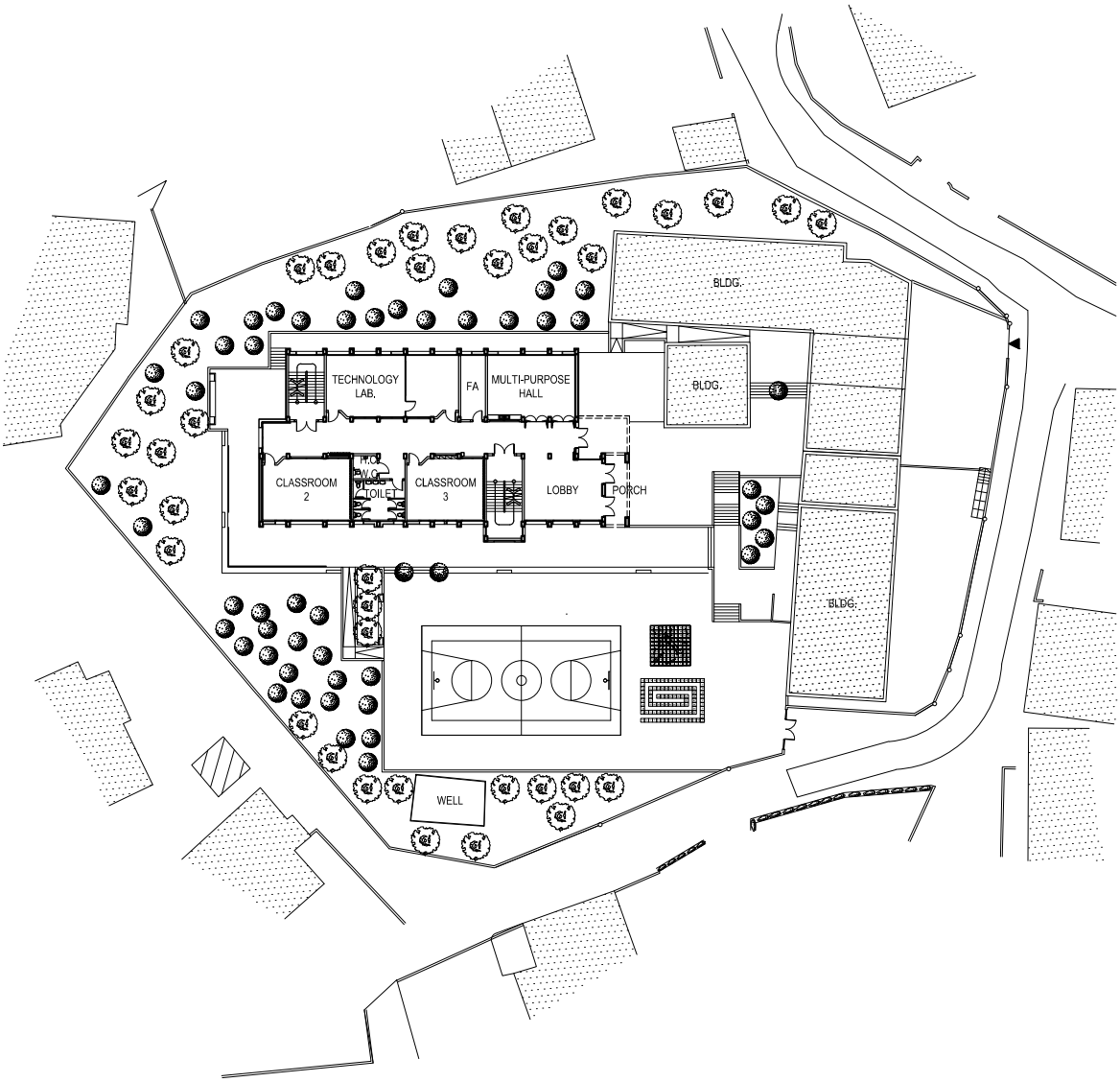


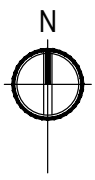
ELEVATION



SECTION

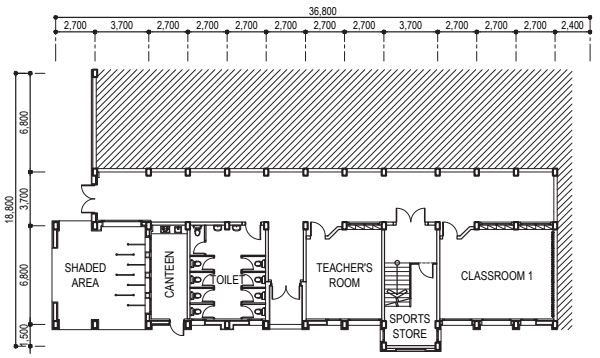
FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER : DOOR KEEPER



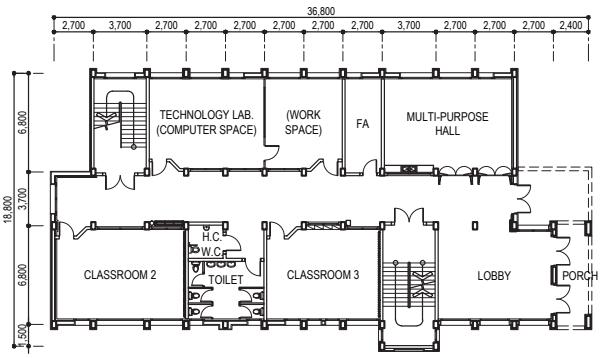


PROPOSED SITE PLAN

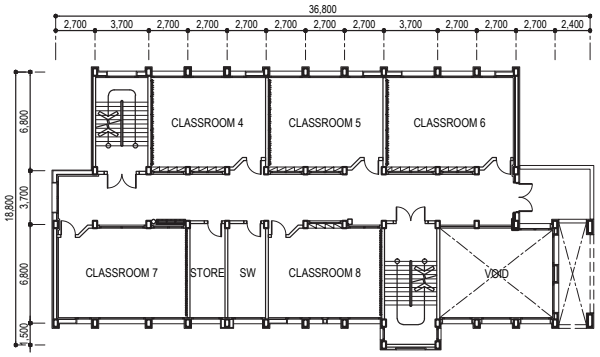
W-3 Salem Secondary Girls School S=1:500



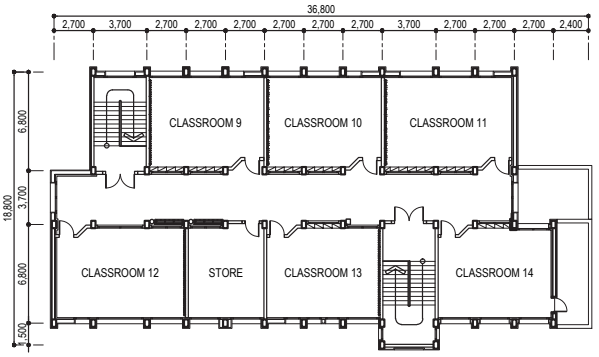
BF PLAN



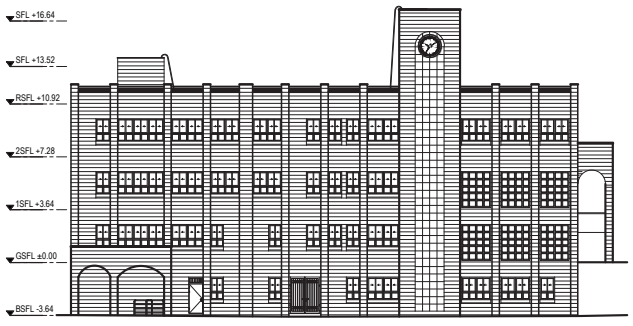
GF PLAN



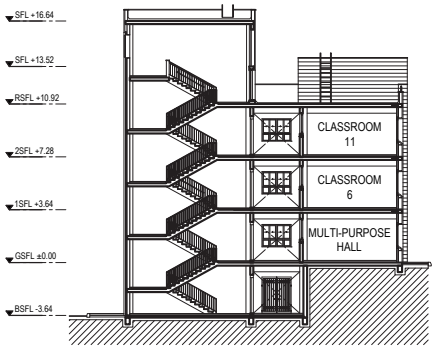
1F PLAN



2F PLAN



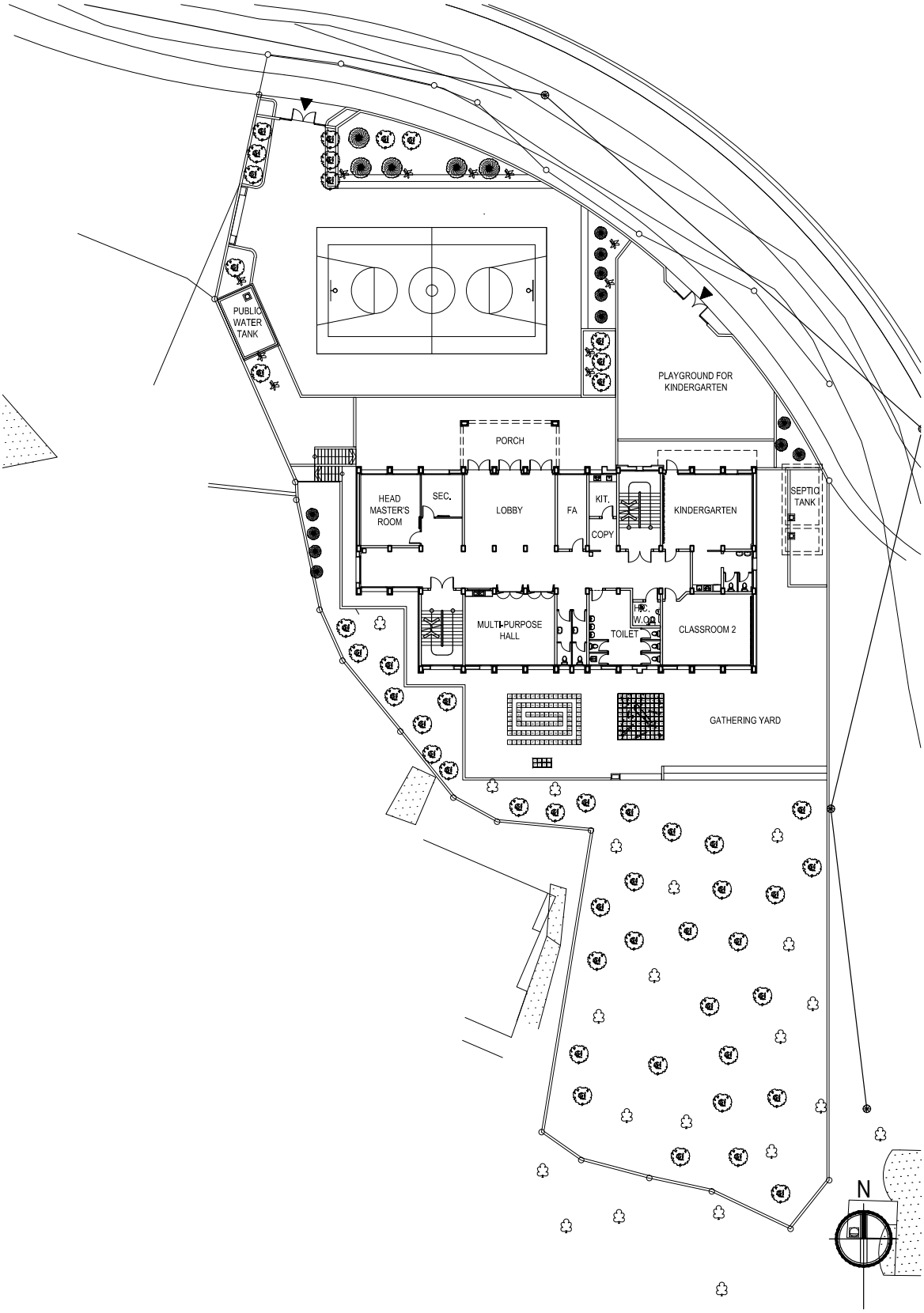
ELEVATION



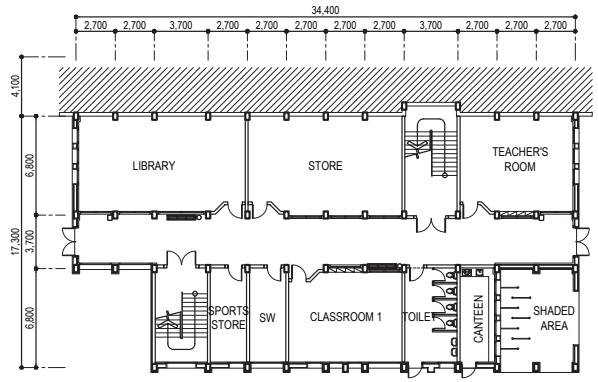
SECTION

FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER : DOOR KEEPER

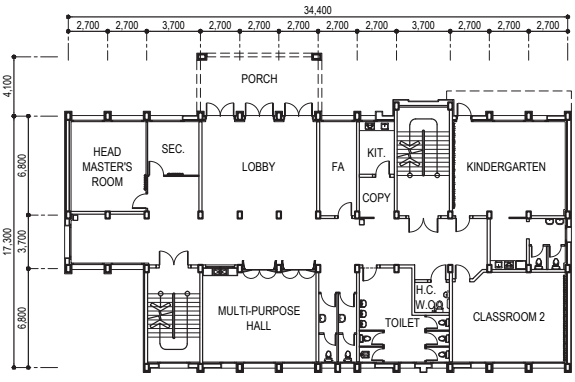
W-4 Beta Basic Coed School S=1:500



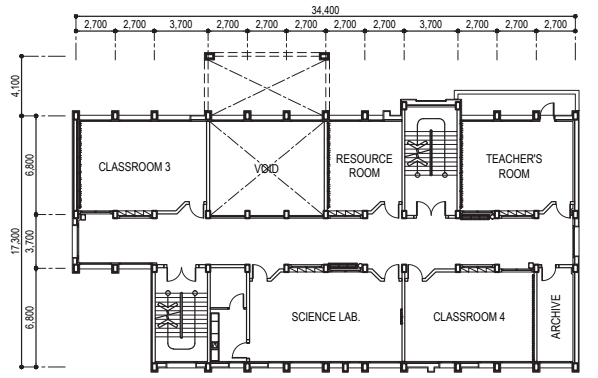
PROPOSED SITE PLAN



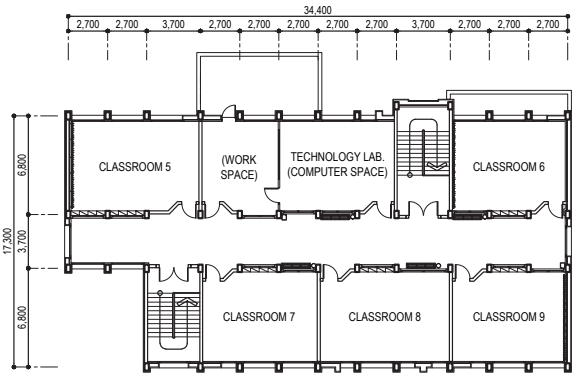
BF PLAN



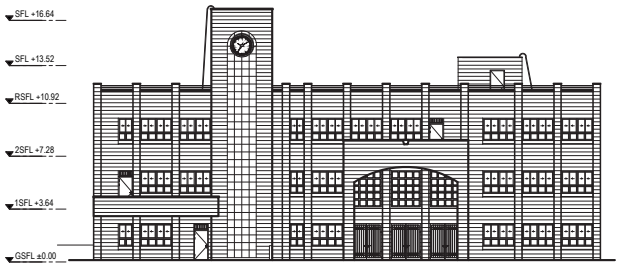
GF PLAN



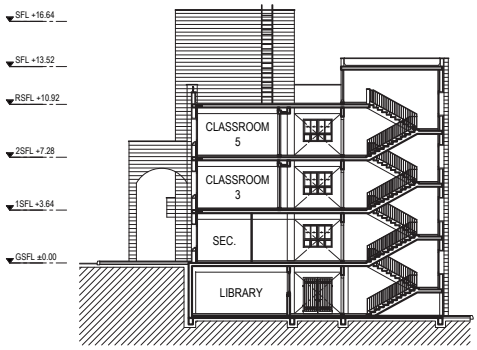
1F PLAN



2F PLAN



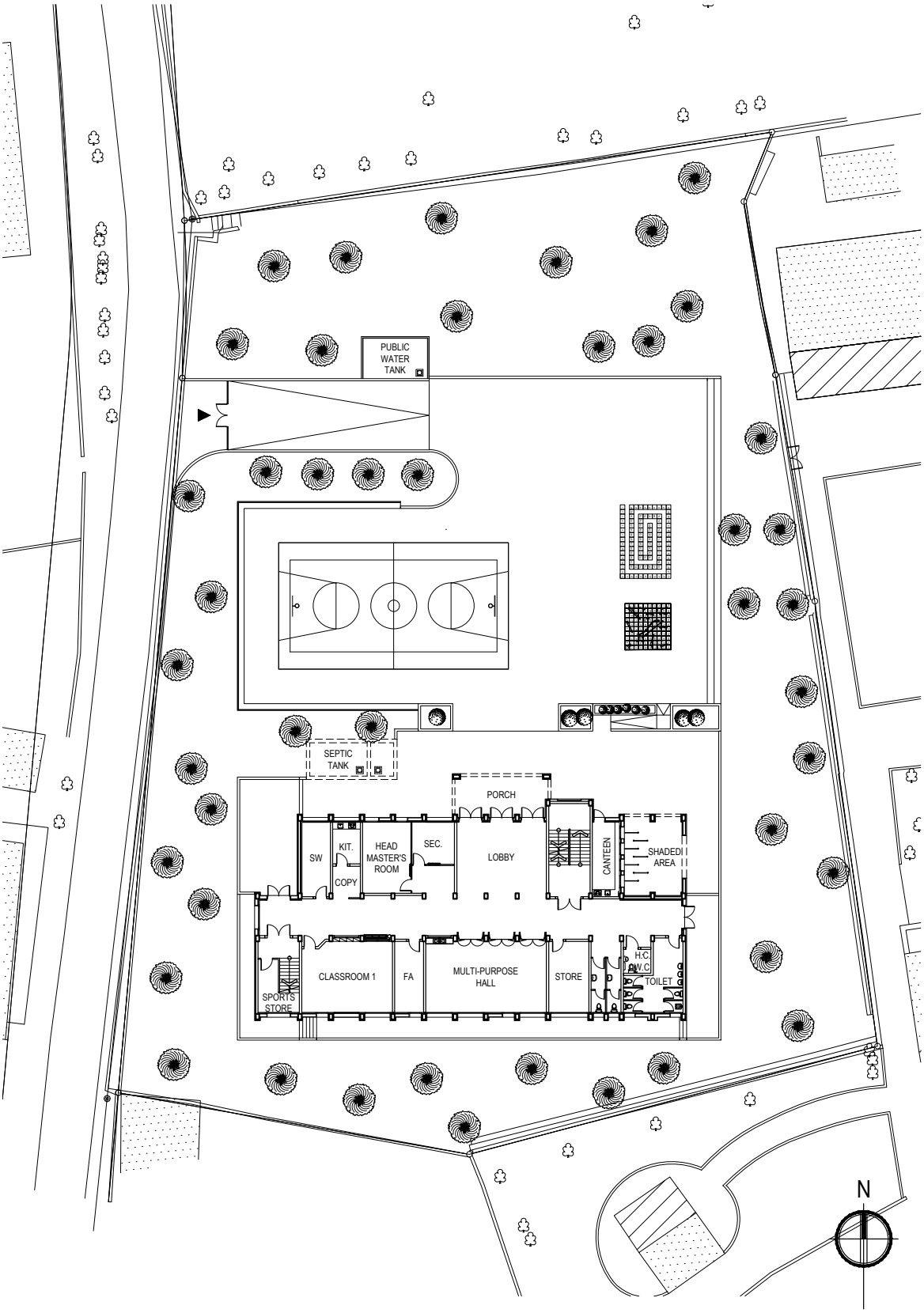
ELEVATION



SECTION

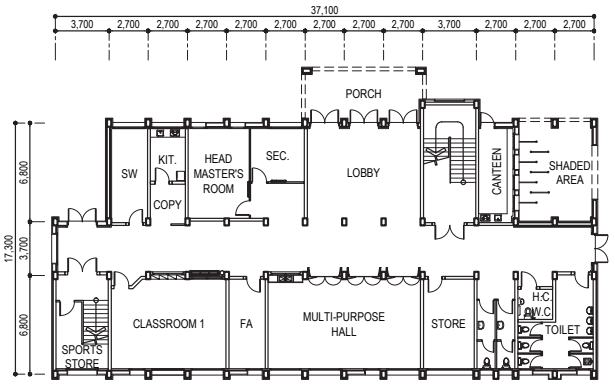
FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER : DOOR KEEPER

W-5 Noba Secondary Boys School S=1:500

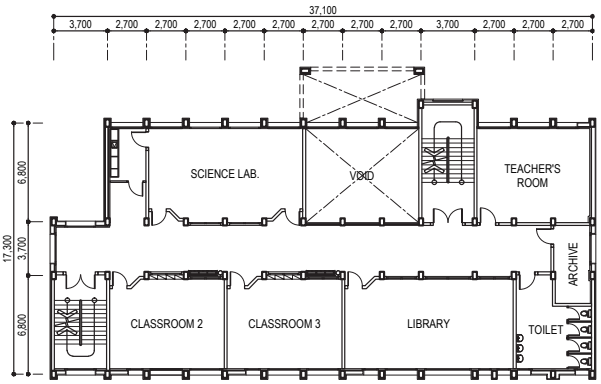


PROPOSED SITE PLAN

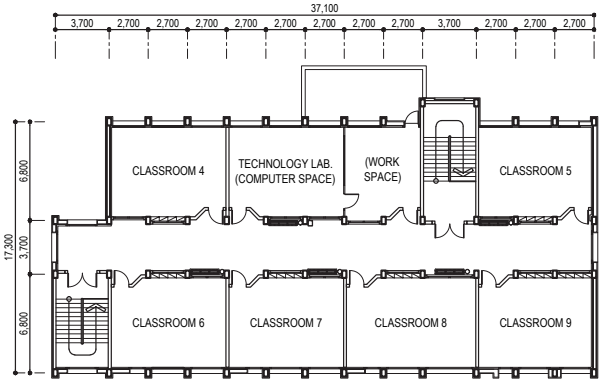
W-5 Noba Secondary Boys School S=1:500



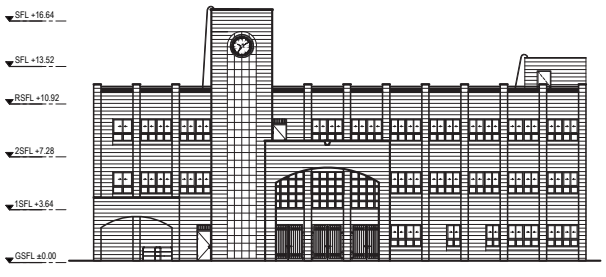
GF PLAN



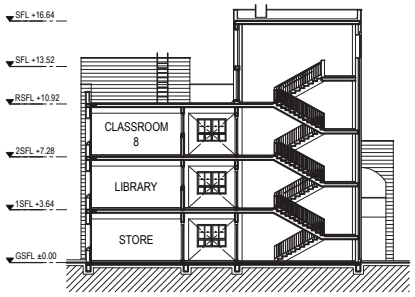
1F PLAN



2F PLAN



ELEVATION

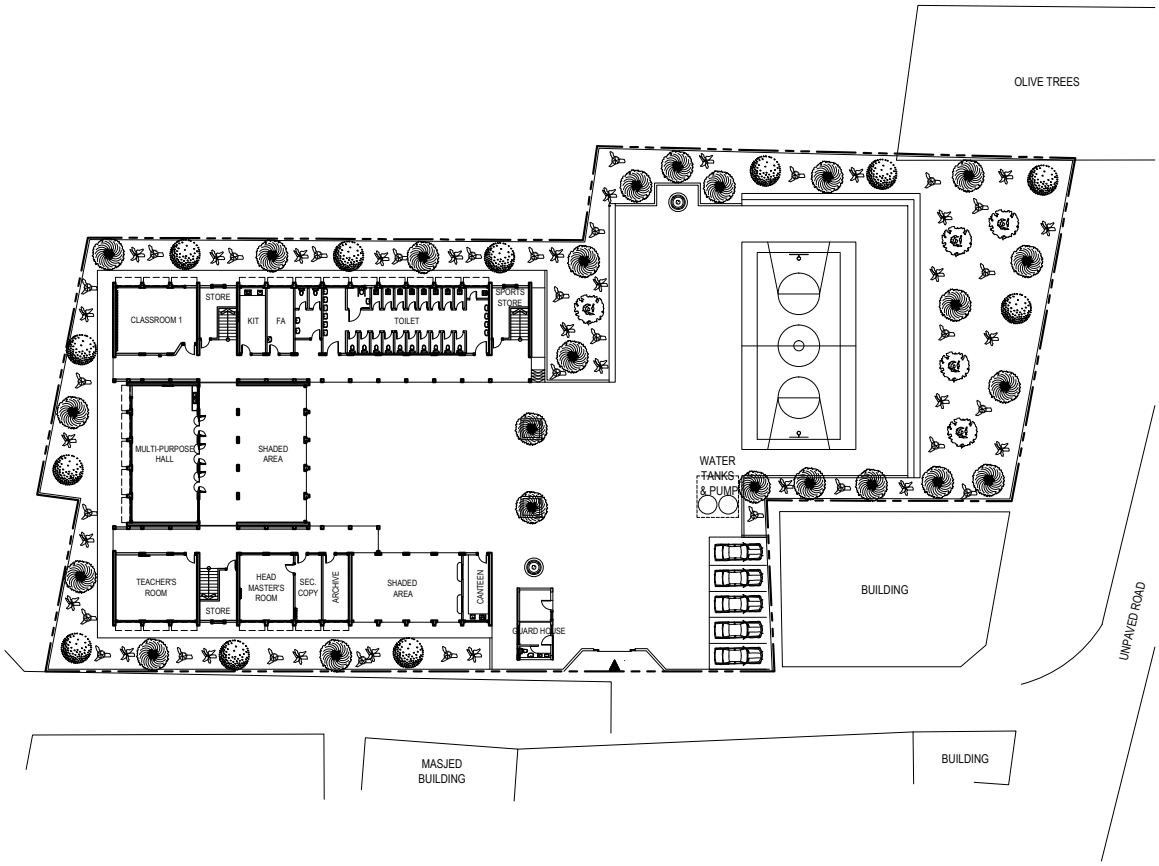


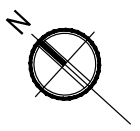
SECTION

FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER : DOOR KEEPER

Appendix 6-2 Drawings (Gaza)

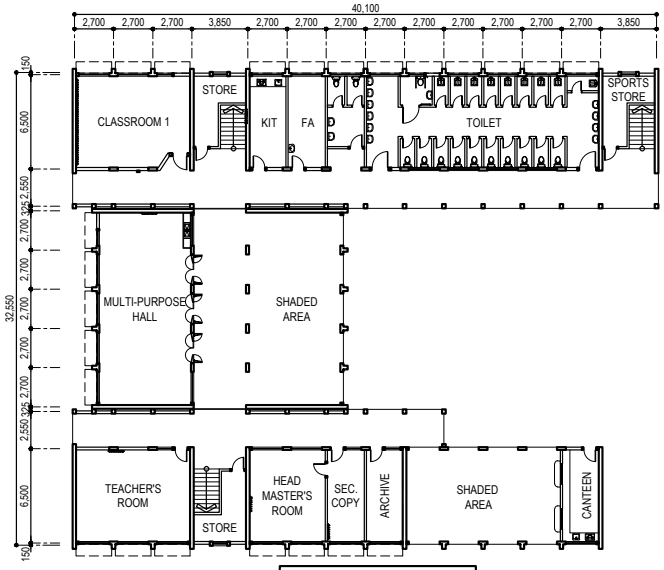
G-1 Jam'ia Land Secondary Girls School S=1:700



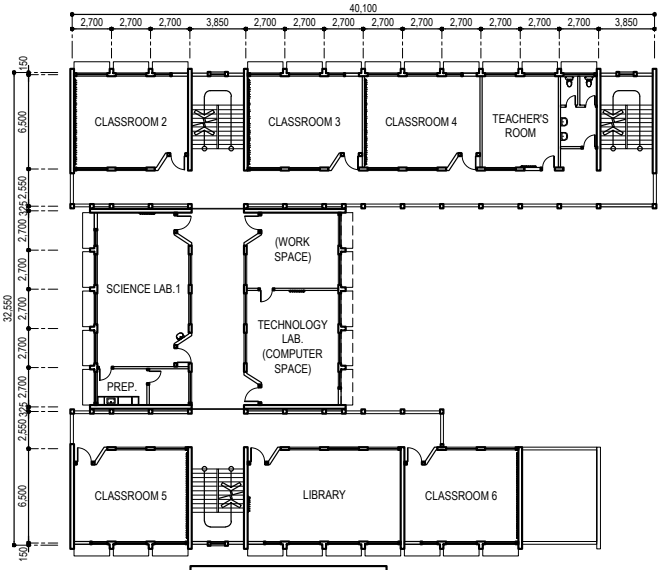


PROPOSED SITE PLAN

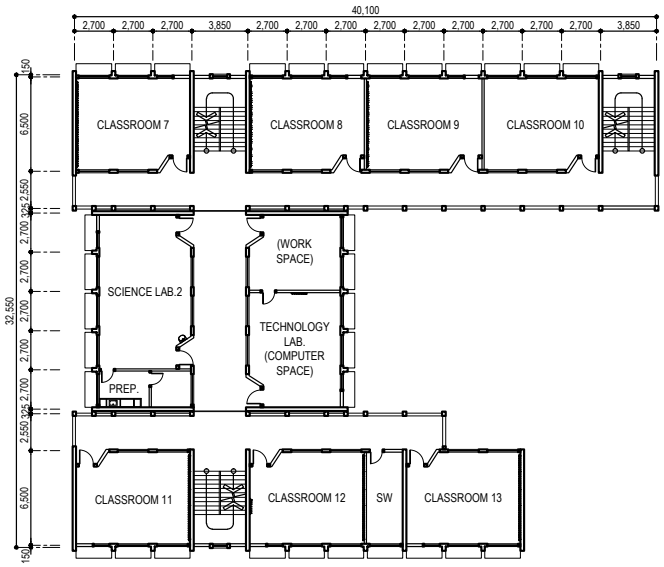
G-1 Jam'ia Land Secondary Girls School S=1:500



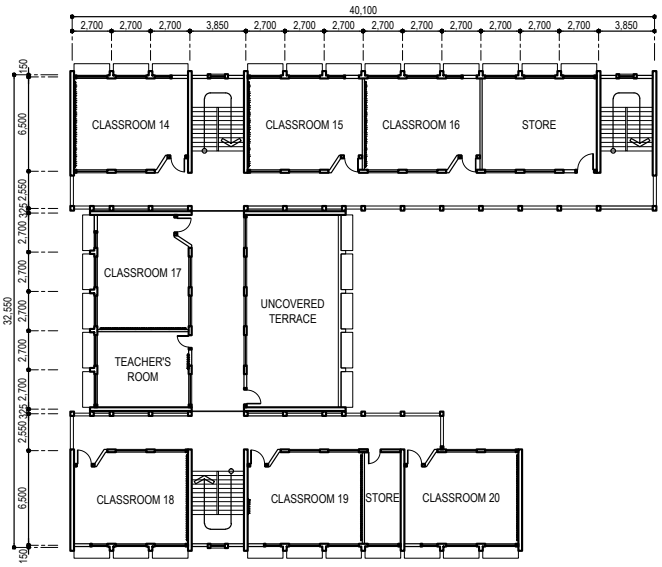
GF PLAN



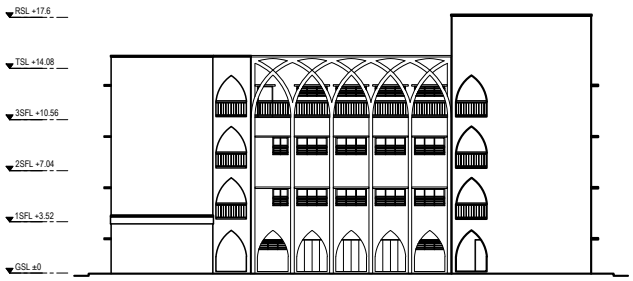
1F PLAN



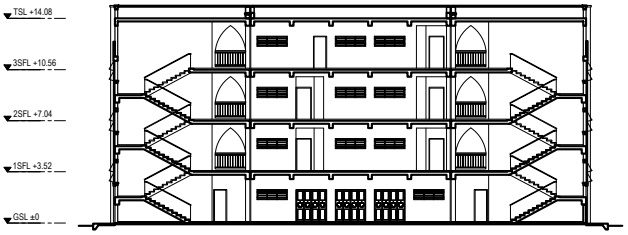
2F PLAN



3F PLAN

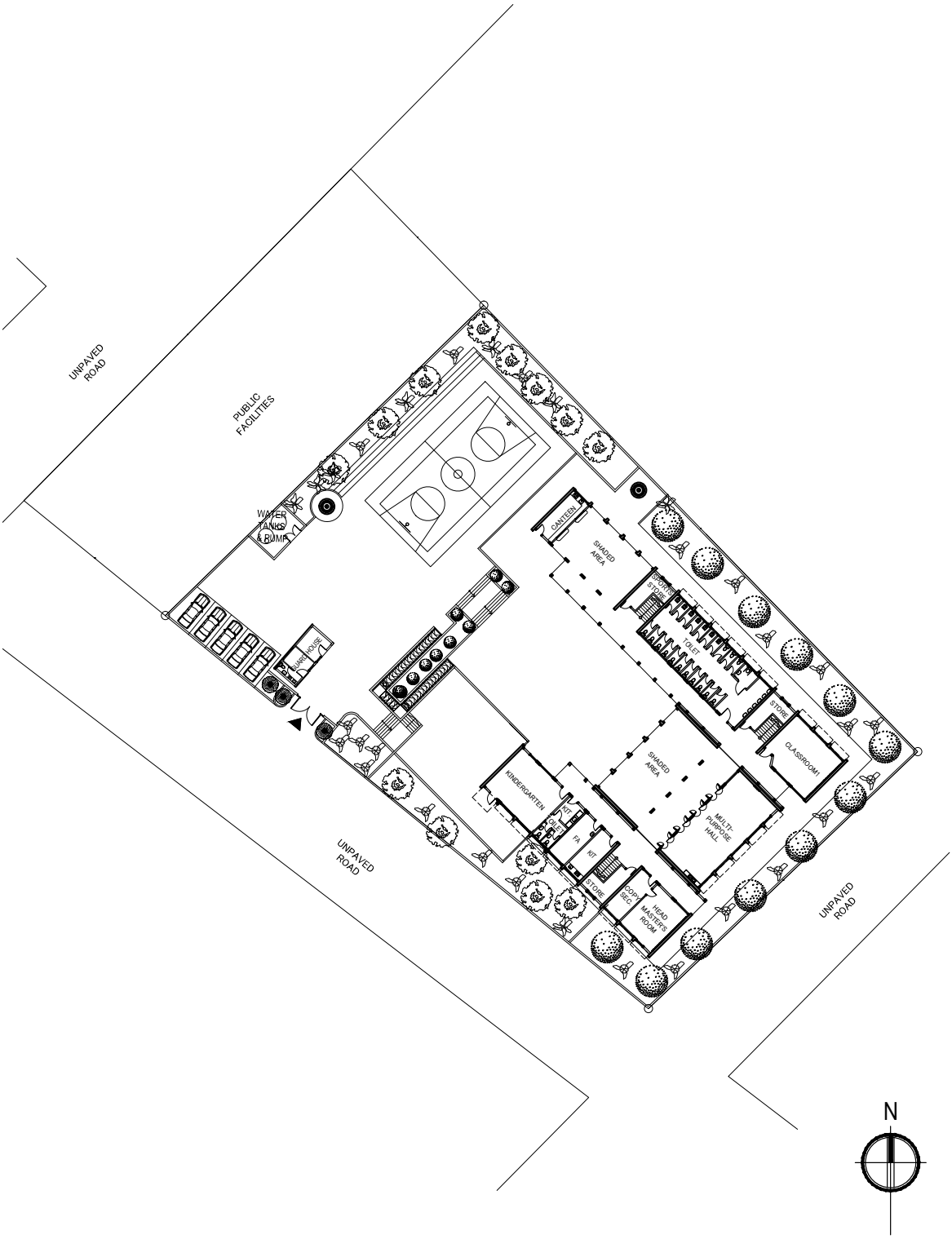


ELEVATION



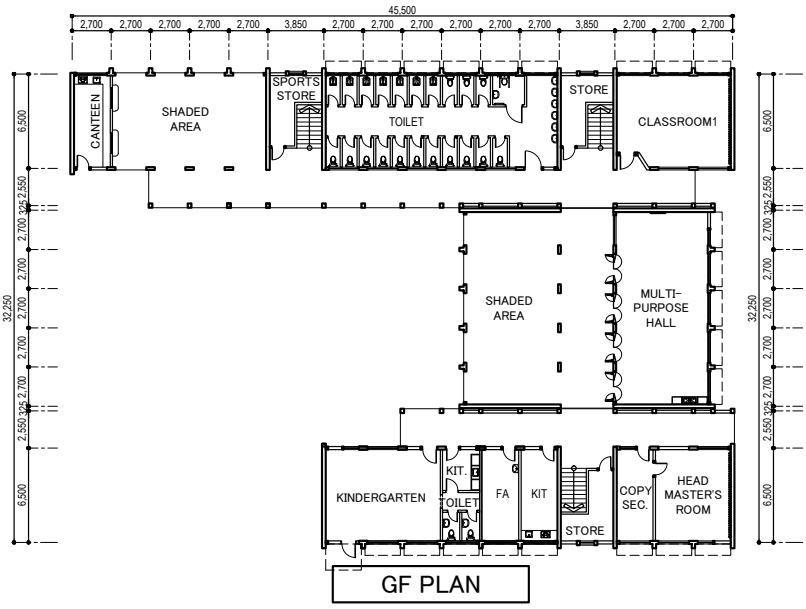
SECTION

FA : FIRST AID KIT : KITCHEN
SW : SOCIAL WORKER D.KEEPER : DOOR KEEPER
SEC : SECRETARY

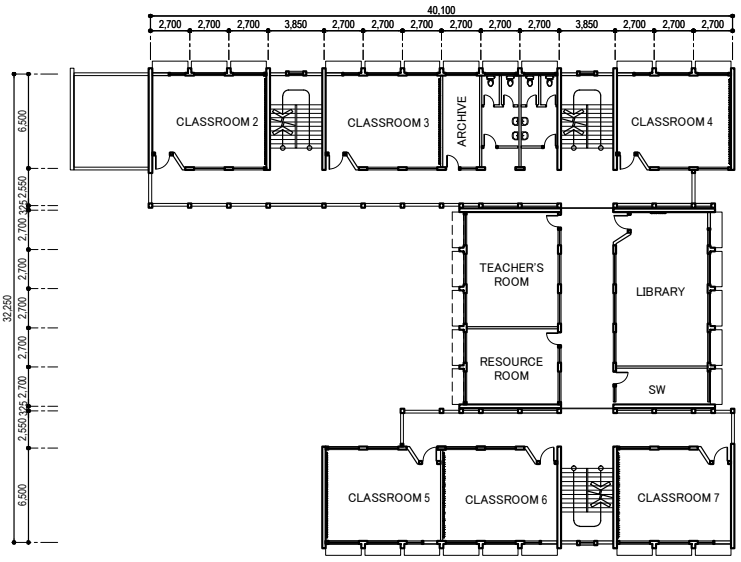


PROPOSED SITE PLAN

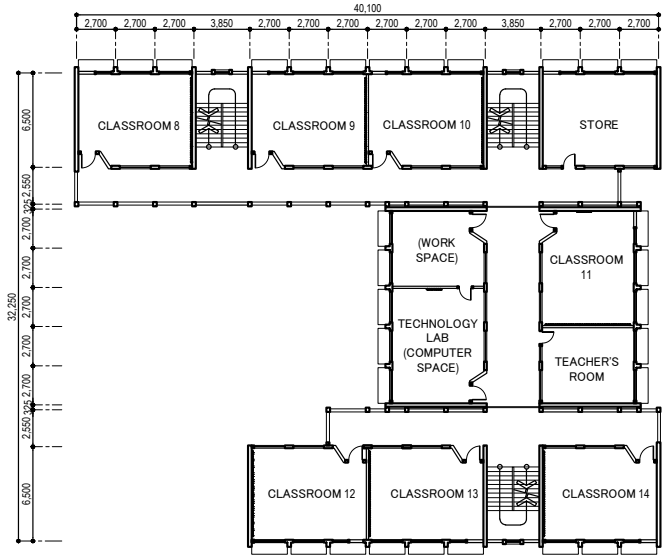
G-3 Moharbeen Al Kudama Girls School S=1:500



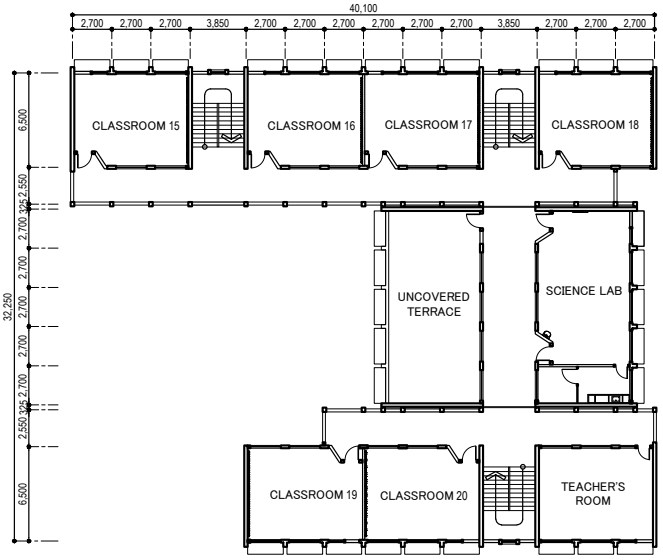
GF PLAN



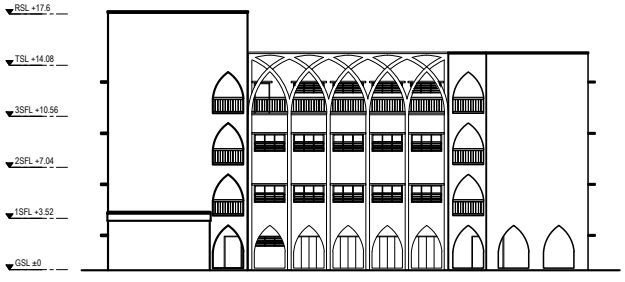
1F PLAN



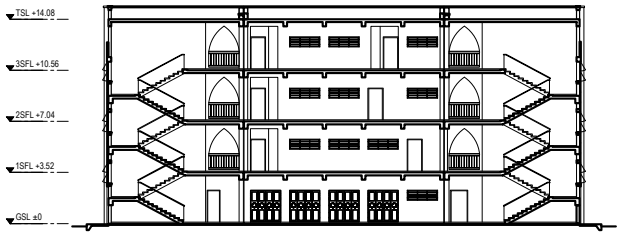
2F PLAN



3F PLAN

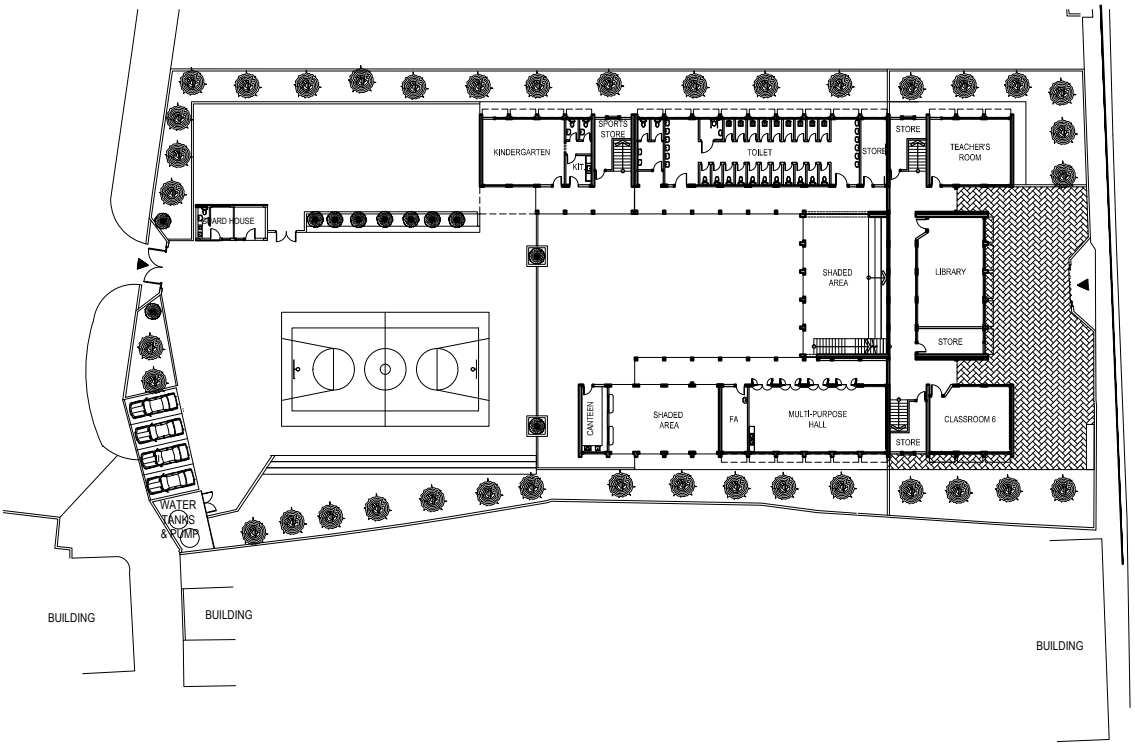


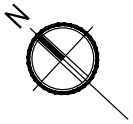
ELEVATION



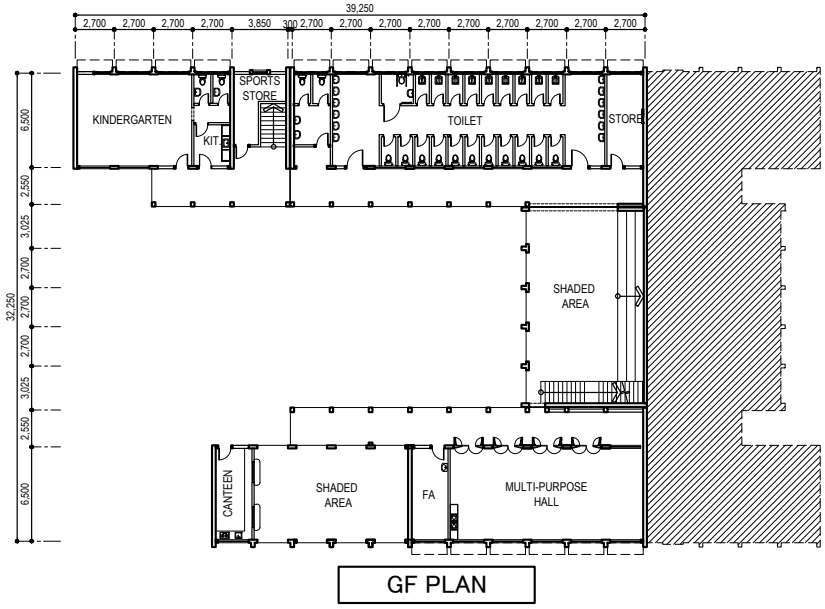
SECTION

FA : FIRST AID KIT : KITCHEN
SW : SOCIAL WORKER D.KEEPER : DOOR KEEPER
SEC : SECRETARY

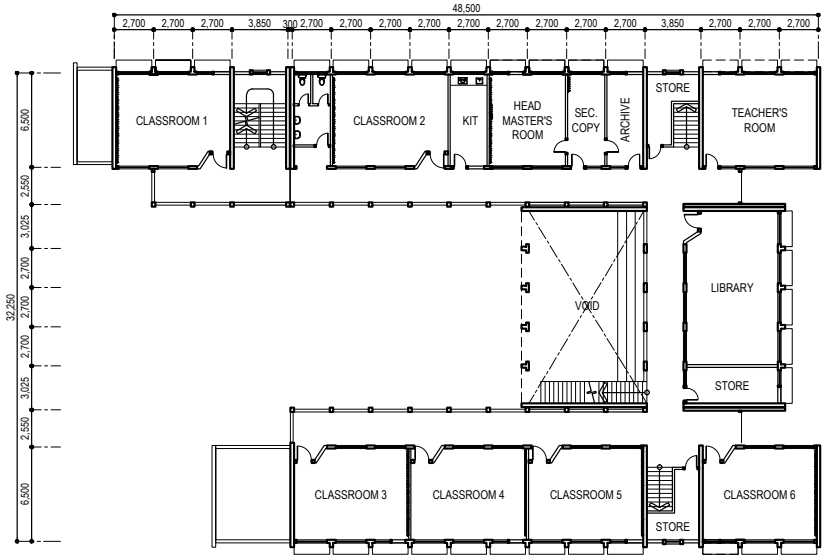




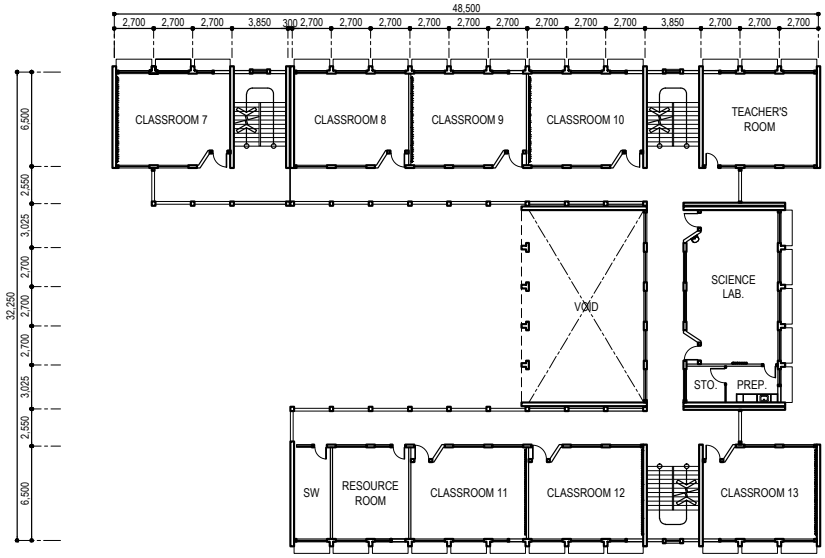
PROPOSED SITE PLAN



GF PLAN

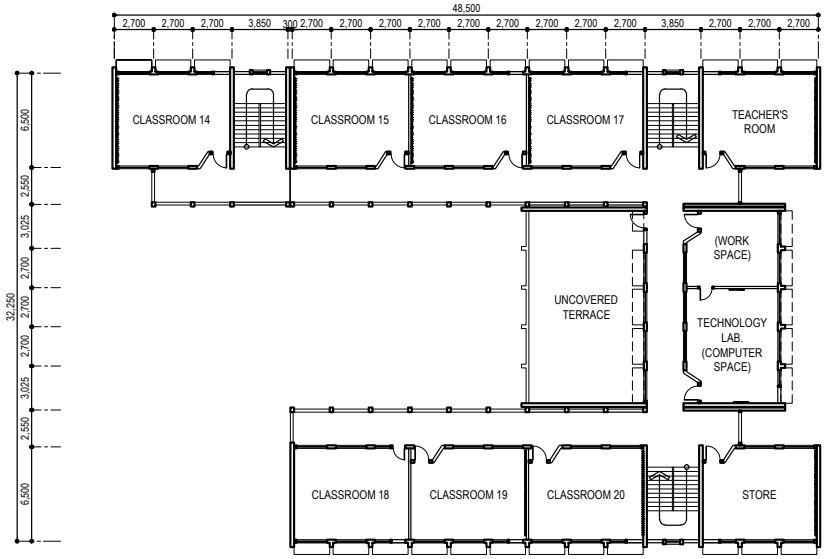


1F PLAN

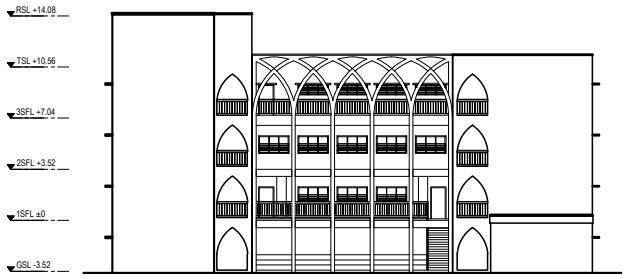


2F PLAN

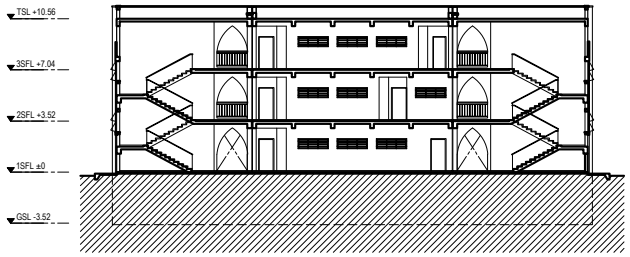
FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER: DOOR KEEPER



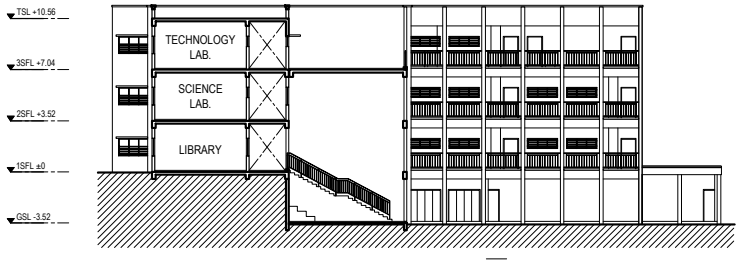
3F PLAN



ELEVATION

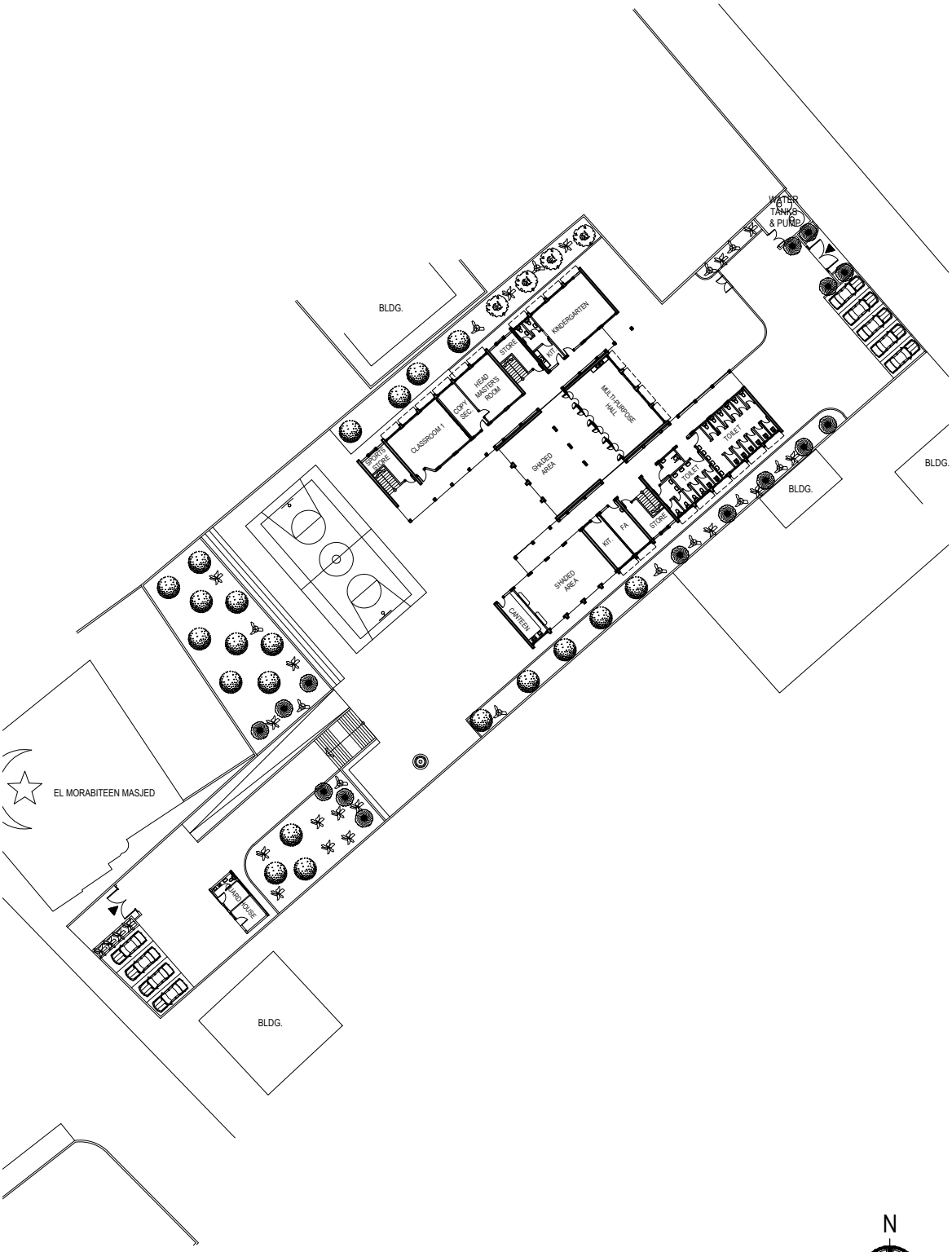


SECTION



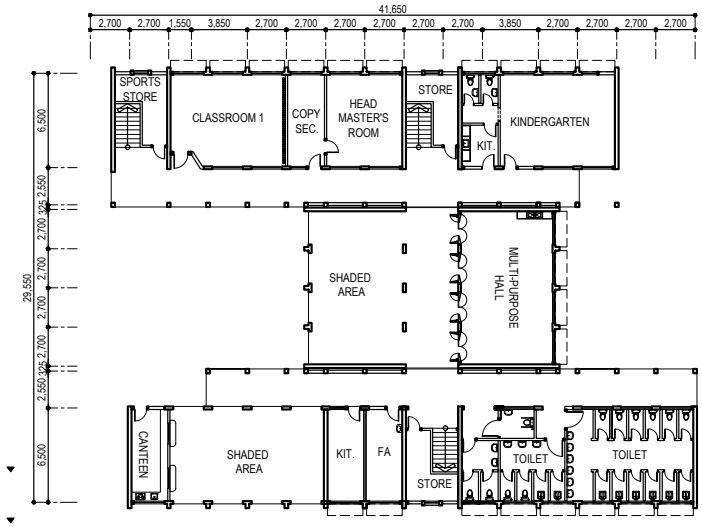
SECTION

FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER: DOOR KEEPER

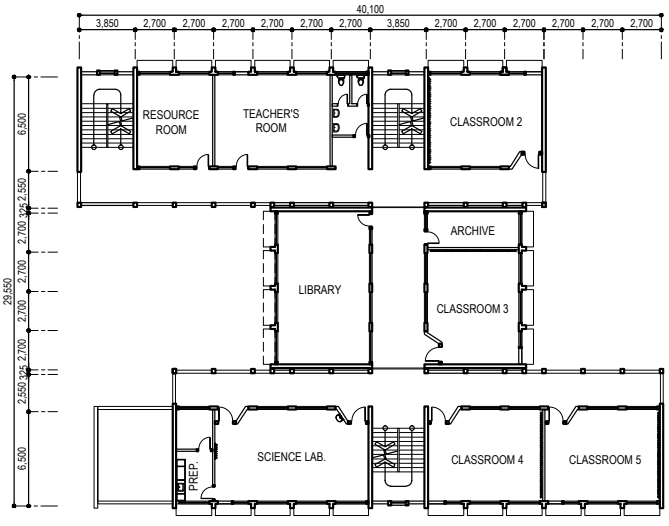


PROPOSED SITE PLAN

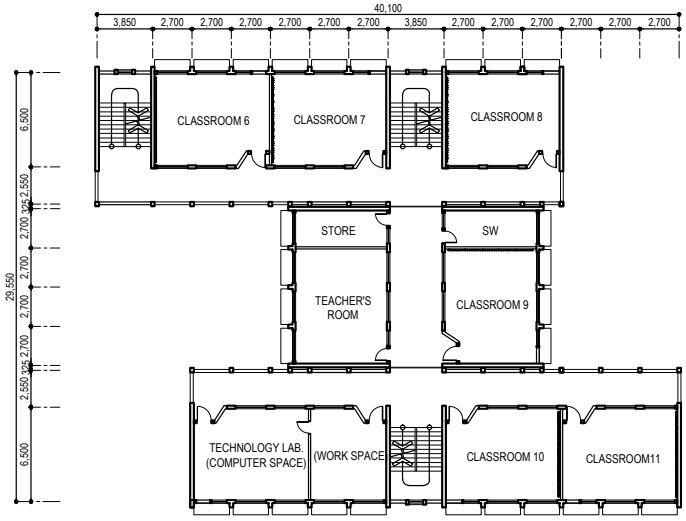
G-5 Salam Basic Coed School S=1:500



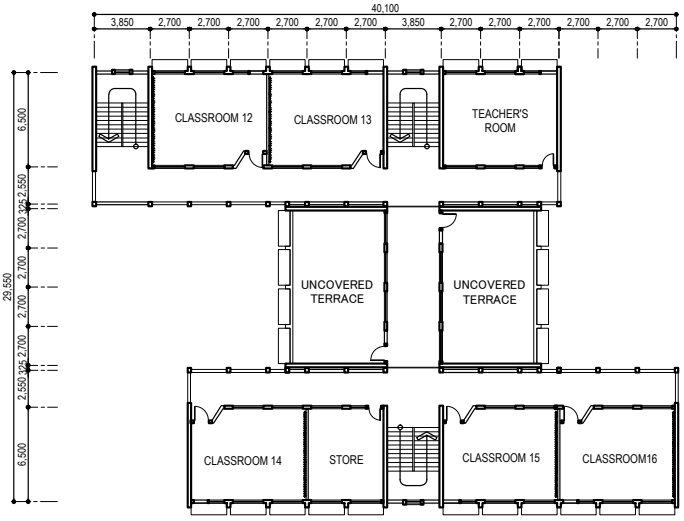
GF PLAN



1F PLAN



2F PLAN



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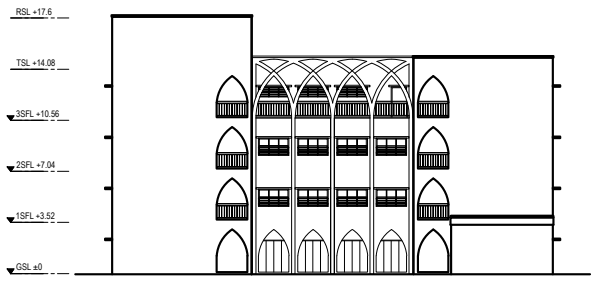
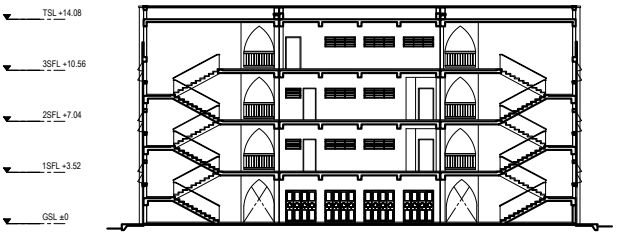


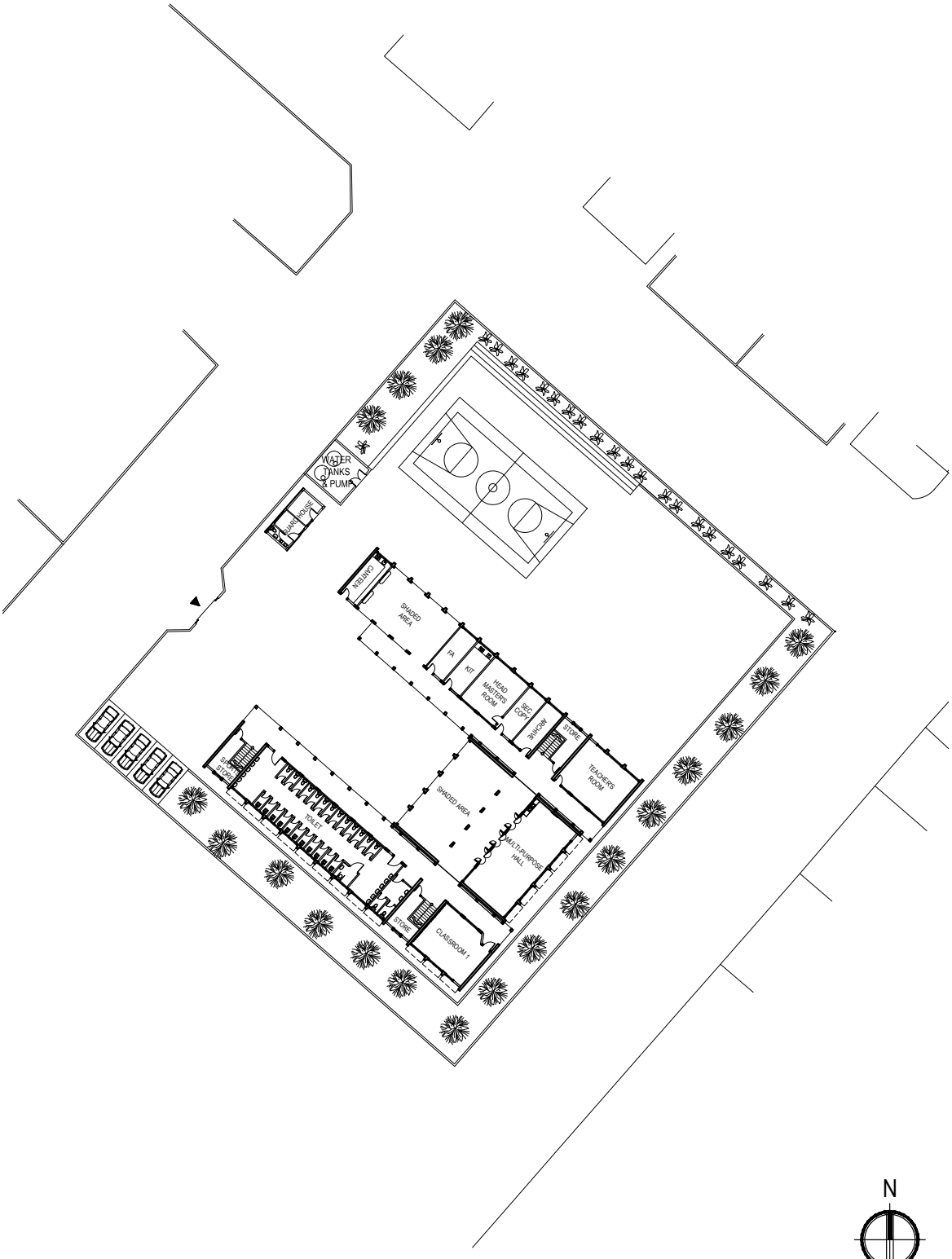
ELEVATION



SECTION

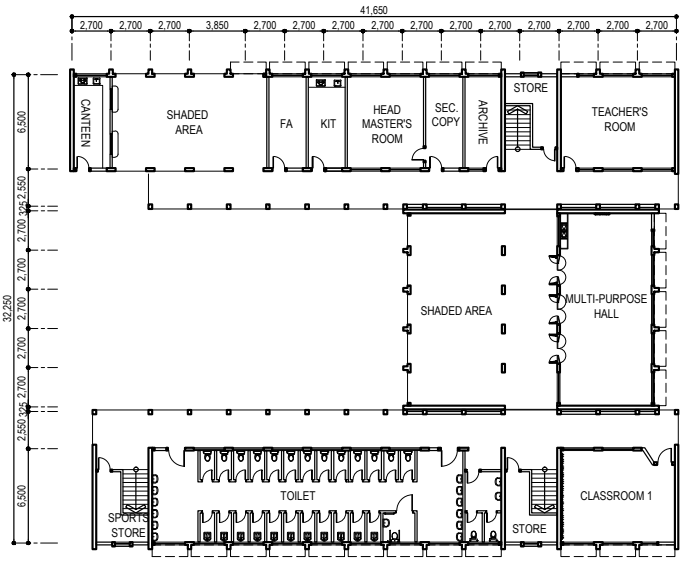
FA : FIRST AID
SW : SOCIAL WORKER
SEC : SECRETARY
KIT : KITCHEN
D.KEEPER : DOOR KEEPER

G-6 Boraq Land 1 Secondary Girls School S=1:700

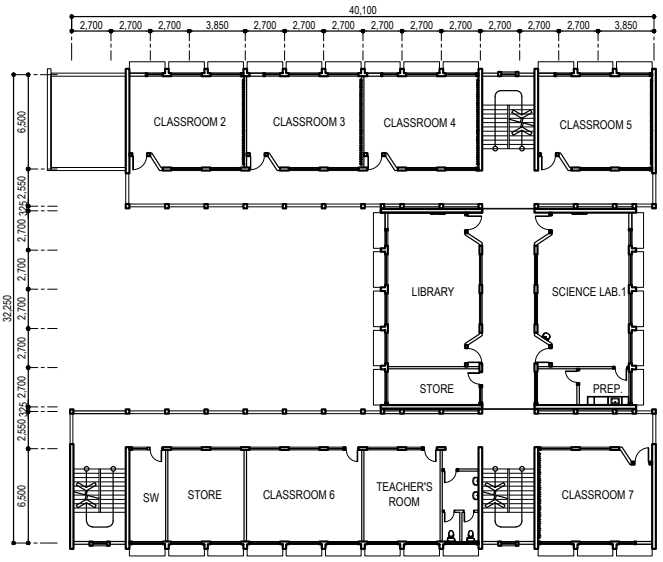


PROPOSED SITE PLAN

G-6 Boraq Land 1 Secondary Girls School S=1:500



GF PLAN



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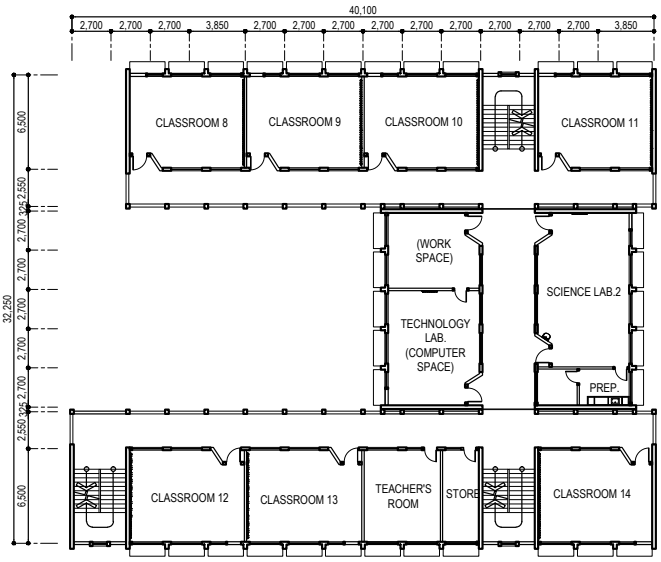

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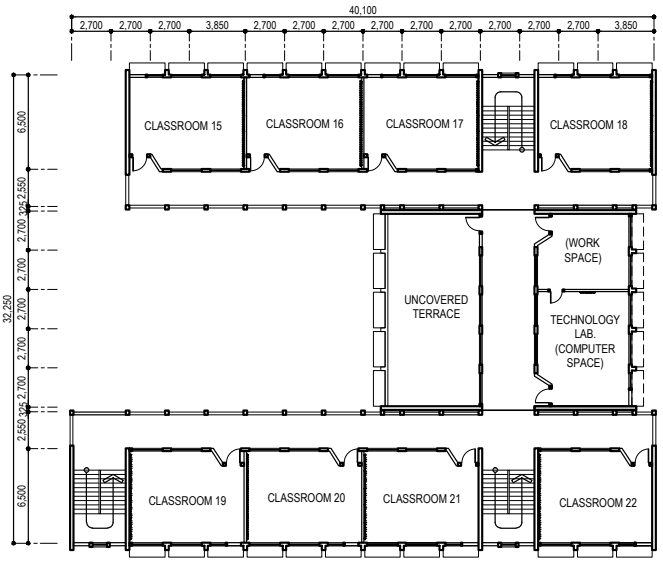
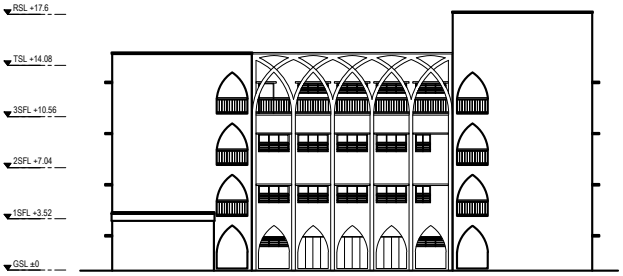
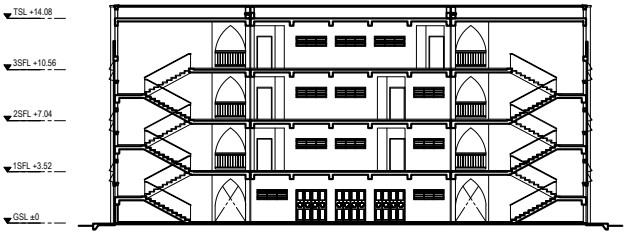


3F PLAN



ELEVATION



SECTION

FA : FIRST AID
KIT : KITCHEN
SW : SOCIAL WORKER
D.KEEPER : DOOR KEEPER
SEC : SECRETARY

Appendix 7　List of Equipment

【West Bank　List of Equipment】

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
【Classroom】							
W-1	Tablet with a Keyboard	240	-	-	120	50	70
W-2	Computer（Laptop type）	71	15	11	18	13	14
W-3	Interactive Projector	52	12	8	14	9	9
【Library】							
W-4	Computer（Desktop type）	19	8	8	1	1	1
W-5	Interactive Projector	5	1	1	1	1	1
【Administrative Unit(Headmaster's Room)】							
W-6	Computer（Desktop type）	5	1	1	1	1	1
W-7	Laser Printer	5	1	1	1	1	1
【Administrative Unit(Teachers' Room)】							
W-8	Computer（Desktop type）	10	2	2	2	2	2
【Administrative Unit(Secretary's Room)】							
W-9	Computer（Desktop type）	5	1	1	1	1	1
W-10	Laser Printer	5	1	1	1	1	1
【Administrative Unit(Archive and Copier)】							
W-11	Copier	5	1	1	1	1	1
【Multi-Purpose Hall】							
W-12	LCD Projector	5	1	1	1	1	1
W-13	Computer（Laptop type）	5	1	1	1	1	1
【Science Lab】							
W-14	Computer（Laptop type）	2	-	-	1	-	1
W-15	Color Laser Printer	2	-	-	1	-	1
W-16	LCD Projector	2	-	-	1	-	1
W-17	Ball and Ring	18	-	-	6	6	6
W-18	Bar Magnet	30	6	6	6	6	6
W-19	Bell Jar with Pump-plastic	3	-	-	1	1	1
W-20	Compass(Pocket)	30	6	6	6	6	6
W-21	Compound Bar	9	-	-	3	3	3

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-22	Dynamo Hand Operated	15	3	3	3	3	3
W-23	Ebonite Rod	15	3	3	3	3	3
W-24	Glass Rod	15	3	3	3	3	3
W-25	Electronic Balance	18	-	-	6	6	6
W-26	Electroscope	30	6	6	6	6	6
W-27	Heat Conduction Apparatus	18	-	-	6	6	6
W-28	High Voltage Power Supply	2	-	-	1	-	1
W-29	U - Shape Magnet	30	6	6	6	6	6
W-30	Lens Set	15	3	3	3	3	3
W-31	Linear Air Track Kit	3	-	-	1	1	1
W-32	Low Voltage Power Supply	18	-	-	6	6	6
W-33	Magnetic Field Chamber	9	-	-	3	3	3
W-34	Micrometer	18	-	-	6	6	6
W-35	Mirrors	30	6	6	6	6	6
W-36	Ripple Tank	3	-	-	1	1	1
W-37	Ruhmkorff Commutator	3	-	-	1	1	1
W-38	Slotted Masses with Hanger	15	3	3	3	3	3
W-39	Spring Balance Set	15	3	3	3	3	3
W-40	System to Study Free Fall	3	-	-	1	1	1
W-41	Tellurium	5	1	1	1	1	1
W-42	Tuning Forks on Resonance Box	9	-	-	3	3	3
W-43	Tuning Forks	15	3	3	3	3	3
W-44	Van de Graff Generator	3	-	-	1	1	1
W-45	Vernier Caliper	18	-	-	6	6	6
W-46	Clamp, Universal	15	3	3	3	3	3
W-47	Double 45 Clamp	30	6	6	6	6	6
W-48	Rocks and Minerals Set	5	1	1	1	1	1
W-49	Stand Ring	30	6	6	6	6	6
W-50	Tools Set	3	-	-	1	1	1
W-51	Displacement Vessel	18	-	-	6	6	6
W-52	Equal Volume Metal Cubes	18	-	-	6	6	6
W-53	Simple Pendulum Set	18	-	-	6	6	6

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-54	Linear Expansion Apparatus	18	-	-	6	6	6
W-55	Calorimeter Set	9	-	-	3	3	3
W-56	Demountable Transformer	2	-	-	1	-	1
W-57	Force Table	3	-	-	1	1	1
W-58	Laser Geoptic Set	9	-	-	3	3	3
W-59	Hook's Law	18	-	-	6	6	6
W-60	Hope's Apparatus	3	-	-	1	1	1
W-61	Moving Coil Galvanometer (Microammeter)	18	-	-	6	6	6
W-62	Multimeter Digital	18	-	-	6	6	6
W-63	Optical Bench Set	3	-	-	1	1	1
W-64	Solar Energy Unit	30	6	6	6	6	6
W-65	Periodic Table of Elements	3	-	-	1	1	1
W-66	Retort Stand	30	6	6	6	6	6
W-67	Tripod Stand	30	6	6	6	6	6
W-68	Basics of Electricity & Electronics Kit	12	-	-	6	-	6
W-69	Light Refraction Apparatus	18	-	-	6	6	6
W-70	Lever Set	9	-	-	3	3	3
W-71	Force Between Two Parallel Currents Demonstrator	2	-	-	1	-	1
W-72	Apparatus to Show Force on a Conductor in a Magnetic Field	6	-	-	3	-	3
W-73	Induction Coils	12	-	-	6	-	6
W-74	Wire Gauze with Ceramic Center	30	6	6	6	6	6
W-75	Wash Bottle	18	-	-	6	6	6
W-76	Simple Circuits Kit	12	-	-	6	6	-
W-77	Digital Vernier Caliper	9	-	-	3	3	3
W-78	2D Magnetic Field Demonstrator	18	-	-	6	6	6
W-79	Fire Extinguisher	3	-	-	1	1	1
W-80	Hoffman Apparatus	9	-	-	3	3	3
W-81	Hydrometer	18	-	-	6	6	6
W-82	Hygrometer (Wet and Dry)	9	-	-	3	3	3
W-83	Lab Burner-Gas Cartridge	18	-	-	6	6	6

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-84	Spectral Gas Tubes	2	-	-	1	-	1
W-85	Atomic Structure Model	9	-	-	3	3	3
W-86	Beakers	15	3	3	3	3	3
W-87	Burette	9	-	-	3	3	3
W-88	Burette Clamp	9	-	-	3	3	3
W-89	Distillation Apparatus	9	-	-	3	3	3
W-90	Erlenmeyer Flask	15	3	3	3	3	3
W-91	Graduated Cylinder	15	3	3	3	3	3
W-92	Pipette	9	-	-	3	3	3
W-93	Pipette Filler	9	-	-	3	3	3
W-94	Portable pH Meter	18	-	-	6	6	6
W-95	Test Tube	3	-	-	1	1	1
W-96	Test Tube Rack	18	-	-	6	6	6
W-97	Thermometers	15	3	3	3	3	3
W-98	Dissecting Set	3	-	-	1	1	1
W-99	Human Brain Model	3	-	-	1	1	1
W-100	Human Circulatory System Charts	5	1	1	1	1	1
W-101	Human Digestive System Chart	5	1	1	1	1	1
W-102	Human Ear Model	5	1	1	1	1	1
W-103	Human Eye Model	5	1	1	1	1	1
W-104	Human Heart Model	5	1	1	1	1	1
W-105	Human Kidney Model	3	-	-	1	1	1
W-106	Human Muscular System Chart	5	1	1	1	1	1
W-107	Human Nervous System Chart	3	-	-	1	1	1
W-108	Human Respiratory System Chart	5	1	1	1	1	1
W-109	Human Skeleton Model	5	1	1	1	1	1
W-110	Human Torso (Sex less)	3	-	-	1	1	1
W-111	Human Urinary System Chart	5	1	1	1	1	1
W-112	Monocular Microscope	18	-	-	6	6	6
W-113	Stereomicroscope	9	-	-	3	3	3
W-114	Digital Blood Pressure Monitor	9	-	-	3	3	3
W-115	Human Teeth Model	5	1	1	1	1	1

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-116	Microscope Slide Set	9	-	-	3	3	3
W-117	DNA Model	9	-	-	3	3	3
W-118	Crucible with Lid	9	-	-	3	3	3
W-119	Stir Rod	3	-	-	1	1	1
W-120	Hand Magnifier	30	6	6	6	6	6
W-121	Safety Glasses	120	-	-	40	40	40
W-122	Glass Microscope Slides Plain	9	-	-	3	3	3
W-123	Glass Cover Slips	18	-	-	6	6	6
W-124	Dissecting Pan	15	3	3	3	3	3
W-125	Meter Rule Meter Stick	15	3	3	3	3	3
W-126	Inclined Plane	15	3	3	3	3	3
W-127	Banana Plug Lead Stackable	5	1	1	1	1	1
W-128	Alligator Crocodile Clip Lead Medium Red and Black	5	1	1	1	1	1
W-129	Carbon Electrode Round	3	-	-	1	1	1
W-130	Prism Glass Equilateral	18	-	-	6	6	6
W-131	Prism Glass Right Angle	18	-	-	6	6	6
W-132	Slinky Spring Metal	9	-	-	3	3	3
W-133	Pipette Pump	18	-	-	6	6	6
W-134	Alcohol Lamp Burner	30	6	6	6	6	6
W-135	Manometer Demonstration	9	-	-	3	3	3
W-136	U Shape Tube	18	-	-	6	6	6
W-137	Glass Funnel	18	-	-	6	6	6
W-138	Glass Tube	5	1	1	1	1	1
W-139	Wooden Test Tube Holder	18	-	-	6	6	6
W-140	Digital Camera Eyepiece	18	-	-	6	6	6
W-141	Multipurpose Experiment Equipment Set	2	-	-	1	-	1
【Technology Lab】							
W-142	Hammer Drill	6	-	-	2	2	2
W-143	Angle Grinder	3	-	-	1	1	1
W-144	Jig Saw	6	-	-	2	2	2
W-145	Scroll Saw	6	-	-	2	2	2

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-146	Drill/Driver	18	-	-	6	6	6
W-147	Circular Saw	3	-	-	1	1	1
W-148	Combination Mitre/Table Saw	3	-	-	1	1	1
W-149	Router	3	-	-	1	1	1
W-150	Belt Sander	3	-	-	1	1	1
W-151	Finishing Sander	3	-	-	1	1	1
W-152	Drill Press	3	-	-	1	1	1
W-153	Benchtop Abrasive Cutoff Saw	3	-	-	1	1	1
W-154	Double Grinder	3	-	-	1	1	1
W-155	Mini Wood Lathe	3	-	-	1	1	1
W-156	Power Supply AC & DC	18	-	-	6	6	6
W-157	Electric Welding	3	-	-	1	1	1
W-158	Combination Pliers	18	-	-	6	6	6
W-159	Diagonal Cutting Pliers	18	-	-	6	6	6
W-160	Long Nose Pliers	18	-	-	6	6	6
W-161	Wire Stripping Pliers	18	-	-	6	6	6
W-162	Water Pump Pliers	18	-	-	6	6	6
W-163	Tower Pincers	18	-	-	6	6	6
W-164	Caustic Welding Tin	18	-	-	6	6	6
W-165	Soldering Gun	3	-	-	1	1	1
W-166	Adjustable Helping Hand with Magnifying Glass	21	-	-	7	7	7
W-167	Utility Knife	18	-	-	6	6	6
W-168	Meters Measure	18	-	-	6	6	6
W-169	Claw Hammer	18	-	-	6	6	6
W-170	Hammer	18	-	-	6	6	6
W-171	Phillips Screwdriver Set	18	-	-	6	6	6
W-172	Stubby Screwdriver Set	18	-	-	6	6	6
W-173	Voltage Tester	18	-	-	6	6	6
W-174	Safety Goggles & Ear Muffs	60	-	-	20	20	20
W-175	Tool Box	24	-	-	8	8	8
W-176	Multifunctional Parts Storage Box	12	-	-	4	4	4

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-177	Storage Cabinet	12	-	-	4	4	4
W-178	Sockets Sets	18	-	-	6	6	6
W-179	Combination Wrench Set	18	-	-	6	6	6
W-180	Screwdriver Bits Set	18	-	-	6	6	6
W-181	Step Drill Bit Set	6	-	-	2	2	2
W-182	Wood Flat Drills Bits	6	-	-	2	2	2
W-183	Rubber Hammer	18	-	-	6	6	6
W-184	Tool Hex Set	18	-	-	6	6	6
W-185	Hand Saw for Metal Cutting	18	-	-	6	6	6
W-186	Hand Copying Saw	18	-	-	6	6	6
W-187	Back Saw	18	-	-	6	6	6
W-188	Combination Saw	18	-	-	6	6	6
W-189	Adjustable Wrenches Set	18	-	-	6	6	6
W-190	Hot Glue Gun	18	-	-	6	6	6
W-191	Carpenters Square	18	-	-	6	6	6
W-192	Bevel Gage	18	-	-	6	6	6
W-193	Rasp for Wood	18	-	-	6	6	6
W-194	Curved Jaw Locking Pliers	18	-	-	6	6	6
W-195	Smoothing Plane	18	-	-	6	6	6
W-196	Hand Riveter and Aluminum Rivets Set	6	-	-	2	2	2
W-197	Straight Chisel Set	18	-	-	6	6	6
W-198	F Clamp	30	-	-	10	10	10
W-199	Offset Tin Snips	18	-	-	6	6	6
W-200	Magnetic Torpedo Level	18	-	-	6	6	6
W-201	Steel Bench Vise	6	-	-	2	2	2
W-202	Clamp on Vise	18	-	-	6	6	6
W-203	Staple Gun	18	-	-	6	6	6
W-204	Drill Bit Set	18	-	-	6	6	6
W-205	Hole Saw Set	6	-	-	2	2	2
W-206	Electronic Kit	30	-	-	10	10	10
W-207	FIRST LEGO LEAGUE System	3	-	-	1	1	1
W-208	Arduino Uno Microprocessor	20	-	-	10	-	10

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-209	Stepper Motor Drive	20	-	-	10	-	10
W-210	Bluetooth Module	20	-	-	10	-	10
W-211	Jumper Cables for Arduino Breadboard	18	-	-	6	6	6
W-212	Smart Robot Car Chassis Kit	20	-	-	10	-	10
W-213	Hand-held Digital Multi-meter	30	-	-	10	10	10
W-214	Test Board	45	-	-	15	15	15
W-215	Flat Head Wood Screws Set (type A)	3	-	-	1	1	1
W-216	Flat Head Wood Screws Set (type B)	3	-	-	1	1	1
W-217	Flat Head Wood Screws Set (type C)	3	-	-	1	1	1
W-218	Iron Panel Pins (type A)	3	-	-	1	1	1
W-219	Iron Panel Pins (type B)	3	-	-	1	1	1
W-220	Iron Panel Pins (type C)	3	-	-	1	1	1
W-221	Phillips Pan Head Sheet Metal (type A)	3	-	-	1	1	1
W-222	Phillips Pan Head Sheet Metal (type B)	3	-	-	1	1	1
W-223	Phillips Pan Head Sheet Metal (type C)	3	-	-	1	1	1
W-224	Chemical Capacitors	600	-	-	200	200	200
W-225	Ceramic Capacitors	600	-	-	200	200	200
W-226	Resistors	750	-	-	250	250	250
W-227	Variable Resistor	600	-	-	200	200	200
W-228	Voltage Dependent Resistor (VDR)	150	-	-	50	50	50
W-229	Light Dependent Resistor (LDR)	150	-	-	50	50	50
W-230	Diode	480	-	-	160	160	160
W-231	Light Emitting LED	1500	-	-	500	500	500
W-232	Zener Diode	600	-	-	200	200	200
W-233	Fuse Box	300	-	-	100	100	100
W-234	Thermistor	300	-	-	100	100	100
W-235	Soldering Tin Wire Reel	150	-	-	50	50	50
W-236	Switches (type A)	60	-	-	20	20	20
W-237	Switches (type B)	60	-	-	20	20	20
W-238	Switches (type C)	60	-	-	20	20	20
W-239	Switches (type D)	60	-	-	20	20	20
W-240	Switches (type E)	60	-	-	20	20	20

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-241	IC Timer	150	-	-	50	50	50
W-242	Transistor	600	-	-	200	200	200
W-243	IC TTL	375	-	-	125	125	125
W-244	IC LM386	30	-	-	10	10	10
W-245	IC LM324	30	-	-	10	10	10
W-246	IC LM311	30	-	-	10	10	10
W-247	IC LM35	30	-	-	10	10	10
W-248	LM 7805, 7812	30	-	-	10	10	10
W-249	TDI 2003	30	-	-	10	10	10
W-250	IR-Rx	60	-	-	20	20	20
W-251	IR-Tx	60	-	-	20	20	20
W-252	7- Segment	20	-	-	10	-	10
W-253	Relay (type A)	60	-	-	20	20	20
W-254	Relay (type B)	60	-	-	20	20	20
W-255	Relay (type C)	60	-	-	20	20	20
W-256	Relay (type D)	60	-	-	20	20	20
W-257	Relay (type E)	30	-	-	10	10	10
W-258	Microswitch with Lever	36	-	-	12	12	12
W-259	Circuit Breakers	30	-	-	10	10	10
W-260	Electrical Distribution Board	3	-	-	1	1	1
W-261	Switch	36	-	-	12	12	12
W-262	Speakers	150	-	-	50	50	50
W-263	Microphone	150	-	-	50	50	50
W-264	DC Motor	150	-	-	50	50	50
W-265	Electric Socket	30	-	-	10	10	10
W-266	OPTO Isolator	100	-	-	50	-	50
W-267	Digital Oscilloscope	15	-	-	5	5	5
W-268	Stepper Motor	150	-	-	50	50	50
W-269	Computer(Desktop type)	60	-	-	20	20	20
W-270	Computer(Laptop type)	3	-	-	1	1	1
W-271	Laser Printer	9	-	-	3	3	3
W-272	Interactive Projector	3	-	-	1	1	1

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
【Resource Room】							
W-273	Computer(Laptop type)	3	1	1	-	1	-
W-274	Laser Printer	3	1	1	-	1	-
W-275	Interactive Projector	3	1	1	-	1	-
W-276	Educational Toys Set	3	1	1	-	1	-
W-277	Educational Tools Set	3	1	1	-	1	-
W-278	Musical Kit	3	1	1	-	1	-
【Kindergarten】							
W-279	Round Table	10	-	5	-	5	-
W-280	Chair	60	-	30	-	30	-
W-281	Wood Shelf (type A)	4	-	2	-	2	-
W-282	Wood Shelf (type B)	2	-	1	-	1	-
W-283	Sponge Mattress	2	-	1	-	1	-
W-284	Parachute	10	-	5	-	5	-
W-285	Jumping Sack	4	-	2	-	2	-
W-286	Bed Room Set	2	-	1	-	1	-
W-287	Medical Corner Set	2	-	1	-	1	-
W-288	Kitchen Corner(Oven)	2	-	1	-	1	-
W-289	Kitchen Corner(Refrigerator)	2	-	1	-	1	-
W-290	Kitchen Corner(Sink)	2	-	1	-	1	-
W-291	Kitchen Corner(Washing Machine)	2	-	1	-	1	-
W-292	Kitchen Corner(Kitchen Closet)	2	-	1	-	1	-
W-293	Colors Puzzle	2	-	1	-	1	-
W-294	Before and After Puzzle	2	-	1	-	1	-
W-295	Shape and Shade Puzzle	2	-	1	-	1	-
W-296	Job and Tools Puzzle	2	-	1	-	1	-
W-297	Relation Puzzle	2	-	1	-	1	-
W-298	Opposite Puzzle	2	-	1	-	1	-
W-299	Drawing Board Set	2	-	1	-	1	-
W-300	Beads Box	2	-	1	-	1	-
W-301	Musical Kit	2	-	1	-	1	-
W-302	Wood Geometric Shapes	2	-	1	-	1	-

No.	Name of Equipment	Quantity					
		Total Q'ty	W-1	W-2	W-3	W-4	W-5
W-303	Large Beads Toy	2	-	1	-	1	-
W-304	Computer(Laptop type)	2	-	1	-	1	-
W-305	Interactive Projector	2	-	1	-	1	-
W-306	Laser Printer	2	-	1	-	1	-
W-307	Swing (2 persons)	2	-	1	-	1	-
W-308	Seesaw	2	-	1	-	1	-
W-309	Slide	2	-	1	-	1	-
【Others(Network Equipment)】							
W-310	Firewall	5	1	1	1	1	1
W-311	Access Point	40	8	8	8	8	8

【Gaza　List of Equipment】

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
【Classroom】							
G-1	Computer(Laptop type)	43	8	9	9	9	8
G-2	Interactive Projector	12	-	4	4	4	-
【Library】							
G-3	Computer(Laptop type)	5	1	1	1	1	1
G-4	Interactive Projector	5	1	1	1	1	1
【Administrative Unit(Headmaster's Room)】							
G-5	Computer(Laptop type)	5	1	1	1	1	1
G-6	Laser Printer	5	1	1	1	1	1
【Administrative Unit (Teachers Room)】							
G-7	Computer(Laptop type)	10	2	2	2	2	2
【Administrative Unit (Secretary's Room)】							
G-8	Computer(Laptop type)	5	1	1	1	1	1
G-9	Laser Printer	5	1	1	1	1	1
【Administrative Unit (Archive and Copier)】							
G-10	Copier	5	1	1	1	1	1
【Multi-Purpose Hall】							

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-11	LCD Projector	5	1	1	1	1	1
G-12	Computer(Laptop type)	5	1	1	1	1	1
【Science Lab】							
G-13	Computer(Laptop type)	2	1	-	-	-	1
G-14	Color Laser Printer	2	1	-	-	-	1
G-15	LCD Projector	2	1	-	-	-	1
G-16	Ball and Ring	30	6	6	6	6	6
G-17	Bar Magnet	30	6	6	6	6	6
G-18	Bell Jar with Pump-plastic	5	1	1	1	1	1
G-19	Compass(Pocket)	30	6	6	6	6	6
G-20	Compound Bar	15	3	3	3	3	3
G-21	Dynamo Hand Operated	15	3	3	3	3	3
G-22	Ebonite Rod	15	3	3	3	3	3
G-23	Glass Rod	15	3	3	3	3	3
G-24	Electronic Balance	30	6	6	6	6	6
G-25	Electroscope	30	6	6	6	6	6
G-26	Heat Conduction Apparatus	30	6	6	6	6	6
G-27	High Voltage Power Supply	2	1	-	-	-	1
G-28	U - Shape Magnet	30	6	6	6	6	6
G-29	Lens Set	15	3	3	3	3	3
G-30	Linear Air Track Kit	5	1	1	1	1	1
G-31	Low Voltage Power Supply	30	6	6	6	6	6
G-32	Magnetic Field Chamber	15	3	3	3	3	3
G-33	Micrometer	30	6	6	6	6	6
G-34	Mirrors	30	6	6	6	6	6
G-35	Ripple Tank	5	1	1	1	1	1
G-36	Ruhmkorff Commutator	5	1	1	1	1	1
G-37	Slotted Masses with Hanger	15	3	3	3	3	3
G-38	Spring Balance Set	15	3	3	3	3	3
G-39	System to Study Free Fall	5	1	1	1	1	1
G-40	Tellurium	5	1	1	1	1	1
G-41	Tuning Forks on Resonance Box	15	3	3	3	3	3

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-42	Tuning Forks	15	3	3	3	3	3
G-43	Van de Graff Generator	5	1	1	1	1	1
G-44	Vernier Caliper	30	6	6	6	6	6
G-45	Clamp, Universal	15	3	3	3	3	3
G-46	Double 45 Clamp	30	6	6	6	6	6
G-47	Rocks and Minerals Set	5	1	1	1	1	1
G-48	Stand Ring	30	6	6	6	6	6
G-49	Tools Set	5	1	1	1	1	1
G-50	Displacement Vessel	30	6	6	6	6	6
G-51	Equal Volume Metal Cubes	30	6	6	6	6	6
G-52	Simple Pendulum Set	30	6	6	6	6	6
G-53	Linear Expansion Apparatus	30	6	6	6	6	6
G-54	Calorimeter Set	15	3	3	3	3	3
G-55	Demountable Transformer	2	1	-	-	-	1
G-56	Force Table	5	1	1	1	1	1
G-57	Laser Geoptic Set	15	3	3	3	3	3
G-58	Hook's Law	30	6	6	6	6	6
G-59	Hope's Apparatus	5	1	1	1	1	1
G-60	Moving Coil Galvanometer (Microammeter)	30	6	6	6	6	6
G-61	Multimeter Digital	30	6	6	6	6	6
G-62	Optical Bench Set	5	1	1	1	1	1
G-63	Solar Energy Unit	30	6	6	6	6	6
G-64	Periodic Table of Elements	5	1	1	1	1	1
G-65	Retort Stand	30	6	6	6	6	6
G-66	Tripod Stand	30	6	6	6	6	6
G-67	Basics of Electricity & Electronics Kit	12	6	-	-	-	6
G-68	Light Refraction Apparatus	30	6	6	6	6	6
G-69	Lever Set	15	3	3	3	3	3
G-70	Force Between Two Parallel Currents Demonstrator	2	1	-	-	-	1
G-71	Apparatus to Show Force on a Conductor in a Magnetic Field	6	3	-	-	-	3

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-72	Induction Coils	12	6	-	-	-	6
G-73	Wire Gauze with Ceramic Center	30	6	6	6	6	6
G-74	Wash Bottle	30	6	6	6	6	6
G-75	Simple Circuits Kit	18	-	6	6	6	-
G-76	Digital Vernier Caliper	15	3	3	3	3	3
G-77	2D Magnetic Field Demonstrator	30	6	6	6	6	6
G-78	Fire Extinguisher	5	1	1	1	1	1
G-79	Hoffman Apparatus	15	3	3	3	3	3
G-80	Hydrometer	30	6	6	6	6	6
G-81	Hygrometer (Wet and Dry)	15	3	3	3	3	3
G-82	Lab Burner-Gas Cartridge	30	6	6	6	6	6
G-83	Spectral Gas Tubes	2	1	-	-	-	1
G-84	Atomic Structure Model	15	3	3	3	3	3
G-85	Beakers	15	3	3	3	3	3
G-86	Burette	15	3	3	3	3	3
G-87	Burette Clamp	15	3	3	3	3	3
G-88	Distillation Apparatus	15	3	3	3	3	3
G-89	Erlenmeyer Flask	15	3	3	3	3	3
G-90	Graduated Cylinder	15	3	3	3	3	3
G-91	Pipette	15	3	3	3	3	3
G-92	Pipette Filler	15	3	3	3	3	3
G-93	Portable pH Meter	30	6	6	6	6	6
G-94	Test Tube	5	1	1	1	1	1
G-95	Test Tube Rack	30	6	6	6	6	6
G-96	Thermometers	15	3	3	3	3	3
G-97	Dissecting Set	5	1	1	1	1	1
G-98	Human Brain Model	5	1	1	1	1	1
G-99	Human Circulatory System Charts	5	1	1	1	1	1
G-100	Human Digestive System Chart	5	1	1	1	1	1
G-101	Human Ear Model	5	1	1	1	1	1
G-102	Human Eye Model	5	1	1	1	1	1
G-103	Human Heart Model	5	1	1	1	1	1

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-104	Human Kidney Model	5	1	1	1	1	1
G-105	Human Muscular System Chart	5	1	1	1	1	1
G-106	Human Nervous System Chart	5	1	1	1	1	1
G-107	Human Respiratory System Chart	5	1	1	1	1	1
G-108	Human Skeleton Model	5	1	1	1	1	1
G-109	Human Torso (Sex less)	5	1	1	1	1	1
G-110	Human Urinary System Chart	5	1	1	1	1	1
G-111	Monocular Microscope	30	6	6	6	6	6
G-112	Stereomicroscope	15	3	3	3	3	3
G-113	Digital Blood Pressure Monitor	15	3	3	3	3	3
G-114	Human Teeth Model	5	1	1	1	1	1
G-115	Microscope Slide Set	15	3	3	3	3	3
G-116	DNA Model	15	3	3	3	3	3
G-117	Crucible with Lid	15	3	3	3	3	3
G-118	Stir Rod	5	1	1	1	1	1
G-119	Hand Magnifier	30	6	6	6	6	6
G-120	Safety Glasses	200	40	40	40	40	40
G-121	Glass Microscope Slides Plain	15	3	3	3	3	3
G-122	Glass Cover Slips	30	6	6	6	6	6
G-123	Dissecting Pan	15	3	3	3	3	3
G-124	Meter Rule Meter Stick	15	3	3	3	3	3
G-125	Inclined Plane	15	3	3	3	3	3
G-126	Banana Plug Lead Stackable	5	1	1	1	1	1
G-127	Alligator Crocodile Clip Lead Medium Red and Black	5	1	1	1	1	1
G-128	Carbon Electrode Round	5	1	1	1	1	1
G-129	Prism Glass Equilateral	30	6	6	6	6	6
G-130	Prism Glass Right Angle	30	6	6	6	6	6
G-131	Slinky Spring Metal	15	3	3	3	3	3
G-132	Pipette Pump	30	6	6	6	6	6
G-133	Alcohol Lamp Burner	30	6	6	6	6	6
G-134	Manometer Demonstration	15	3	3	3	3	3

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-135	U Shape Tube	30	6	6	6	6	6
G-136	Glass Funnel	30	6	6	6	6	6
G-137	Glass Tube	5	1	1	1	1	1
G-138	Wooden Test Tube Holder	30	6	6	6	6	6
G-139	Digital Camera Eyepiece	30	6	6	6	6	6
G-140	Multipurpose Experiment Equipment Set	2	1	-	-	-	1
【Technology Lab】							
G-141	Hammer Drill	10	2	2	2	2	2
G-142	Angle Grinder	5	1	1	1	1	1
G-143	Jig Saw	10	2	2	2	2	2
G-144	Scroll Saw	10	2	2	2	2	2
G-145	Drill/Driver	30	6	6	6	6	6
G-146	Circular Saw	5	1	1	1	1	1
G-147	Combination Mitre/Table Saw	5	1	1	1	1	1
G-148	Router	5	1	1	1	1	1
G-149	Belt Sander	5	1	1	1	1	1
G-150	Finishing Sander	5	1	1	1	1	1
G-151	Drill Press	5	1	1	1	1	1
G-152	Benchtop Abrasive Cutoff Saw	5	1	1	1	1	1
G-153	Double Grinder	5	1	1	1	1	1
G-154	Mini Wood Lathe	5	1	1	1	1	1
G-155	Power Supply AC & DC	30	6	6	6	6	6
G-156	Electric Welding	5	1	1	1	1	1
G-157	Combination Pliers	30	6	6	6	6	6
G-158	Diagonal Cutting Pliers	30	6	6	6	6	6
G-159	Long Nose Pliers	30	6	6	6	6	6
G-160	Wire Stripping Pliers	30	6	6	6	6	6
G-161	Water Pump Pliers	30	6	6	6	6	6
G-162	Tower Pincers	30	6	6	6	6	6
G-163	Caustic Welding Tin	30	6	6	6	6	6
G-164	Soldering Gun	5	1	1	1	1	1

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-165	Adjustable Helping Hand with Magnifying Glass	35	7	7	7	7	7
G-166	Utility Knife	30	6	6	6	6	6
G-167	Meters Measure	30	6	6	6	6	6
G-168	Claw Hammer	30	6	6	6	6	6
G-169	Hammer	30	6	6	6	6	6
G-170	Phillips Screwdriver Set	30	6	6	6	6	6
G-171	Stubby Screwdriver Set	30	6	6	6	6	6
G-172	Voltage Tester	30	6	6	6	6	6
G-173	Safety Goggles & Ear Muffs	100	20	20	20	20	20
G-174	Tool Box	40	8	8	8	8	8
G-175	Multifunctional Parts Storage Box	20	4	4	4	4	4
G-176	Storage Cabinet	20	4	4	4	4	4
G-177	Sockets Sets	30	6	6	6	6	6
G-178	Combination Wrench Set	30	6	6	6	6	6
G-179	Screwdriver Bits Set	30	6	6	6	6	6
G-180	Step Drill Bit Set	10	2	2	2	2	2
G-181	Wood Flat Drills Bits	10	2	2	2	2	2
G-182	Rubber Hammer	30	6	6	6	6	6
G-183	Tool Hex Set	30	6	6	6	6	6
G-184	Hand Saw for Metal Cutting	30	6	6	6	6	6
G-185	Hand Copying Saw	30	6	6	6	6	6
G-186	Back Saw	30	6	6	6	6	6
G-187	Combination Saw	30	6	6	6	6	6
G-188	Adjustable Wrenches Set	30	6	6	6	6	6
G-189	Hot Glue Gun	30	6	6	6	6	6
G-190	Carpenters Square	30	6	6	6	6	6
G-191	Bevel Gage	30	6	6	6	6	6
G-192	Rasp for Wood	30	6	6	6	6	6
G-193	Curved Jaw Locking Pliers	30	6	6	6	6	6
G-194	Smoothing Plane	30	6	6	6	6	6
G-195	Hand Riveter and Aluminum Rivets Set	10	2	2	2	2	2

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-196	Straight Chisel Set	30	6	6	6	6	6
G-197	F Clamp	50	10	10	10	10	10
G-198	Offset Tin Snips	30	6	6	6	6	6
G-199	Magnetic Torpedo Level	30	6	6	6	6	6
G-200	Steel Bench Vise	10	2	2	2	2	2
G-201	Clamp on Vise	30	6	6	6	6	6
G-202	Staple Gun	30	6	6	6	6	6
G-203	Drill Bit Set	30	6	6	6	6	6
G-204	Hole Saw Set	10	2	2	2	2	2
G-205	Electronic Kit	50	10	10	10	10	10
G-206	FIRST LEGO LEAGUE System	5	1	1	1	1	1
G-207	Arduino Uno Microprocessor	20	10	-	-	-	10
G-208	Stepper Motor Drive	20	10	-	-	-	10
G-209	Bluetooth Module	20	10	-	-	-	10
G-210	Jumper Cables for Arduino Breadboard	30	6	6	6	6	6
G-211	Smart Robot Car Chassis Kit	20	10	-	-	-	10
G-212	Hand-held Digital Multi-meter	50	10	10	10	10	10
G-213	Test Board	75	15	15	15	15	15
G-214	Flat Head Wood Screws Set (type A)	5	1	1	1	1	1
G-215	Flat Head Wood Screws Set (type B)	5	1	1	1	1	1
G-216	Flat Head Wood Screws Set (type C)	5	1	1	1	1	1
G-217	Iron Panel Pins (type A)	5	1	1	1	1	1
G-218	Iron Panel Pins (type B)	5	1	1	1	1	1
G-219	Iron Panel Pins (type C)	5	1	1	1	1	1
G-220	Phillips Pan Head Sheet Metal (type A)	5	1	1	1	1	1
G-221	Phillips Pan Head Sheet Metal (type B)	5	1	1	1	1	1
G-222	Phillips Pan Head Sheet Metal (type C)	5	1	1	1	1	1
G-223	Chemical Capacitors	1000	200	200	200	200	200
G-224	Ceramic Capacitors	1000	200	200	200	200	200
G-225	Resistors	1250	250	250	250	250	250
G-226	Variable Resistor	1000	200	200	200	200	200
G-227	Voltage Dependent Resistor (VDR)	250	50	50	50	50	50

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-228	Light Dependent Resistor (LDR)	250	50	50	50	50	50
G-229	Diode	800	160	160	160	160	160
G-230	Light Emitting LED	2500	500	500	500	500	500
G-231	Zener Diode	1000	200	200	200	200	200
G-232	Fuse Box	500	100	100	100	100	100
G-233	Thermistor	500	100	100	100	100	100
G-234	Soldering Tin Wire Reel	250	50	50	50	50	50
G-235	Switches (type A)	100	20	20	20	20	20
G-236	Switches (type B)	100	20	20	20	20	20
G-237	Switches (type C)	100	20	20	20	20	20
G-238	Switches (type D)	100	20	20	20	20	20
G-239	Switches (type E)	100	20	20	20	20	20
G-240	IC Timer	250	50	50	50	50	50
G-241	Transistor	1000	200	200	200	200	200
G-242	IC TTL	625	125	125	125	125	125
G-243	IC LM386	50	10	10	10	10	10
G-244	IC LM324	50	10	10	10	10	10
G-245	IC LM311	50	10	10	10	10	10
G-246	IC LM35	50	10	10	10	10	10
G-247	LM 7805, 7812	50	10	10	10	10	10
G-248	TDI 2003	50	10	10	10	10	10
G-249	IR-Rx	100	20	20	20	20	20
G-250	IR-Tx	100	20	20	20	20	20
G-251	7- Segment	20	10	-	-	-	10
G-252	Relay (type A)	100	20	20	20	20	20
G-253	Relay (type B)	100	20	20	20	20	20
G-254	Relay (type C)	100	20	20	20	20	20
G-255	Relay (type D)	100	20	20	20	20	20
G-256	Relay (type E)	50	10	10	10	10	10
G-257	Microswitch with Lever	60	12	12	12	12	12
G-258	Circuit Breakers	50	10	10	10	10	10
G-259	Electrical Distribution Board	5	1	1	1	1	1

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-260	Switch	60	12	12	12	12	12
G-261	Speakers	250	50	50	50	50	50
G-262	Microphone	250	50	50	50	50	50
G-263	DC Motor	250	50	50	50	50	50
G-264	Electric Socket	50	10	10	10	10	10
G-265	OPTO Isolator	100	50	-	-	-	50
G-266	Digital Oscilloscope	25	5	5	5	5	5
G-267	Stepper Motor	250	50	50	50	50	50
G-268	Computer(Laptop type)	105	21	21	21	21	21
G-269	Laser Printer	10	2	2	2	2	2
G-270	Interactive Projector	5	1	1	1	1	1
【Resource Room】							
G-271	Computer(Laptop type)	3	-	1	1	1	-
G-272	Laser Printer	3	-	1	1	1	-
G-273	Educational Toys Set	3	-	1	1	1	-
G-274	Educational Tools Set	3	-	1	1	1	-
G-275	Musical Kit	3	-	1	1	1	-
【Kindergarten】							
G-276	Round Table	15	-	5	5	5	-
G-277	Chair	90	-	30	30	30	-
G-278	Wood Shelf (type A)	6	-	2	2	2	-
G-279	Wood Shelf (type B)	3	-	1	1	1	-
G-280	Sponge Mattress	3	-	1	1	1	-
G-281	Parachute	15	-	5	5	5	-
G-282	Jumping Sack	6	-	2	2	2	-
G-283	Bed Room Set	3	-	1	1	1	-
G-284	Medical Corner Set	3	-	1	1	1	-
G-285	Kitchen Corner(Oven)	3	-	1	1	1	-
G-286	Kitchen Corner(Refrigerator)	3	-	1	1	1	-
G-287	Kitchen Corner(Sink)	3	-	1	1	1	-
G-288	Kitchen Corner(Washing Machine)	3	-	1	1	1	-
G-289	Kitchen Corner(Kitchen Closet)	3	-	1	1	1	-

No.	Name of Equipment	Quantity					
		Total Q'ty	G-1	G-3	G-4	G-5	G-6
G-290	Colors Puzzle	3	-	1	1	1	-
G-291	Before and After Puzzle	3	-	1	1	1	-
G-292	Shape and Shade Puzzle	3	-	1	1	1	-
G-293	Job and Tools Puzzle	3	-	1	1	1	-
G-294	Relation Puzzle	3	-	1	1	1	-
G-295	Opposite Puzzle	3	-	1	1	1	-
G-296	Drawing Board Set	3	-	1	1	1	-
G-297	Beads Box	3	-	1	1	1	-
G-298	Musical Kit	3	-	1	1	1	-
G-299	Wood Geometric Shapes	3	-	1	1	1	-
G-300	Large Beads Toy	3	-	1	1	1	-
G-301	Computer(Laptop type)	3	-	1	1	1	-
G-302	Laser Printer	3	-	1	1	1	-
G-303	Swing (2 persons)	3	-	1	1	1	-
G-304	Seesaw	3	-	1	1	1	-
G-305	Slide	3	-	1	1	1	-
【Others(Network Equipment)】							
G-306	Firewall	5	1	1	1	1	1
G-307	Access Point	40	8	8	8	8	8