

(ANNEX-7)

Plan of Operation & Maintenance

(1) O&M Works

Operation and maintenance works are summarized as following three categories;

- 1) Daily O&M (one time per day)
 - Cleaning of Site and Array of PV system
 - Visual checking of operation conditions, alarms and corrosion on Array, Power conditioner, 11 kV switchgear and transformer
- 2) Regular Service (every 2 month)
- 3) Repair and Replacement of Parts (depend on necessity)

(2) Assignment Plan for Operation and Maintenance Staffs

Assignment plan for the operation and maintenance staffs is proposed as follows.

Table -1 Assignment Plan for O & M

Position	Number of O&M Staff	Organization
Management staff Engineer or Technician	2	MOW
Regular Service Hired Electrical Engineer or maintenance company	2	MOF (to contract out)
Daily O&M staff O&M	2	UB or MOW
Total	6	

1) Assignment plan for Daily Operation and Maintenance staffs

Two operators from UB or MOW are assigned for daily checking of operation conditions, alarms and cleaning of site and Array of PV system. If they find out any abnormality, they must inform of the situations to MOW staffs.

2) Assignment plan for Regular Service and maintenance staffs

Maintenance staffs conduct periodic inspection to PV Array, Power Conditioner, 11kV Switchgear, Transformer and Power Cables for maintaining PV system in good condition. MOF contract out to hired Engineers who have a main role for regular service. They must submit maintenance reports to MOW every two

months.

3) Contract out maintenance works

The maintenance works for the Government buildings are carried out by private contractors. GOB is going to take similar measure and also recruit a hired engineer from a private contractor for PV system.

4) Management staffs

Engineer or Technician shall be nominated from maintenance staff for traffic signal and road lighting in MOW. Engineer from MOW have role to safe guard operation and maintenance manual and manage the Operation and Maintenance works with UB (or MOW staff) and a contractor to be contracted out for sustainable maintenance.

(3) Personnels resources are follows;

- 1) Daily O&M (Visual Checking of one time per day and cleaning) from UB or MOW
- 2) Regular Service (every 2 month) to be contracted out to private maintenance contractor
- 3) Repair and Replacement of Parts (depend on necessity) to be contracted out to private maintenance contractor
- 4) Management staffs from MOW

(4) Operation and Maintenance Cost

Equipment Maintenance Cost

Maintenance cost per year is estimated as 0.1 % of the equipment cost.

Employment Cost

As implementation organization, electrical engineers are limited in MOW. It is considered to layout two engineers or technicians from maintenance section of MOW. Also, O & M staffs from UB or MOW and maintenance staffs to be contracted out to private contractor are target for the technical training. And they will be trained as O&M staffs by the Contractor's Engineer during construction and test. On the other hand, technical training by the Consultant as a Soft Component shall be executed at the end of the construction period.

According to the above explanation, six staffs are required to layout for management and O&M of PV system. Therefore, employment cost may be required for contracting out and UB personnels.

Contract out Cost

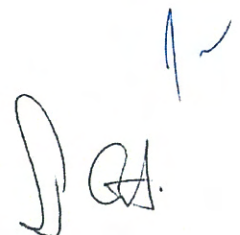
It is necessary to take budget for regular maintenance works for PV system. Contract out cost are estimated by regular maintenance time (6 times per year).

Land leasing Cost

A lease agreement will be prepared including security matters between GOB and UB on approximately 2 Acres (8,000m²) premises at the UB Central Campus site in Belmopan. The cost will be mentioned in the agreement.

Management and other Cost

In general, the maintenance and the other cost are estimated as 1% of generated power (kWh). Cost of management and the others for new installed PV system are calculated in the same ratio. The O&M cost will be estimated based on the 1 % of the results calculation of multiply annual power output by unit power tariff.



Minutes of Discussions
on
the Preparatory Survey (Outline Design)
on
The Project for Introduction of Clean Energy by Solar Electricity Generation System
in Belize

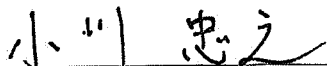
(Explanation on Draft Final Report)

In August 2009, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched to Belize a Preparatory Survey Team on the Project for Introduction of Clean Energy by Solar Electricity Generation System (hereinafter referred to as "the Project"), to hold discussions with relevant officials of the Government of Belize to conduct field surveys and to make technical evaluations. After discussing results of the Preparatory Survey in Japan, JICA prepared a Draft Final Report of the Outline Design.

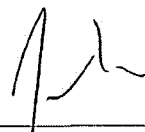
In order to explain and to consult with the concerned officials of Belizean side on the components of the Draft Final Report, JICA dispatched to Belize a Preparatory Survey Team for Draft Final Report Explanation (hereinafter referred to as "the Team"), which is headed by Mr. Tadayuki OGAWA, Senior Adviser of JICA, from August 29 to September 4, 2010.

As a result of the discussions held between JICA and concerned officials of the Government of Belize, the main items described on the attached sheets are confirmed.


Belmopan, September 3, 2010



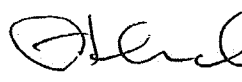
Tadayuki OGAWA
Leader
Preparatory Survey Team
Japan International Cooperation Agency
JAPAN



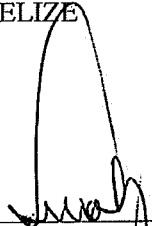
Joseph WAIGHT
Financial Secretary
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ATTACHMENT

1. Components of the Draft Final Report

The Ministry of Finance (hereinafter referred to as "MOF") and the Ministry of Works (hereinafter referred to as "MOW") accepted in principle the components of the Draft Final Report explained by the Team. The Belizean side shall inform the Team in writing of the comments on the Draft Final Report and the Draft Technical Specification by September 10, 2010.

2. Program Grant Aid for Environment and Climate Change of the Government of Japan

The Belizean side understood the contents of the Minutes of Discussions signed by JICA and the Belizean side on August 14, 2009 (hereinafter referred to as "the previous M/D"), and agreed to take the necessary measures confirmed on the previous M/D for smooth implementation of the Project following procedures of the Program Grant Aid for Environment and Climate Change of the Government of Japan as shown in **Annex-1**.

3. Confirmation of progress made from the previous M/D

3.1. Project site and capacity of PV system

JICA and the Belizean side confirmed that project site is University of Belize (hereinafter referred to as "UB"). The Team explained that the capacity of solar photovoltaic system (hereinafter referred to as "PV system") can be increased up to 350kWp from 200kWp in the previous M/D based on the result of outline design and cost estimation. The Belizean side accepted the change of PV capacity. Because of the change of the capacity of PV system, total land required will be 8,265m² (≒2.04 acres).

3.2. Responsible Organization and Implementing Agency

JICA and the Belizean side confirmed that the MOF is the responsible organization, and the MOW is the implementing agency for the Project.

4. Equipment to be procured

The Team explained that the list of equipment to be procured is as shown in **Annex-2** based on the result of the 4th Preparatory Survey conducted in June 2010. After discussions, JICA and the Belizean side agreed to procure the major equipment such as PV module, Power Conditioner and Transformer from Japan.

5. Procurement Process for the Project

JICA and the Belizean side reconfirmed that procurement process will be supervised by the Procurement Agent (hereinafter referred to as "the Agent") who is recommended by the Government of Japan through necessary consultations with the Consultative Committee (hereinafter referred to as "the Committee"). JICA and the Belizean side also reconfirmed the roles of the Agent as follows;

- (1) The Agent will render the services stipulated in the provisions of the G/A (Grant Agreement) as well as the E/N (Exchange of Notes) for the Project;
- (2) The Agent will implement the procurement procedures necessary for the Project according to the provisions of the G/A and E/N and any other relevant guidelines
- (3) JICA will provide a Final Report to the Agent; and
- (4) The Agent will undertake the procurement according to the contents of the Final Report of the Outline Design.

The Team explained that if tender price exceeds the amount agreed on G/A and E/N, quantity or/and items of the equipment would be reduced until the cost for the Project comes down to the amount agreed on G/A and E/N.

The Belizean side agreed that if there is a remaining amount of the cost for the Project after tenders, additional items of equipment would be procured based on priorities which will be set by the Committee.

The Belizean side also understood that decision on addition or reduction of the equipment to be procured would be made through necessary consultations with members of the Committee.

6. Project Cost

The Belizean side agreed that the cost for the Project should not exceed the upper limit of amount agreed on in E/N. JICA and the Belizean side also agreed that the cost for the Project contains procurement cost of equipment, the cost for transportation up to the site for the Project, installation cost, the Consultant fee, the Agent fee, and the cost for soft component for the technical support of operation and maintenance (O&M) of equipment.

7. Confidentiality of the Project

(1) Detailed specifications of the Facilities and Equipment

JICA and the Belizean side agreed that all the information related to the Project including detailed drawings and specifications of the facilities and equipment and other technical information shall not be disclosed to any outside parties (i.e. outside of JICA, the Belizean side and the Agent) before conclusion of all the contract(s) for the Project.

(2) Confidentiality of the Cost Estimation

The Team explained the estimated cost of the Project as described in Annex-3. JICA and the Belizean side agreed that the estimated cost for the Project should never be duplicated or disclosed to any outside parties (i.e. outside of JICA, the Belizean side and the Agent) before tender for the Project. The Belizean side understood that the estimated cost for the Project attached as Annex-3 is not final and is subject to change as a result of examination through revision of the Outline Design Study.

8. The Consultative Committee

The Belizean side agreed that the MOW will chair the Committee in order to facilitate consultation and procurement process. The Terms of Reference of the Committee are outlined in Annex-9 of the previous M/D.

The members of the Committee are as follows:

- (1) Representative(s) of MOW (Chair)
- (2) Representative(s) of MOF
- (3) Representative(s) of Ministry of Economic Development, Commerce, Industry & Consumer Protection
- (4) Representative(s) of UB
- (5) Representative(s) of Belize Electricity Limited (BEL)
- (6) Representative(s) of JICA Belize Office

The first meeting of the Committee shall be held after signing of the consulting services agreement between the Agent and the Consultant. Further meetings shall be held upon the request of either the Belizean side or the Japanese side. The Procurement Agent may advise JICA and the Belizean side on the necessity to call for a meeting of the Committee.

9. Other Relevant Issues

9.1. Undertakings required by the Belizean side

The Team requested the Belizean side to abide by the following undertakings by the Belizean side in addition to major undertakings described in the previous M/D and in Annex-4 of this M/D. The Belizean side agreed to do so.

(1) Land usage for PV system

The owner of the land to be used for the following purposes of the Project is UB. The Belizean side has reconfirmed that there is no objection to use the land for the Project.

- 1) for PV arrays
- 2) for underground cables (22kV and 600V) including communication cables
- 3) for power transformer and 11kV metal enclosed cubicle
- 4) for control house
- 5) for warehouse for spare parts

The Government of Belize obtained the official approval letter for the usage of the above land by UB on June 25, 2010. The Belizean side agreed that the Memorandum of Understanding for the above land between UB and the MOF shall be concluded prior to opening General Procurement Notice by the Agent.

(2) Environmental and Social Considerations

The Belizean side reconfirmed that both Environmental Impact Assessment (EIA) and Initial Environmental Examination (IEE) are not required for the implementation of the Project. Belizean side shall obtain official confirmation letter from Department of Environment by September 15, 2010.

(3) Official Permission for Power Generation by Public Utilities Commission

The Belizean side agreed that the official permission for the installation of PV system interconnected with national grid shall be obtained by MOW from PUC prior to opening General Procurement Notice by the Agent. Dedicate account for the operation and maintenance (O&M) of the PV system shall be opened by MOF before the completion of the installation work.

(4) Application of the Related Laws and Regulations

- 1) The Belizean side agreed that structural design for frames to mount PV panels and power conditioner house shall comply with the Architectural Codes and Standards in Japan in consideration of relevant laws and regulations as well as natural conditions in Belize.
- 2) Electrical design for Grid-connected PV system should be conducted in accordance with JIS/JEC/JEM/JCS and BEL Standard (IEC).

(5) Customs and Tax Exemption

The Belizean side agreed that MOF shall be responsible for the exemption of all customs, tax, levies and duties incurred in Belize for the implementation of the Project.

(6) Assignment of Counterpart Personnel

1) Overall project management

The Belizean side assigned following personnel for overall project management and coordination.

MOF: Ms. Raquel GUERRA

MOW: Mr. David NOVELO

2) Soft Component

The Belizean side agreed to assign necessary personnel in accordance with the soft component plan proposed by the Team.

MOW will assign the focal Counterpart Personnel for the soft component.

Other personnel will be assigned from other organizations as required at the time of

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project implementation.

(7) Security against vandalism

The Belizean side agreed to take necessary measures against vandalism at the project site, such as i) regular patrol (24 hours a day / 7 days a week) and ii) installation of sensor with alarm, to secure the PV system.

9.2. Ownership and Operation and Maintenance (O&M) Responsibilities of Equipment

The Belizean side has reconfirmed that the MOF is the final owner of Equipment and responsible for securing necessary budget and personnel for operation and maintenance (O&M) of Grid-connected PV system procured and installed under the Project. The Belizean side confirmed that the Equipment procured under the Project shall be operated and maintained by MOW and UB with the necessary assistance by Belize Electricity Limited (BEL) and other related organizations.

<List of Annex>

Annex-1 Program Grant Aid for Environment and Climate Change

Annex-2 List of Major Equipment

Annex-3 Project Cost Estimation (Confidential)

Annex-4 Major Undertakings to be taken by each Party

Annex-5 Layout Drawing of PV system

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Program Grant Aid for Environment and Climate Change
of the Government of Japan
 (Provisional)

The Grant Aid provides a recipient country (hereafter referred to as “the Recipient”) with non-reimbursable funds to procure the facilities, equipment, and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

Based on “Cool Earth Partnership” initiative of the Government of Japan, the Program Grant Aid for Environment and Climate Change (hereafter referred to as “GAEC”) aims to mitigate effects of global warming by reducing GHGs emission (mitigation; e.g. improvement of energy efficiency) and to take adaptive measures (adaptation; e.g. measures against disasters related to climate change, including disaster prevention such as enhancing disaster risk management). GAEC may contain multiple components that can be combined to effectively meet these needs.

1. Procedures for GAEC

GAEC is executed through the following procedures.

Preparatory Survey 1	Preparatory Survey for project identification conducted by Japan International Cooperation Agency (JICA)
Application	Request made by a recipient country
Appraisal & Approval	Appraisal by the Government of Japan and Approval by the Cabinet
Determination of Implementation	The Notes exchanged between the Government of Japan and the Recipient Country
Grant Agreement (hereinafter referred to as the “G/A”)	Agreement concluded between JICA and the Recipient
Preparatory Survey 2	Preparatory Survey for design conducted by JICA
Implementation	Procurement through the Procurement Agency by the Recipient

Firstly, if the candidate project for a GAEC is identified by the Recipient and the Government of Japan, the Government of Japan (the Ministry of Foreign Affairs) examines it whether it is eligible for GAEC. When the request is deemed appropriate, JICA, in consultation with the Government of Japan, conducts the Preparatory Survey (hereafter referred to as “the Survey”) on the candidate project as Phase 1 of the Survey with Japanese consulting firms.

Secondly, the Recipient submits the official request to the Government of Japan, while the appropriateness, necessity and the basic components of the Program are examined in the course of Phase 1 of the Survey,

Thirdly, the Government of Japan appraises the Program to see whether it is suitable for Japan's GAEC, based on the Survey report prepared by JICA, and the results are then

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submitted to the Cabinet for approval.

Fourthly, the Program, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the Recipient.

Fifthly, JICA engages Grant Agreement (G/A) with the Recipient and executes the Grant by making payments of the amount agreed in the E/N and strictly monitors that the funds of the Grant are properly and effectively used.

Procurement Management Agent is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts) for GAEC on behalf of the Recipient. The Agent is an impartial and specialized organization that will render services according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the Agreed Minutes ("A/M").

2. Preparatory Survey

1) Contents of the Survey

The purpose of the Preparatory Survey (hereafter referred to as "the Survey"), conducted by JICA on a requested project (hereafter referred to as "the Project"), is to provide the basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Survey are as follows:

- Confirmation of background, objectives, and benefits of the Project and institutional capacity of agencies and communities concerned of the Recipient necessary for project implementation.
- Evaluation of relevance of the Project to be implemented under the Grant Aid Scheme for Environment and Climate Change from a technical, social, and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of the design of the Project and reference document for tender.
- Estimation of cost for the Project.

The contents of the original request will be modified, as found necessary, in the design of the Project according to the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the Recipient to take whatever measures necessary to ensure its responsibility in implementing the Project. Such measures must be guaranteed even if they may fall outside the jurisdiction of the implementing organization of the Recipient. This has been confirmed by all relevant organizations of the Recipient through the Minutes of Discussions.

2) Selection of consulting firms

For the smooth implementation of the Survey, JICA will conduct the Survey with registered consulting firms. JICA selects the firms based on proposals submitted by firms with interest in implementing the Survey. The firms selected will carry out the Preparatory Survey and prepare a report, based on the terms of reference set by JICA.

3. Implementation of GAEC after the E/N

1) Exchange of Notes (E/N)

The content of GAEC will be determined in accordance with the Notes exchanged by the two Governments concerned, in which items including, objectives of the project, period of execution, conditions and amount of the Grant Aid are confirmed.

2) Details of Procedures

Details of procedures on procurement and services under GAEC will be agreed between the authorities of the two governments concerned at the time of the signing of the G/A.

Essential points to be agreed are outlined as follows:

- a) JICA will supervise the implementation of the Project.
 - b) Products and services will be procured and provided in accordance with JICA's "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change."
 - c) The Recipient will conclude a contract with the Agent.
 - d) The Agent is the representative acting in the name of the Recipient concerning all transfers of funds to the Agent.
- 3) Focal points of "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change"
- a) The Agent
The Agent is the organization, which provides procurement of products and services on behalf of the Recipient according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the A/M.

b) Agent Agreement

The Recipient will conclude the Agent Agreement, in principle, within two months after the signing of the G/A, in accordance with the A/M. The scope of the Agent's services will be clearly specified in the Agent Agreement.

c) Approval of the Agent Agreement

The Agent Agreement is prepared as two identical documents and the copy of the Agent Agreement will be submitted to JICA by the Recipient through the Agent. JICA confirms whether the Agent Agreement is concluded in conformity with the E/N, A/M, and G/A and the Procurement Guidelines for the Program Grant Aid for Environment and Climate Change then approves the Agent Agreement.

The Agent Agreement concluded between the Recipient and the Agent will become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement will stipulate that "Regarding all transfers of the fund to the Agent, the Recipient will designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization ("the BDA") to conduct the transfer of the fund (hereinafter referred to as "the Advances") to the Procurement Account from the Recipient Account.

The Agent Agreement will clearly state that the payment to the Agent will be made in Japanese yen from the Advances and that the final payment to the Agent will be made when the total remaining amount become less than three percent (3%) of the Grant and its

accrued interests excluding the Agent's fees.

e) Products and Services Eligible for Procurement

Products and services to be procured will be selected from those defined in the G/A.

f) Firm and Consultant

The firm and consultant who would contract with the Agent shall be Japanese Nationals.

The consultants that will be employed to do detailed design and supervise the work for the Project, will, however, be in principle, Japanese nationals recommended by JICA for the purpose of maintaining technical consistency with the Study.

g) Method of Procurement

When conducting the procurement, sufficient attention will be paid to transparency in selecting the firms and for this purpose, competitive tendering will be employed in principle.

h) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GAEC.

The rights and obligations of the Recipient, the Agent and the firms supplying products and services should be stipulated in the tender documents to be prepared by the Agent. Aside from this, the tender documents will be prepared in consultation with the Recipient.

i) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether the prospective tenderers have the capability of concluding the contracts.

For this, the following points should be taken into consideration:

- (1) Experience and past performance in contracts of similar kind
- (2) Financial credibility (including assets such as real estate)
- (3) Existence of offices and other items to be specified in the tender documents.
- (4) Their potentialities to use necessary personnel and facilities.

j) Tender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents.

Those tenderers which substantially conform to the technical specifications and other stipulations of the tender documents will be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price will be designated as the successful tenderer.

The Agent will submit a detailed evaluation report of tenders to JICA for its information, while the notification of the results to the tenderers will not be premised on the confirmation by JICA.

k) Additional procurement

If there is any remaining balance after the competitive and/or selective tendering and/or

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direct negotiation for a contract, and if the Recipient would like to procure additional items, the Agent is allowed to conduct this additional procurement, following the points mentioned below:

(1) Procurement of same products and services

When the products and services to be additionally procured are identical with the initial tender and a competitive tendering is judged not efficient, additional procurement can be conducted by a negotiated contract with the successful tenderer of the initial tender.

(2) Other procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be conducted through competitive tendering. In this case, the products and services for additional procurement will be selected from among those in accordance with the G/A.

l) Conclusion of the Contracts

In order to procure products and services in accordance with the guideline, the Agent will conclude contracts with firms selected by tendering or other methods.

m) Terms of Payment

The contract will clearly state the terms of payment. The Agent will make payment from the "advances," against the submission of the necessary documents from the firm on the basis of the conditions specified in the contract. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the firms on the conditions that such firms submit the advance payment guarantee worth the amount of the advance payment to the Agent.

4) Undertakings required by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the Recipient is required to undertake necessary measures as the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the Project.
- b) To provide facilities for distributing electricity, water supply and drainage and other incidental facilities in and around the sites.
- c) To ensure all the expense and prompt execution for unloading, customs clearing at the port of disembarkation and domestic transportation of products purchased under the Grant Aid,
- d) To ensure that customs duty, internal taxes and other fiscal levies that may be imposed in the Recipient with respect to the purchase of the Components and the Agent's services will be exempted by the Government of the Recipient.
- e) To accord all the concerned parties, whose services may be required in connection with supply of the products and services under the contracts, such facilities as may be necessary for their entry into the Recipient and stay therein for the performance of their work.

5) "Proper use of funds"

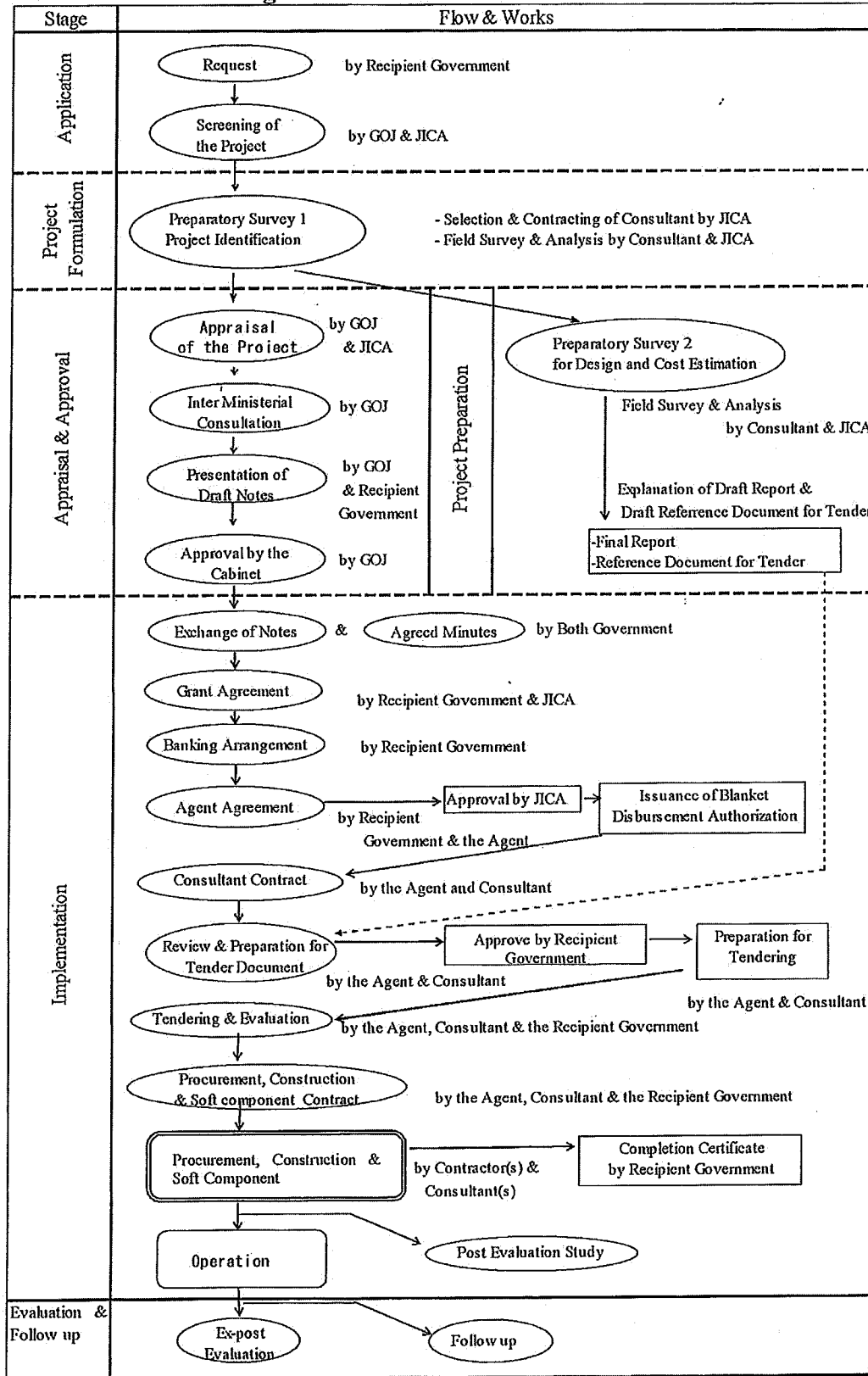
The Recipient is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign personnel necessary for this operation and maintenance (O&M) as well as to bear all the expenses other than those covered by the Grant Aid.

6) "Export and Re-export" of products

The products purchased under the Grant and its accrued interest will not be exported or re-exported from the Recipient.

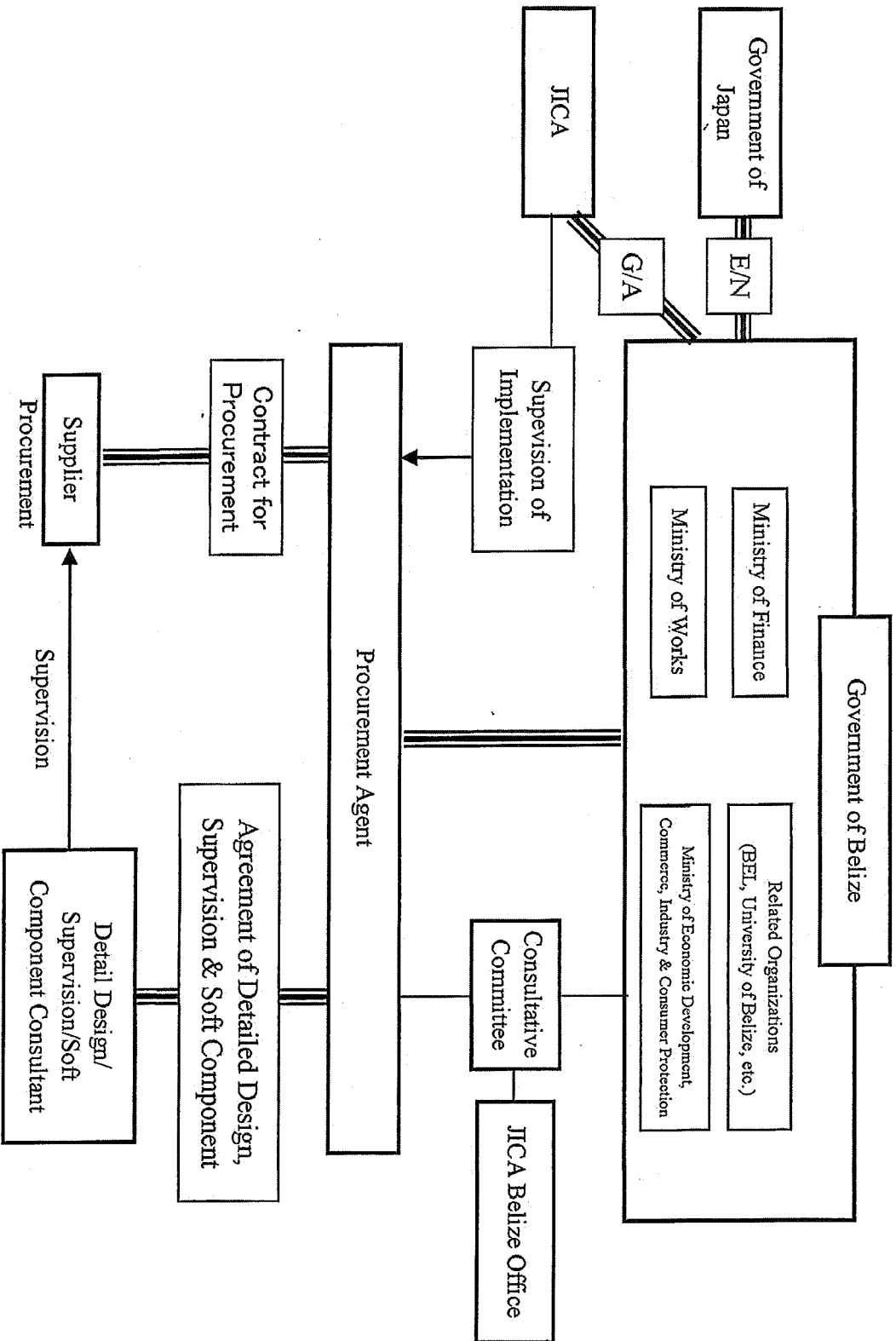
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General Flow of Program Grant Aid for Environment and Climate Change



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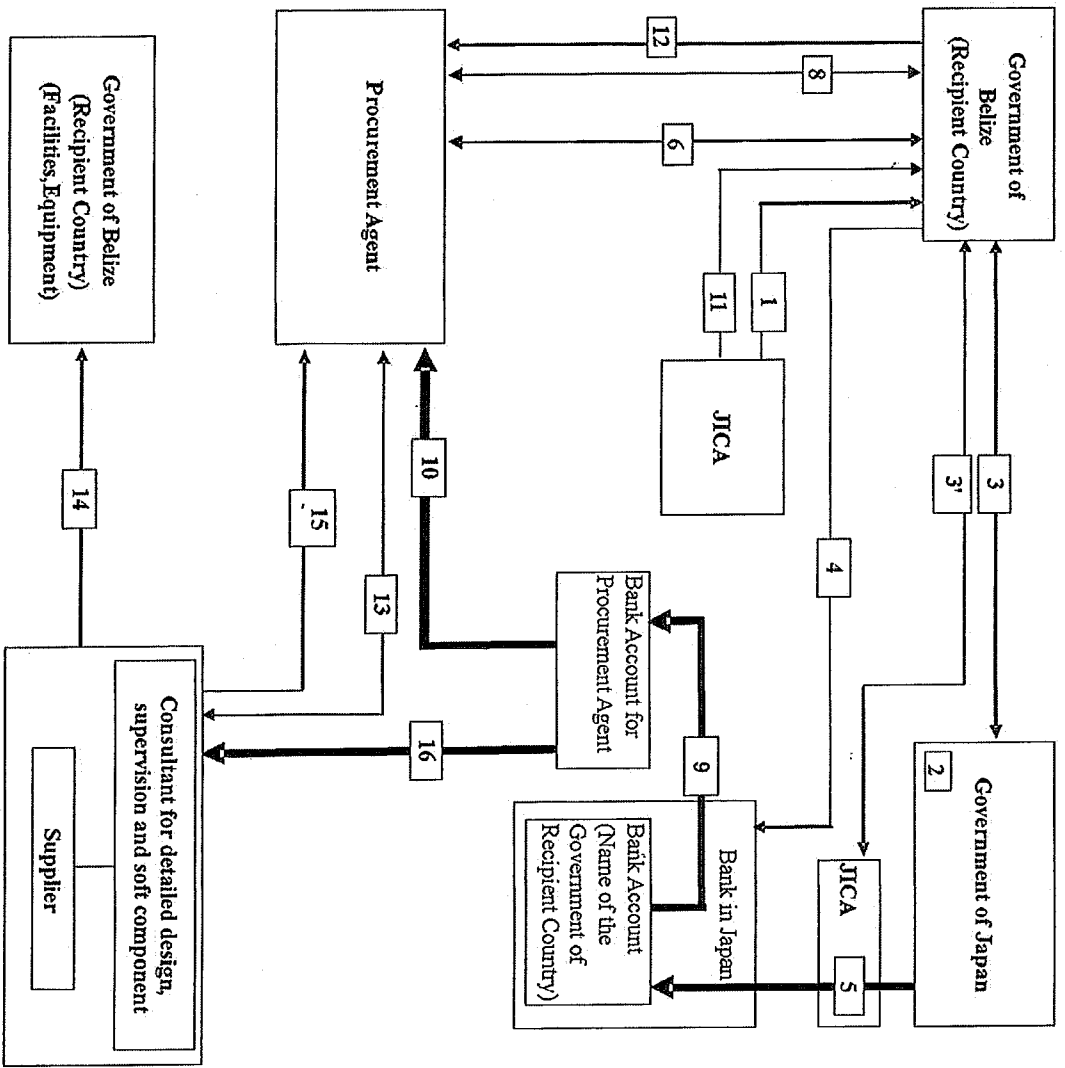
Project Implementation System



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Flow of Funds for Project Implementation

→ Implementation Flow
 ⇨ Cash Flow

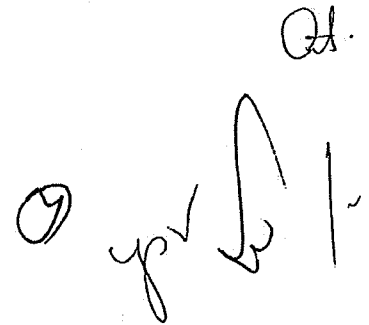


- 1 Preparatory Survey / Reference Document for Tender
- 2 Approval of Cabinet
- 3 Signing of Exchange of Notes (EN)
- 3' Signing of Grant Agreement (G/A)
- 4 Banking Arrangement (B/A)
- 5 Disbursement of Funds from the Government of Japan
- 6 Signing of Agent Agreement (A/A) + BDA
- 7 N/A
- 8 Decision of Project Components
- 9 Transfer of Funds
- 10 Payment of Remuneration for Agent
- 11 Recommendation of Consultant for Detailed Design/Supervision (JTCA -> Government of Belize)
- 12 Recommendation of Consultant for Detailed Design / Supervision (Government of Belize -> Procurement Agent)
- 13 Conclusion of Contract
- 14 Construction and Procurement
- 15 Application for Payment
- 16 Payment

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List of Major Equipment

Components	Specifications	Qty	unit	Purpose
PV Module	Type: Silicon Crystal Module capacity: not less than 180Wp Total array capacity: more than 350kWp	1	lot	To generation power by solar
Mounting structure for PV module	Material: hot dip galvanizing steel	1	lot	To support PV module (arrays)
Junction Box	Construction: Outdoor, hanging type Equipment : line breaker, circuit isolator, lightning protection device, reverse flow diode	1	lot	To collect DC power of PV modules.
Power conditioner	Construction: Indoor, independent type Main circuit type: self-exciting voltage type Switching type: High frequency PWM Rated power output : more than 350kW Wire connection 3phase 3 wire, or 3 phase 4 wire Rated output voltage: AC400V or 230V Efficiency: more than 90 % Grid-connection protection function: UVR, OVR, UFR, OFR, islanding operation prevention (passive, active detection) , prevent power supply after recovery	1	lot	To convert DC voltage by PV modules to AC voltage for connecting load and grid.
Outdoor step up transformer	3-phase, 500kVA, 11kV/400V/230V, 3 phases 4 wire, 60Hz, Outdoor, natural oil cooling type (ONAN), off-load tap changer $\pm 2.5\%$, $\pm 5\%$	1	set	To step up 400V voltage to 11kV grid voltage
11 kV Switchgear for grid connection	Outdoor, metal enclosed cubicle type switchgear Equipment: Switchgear: 11 kV VCB, DS, LA, CT, VT Protective Relay: OCGR, OVGR, OCR Measuring: V, A, W, PF, WH	1	set	To connect 11kV grid
Low voltage distribution board	Indoor-hanging or independent Equipment: Molded case circuit breaker (MCCB)	1	lot	To supply station use AC power for PV control system and auxiliary equipment
Monitoring display	Outdoor type with supporting structure Display data : power output/day(kWh), instantaneous power potential(kW), irradiation (kWh/m ²), ambient temperature(°C), CO ₂ emission(kg-C)	1	set	To display the monitoring data
Data management and monitoring system	1) Pyranometer 2) Thermometer 3) Data logger 4) Monitoring equipment (indoor)	1	set	To monitor meteorological data and system operating conditions
Control House	Steel construction W2,400 x L7,200 x H2,460 Accessories: door, light, air conditioner, dial thermometer Equipment: Power conditioner, load distribution board, monitoring device	1	unit	To install power conditioners, distribution board and data management and monitoring system



Project Cost Estimation (Confidential)

The project cost for solar PV system is estimated hereunder. However, it is noted that the estimated cost is subject to further examination for Approval of Grant Aid.

1. Costs to be borne by Japanese side:

The break down of the estimated project cost to be borne by Japanese side is as follows

This Page is closed due to the confidentiality.

2. Costs to be borne by Belizean side: Approximately US\$ 23,500 (equivalent to ¥2,170,000)

Initial expense for installation of PV system: Approximately US\$ 23,500 (equivalent to ¥2,170,000). The breakdown of the estimated project cost to be borne by Belizean side is as follows:

1 US\$ = ¥ 92.35

Item	Amount (US \$)	Equivalent (JP ¥)
1. Repair of access road	8,000	740,000
2. Extension of 11kV distribution line (approx. 28m)	9,000	830,000
3. Security Illumination	6,500	600,000
Total (1+2+3)	23,500	2,170,000

In addition to the above, the expenditures for Bank Agreement (B/A) and Authorization to Pay (A/P) for obtaining import permit from the government and others such as will be arranged.

3. Operation and Maintenance (O&M) Costs (annual cost): Approximately US\$ 14,850 (equivalent to ¥1,370,000)

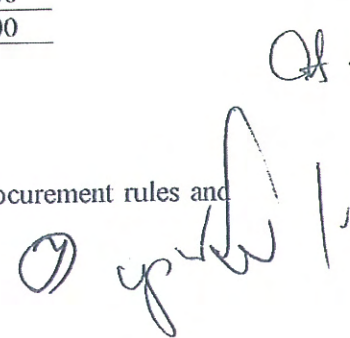
The budget for annual operation cost of PV power plant will be arranged for procurement of spare parts, operation and maintenance (O&M) staff management, periodical inspection of the equipment by BEL and general expenses so as to ensure the sustainable operation of PV system. The breakdown of operation and maintenance (O&M) costs of the PV system are as follows:

1 US\$ = ¥ 92.35

Items	Amount (US\$)	Equivalent (JP ¥)
1. Land lease cost	2,500	230,000
2. Equipment maintenance cost	5,000	460,000
3. Contract out cost for BEL	6,500	600,000
4. Management cost and others	850	80,000
Total (1+2+3+4)	14,850	1,370,000

4. Costs estimate conditions

- (1) Time of cost estimation: July 2010
- (2) Current exchange rates: US\$ 1.00=JP¥92.35
- (3) Others: The above cost estimation was made according to the procurement rules and guideline of Japanese Grant Aid.



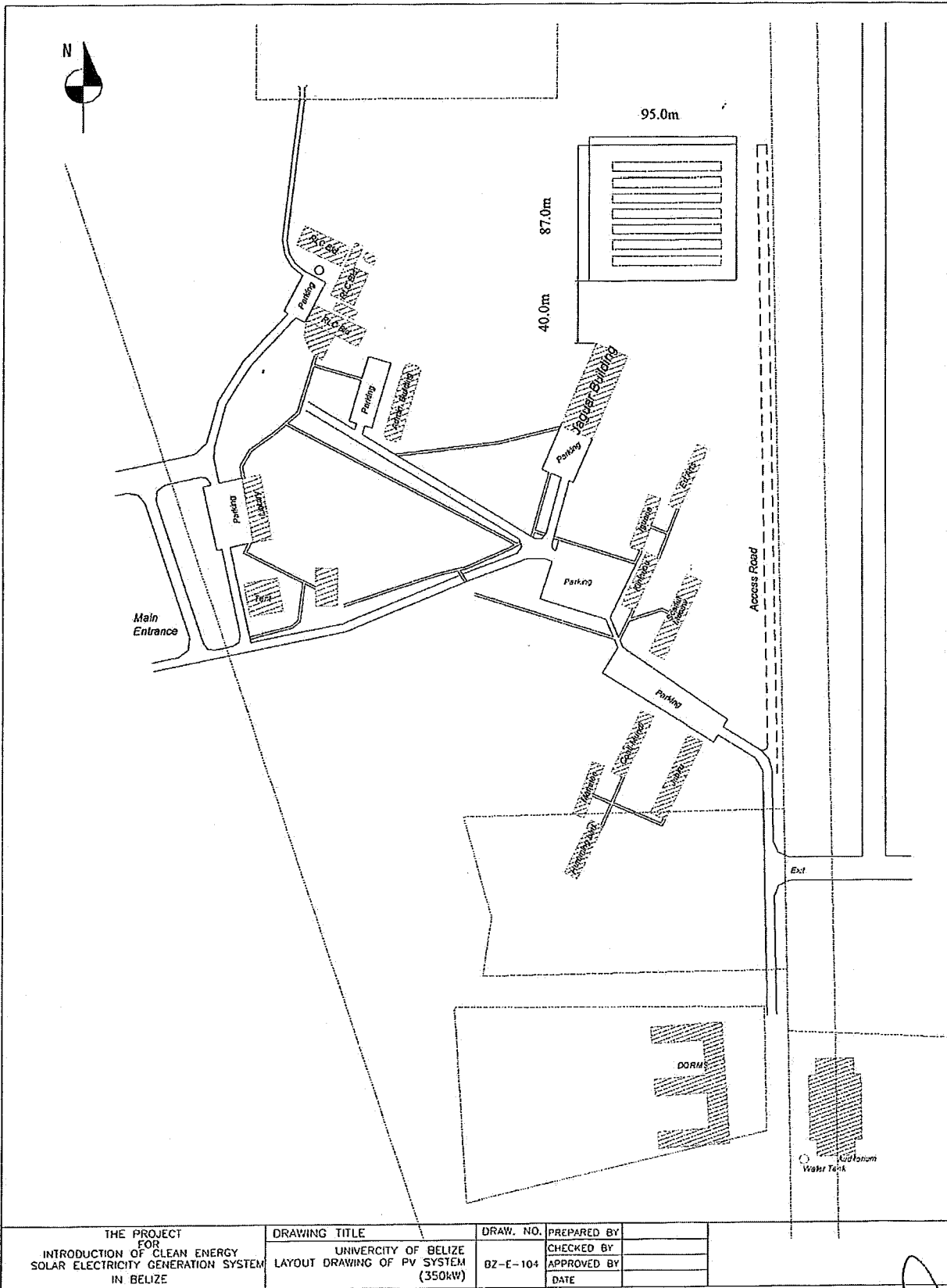
Major undertakings to be taken by each Party

No.	Items	To be Covered by Japanese Grant	To be covered by MOF	To be covered by MOW	To be covered by UB	To be covered by BEL
1	To secure land		•	•		
2	To clear, level and reclaim the site			•		
3	To construct gates and fences in and around the site			•		
4	To construct a parking lot if necessary			•		
5	To construct roads					
	1) Within the site	•				
	2) Outside the site and Access road			•		
6	To construct the facility and install the equipment	•				
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities if necessary:					
	1) Electricity					
	a. The power distribution line to the site		•	•		•
	b. The drop wiring and internal wiring within the site	•				
	c. The main circuit breaker and transformer for the site	•				
	2) Water Supply					
	a. The city water distribution main to the site			•		
	b. The supply system within the site (receiving and elevated tanks)	•				
	3) Drainage					
	a. The city drainage main (for conveying storm water, sewage, etc. from the site)			•		
	b. The drainage system within the site (for sewage, ordinary waste, storm water, etc.)	•				
	4) Gas Supply					
	a. The city gas main to the site	n/a	n/a	n/a	n/a	n/a
	b. The gas supply system within the site	n/a	n/a	n/a	n/a	n/a
	5) Telephone System					
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building			•		
	b. The MDF and the extension after the frame/panel	•				
	6) Furniture and Equipment					
	a. General furniture			•		
	b. Project equipment	•				
8	To bear the following commissions applied by the bank in Japan for banking services based upon the Bank Arrangement (B/A):					
	1) Payment of bank commission		•			
9	To ensure all the expense and prompt execution of unloading and customs clearance at the port of disembarkation in the recipient country					
	1) Marine or air transportation of the products from Japan or third countries to the recipient	•				

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No.	Items	To be Covered by Japanese Grant	To be covered by MOF	To be covered by MOW	To be covered by UB	To be covered by BEL
	2) To ensure all the expense and prompt execution of unloading, tax exemption and customs clearance of the products at the port of disembarkation		•	•		
	3) Internal transportation from the port of disembarkation to the project site	•				
10	To accord Japanese nationals and / or nationals of third countries, including persons employed by the agent whose services may be required in connection with the Components such facilities as may be necessary for their entry into recipient country and stay therein for the performance of their work.		•	•		
11	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the Components and to the employment of the Agent will be exempted by the Government of Belize		•	•		
12	To maintain and use properly and effectively the facilities that are constructed and the equipment that is provided under the Grant					
	1) O&M cost management		•			
	2) Management of operation			•		
	3) Daily inspection of O&M			•	•	
	4) Periodic inspection and repair					•
13	To bear all the expenses, other than those covered by the Grant and its accrued interest, necessary for the purchase of the Components as well as for the agent's fees.		•			
14	To ensure environmental and social consideration for the Programme.		•	•		
15	To ensure to get permission from PUC for installation of PV system			•		
16	To ensure Electricity Tariff Agreement		•			•
17	Land agreement for Plant installation		•	•	•	
18	Land arrangement for temporary equipment stockyard			•		
19	Land leveling if required			•		
20	Security gates and fence around the site			•		
21	Construction of road					
	1) Outside the site and access road			•		
22	Terminal point of grid interconnection					
	1) Extension of 11kV distribution line (28m)		•	•		•
	2) Installation of Load Break Switch		•	•		•
	3) Connection of Power Cable to 11kV distribution line	•				
23	Responsibility of coordination during design stage					
	1) Electrical works		•	•		
	2) Civil and building works, if any		•	•		

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THE PROJECT FOR INTRODUCTION OF CLEAN ENERGY SOLAR ELECTRICITY GENERATION SYSTEM IN BELIZE	DRAWING TITLE UNIVERSITY OF BELIZE LAYOUT DRAWING OF PV SYSTEM (350kW)	DRAW. NO. BZ-E-104	PREPARED BY	
			CHECKED BY	
			APPROVED BY	
			DATE	

Handwritten notes and signatures:
 Qd.
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 [Signature]
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