

資 料 編

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-

1. 調査団員・氏名

(1) 第1回現地調査

氏名	担当	所属
伊藤 民平	総括	JICA 地球環境部 環境管理グループ 環境管理第一課 課長
細貝 瑞季	計画管理	JICA 地球環境部 環境管理グループ 環境管理第一課
吉田 綾子	計画立案	JICA 企画調査員、ミクロネシア支所
前田 剛和	業務主任/廃棄物管理計画	建設技研インターナショナル
瀬瀬 卓也	施設設計/流出水対策	エイト日本技術開発
三好 博文	機材計画/積算	建設技研インターナショナル
市川 峻平	施工計画/積算	建設技研インターナショナル
長谷山 朗	環境社会配慮	エックス都市研究所

(2) 第2回現地調査

氏名	担当	所属
前田 剛和	業務主任/廃棄物管理計画	建設技研インターナショナル
瀬瀬 卓也	施設設計/流出水対策	エイト日本技術開発
長谷山 朗	環境社会配慮	エックス都市研究所

(3) 第3回現地調査

氏名	担当	所属
宮田 伸昭	総括	JICA パラオ支所長
細貝 瑞季	計画管理	JICA 地球環境部 環境管理グループ 環境管理第一課
前田 剛和	業務主任/廃棄物管理計画	建設技研インターナショナル
瀬瀬 卓也	施設設計/流出水対策	エイト日本技術開発

2. 調査行程

(1) 第1回現地調査

月日	曜日	総括 (伊藤民平)	計画管理 (細貝瑞季)	コンサルタント	
4/22	土		コロール着		
4/23	日		会議準備	コロール着	
4/24	月		JICA パラオ支所と打合せ BPW と事前協議 新処分場予定地見学		
4/25	火		BPW と事前協議		
					BPW, EQPB と協議
4/26	水	コロール着 ミニッツ署名 コロール州リサイクルセンター見学			
4/27	木	M ドック見学			
4/28	金				
4/29	土	帰国			
4/30	日		帰国		
5/3	水		地質調査開始		
5/4	木		測量調査開始		
5/6	土		J-PRISM フェース2 調査チームとの打合せ		
5/8	月		J-PRISM フェース2 調査チームとの打合せ		
5/9	火		砲台跡等の調査開始		
5/13	土		松藤氏、川鍋氏到着		
5/17	水		松藤氏、川鍋氏による調査結果発表		
5/19	金		松藤氏、川鍋氏帰国 測量調査終了		
5/25	木		在パラオ日本国大使館訪問		
5/30	火		関係者への第1回現地調査結果発表		
5/31	水		地質調査終了		
6/1	木		水質調査第1回目採水 コンサルタント帰国		

(2) 第2回現地調査

月日	曜日	工程 (コンサルタント)
6/25	日	コロール着
6/26	月	BPW と協議
6/27	火	追加資料・データ収集
		処分場設計・計画見直し
6/28	水	BPW と協議
		処分場設計・計画見直し、追加資料・データ収集
6/29	木	追加資料・データ収集、現場踏査
6/30	金	BPW と協議
7/1	土	休日
7/2	日	休日
7/3	月	テクニカルノート協議、住民説明会準備作業
7/4	火	テクニカルノート協議・署名、住民説明会
7/5	水	報告書作成
7/6	木	報告書作成
7/7	金	現場確認、JICA パラオ支所へ報告
7/8	土	資料・データ整理、報告書作成
7/9	日	帰国

(3) 第3回現地調査

月日	曜日	総括（宮田）	計画管理（細貝瑞季）	コンサルタント
1/20	土			コロール着
1/21	日		コロール着	
		団内協議		
1/22	月	協力準備調査説明 ミニッツ協議 EIA 審査状況確認		
1/23	火	前日の積み残し課題の確認 ミニッツ署名		
1/24	水		帰国	残土置場の現地確認
1/25	木			建設予定地の現地確認
1/26	金			EIS 進捗確認
1/27	土			資料整理
1/28	日			休日
1/29	月			JICA パラオ支所報告
1/30	火			帰国

3. 関係者（面会者）リスト

所属	名前	役職
公共事業局 Bureau of Public Works (BPW)	Brian Melairei	局長
廃棄物管理部 Division of Solid Waste Management (DSWM), BPW	Calvin Ikesiil	チーフ
	Jessica Emesiochel	廃棄物管理コーディネーター
	Joseline Skebong	廃棄物管理教育アシスタント
	Puananni Pedro	事務員
	Vernon Basilius	処分場監督者
コロール州	Fuji Katsuo	廃棄物管理室コンサルタント
環境保護委員会 Environmental Quality Protection Board (EQPB)	Mike Blesam	
	Carlos Wasisang	
JICA パラオ支所	宮田 伸昭	支所長
	Olga Singeo	プログラムオフィサー
在パラオ日本国大使館	富田 晃次	参事官
	持田 貴雄	専門調査員
Norwegian People's Aid (NPA)	Luke Atkinson	プログラママネージャー

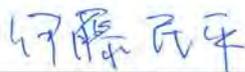
4. 討議議事録 (M/D)

(1) 第 1 回現地調査

**Minutes of Discussions
on the Preparatory Survey
for the Project for the Construction of Palau New National Landfill**

In response to the request from the Government of Republic of Palau (hereinafter referred to as "Palau"), Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team for the Outline Design (hereinafter referred to as "the Team") of the Project for the Construction of Palau New National Landfill (hereinafter referred to as "the Project") to Palau, headed by Dr. Ito Mimpei, Director of Environmental Management Team, Environmental Management Group, Global Environment Department, from 26th to 27th of April, 2017. The Team held a series of discussions with the officials of the Government of Palau and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Koror, 26th, April, 2017



Dr. Ito Mimpei
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Mr. Brian Melairei
Director
Bureau of Public Works
Ministry of Public Infrastructure,
Industries and Commerce
Republic of Palau

ATTACHMENT

1. Objective of the Project
The objective of the Project is to promote an appropriate solid waste management through the construction of new national landfill site, thereby contributing to achieve sustainable environment of Palau.
2. Title of the Preparatory Survey
Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey for the Project for the Construction of Palau New National Landfill”.
3. Project site
Both sides confirmed that the site of the Project is in Ongerarekieu, Aimeliik State, Republic of Palau, which is shown in Annex 1.
4. Responsible authority for the Project
Both sides confirmed the authorities responsible for the Project are as follows:
Division of Solid Waste Management, Bureau of Public Works (hereinafter referred to as “BPW”), Ministry of Public Infrastructure, Industries and Commerce (hereinafter referred to as “MPIIC”)
 - 4-1. BPW, MPIIC will be the executing agency for the Project (hereinafter referred to as “the Executing Agency”). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be managed by relevant authorities properly and on time. The organization charts are shown in Annex 2.
5. Items requested by the Government of Palau
As a result of discussions, both sides confirmed that the items requested by the Government of Palau are as described in Annex 3.
 - 5-1. JICA will assess the feasibility of the above requested items through the survey and will report the findings to the Government of Japan. The final scope of the Project will be decided by the Government of Japan.



6. Procedures and Basic Principles of Japanese Grant

6-1. The Palauan side agreed that the procedures and basic principles of Japanese Grant as described in Annex 4 shall be applied to the Project. As for the monitoring of the implementation of the Project, JICA requires the Palauan side to submit the Project Monitoring Report that the form is attached as Annex 5.

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

7. Schedule of the Survey

7-1. The Team will proceed with further survey in Palau until 1st of June and will again come back to Palau in the end of June.

7-2. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Palau in order to explain its contents around the middle of November, 2017.

7-3. If the contents of the draft Preparatory Survey Report is accepted and the undertakings for the Project are fully agreed by the Palauan side, JICA will finalize the Preparatory Survey Report and send it to the Palauan side around February, 2018.

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

8. Environmental and Social Considerations

8-1. The Palauan 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).

8-2. The Project is categorized as “B” from the following considerations:

The project is not considered to be a large-scale solid waste management project, is not located in a sensitive area, and has none of the sensitive characteristics



under the JICA guidelines for environmental and social considerations (April, 2010), it is not likely to have a significant adverse impact on the environment.

8-3. The Palauan side confirmed to conduct the necessary procedures concerning the environmental assessment [including Environmental Assessment (EA)/ Environmental Impact Statement (EIS) and information disclosure, etc.] and make EA/EIS report of the Project. The EA/EIS approval shall be received from the responsible authorities and submitted to JICA by the end of December, 2017.

8-4. Both sides confirmed that there is no PAP (Project Affected People) residing in the Project site.

8-5. The Palauan side explained about the process and progress of EIS approval procedure as follows.

- (1) Conduct EA and submit the result of EA to Environmental Quality Protection Board (EQPB).
- (2) EQPB will determine whether the EIS is required or not.
- (3) Based on EQPB's decision, EIS will be done.
- (4) Necessary survey, evaluation and expectations will be taken by the trusted third party.
- (5) Draft EIS will be prepared.
- (6) Public consultation of draft EIS.
- (7) Final draft EIS will be prepared.
- (8) Approval of EIS.

8-6. The Palauan side requested the team to perform the baseline testing of the ground water in the project site on the following heavy metals. Baseline data will be needed for a project effectiveness monitoring after construction. BPW has a responsibility to conduct monitoring on those items once after they start the operation.

- (1) Hydrogen Sulfide
- (2) Iron
- (3) Manganese
- (4) Sulfate
- (5) Arsenic
- (6) Barium



- (7) Cadmium
- (8) Fluoride
- (9) Lead
- (10) Mercury
- (11) Nitrate
- (12) Nitrite
- (13) Selenium

9. Other Relevant Issues

9-1. Necessary Approval of Construction of the Facilities

The Palauan side described necessary procedures for obtaining approval for the construction of facilities in the Project as follows:

- (1) Capital Improvement Project (CIP) submits draft outline design to BPW, MPIIC for their review and recommendations.
- (2) BPW submits detailed design to EQPB.

9-2. Securing Budget by the Government of Palau for the Project

The Palauan side shall secure necessary budget to cover the cost for taking necessary major undertakings to be covered by the Palauan side for the Project as per Annex 6.

9-3. Customs Duties and Tax exemption

The taxes including custom duty, and any other taxes and levies in Palau which are to arise from the Project activities will be exempted by the Palauan side. BPW will take any procedures necessary for the tax exemption with the Ministry of Finance on its responsibility.

9-4. Submission of Project Monitoring Report

Project Monitoring Report (PMR) will be prepared by the Palauan side for confirming the outline and progress of the Project. The Team described the purpose of the preparation of PMR, BPW agreed to submit PMR to JICA monthly during the Project implementation. The format of PMR is attached as Annex 5.

9-5 Unexploded ordnance survey

The Palauan side confirmed to conduct the unexploded ordnance (UXO) survey at the site and will share the result of the survey with JICA by December, 2017.



- Annex 1 Project Site
- Annex 2 Organization Chart
- Annex 3 List of Requested Items
- Annex 4 Japanese Grant
- Annex 5 Project Monitoring Report (template)
- Annex 6 Major Undertakings to be taken by the Government of Palau



Annex I

Principal Area of the ROP



Project Site Location



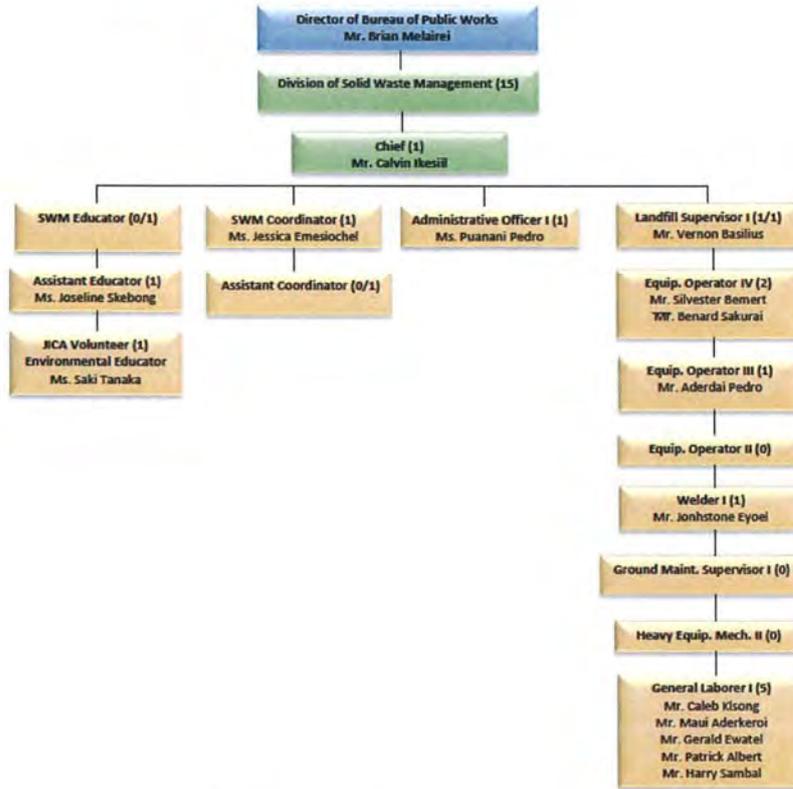
Detailed location map for the project site



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Annex 2

SWM ORGANIZATIONAL CHART



Checked By: *[Signature]* Date: *05/16/14*
Prepared By: *[Signature]* Date: *05/16/14*
Approved By: *[Signature]* Date: *05/16/14*

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Annex 3

List of Requested Items

No.	Requested Component	Description	Unit	Priority
1	Equipment for management and maintenance of landfill site	Bulldozer (D6)	1	A
2	ditto	Excavator(PC200)	1	A
3	ditto	Wheel loader	1	A
4	ditto	Dump Truck (10 ton)	1	A
5	ditto	Weigh Scale system(30-50 tons)	1	A
6	Equipment for waste collection	Compactor Truck	3	A
7	Laboratory Equipment	BOD meter	1	A
8	ditto	COD meter	1	A
9	ditto	pH meter	1	A
10	ditto	Turbidity meter	1	A
11	ditto	Gas Analyzer(Xp-3140)	1	A



Annex 4

JAPANESE GRANT

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

1. Procedures of Project Grants

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

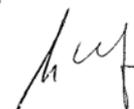
- (1) Preparation
 - The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA
- (2) Appraisal
 - Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and Approval by the Japanese Cabinet
- (3) Implementation
 - Exchange of Notes
 - The Notes exchanged between the GOJ and the government of the Recipient
 - Grant Agreement (hereinafter referred to as “the G/A”)
 - Agreement concluded between JICA and the Recipient
 - Banking Arrangement (hereinafter referred to as “the B/A”)
 - Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as “the Bank”) to receive the grant
 - Construction works/procurement
 - Implementation of the project (hereinafter referred to as “the Project”) on the basis of the G/A
- (4) Ex-post Monitoring and Evaluation
 - Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

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

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



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

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

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

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

(2) Selection of Consultants

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

(3) Result of the Survey

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

3. Basic Principles of Project Grants

(1) Implementation Stage

1) The E/N and the G/A

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



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

- a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.
- b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

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

4) Selection of Consultants

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

5) Eligible source country

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

6) Contracts and Concurrence by JICA

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

7) Monitoring

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

8) Safety Measures

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

9) Construction Quality Control Meeting

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



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

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

(2) Ex-post Monitoring and Evaluation Stage

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

(3) Others

1) Environmental and Social Considerations

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

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

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

3) Proper Use

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



4) Export and Re-export

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

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Annex 5

G/A NO. XXXXXXX

PMR prepared on DD/MM/YY

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

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 (_____): _____



G/A NO. XXXXXXXX
 PMR prepared on DD/MM/YY

1: Project Description

1-1 Project Objective

--

1-2 Project Rationale

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

--

1-3 Indicators for measurement of "Effectiveness"

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

2: Details of the Project

2-1 Location

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

2-2 Scope of the work

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

Reasons for modification of scope (if any).

(PMR)

G/A NO. XXXXXXXX
 PMR prepared on DD/MM/YY

2-3 Implementation Schedule

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

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

--

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations
 See Attachment 2.

2-4-2 Activities
 See Attachment 3.

2-4-3 Report on RD
 See Attachment 11.

2-5 Project Cost

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

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

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

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
1.				

G/A NO. XXXXXXXX
 PMR prepared on DD/MM/YY

2-3 Implementation Schedule

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

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

--

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations
 See Attachment 2.

2-4-2 Activities
 See Attachment 3.

2-4-3 Report on RD
 See Attachment 11.

2-5 Project Cost

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

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

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

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
1.				

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Actual (PMR)

4: Potential Risks and Mitigation Measures

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

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

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

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

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

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

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

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

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



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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 (Increased) F=C+D
Item 1	●●t	●	●	●	●
Item 2	●●t	●	●	●	
Item 3					
Item 4					
Item 5					

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

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

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

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

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%)	
Cost others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

Annex 6

Major Undertakings to be taken by the Government of Palau

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

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	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	MPIIC		
3	To approve EA/EIS(Conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation	by the end of 2017	EQPB MPIIC		
4	To conduct UXO survey at the site and share the result with JICA	by the end of 2017	MPIIC		
5	To secure the Project site	before notice of the bidding document	MPIIC		
6	To obtain the planning, zoning, building permit	before notice of the bidding document	MPIIC		
7	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents	MPIIC		

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

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	MPIIC		
2	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)	MPIIC		
	2) Payment commission for A/P	every payment	MOF		
3	To ensure prompt unloading and customs clearance at ports of disembarkation in recipient country and to assist in logistical arrangement with the Supplier(s) on internal transportation therein	during the Project	MPIIC		
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	GOP		
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. Such customs duties, internal taxes and other fiscal levies mentioned above included commercial tax, income tax and corporate tax of Japanese nationals, resident tax, but not limited, which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract.	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	GOP		
7	To submit Project Monitoring Report	quarterly	MPIIC		
	To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	MPIIC		
8	To improve accessibility to the site	before the commencement of the project	MPIIC		
9	To provide facilities for distribution of electricity, drainage, tele-communication and other incidental facilities necessary for the implementation of the Project outside the site(s)		MPIIC		
	1) Electricity The distributing line to the site	before the commencement of the project	MPIIC		
	2) Canal Construction of canal beyond the site	3 months before completion of the construction	MPIIC		
10	To take necessary measure for construction safety - traffic control - rope off	during construction	MPIIC		
11	To implement EMP and EMoP	during the construction	MPIIC		
12	To submit results of environmental monitoring to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	during the construction	MPIIC		

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To implement EMP and EMoP	for a period based on EMP and EMoP	MPIIC		
2	To submit results of environmental monitoring to JICA, by using the monitoring form, semiannually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between BPW, MPIIC and JICA.	for three years after the Project	MPIIC		
3	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 4) Monitor the effectiveness of the Project based on the indicators outlined in the final report indexes.	After completion of the construction	MPIIC		

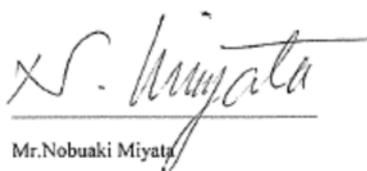
(2) 第3回現地調査

Minutes of Discussions
on the Preparatory Survey
for the Construction of New National Landfill
(Explanation on Draft Preparatory Survey Report)

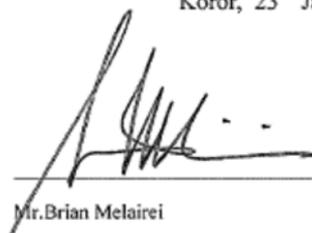
With reference to the minutes of discussions signed between Bureau of Public Works, Ministry of Public Infrastructure, Industries and Commerce, Republic of Palau and the Japan International Cooperation Agency (hereinafter referred to as "JICA") on 26th, April, 2017 and in response to the request from the Government of Republic of Palau (hereinafter referred to as "Palau") dated 3rd, August, 2015, 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 New National Landfill** (hereinafter referred to as "the Project"), headed by Mr. Nobuaki Miyata, Resident Representative of JICA Palau Office from 21th to 24th January, 2018.

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

Koror, 23rd January, 2018



Mr. Nobuaki Miyata
Leader
Preparatory Survey Team
Japan International Cooperation Agency
Japan



Mr. Brian Melairei
Director
Bureau of Public Works
Ministry of Public Infrastructure, Industries and
Commerce
Republic of Palau

ATTACHEMENT

1. Objective of the Project

The objective of the Project is to promote an appropriate solid waste management through the construction of new national landfill site and the provision of needed equipments to maintain the landfill site and to carry out the waste collection, thereby contributing to improve sanitary situation and environmental protection of Palau.

2. Title of the Preparatory Survey

Both sides confirmed to change the title of the Preparatory Survey as “the Preparatory Survey for the Project for the Construction of New National Landfill”.

3. Project site

Both sides confirmed that the site[s] of the Project is in Ongerarekieu, Aimeliik State, Republic of Palau, which is shown in Annex 1.

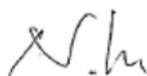
4. Responsible authority for the Project

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

The Division of Solid Waste Management, Bureau of Public Works (hereinafter referred to as “BPW”), Ministry of Public Infrastructure, Industries and Commerce (hereinafter referred to as “MPIIC”) will be the executing agency for the Project (hereinafter referred to as “the Executing Agency”). The Executing Agency shall coordinate with all the relevant authorities to ensure smooth implementation of the Project and ensure that the undertakings for the Project shall be taken care by relevant authorities properly and on time. The organization charts are shown in Annex 2.

5. Contents of the Draft Report

After the explanation of the contents of the Draft Report by the Team, the Palau side agreed to its contents.



6. Cost estimate

Both sides confirmed that the cost estimate described in the Draft Report is provisional and will be examined further by the Government of Japan for its approval.

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

7. Confidentiality of the cost estimate and technical specifications

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

8. Timeline for the project implementation

The Team explained to the Palau side that the expected timeline for the project implementation is as attached in Annex 3.

9. Expected outcomes and indicators

Both sides agreed that key indicators for expected outcomes are as follows. The Palau side will be responsible for the achievement of agreed key indicators targeted in year 2023 and shall monitor the progress based on those indicators.

[Quantitative indicators]

Indicator	2020 (Baseline year)	2023
1 Total amount of incoming waste to the new national landfill site (t/day)	0	27.07t/day
2 Operating rate of heavy vehicles (hour/day)	0	2 hours/day

(Note) Total amount of incoming waste will be weighed by a truck scale that will be placed by this Project.

(Note) Operating rate of heavy vehicles will be calculated based on the daily operation record of a bulldozer, an excavator and a wheel loader .




[Qualitative indicators]

Municipal solid waste generated from ten states in Babeldaob island is expected to be disposed appropriately at the new national landfill site. This will contribute to improve the sanitary environment of each states and that leads to protect the environment of Palau.

10. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 4 . With regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in (2)-3,4,5 of Annex 4, both sides confirmed that such customs duties, internal taxes and other fiscal levies include VAT, commercial tax, income tax and corporate tax, which shall be clarified in the bid documents by BPW, MPIIC during the implementation stage of the Project.

The Palau 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.

Both sides also confirmed that the Annex 4 will be used as an attachment of G/A.

11. 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 5. The timing of submission of the PMR is described in Annex 4.

12. Project completion

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



13. 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 Palau side is required to provide necessary support for the data collection.

14. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Palau side around May 2018.

15. Environmental and Social Considerations

15-1 General Issues

15-1-1 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 B because the Project is not considered to be a large-scale solid waste management project, is not located in a sensitive area, and has none of the sensitive characteristics under the Guidelines, it is not likely to have a significant adverse impact on the environment.

15-1-2 Environmental Checklist

The environmental and social considerations including major impacts and mitigation measures for the Project are summarized in the Environmental Checklist attached as Annex 7. Both sides confirmed that in case of major modification of the content of the Environmental Checklist, the Palau side shall submit the modified version to JICA in a timely manner.

15-2 Environmental Issues

15-2-1 Environmental Impact Assessment (EIA)

Both sides confirmed the EIA report will be approved by Environmental Quality Protection Board in in January 2018.

15-2-2 Environmental Management Plan and Environmental Monitoring Plan

Both sides confirmed Environmental Management Plan (EMP) and Environmental



Monitoring Plan (EMoP) of the Project is as Annex 8, respectively. Both sides agreed that environmental mitigation measures and monitoring shall be conducted based on the EMP and EMoP, which may be updated during the Detailed Design stage. Both sides also confirmed that the modification of the content of Annex 8 shall be made based on the final result of the expected environmental and social impact, and/or the Detailed Design.

15-3 Social Issues

15-3-1 Land securing

Both sides confirmed the eight(8) hectares of land requires to be secured for the construction of new landfill and one(1) hectares to place residual soil from the construction site, however, currently there are no residents reside in the area and resettlement will not be occurred for the implementation of the Project.

The Palau side shall secure the site for the construction of the new landfill based on the legal agreement by the end of March 2018. Both sides confirmed that the legal agreement means land use agreement between the landowners and the government with an appropriate amount of compensation. Also, the Palau side will make an Abbreviated Resettlement Action Plan (hereinafter referred to as "A-RAP") with the support of JICA.

Such land securing shall be implemented based on the A-RAP which will be prepared in line with the Guidelines and authorized by the Palau side by the end of March 2018.

15-4 Environmental and Social Monitoring

15-4-1 Environmental Monitoring

Both sides agreed that the Palau side will submit results of environmental monitoring to JICA by using the monitoring form attached as Annex 9. The timing of submission of the monitoring result is described in Annex 4. Both sides also confirmed that the modification of the content of Annex 9 shall be made based on the final result of the expected environmental and social impact, and/or the Detailed Design.



15-4-2 Social Monitoring

Both sides confirmed that the Palau side will implement social monitoring based on A-RAP. Both sides agreed that BPW, MPIIC will submit results of social monitoring to JICA by using the monitoring form attached as Annex 9. The timing of submission of the monitoring result is described in Annex 4. Both sides also confirmed that the modification of the content of Annex 9 shall be made based on the final result of the expected environmental and social impact, and/or the Detailed Design.

15-4-3 Information Disclosure of Monitoring Results

Both sides confirmed that the Palau side will disclose results of environmental and social monitoring to local stakeholders. The Palau side agreed JICA will disclose results of environmental and social monitoring submitted by the Palau side as the monitoring forms attached as Annex 9 on its website.

16. Other Relevant Issues

16-1. Disclosure of Information

Both sides confirmed that the Preparatory Survey Report from which project cost is excluded, will be disclosed to the public after completion of the Preparatory Survey. The comprehensive report including the project cost will be disclosed to the public after all the contracts under the Project are concluded.

Annex 1 Project Site

Annex 2 Organization Chart

Annex 3 Project Implementation Schedule

Annex 4 Major Undertakings to be taken by the Government of Palau

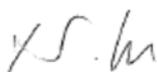
Annex 5 Project Monitoring Report (template)

Annex 6 Issues to be Considered for Smooth Implementation of the Project

Annex 7 Environmental Check List

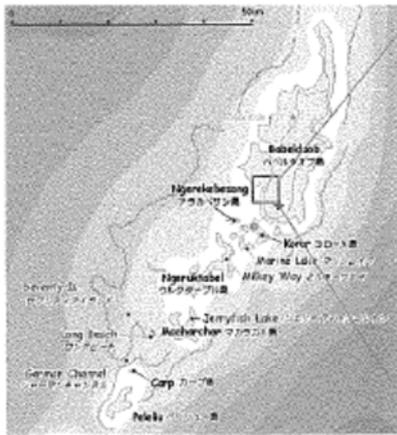
Annex 8 Environmental Management Plan/Environmental Monitoring Plan

Annex 9 Environmental and Social Monitoring Form

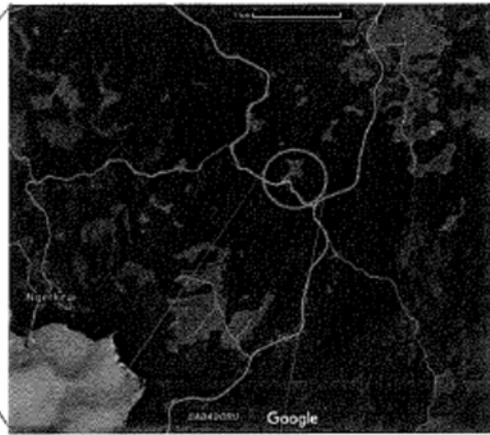


Annex1

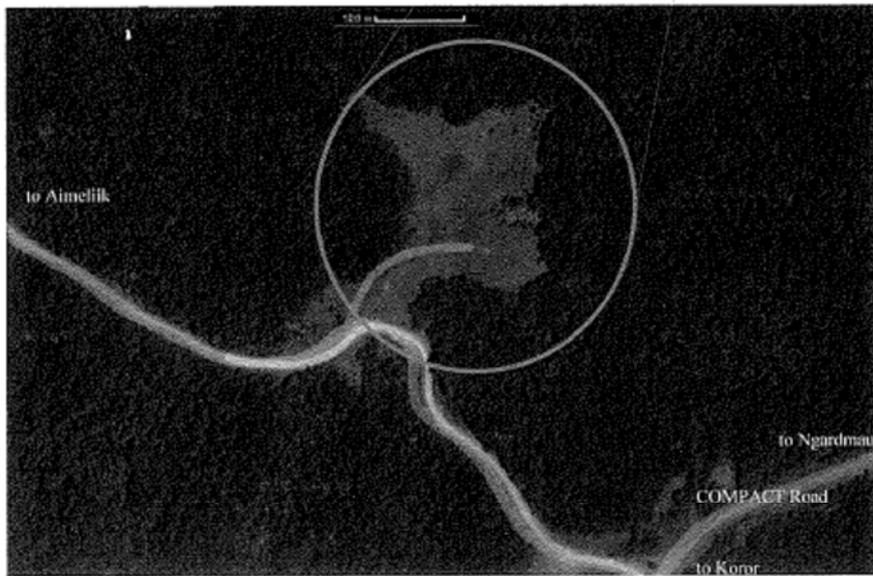
Principal Area of the ROP



Project Site Location



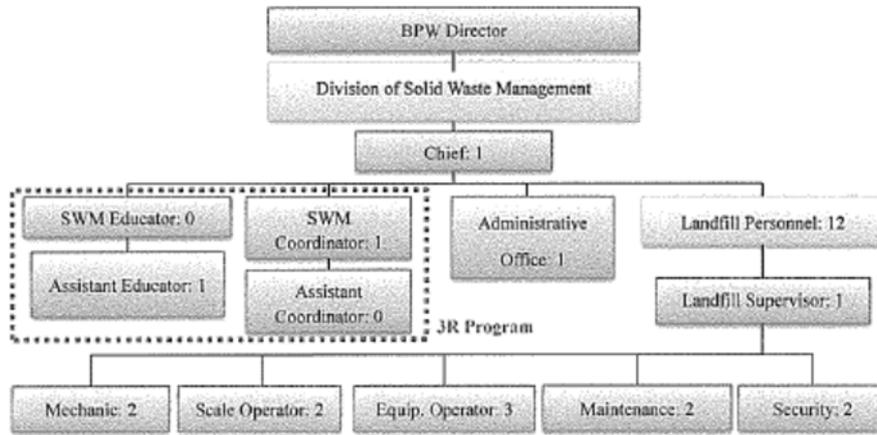
Detailed location map for the project site



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Annex 2



Project Organization Chart

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Annex 3

Timeline for the project implementation

The project implementation will start from May, 2018 and the construction of the new national landfill site and procurement of equipment will be completed by July, 2020.

year contents	2018	2019	2020	2021
① Detailed design	May◇ [redacted] Jan			
② Construction		Feb [redacted] Jul▲		
③ Procurement		Jun [redacted] May		
④ Defects inspection				■July

◇ Scheduled timing of EN/GA

▲ This mark indicates the completion of the new national landfill site.

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[Signature]

Annex 4

Major Undertakings to be taken by the Government of Palau

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

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	MOF	USD 5,600	
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant and to bear the Advising commission of A/P	within 1 month after the signing of the contract	MPIIC		
3	To bear the Payment commission for A/P to a bank in Japan for the banking services based upon the B/A	within 1 month after the signing of the contract	MOF		
4	To approve Environmental Assessment / Environmental Impact Statement (Conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation	by the end of January 2018	EQPB MPIIC	USD 10	
5	To conduct Explosive Remnants of War(ERW)survey at the site and share the result with JICA	Clearance confirmed during the DOD mission	MPIIC	N/A	
6	To secure the Project site with the legal land leasing agreement	by the end of March 2018	MPIIC	To be determined based on the RAP	
7	To secure the space for residual soil from the construction site with an appropriate access road from the main road which heavy vehicles can pass and take necessary measures for environmental consideration of the area	before notice of the bidding document	MPIIC	USD 40,000	
8	To obtain the planning, zoning, building permit	before notice of the bidding document	MPIIC	N/A	
9	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents	MPIIC	N/A	
10	To implement RAP	for a period on the compensation program	MPIIC	To be stated in the RAP	
11	To implement social monitoring, and to submit monitoring report to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	To be continued until termination of the Project implementation	MPIIC	N/A	

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

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Annex 4

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	MPIIC	Included (1) No. 1, 2 and 3	
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A			-ditto-	
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	MPIIC	-ditto-	
	2) Payment commission for A/P	every payment	MOF	-ditto-	
3	To ensure prompt unloading and customs clearance at ports of disembarkation in recipient country and to assist in logistical arrangement with the Supplier(s) on internal transportation therein	during the Project	MPIIC	N/A	
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	GOP	N/A	
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 Such customs duties, internal taxes and other fiscal levies mentioned above included commercial tax, income tax and corporate tax of Japanese nationals, resident tax, but not limited, which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract.	during the Project	MOF	N/A	
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	GOP	To be determined as the necessity arises	
7	To submit Project Monitoring Report	quarterly	MPIIC	N/A	
	To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	MPIIC	N/A	
9	To provide facilities for distribution of electricity, drainage, tele-communication and other incidental facilities necessary for the implementation of the Project outside the site(s)				
	1) Electricity The distributing line to the site	before the commencement of the project	MPIIC	USD 19,500	
10	To take necessary measure for construction safety - traffic control - rope off - Clearance of ERW(If any ERW found out during construction)	during construction	MPIIC Contractor	Included the Construction Cost, except Clearance of ERW	

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Annex 4

NO	Items	Deadline	In charge	Estimated Cost	Ref.
11	To implement EMP and EMoP	during the construction	BPW Contractor	N/A	
12	To submit results of environmental monitoring to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	during the construction	BPW	N/A	
13	To prepare coral sand for low-cost water purification system	during the construction	MPIIC	USD 300	

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To implement EMP and EMoP	for a period based on EMP and EMoP	MPIIC	N/A	
2	To submit results of environmental monitoring to JICA, by using the monitoring form, semiannually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between BPW, MPIIC and JICA.	for three years after the Project	MPIIC	N/A	
3	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 4) Monitor the effectiveness of the Project based on the indicators outlined in the final report indexes.	After completion of the construction	MPIIC	USD 36,100 per year	

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Annex 5
 G/A NO. XXXXXXXX
 PMR prepared on DD/MM/YY

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

Organizational Information

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

General Information:

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

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G/A NO. XXXXXXXX
PMR prepared on DD/MM/YY

1: Project Description

1-1 Project Objective

1-2 Project Rationale

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

1-3 Indicators for measurement of "Effectiveness"

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

2: Details of the Project

2-1 Location

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

2-2 Scope of the work

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

Reasons for modification of scope (if any).

(PMR)

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G/A NO. XXXXXXXX
 PMR prepared on DD/MM/YY

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	Original (proposed in the outline design)	Actual (in case of any modification)	Cost (Million Yen)	
			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	Original (proposed in the outline design)	Actual (in case of any modification)	Cost (1,000 Taka)	
			Original ¹⁾²⁾ (proposed in the outline design)	Actual
1.				

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PMR prepared on DD/MM/YY

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

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

(PMR)

2-6 Executing Agency

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

Original (at the time of outline design)

name:

role:

financial situation:

institutional and organizational arrangement (organogram):

human resources (number and ability of staff):

Actual (PMR)

2-7 Environmental and Social Impacts

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

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

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

Original (at the time of outline design)

Actual (PMR)

3-2 Budgetary Arrangement

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

Original (at the time of outline design)

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Actual (PMR)

4: Potential Risks and Mitigation Measures

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

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

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

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

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

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

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

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

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

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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)

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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 (Increased) E=C-D	Condition of payment Price (Increased) F=C+D
Item 1	●●t	●	●	●	●	●
Item 2	●●t	●	●	●		
Item 3						
Item 4						
Item 5						

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2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

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

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

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

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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%)	

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Annex 6

Issues to be Considered for Smooth Implementation of the Project

• Both the Palau side and the Team considered that the land issue is the most critical issue for the implementation of the Project. This matter needs to be solved no later than the end of March 2018 to get an approval of the Government of Japan.

The Palau side is required to share the legal document of land leasing agreement between the government and the landowners with a mutually agreed amount of compensation by the above mentioned deadline.

Also, the Palau side needs to authorize the Abbreviated Resettlement Action Plan by the end of March 2018 with the support of JICA.



Annex 7

Environmental check list

The environmental check list for projects regarding wastes was filled as below based on the JICA guidelines for environmental and social considerations.

Category	Environmental Item	Main Check Items	Yes: Y No: N N/A: Not applicable	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a)Y (b)N (c)N (d)Y	The EIA report was prepared by using Taiwanese Fund. The EIA report was updated in accordance with the designed assisted by Japan and submitted to EQPB to wait approval.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(a)Y (b)Y	The 1 st community meeting was held in November, 2016. The 2 nd community meeting was held in July, 2017. Japanese Consultant Team delivered the presentation to explain the project. Consensus between BPW and the Community has been made.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a)Y	Several options, National Landfill or State landfills, had been discussed and the option to construct one National Landfill was chosen.
2 Pollution Control	(1) Air Quality	(a) Do air pollutants, such as sulfur oxides (SOx), nitrogen oxides (NOx), and soot and dust, and dioxins emitted from various sources, such as incinerators, and vehicles used for waste collection and transportation comply with the country's emission standards and ambient air quality standards?	(a)Y	(a) In accordance with calculation result, contamination of ambient air will not exceed the Environmental Standards at the settlement area.
	(2) Water Quality	(a) Do effluents from various facilities comply with the country's effluent standards and ambient water quality standards? (b) Does the water quality of leachates from the waste disposal sites comply with the country's effluent standards and ambient water	(a)Y (b)Y (c)Y	(a) Wastewater treatment facilities would be in place so that environmental standards at the downstream rivers would be met. (b) In accordance with calculation result,

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Annex 7

Category	Environmental Item	Main Check Items	Yes: Y No: N N/A: Not applicable	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		quality standards? (c) Are adequate measures taken to prevent contamination of surface water and groundwater by these effluents and leachates?		contamination of water quality will not exceed the Environmental Standards at the downstream rivers. (c) Semi-aerobic Landfill and leachate Treatment Facility will be installed.
	(3) Wastes	(a) Are wastes, such as treatment residues, cinder, and fly ash generated from crushing and segregation processes, and diverted wastes from composting process properly treated and disposed of in accordance with the country's regulations? (b) Are hazardous and dangerous wastes properly segregated from other wastes, stabilized, treated, and disposed of in accordance with the country's standards?	(a)Y (b)Y	(a) Waste generation is not expected from the project. (b) Hazardous wastes is not included to the project scope.
	(4) Soil Contamination	(a) Are adequate measures taken to prevent contamination of soil and groundwater by leachates from the waste disposal sites?	(a)Y	(a) The Permeability coefficient of the site is smaller than 10^{-7} m/s and also soil stabilization will be taken at cracks of base layer or embankments to secure continuous impermeable layer, therefore Soil Contamination will not be occurred.
	(5) Noise and Vibration	(a) Do noise and vibrations generated by the facility operations (especially incinerators, waste segregation and crushing facilities), and vehicle traffic for waste collection and transportation comply with the country's standards?	(a)Y	(a) As the results of calculation, Noise Level and Vibration Level are expected to be smaller than the Environmental Standards in Japan.
	(6) Odor	(a) Are adequate odor control measures taken?	(a)Y	(a) Generation of offensive odor will be prevented because the semi-aerobic landfill, Leachate pipes and gas venting pipes will be introduced at the site and suitable operation such as periodical cover soil and extension of gas venting pipes will be taken during the operation phase.

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Annex 7

Category	Environmental Item	Main Check Items	Yes: Y No: N N/A: Not applicable	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a)N	(a) The site is out of the conservation areas. In accordance with the above mentioned, the project will not affect to any conservation areas.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g. coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem? (d) Is there a possibility that the project will adversely affect aquatic organisms? If impacts are anticipated, are adequate measures taken to reduce the impacts on aquatic organisms? (e) Is there a possibility that the project will adversely affect vegetation and wildlife? If impacts are anticipated, are adequate measures taken to reduce the impacts on vegetation and wildlife?	(a)N (b)N (c)N (d)Y (e)Y	(a)(b)(c)(d)(e) In accordance with the EIA study in 2017, any rare species of wild animals/trees/plants which should be protected were not identified in the proposed site. Identified wild life (Animals/Plants/Grasses) were not listed in the Red List issued by IUCN.
	(3) Management of Abandoned Sites	(a) Are environmental protection and restoration plans (such as landfill gas and leachate collection and treatment systems, prevention of illegal dumping, and reforestation) after facility closure considered? (b) Is a sustainable management framework for the abandoned sites established? (c) Are adequate financial provisions secured to manage the abandoned sites?	(a)Y (b) Y (c) Y	(a)(b)(c) Environmental Monitoring will be continued during Operation Phase and Post Landfill Phase.
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people	(a)N (b)N (c)N (d)N (e)N (f)N (g)N (h)N (i)N	(a)(b)(c)(d)(e)(f)(g)(h)(i)(j) There will be no resettlement as the project site is within the disposal site where there are no residents.

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Annex 7

Category	Environmental Item	Main Check Items	Yes: Y No: N N/A: Not applicable	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Is the compensations going to be paid prior to the resettlement? (e) Is the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?	(j)N	
4 Social Environment	(2) Living and Livelihood	(a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary? (b) Are considerations given to the existing recovery systems, including waste pickers? (c) Is there a possibility that waste transportation will adversely affect the regional traffic? (d) Is there a possibility that effluents from the project and leachates from the waste disposal sites will adversely affect fisheries and other water uses by local inhabitants (especially drinking water)? (e) Is there a possibility that pathologic insects or other disease vectors will breed as a result of the project?	(a)N (b)N (c)N (d)N (e)N	(a) (b) (c) (e) The project will not be affect to the living and livelihood, because there is not settlement around (2km) the site. (d) There is not Water Resource (Pump Stations) at the downstream area of the site.

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Annex 7

Category	Environmental Item	Main Check Items	Yes: Y No: N N/A: Not applicable	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a)Y	(a) The historical gun-bases from World War II is identified in the site and the necessary measures will be taken by the Palau side to clear the site before the Construction.
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a)Y	(a) The change of landscape at the site will be occurred, there is a trekking route for hiking to the fall, the site will not be observed from the route considering the distance between the site and the fall.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(a)N/A (b)N/A	(a)(b) There are no ethnic minorities or indigenous peoples in or near the project site.
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a)Y (b)Y (c)Y (d)Y	(a) Considerations will be given so that labor-related laws and ordinances would be complied with. (b)(c) Measures to prevent accidents such as training of workers would be taken (d) Training would be conducted for security guards as necessary

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Annex 7

Category	Environmental Item	Main Check Items	Yes: Y No: N N/A: Not applicable	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	(a)Y (b)Y (c)N	(a) A temporary reservoir will be constructed during the construction phase; therefore, a clear upper portion of effluent will be discharged by installing a temporary sedimentation pond The contamination level of effluent will be managed to 200mg-SS/L at the end-point of the sedimentation pond and 25mg-SS/L at the mixing point to the river.. (b) There are no primeval forests, tropical rain forests, or ecologically valuable habitats (e.g. coral reefs, mangroves, or tidal flats) in or near the project site. No endangered species have been found in or near the project site. (c) As the result of calculation, air pollution and noise and vibration will not exceed the environmental standards, but mitigation measures would be taken such as control of working hours.
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a)Y (b)Y (c)Y (d)N	(a)(b) Monitoring would be planned and implemented in accordance with EQPB regulations. (c) Monitoring would be included in the business plan in order to ensure its implementation. (d) These issues will be discussed with the relevant authorities before initiation of the Project.

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Annex 7

Category	Environmental Item	Main Check Items	Yes: Y No: N N/A: Not applicable	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).	(a)N/A	(a) The site area is 8ha. No large-scale deforestation would be conducted.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a)N/A	(a) The site area is 8ha. The Project is not likely to cause transboundary or global issues.

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Annex 8

Environmental Management Plan

Environmental management will be appropriately fulfilled by applying the same system based on a BPW monitoring plan during the construction and after the facilities start their operation.

No.	Item	Mitigation Measures	Implementing Organization	Responsible Organization	Cost
During Construction Phase					
1	Pollution Prevention	Air Quality	Contractor for construction work	BPW	Included in the Construction Cost
2		Water Quality			
3	Pollution Prevention	Wastes	Contractor for construction work	BPW	Included in the Construction Cost
4	Social Environment	Heritage			
5		Working Conditions			
6	Others	Accidents			Included in the Construction Cost

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Annex 8

During Operation Phase						
1	Pollution Prevention	Air Quality	<ul style="list-style-type: none"> Dust generation will be prevented by implementation of cover soil. Air quality will be monitored by using a gas analyzer. Methane generation volume will be minimized by adopting a semi-aerobic type landfill (Fukuoka Method). (Some 23% reduction of methane generation will be made compared with non-aerobic landfill for 20 years.) 	Operator and DSWM	BPW	Included in the Operation Cost
2		Water Quality	<ul style="list-style-type: none"> Organic pollution in leachate will be minimized by adopting a semi-aerobic type landfill. Leachate will be circulated from a leachate pond to the landfill site to reduce the volume and improve the quality. Leachate treatment facilities will be constructed at the site to minimize the impacts on the water quality in the downstream of the site. Rain water in the site except for leachate will be retained in a pond and then discharged into the downstream. 			
3		Soil Contamination	<ul style="list-style-type: none"> Cracks of the foundation rock and embankments will be improved by replacing cement soil to secure the impermeability of the site. 			
4		Odor	<ul style="list-style-type: none"> Odor generation will be minimized by adopting a semi-aerobic landfill, such as implementation of regular cover soil, and installation of leachate collection pipes and gas exhausted pipes to accelerate decomposition of waste. Proper landfill management like regular cover soil and addition of gas exhausted pipes will result in prevention of offensive odor. 	Operator and DSWM	BPW	Included in the Operation Cost
5	Social Environment	Management of Abandoned Site	<ul style="list-style-type: none"> Proper management of gas generation and leachate will be made to minimize impacts on the environment. 			
6		Working Conditions	<ul style="list-style-type: none"> Work safety measures will be carried out. (see Work Safety Measures to be Taken in detail.) 			
7	Others	Accidents	<ul style="list-style-type: none"> Proper landfill management like regular cover soil and waste compaction, and securement of embankment with safe slope will result in prevention of collapse of waste. Work safety measures will be carried out. (see Work Safety Measures to be Taken in detail.) 			

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Annex 8

Work Safety Measures to be Taken

Period	Facility	Possible Accidents at Work	Work Safety Measures to be Taken
During Construction Phase	General	Falling from scaffolding	<ul style="list-style-type: none"> Enough width and slope of walkways and stairs should be designed to enable to walk them on easily. Signs to show walkways and stairs, and handrails will be installed to prevent from falling.
		Contact with trucks and heavy machine	<ul style="list-style-type: none"> The traffic line should be designed so as not to contact between the workers and trucks and heavy machine.
		Falling/flying of work pieces	<ul style="list-style-type: none"> The workers should wear helmets in the site.
During Operation Phase	Landfill Site	Inhaling of dust and poisonous gas	<ul style="list-style-type: none"> The water should be sprinkled to avoid scattering the dust in the site. The gas analyzer should be used to detect the poisonous gas.
		Heat stroke	<ul style="list-style-type: none"> Duration of outdoor work should be shortened as much as possible by taking moderate rest and drinking water.
		Slips, falls	<ul style="list-style-type: none"> Enough width and slope of walkways and stairs should be designed to enable to walk them on easily. Signs to show walkways and stairs, and handrails will be installed to prevent from falling.
		Contact with trucks or heavy machine	<ul style="list-style-type: none"> Places that rotate, move, or stick out should be covered or colored for watching out. Signs should be placed to show that the places that rotate or move are in operation. The height of the floor should be appropriate and secured to keep enough space between the machine and hand rails.
		Noise and vibration	<ul style="list-style-type: none"> Anti-vibration devices should be installed to prevent noise/vibration that would be hazardous to the workers.
		Explosion and fire	<ul style="list-style-type: none"> Flammable material should keep fire away in the site. Fire extinguishers or sand for extinguisher should be installed in the site.
Electrification	<ul style="list-style-type: none"> Signs should be put on the places with high voltage. Electric system should be designed to prevent electric leakage and electrification. Water pipes should be put below the electric lines if the water pipes cross the electric lines. 		

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Annex 8

Environmental Monitoring Plan

For items that may be negatively impacted, monitoring would be conducted as shown in below.

Item	Monitoring Item	Location	Method	Frequency	Responsible Organization	
During Construction Phase						
Air Quality	Dust	Around construction site	Visual Inspection	Once a day	Construction contractor.	
Water Quality	SS (Sus-pended Solids)	(Criteria) 200mg/L	At discharge point to outside the site boundary	Portable SS meter	Once a day	Construction contractor
		25mg/L	Sampling spots at the river (SW-B and RW-A)			
Waste	Amount of Construction Waste (Including Green Waste)	M-Dock	Contractor Report	Once month	Construction contractor	
	Amount of Stock & Pile Soil	Stock & Pile Yard				
Livelihood	Number of employees and their salaries Level of livelihood	N/A	Actual status, Hearing Survey	Once month	BPW	
Cultural	Necessary measures will be taken by the Palau side	The Site	Report from BPW or construction contractor	Before Construction	BPW	
Working Condition	Falling down from scaffolding - Design walkways and stairs so that they can be easily walked on (they should have enough space and not too steep) - Put up signs to show walkways and stairs and put handrails Contact with trucks and heavy machineries - Design the traffic line so that there would be no or little contact between the workers and trucks and heavy machineries Falling/flying of work pieces - Require workers to wear helmets	The Site	Report from construction contractor	Once month	Construction contractor	
Accident	Confirmation of the Construction Plan, drafts and calculation documents Confirmation of the working site Slant, terms of construction, measures during rain fall	The Site	Report from construction contractor	As appropriate	Construction contractor	

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Annex 8

During Operation Phase						
Air Quality	Dust		Around the site	Visual Inspection	Once a day	BPW
	CH ₄ and H ₂ S		Gas Venting Pipe(s)	Gas Detector	Once a month	
Water Quality	Transparency	4.5cm	At discharge point to outside the site boundary	Transparency meter	Once a day at Rainy day	BPW
	Temperature	(Criteria) -	Sampling spot at the river (SW-B and RW-A) Twice a month pH meter	Thermometer	Twice a year (Until Stabilization of landfill)	
	Colour	-		Visual Inspection		
	pH	6.5-8.5		pH meter		
	COD	3.0mg/L		COD test kit		
	Transparency	25cm	Leachate Reservoir Pond Monitoring Well No.1, No.2 Reservoir Pond No.1 · No.2	Transparency meter	Once a week	
	pH	It should be monitored to detect accidental water quality change.		pH meter		
	EC			EC meter		
	pH			pH meter		
	EC			EC meter		
pH	pH meter					
EC	EC meter					
Soil Contamination	Soil Contamination shall be monitored by monitoring of the Well No.1 and No.2.		Monitoring Well No.1, No.2	pH meter and EC meter	Once a month	BPW
Odor	Number of complains about odor from residents		N/A	Report of Complain	As appropriate	BPW
Management of Abandoned Sites	Monitoring of air and water quality shall be continued until completion of stabilization of the landfill layer.		-	-	-	BPW
Working Conditions	Falling down from scaffolding - Design walkways and stairs so that they can be easily walked on (they should have enough space and not too steep) - Put up signs to show walkways and stairs and put handrails Contact with trucks and heavy machineries - Design the traffic line so that there would be no or little contact between the workers and trucks and heavy machineries Falling/flying of work pieces - Require workers to wear helmets		The Site	Report from BPW	Once a month	BPW
Accident	Number of reported accidents		The Site	Report from BPW	Once a month	BPW

Legend: N/A: Not adopted

Note * When the project is made more specific, monitoring items will be determined after further identification of waste composition

** When required treatment methods for hazardous wastes are determined, monitoring methods will be considered.

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Annex 9

Monitoring Form

1. Construction Phase

Implementing Organization: Contractor for construction work

Responsible Organization:BPW,MPIIC

Note:Below (2) Social Environment's contents in "Livelihood" will be monitored by BPW, MPIIC.

(1) Pollution Control

—Air

Parameters	Measured Value (Average)	Measured Value (max)	Standard	Remarks		
				Sampling Points	Span	Method
Dust			Significant Dust is not observed	Around the site	Once a day	Visual Inspection

—Water Quality

Parameters	Measured Value (Average)	Measured Value (max)	Standard	Remarks		
				Sampling Points	Span	Method
SS (Suspended Solids)			200mg/L a	At discharge point to outside the site boundary	Once a day	Portable SS meter
SS (Suspended Solids)			25mg/L a	Sampling spots at the river	Once a day	Portable SS meter

a Voluntary standard value. 25mg/L is in accordance with Japanese Environmental Standard (A).

—Waste

Monitored Item	Result(During reported term Once a Month)
Amount of the construction waste at M-Dock	
Amount of the Stock & Pile Soil at the Stock & Pile Yard	

(2) Social Environment

—Livelihood

Monitored Item	Result(During reported term Once a Month)
Number of employees and their salaries	
Level of livelihood	
Compensation for land owners	
Number of reports complain	

—Cultural

Monitored Item	Result(During reported term Once a Month)
World War II gun base; Necessary measures will be determined by the Palau side	

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Annex 9

-Working Condition

Monitored Item	During reported term Once a Month
Falling down from scaffolding - Design walkways and stairs so that they can be easily walked on (they should have enough space and not too steep) - Put up signs to show walkways and stairs and put handrails	
Contact with trucks and heavy machineries - Design the traffic line so that there would be no or little contact between the workers and trucks and heavy machineries	
Falling/flying of work pieces - Require workers to wear helmets	

- Accident

Monitored Item	During reported term Once a Month
Confirmation of the Construction Plan, drafts and calculation documents Confirmation of the working site Slant, terms of construction, measures during rain fall	

2. Operation Phase

Implementing Organization: Operator and DSWM

Responsible Organization:BPW,MPIC

(1) Pollution Control

- Air

Parameters	Measured Value (Average)	Measured Value (max)	Standard	Remarks		
				Sampling Points Method)	Span,	Method
Dust			Significant Dust is not observed	Around the site	Once a day	Visual Inspection
Methane			1.5% b	Gas Venting Pipe(s)	Once a day	Gas Detector
H ₂ S			1ppm b	Gas Venting Pipe(s)	Once a day	Gas Detector

b Occupational Safety Standards in Japan

-Water Quality

Parameters	Measured Value (Average)	Measured Value (max)	Standard	Remarks		
				Sampling Points	Span,	Method
Transparency			4.5cm (SS 200mg/L) c	At discharge point to outside	Once a day at Rainy	Transparency meter

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[Signature]

Annex 9

				the site boundary	day	
Temperature			No standard because it is a parameter of natural condition.	Sampling spot at the river (SW-B and RW-A)	Twice a month	pH meter
Color			No standard because it is a parameter of natural condition.	Sampling spot at the river (SW-B and RW-A)	Twice a month	pH meter
pH			6.5-8.5 d	Sampling spot at the river (SW-B and RW-A)	Twice a month	pH meter
COD			3mg/L e	Sampling spot at the river (SW-B and RW-A)	Twice a month	Testing Kit
Transparency			25cm (SS25mg/L) f	Sampling spot at the river (SW-B and RW-A)	Twice a month	Transparency meter
pH			6.5-8.5 d	Leachate Reservoir Pond	Once a week	pH meter
Electric Conductivity			It should be monitored to detect accidental water quality change.	Leachate Reservoir Pond	Once a week	Electric Conductivity meter
pH			6.5-8.5 d	Monitoring Well No.1, No.2, Rain water Reservoir Pond No.1, No.2	Once a month	pH meter
Electric Conductivity			It should be monitored to	Monitoring Well	Once a	Electric Conductivity

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Annex 9

			detect accidental water quality change.	No.1 No.2, Rain water Reservoir Pond No.1 No.2	· ·	month	meter
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- c: Voluntary standard value
- d EQPB regulation Class-1
- e Japanese Environmental Standard(A)
- f Voluntary standard value

– Soil Contamination
Soil Contamination shall be monitored by monitoring of the Well No.1 and No.2.

– Odor

Monitored Item	During reported term
Number of reported complain	Once a Month

(2) Social Environment
– Management of Abandoned Sites

Monitored Item	During reported term
Monitoring of air and water quality shall be continued until completion of stabilization of the landfill layer.	Once a Month

– Working Condition

Monitored Item	During reported term
Falling down from scaffolding - Design walkways and stairs so that they can be easily walked on (they should have enough space and not too steep) - Put up signs to show walkways and stairs and put handrails	Once a Month
Contact with trucks and heavy machineries - Design the traffic line so that there would be no or little contact between the workers and trucks and heavy machineries	
Falling/flying of work pieces - Require workers to wear helmets	

– Accident

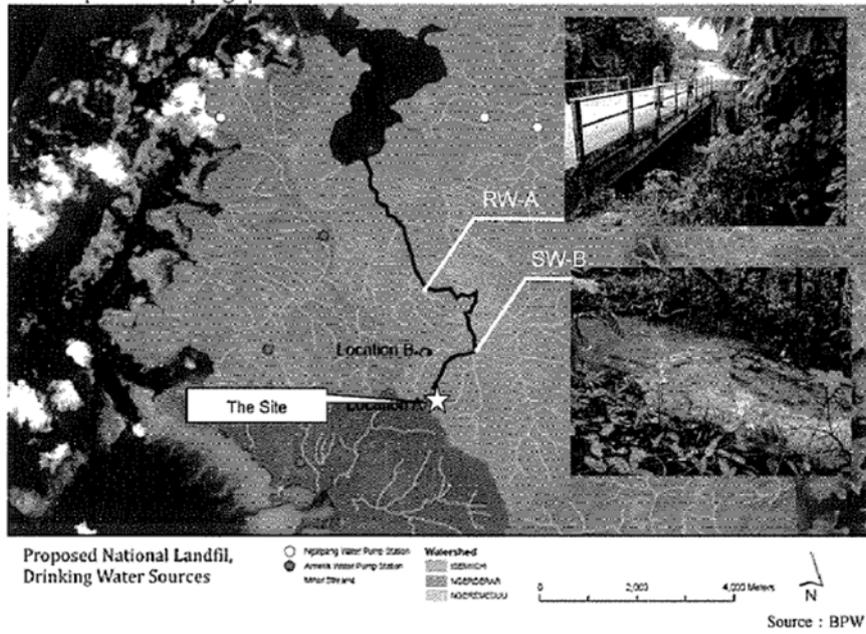
Monitored Item	During reported term
Number of reported accidents	Once a Month

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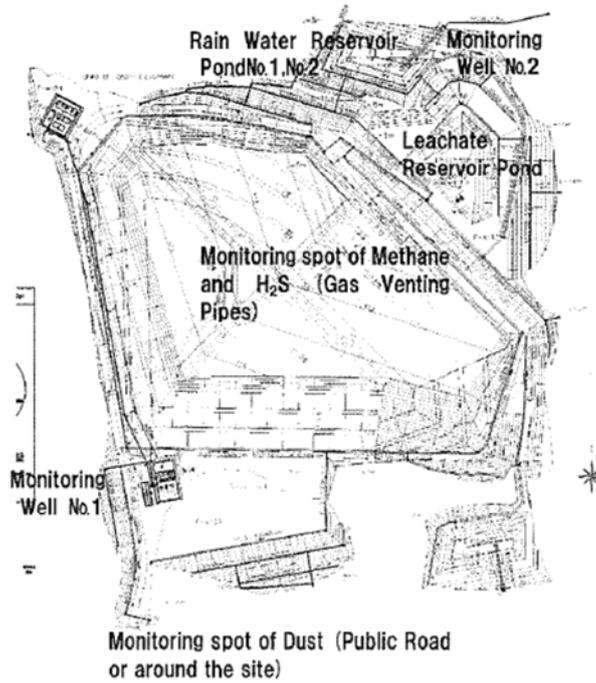
h

Annex 9

Location Map of the sampling spot on Stream and River Water.



Location Map in the landfill site



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【別添1：残土置き場に関する資料】



BUREAU OF PUBLIC WORKS

P.O. Box 100
 Koror, Republic of Palau 96940
 Tel: (680) 488-2480 / 488-2960 Fax: (680) 488-2535
 E-mail: bpw@palsunet.com

January 29, 2018

Mr. Hatsuichi Ngirchomlei
 Chief Sechal Ra Imul
 Koror
 Republic Of Palau 96940

Alii Sechal ra Imul,

Thank you for support of our National Landfill relocation endeavors. The new landfill project that we have partnered with each other to develop, will generate approximately 235,000 cubic yards of soil that needs to be properly disposed.

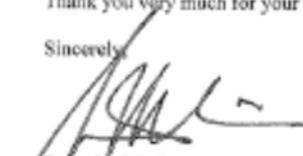
To save cost on transportation of soil materials, we have identified a grass land area within the Trei property that can accommodate these materials with minimal impact to the forest environment. This grass land is shown on the attached satellite photo. The site sits on Lots No. 17MO2-006 and 17MO2-007

The area slopes from the road into the forest about 400 feet towards the east. We believe that after the soil disposal the value of this piece of property is elevated in that it will be a large flat land that can accommodate new development for the Trei Clan.

With this I come to you seeking your approval in this regards. If this request merits your kind understanding and approval, please indicate it as the highest representative of the Trei Clan at the space provided for you.

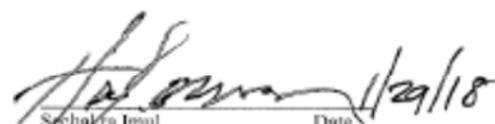
Thank you very much for your never ending support!!

Sincerely,



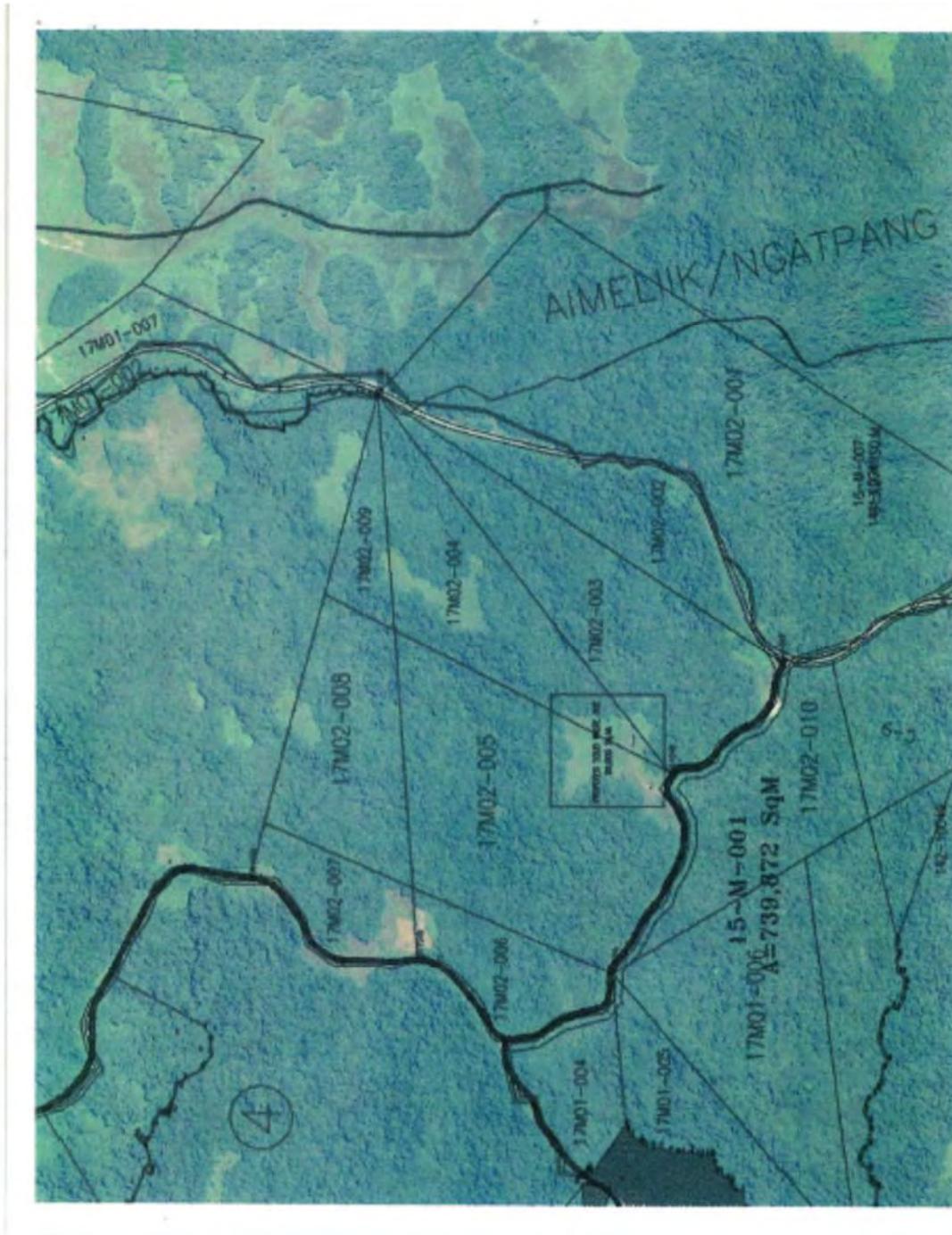
Brian Melairei
 Director
 Bureau of Public Works.

APPROVED:



Sechal ra Imul Date 1/29/18
 Hatsuichi Ngirchomlei





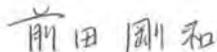
5. テクニカルノート

TECHNICAL NOTE
FOR
THE PROJECT FOR THE CONSTRUCTION OF PALAU NEW NATIONAL LANDFILL

Based on the Minutes of Discussion on the Preparatory Survey for the Project for the Construction of Palau New National Landfill (hereinafter referred to as "the Project") signed between the Palauan side and the Japan International Cooperation Agency (hereinafter referred to as "JICA") Preparatory Survey Team on April 26, 2017, the second field survey was completed in close cooperation between the JICA Preparatory Survey Team (hereinafter referred to as "the Team") and counter personnel of the Bureau of Public Works (hereinafter referred to as "BPW").

In the course of the survey, technical issues have been discussed for the Project to be implemented under the Japan's Grant Aid, and BPW and the Team confirmed the main items described in the attached sheets.

Koror, July 4, 2017



Mr. Masakazu Maeda
Chief Consultant
JICA Preparatory Survey Team
CTI Engineering International Co., Ltd.



Mr. Brian Melairei
Director
Bureau of Public Works
Ministry of Public Infrastructure,
Industries and Commerce

Witness:



Mr. Nobuaki Miyata
Resident Representative
JICA Palau Office

ATTACHMENT**1. Design Service Life of the New Landfill**

Due to land acquisition difficulties for additional landfill sites in the future, BPW requested the Team that the design service life of the new landfill should be not less than twenty (20) years. The Team agreed that the new landfill will be designed considering this request although the final design criteria including the service life of the new landfill will be determined by JICA and the Government of Japan. BPW and the Team (hereinafter referred to as “the both sides”) confirmed that the request by the Palauan side will be considered in the study in Japan.

2. Future Projection of Solid Waste Amount

The Team explained BPW that the future projection of solid waste amount was made based on a result of waste amount survey at M-Dock conducted by J-PRISM Phase 2 as well as previous surveys in Babeldaob by J-PRISM Phase 1. The revised waste amount projection is presented in **Annex-1**. The both sides agreed that the design service life of the new landfill will be estimated by using this projection.

3. Disposal of Residual Soil Produced by Construction Work

BPW agreed that the residual soil produced by construction of the new landfill will be able to be disposed outside of the landfill site. The both sides confirmed that the disposal site of the soil will be directed by BPW and the Project will cover transportation cost from the construction site to the disposal site. The disposal site directed by BPW is shown in attached **Annex-2**.

4. Main Features of the New Landfill

The both sides agreed that main features of the new landfill will be summarized as shown in attached **Annex-3**. However, these features will be finally decided by JICA and the Government of Japan after the study in Japan.

5. Implementation of EA/EIS

The both sides confirmed that BPW will make necessary support for smooth implementation of EA/EIS to get an approval by the Environmental Quality and Protection Board. The Project should be approved by end of November 2017.

6. Implementation of UXO Survey

The both sides confirmed that BPW will carry out necessary surveys for unexploded ordinance remaining in

the new landfill site by end of November 2017.

LIST OF ANNEXES

Annex-1: Future Projection of Solid Waste Amount

Annex-2: Disposal Site of Residual Soil Produced by Construction Work

Annex-3: Main Features of the New Landfill



Annex-1: Future Projection of Solid Waste Amount

Table 1 Summary of Future Projection of Solid Waste Amount

Year	Household Waste (1) (t/day)	Commercial Waste (2) (t/day)	Daily Waste Generation (3) = (1) + (2) (t/day)	Annual Waste Generation (3) × 365 (t/year)	Accumulated Waste Generation (t)
2020	7.67	17.3	24.97	9,114	9,114
2021	7.67	17.9	25.57	9,333	18,447
2022	7.67	18.5	26.17	9,552	27,999
2023	7.67	18.9	26.57	9,698	37,697
2024	7.67	19.4	27.07	9,881	47,578
2025	7.67	19.8	27.47	10,027	57,605
2026	7.67	20.3	27.97	10,209	67,814
2027	7.67	20.7	28.37	10,355	78,169
2028	7.67	21.0	28.67	10,465	88,634
2029	7.67	21.3	28.97	10,574	99,208
2030	7.67	21.6	29.27	10,684	109,892
2031	7.67	21.9	29.57	10,793	120,685
2032	7.67	22.2	29.87	10,903	131,588
2033	7.67	22.5	30.17	11,012	142,600
2034	7.67	22.8	30.47	11,122	153,722
2035	7.67	23.1	30.77	11,231	164,953
2036	7.67	23.2	30.87	11,268	176,221
2037	7.67	23.5	31.17	11,377	187,598
2038	7.67	23.7	31.37	11,450	199,048
2039	7.67	24.0	31.67	11,560	210,608
2040	7.67	24.1	31.77	11,596	222,204
2041	7.67	24.3	31.97	11,669	233,873
2042	7.67	24.6	32.27	11,779	245,652
2043	7.67	24.7	32.37	11,815	257,467
2044	7.67	24.9	32.57	11,888	269,355

Annex-2: Disposal Site of Residual Soil Produced by Construction Work

BPW will secure the disposal site of residual soil and the site shall be located within two kilometers from the new landfill site as shown in a red circle in the following map below.



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Annex-3: Main Features of the New Landfill**1. Types of Solid Waste Disposed in the New Landfill**

The types of solid waste disposed in the new landfill should be household waste and commercial waste generated in Koror State and ten (10) states in Babeldaob Island. These wastes basically will be flammable ones without any intermediate treatment.

2. Required Volume of the New Landfill

The required volume of the new landfill should be determined in consideration of design service life of the landfill, i.e., at least twenty (20) years.

3. Conversion Rate of Waste Volume

The conversion rate of waste volume should be applied for a rate of typical flammable waste, i.e., 1.3 cubic meters (m³) per ton.

4. Main Facilities of the New Landfill**4.1 Retaining Structure**

A retaining structure should be constructed at the downstream of the new landfill site. The structure will be a gravity type of soil embankment.

4.2 Leachate Control Work

A leachate control work should be carried out through installation of leachate collection pipes at the ground level of the new landfill site. Seepage control sheets such as HDPE sheets are not required because of impervious soil conditions of the site.

4.3 Leachate Treatment Facilities

Leachate treatment facilities should be installed at the downstream of the new landfill site. The facilities will be composed of gravel beds, filter using coral and coconut husk, aquatic plants using *cyperus alternifolius*, and biotope based on recirculation of leachate.

4.4 Stormwater Detention Pond

A stormwater detention pond should be built in the new landfill site to regulate the excessive rainwater and avoid overflowing untreated leachate to the downstream of the site.

4.5 Other Facilities Necessary for Operation and Maintenance of the Site

The following facilities necessary for operation and maintenance of the new landfill site should be built inside the site.

a. Truck Scale

A truck scale with measuring, storing and compiling data system should be installed in the new landfill site.

b. Administration Office

An office for operation and maintenance of the new landfill with a toilet, shower and storage space should be built in the site.



