[資　料]

１．　調査団員・氏名

２．　調査工程

３．　関係者（面会者）リスト

４．　討議議事録（M/D）、テクニカルノート

５．　事業事前計画表（基本設計時）

６．　参考資料／入手資料リスト

７．　その他資料・情報

【資料－１：調査団員・氏名】

（１）　現地調査（平成 18 年 9 月 3 日～平成 18 年 10 月 12 日）

担当分野	氏名	所属先
総括	守屋　勉	独立行政法人国際協力機構　モンゴル事務所長
計画管理	井上　陽一	独立行政法人国際協力機構　無償資金協力部業務第三グループ　水資源・環境チーム
業務主任/廃棄物処理計画/環境社会配慮	河野　一郎	国際航業㈱
廃棄物収集運搬計画/機材計画/維持管理計画	志村　享	国際航業㈱
施設計画/設計	佐藤　尚文	国際航業㈱
施工計画/調達計画/積算	藤田　洋	国際航業㈱
通訳	半田　敏幸	㈱テクノスタッフ

（２）　基本設計概要書説明（平成 19 年 1 月 13 日～平成 19 年 1 月 27 日）

担当分野	氏名	所属先
総括	守屋　勉	独立行政法人国際協力機構　モンゴル事務所長
計画管理	井上　陽一	独立行政法人国際協力機構　無償資金協力部業務第三グループ　水資源・環境チーム
業務主任/廃棄物処理計画/環境社会配慮	河野　一郎	国際航業㈱
施設計画/設計	佐藤　尚文	国際航業㈱
施工計画/調達計画/積算	藤田　洋	国際航業㈱
通訳	半田　敏幸	㈱テクノスタッフ

（３）　基本設計成果概要書説明（平成 19 年 3 月 13 日～平成 19 年 3 月 24 日）

担当分野	氏名	所属先
総括	守屋　勉	独立行政法人国際協力機構　モンゴル事務所長
業務主任/廃棄物処理計画/環境社会配慮	河野　一郎	国際航業㈱
施工計画/調達計画/積算	藤田　洋	国際航業㈱
通訳	半田　敏幸	㈱テクノスタッフ

【資料－２：調査日程】

（１）　現地調査（平成 18 年 9 月 3 日～平成 18 年 10 月 12 日）

<table>
<tr><th rowspan="2">日順</th><th rowspan="2">月日</th><th rowspan="2">曜日</th><th>総括（JICA）</th><th>計画管理(JICA)</th><th>業務主任/廃棄物処理計画/環境社会配慮</th><th>廃棄物収集運搬計画/機材計画/維持管理計画</th><th>施設計画設計</th><th>施工計画/調達計画/積算</th><th>通訳</th></tr>
<tr><td>守屋勉</td><td>井上陽一</td><td>河野一郎</td><td>志村亨</td><td>佐藤尚文</td><td>藤田洋</td><td>半田　敏幸</td></tr>
<tr><td>1</td><td>9月3日</td><td>日</td><td></td><td colspan="6">成田→北京、北京19:30(OM224)→ウランバートル22:45</td></tr>
<tr><td>2</td><td>9月4日</td><td>月</td><td colspan="7">ＪＩＣＡモンゴル事務所打合せ、日本国大使館表敬、ウランバートル市　表敬／インセプションレポート説明</td></tr>
<tr><td>3</td><td>9月5日</td><td>火</td><td colspan="7">現地踏査(ナラギンエンゲル新処分場予定地、ウランチュルート既設処分場、機材ワークショップ)</td></tr>
<tr><td>4</td><td>9月6日</td><td>水</td><td colspan="7">ミニッツ協議</td></tr>
<tr><td>5</td><td>9月7日</td><td>木</td><td colspan="7">ミニッツ協議</td></tr>
<tr><td>6</td><td>9月8日</td><td>金</td><td colspan="7">ミニッツ署名、ＪＩＣＡモンゴル事務所報告、日本国大使館報告</td></tr>
<tr><td>7</td><td>9月9日</td><td>土</td><td></td><td>ウランバートル
07:45(OM501)→成田
12:30</td><td colspan="3" rowspan="8">現地調査（ウランバートル市内）</td><td></td><td>ｳﾗﾝﾊﾞｰﾄﾙ7:25(OM223)→
北京08:30、北京14:50
(JL782)→成田19:15</td></tr>
<tr><td>8</td><td>9月10日</td><td>日</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>9</td><td>9月11日</td><td>月</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10</td><td>9月12日</td><td>火</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>11</td><td>9月13日</td><td>水</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>12</td><td>9月14日</td><td>木</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>13</td><td>9月15日</td><td>金</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>14</td><td>9月16日</td><td>土</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>15</td><td>9月17日</td><td>日</td><td></td><td></td><td colspan="3">資料収集、団内打合せ</td><td></td><td></td></tr>
<tr><td>16</td><td>9月18日</td><td>月</td><td></td><td></td><td colspan="3" rowspan="6">現地調査（ウランバートル市内）</td><td></td><td></td></tr>
<tr><td>17</td><td>9月19日</td><td>火</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>18</td><td>9月20日</td><td>水</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>19</td><td>9月21日</td><td>木</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>20</td><td>9月22日</td><td>金</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>21</td><td>9月23日</td><td>土</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>22</td><td>9月24日</td><td>日</td><td></td><td></td><td colspan="3">資料収集、団内打合せ</td><td></td><td></td></tr>
<tr><td>23</td><td>9月25日</td><td>月</td><td></td><td></td><td colspan="3" rowspan="3">現地調査（ウランバートル市内）</td><td></td><td></td></tr>
<tr><td>24</td><td>9月26日</td><td>火</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>25</td><td>9月27日</td><td>水</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>26</td><td>9月28日</td><td>木</td><td></td><td></td><td colspan="3">ウランバートル市との協議</td><td></td><td></td></tr>
<tr><td>27</td><td>9月29日</td><td>金</td><td></td><td></td><td colspan="3">ＪＩＣＡモンゴル事務所報告、日本国大使館報告</td><td></td><td></td></tr>
<tr><td>28</td><td>9月30日</td><td>土</td><td></td><td></td><td colspan="2">ｳﾗﾝﾊﾞｰﾄﾙ7:25(OM223)→北京08:30、
北京14:50（JL782)→成田19:15</td><td>現地調査(ウランバートル市内)</td><td></td><td></td></tr>
<tr><td>29</td><td>10月1日</td><td>日</td><td></td><td></td><td></td><td></td><td>資料整理、団内打合せ</td><td></td><td></td></tr>
<tr><td>30</td><td>10月2日</td><td>月</td><td></td><td></td><td></td><td></td><td rowspan="6">現地調査(ウランバートル市内)</td><td></td><td></td></tr>
<tr><td>31</td><td>10月3日</td><td>火</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>32</td><td>10月4日</td><td>水</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>33</td><td>10月5日</td><td>木</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>34</td><td>10月6日</td><td>金</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>35</td><td>10月7日</td><td>土</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>36</td><td>10月8日</td><td>日</td><td></td><td></td><td></td><td></td><td>資料整理、団内打合せ</td><td></td><td></td></tr>
<tr><td>37</td><td>10月9日</td><td>月</td><td></td><td></td><td></td><td></td><td rowspan="2">現地調査(ウランバートル市内)</td><td></td><td></td></tr>
<tr><td>38</td><td>10月10日</td><td>火</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>39</td><td>10月11日</td><td>水</td><td></td><td></td><td></td><td></td><td rowspan="2">移動(ウランバートル→成田)</td><td></td><td></td></tr>
<tr><td>40</td><td>10月12日</td><td>木</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

（2） 基本設計概要説明（平成 19 年 1 月 13 日～平成 19 年 1 月 27 日）

日順	月日	曜日	総括（JICA）	計画管理(JICA)	業務主任/廃棄物処理計画／環境社会配慮	施設計画設計	施工計画／調達計画／積算	通訳
			守屋勉	井上陽一	河野一郎	佐藤尚文	藤田洋	半田敏幸
1	1月13日	土		成田17:55(JL959)→ソウル20:40	成田→北京			
2	1月14日	日		ソウル13:55(OM302)→ｳﾗﾝﾊﾞｰﾄﾙ16:35	北京09:00(CA901)→ウランバートル11:15			
3	1月15日	月	JICAモンゴル事務所打合せ／日本国大使館表敬／自然環境省表敬／財務経済省表敬／ウランバートル市表敬・基本設計概要書説明					
4	1月16日	火	基本設計概要書説明・協議					
5	1月17日	水	基本設計概要書説明・協議、ミニッツ協議					
6	1月18日	木	ミニッツ協議・署名、JICAモンゴル事務所報告、日本国大使館報告					
7	1月19日	金		ウランバートル08:00(OM501)→成田14:55	現地調査			ウランバートル12:15(CA902)→北京14:05､北京→成田
8	1月20日	土						
9	1月21日	日						
10	1月22日	月						
11	1月23日	火						
12	1月24日	水						
13	1月25日	木						
14	1月26日	金						
15	1月27日	土			ウランバートル10:00(OM223)→北京12:00、北京15:05(JL782)→成田19:20			

（3） 基本設計成果概要説明（平成 19 年 3 月 13 日～平成 19 年 3 月 24 日）

日順	月日	曜日	総括（JICA）	業務主任/廃棄物処理計画／環境社会配慮	施工計画／調達計画／積算	通訳
			守屋勉	河野一郎	藤田洋	半田敏幸
1	3月13日	火		成田→北京		
2	3月14日	水		北京09:00(CA901)→ウランバートル11:15、JICAモンゴル事務所打合せ、ウランバートル市表敬・打合せ		
3	3月15日	木	自然環境省表敬／財務経済省表敬／ウランバートル市　基本設計成果概要書説明			
4	3月16日	金		基本設計成果概要書説明・協議		
5	3月17日	土		現地調査、見積もり単価再調査、ウェストファンドの進捗調査など		
6	3月18日	日				
7	3月19日	月				
8	3月20日	火				
9	3月21日	水				
10	3月22日	木		基本設計概要書説明・協議、ミニッツ協議		
11	3月23日	金	ミニッツ署名、JICAモンゴル事務所報告、日本国大使館報告			
12	3月24日	土		ウランバートル10:00(OM223)→北京12:00、北京15:05(JL782)→成田19:20		

【資料－３：面談者リスト】

（１）　現地調査時

＜モンゴル側＞

Municipality of Ulaanbaatar　（ウランバートル市役所）

Mr. Gombosuren Munkhbayar	General Manager of Ulaanbaatar City and Chief of the Mayor ’s office
Mr. Bold Tsegmid	Director of City Maintenance and Public Utility Agency
Mr. Badam Delgerbayar	Head of Waste Management Department, City Maintenance and Public Utility Agency

Ministry of Nature and Environment　（自然環境省）

Mr. Enkhee Gavaa	Director of International Cooperation Department
Mr T. Batzorig	Senior officer of International Cooperation Department
Ms.Sarantuya	Officer of Environment Natural Resources Department

Ministry of Finance　（財務省）

Mr. Togmid Dorjkhand	Deputy Director General of Department of Policy and Coordination for Loans and Aid
Mr. Khuukhee Erdenebileg	Officer of Department of Policy and Coordination for Loans and Aid

＜日本側＞

在モンゴル日本国大使館

新見　友啓	二等書記官

JICA モンゴル事務所

佐々木　美穂	所員

（２）　基本設計概要説明時

＜モンゴル側＞

Municipality of Ulaanbaatar　（ウランバートル市役所）

Mr. Gombosuren Munkhbayar	General Manager of Ulaanbaatar City and Chief of the Mayor ’s office
Mr. Bold Tsegmid	Director of City Maintenance and Public Utility Agency
Mr. Badam Delgerbayar	Head of Waste Management Department, City Maintenance and Public Utility Agency

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Mr. Togmid Dorjkhand	Deputy Director General of Department of Policy and Coordination for Loans and Aid
Mr. Khuukhee Erdenebileg	Officer of Department of Policy and Coordination for Loans and Aid

＜日本側＞

在モンゴル日本国大使館

新見　友啓	二等書記官

JICA モンゴル事務所

佐々木　美穂	所員

（3） 基本設計成果概要説明時

＜モンゴル側＞

Municipality of Ulaanbaatar （ウランバートル市役所）

Mr. Gombosuren Munkhbayar	General Manager of Ulaanbaatar City and Chief of the Mayor ’s office
Mr. Bold Tsegmid	Director of City Maintenance and Public Utility Agency
Mr. Badam Delgerbayar	Head of Waste Management Department, City Maintenance and Public Utility Agency

Ministry of Nature and Environment （自然環境省）

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Ministry of Finance （財務省）

Mr. Togmid Dorjkhand	Deputy Director General of Department of Policy and Coordination for Loans and Aid
Mr. Khuukhee Erdenebileg	Officer of Department of Policy and Coordination for Loans and Aid

＜日本側＞

在モンゴル日本国大使館

新見 友啓	二等書記官

JICA モンゴル事務所

佐々木 美穂	所員

【資料－４：討議議事録（M/D）、テクニカルノート】

番号	資料名	日付け
①	Minutes of Discussion No 1	Sep 09, 2006
②	Minutes of Discussion No 2	Jan 18, 2007
③	Minutes of Discussion No 3	Mar 23, 2007
④	Technical Note No1	Sep 29, 2006
⑤	Technical Note No2	Jan 25, 2007

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR IMPROVEMENT OF SOLID WASTE MANAGEMENT IN ULAANBAATAR IN MONGOLIA

In response to a request from the Government of Mongolia, the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of Solid Waste Management in Ulaanbaatar in Mongolia (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Mongolia the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr.Tsutomu MORIYA, Resident Representative, JICA Mongolia Office, and is scheduled to stay in the country from September 4 to October 11, 2006.

The Team held discussions with the officials concerned of the Government of Mongolia and conducted a field survey at the study area.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Ulaanbaatar, September 8, 2006

Mr. Tsutomu MORIYA
Leader
Basic Design Study Team
Japan International Cooperation Agency (JICA)

Mr. Gombosuren MUNKHBAYAR
General Manager of Ulaanbaatar city
Head of the Governor's working division
Municipality of Ulaanbaatar
The Government of Mongolia

Mr. Togmid DORJKHAND
Deputy Director-General
Department of Policy and Coordination for Loans and Aid
Ministry of Finance
The Government of Mongolia

Mr. Gavaa ENKHEE
Director
International Cooperation Department
Ministry of Nature and Environment
The Government of Mongolia

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve the solid waste management of Municipality of Ulaanbaatar (hereinafter referred as "MUB") through procuring equipment related to solid waste management and constructing Narangiin Enger Disposal Site (hereinafter referred as "NEDS").

2. Project sites

The Project sites are 7 Duuregs in Ulaanbaatar City (hereinafter referred as"UBC") as described below and NEDS, the location thereof is shown in the attached Annex-1.

1	Bayangol Duuregs
2	Bayanzurkh Duureg
3	Songinokhairkhan Duureg
4	Sukhbaatar Duureg
5	Khan-Uul Duureg
6	Chingeltei Duureg
7	Nalaikh Duureg

3. Responsible and Implementing Agency

3-1) The Responsible Agency is Municipality of Ulaanbaatar (MUB)

3-2) The Implementing Agency is City Maintenance and Public Utility Division (hereinafter referred as "CMPUD") of MUB.

The Mongolian side explained that at present Nuuts Company is in charge of operation of final disposal sites in UBC and maintenance of equipment for final disposal under the direct control of CMPUD and TUKs(cleansing companies licenced by Duuregs) are in charge of waste collection in UBC and maintenance of waste collection equipment on the contract basis with MUB.

The Mongolian side explained that reorganization of waste management system is under consideration and will be approved by the middle of December 2006.

3-3) Present Organization Chart of Implementing Agency is described in Annex-2

4. Items requested by the Government of Mongolia

After discussions with the Team, the items described in Annex-3 were finally requested by the Mongolian side. JICA will assess the appropriateness of the request through further study and will recommend to the Government of Japan for approval.

5. Japan's Grant Aid Scheme

5-1) The Mongolian side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-5.

5-2) The Mongolian side will take the necessary measures, as described in Annex-6, for smooth

implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.

6. Schedule of the Study

6-1) The consultant members of the team will proceed to further studies in Mongolia until October 10, 2006.

6-2) JICA will prepare the draft report in English and dispatch a mission in order to explain its contents in the middle of December 2006.

After Explanation of the draft report, JICA will proceed to further study and prepare the draft final report and dispatch a mission in order to explain its contents in the middle of March 2007.

6-3) In case that the contents of the draft final report is accepted in principle by the Government of Mongolia, JICA will complete the final report and send it to the Government of Mongolia by July 2007.

7. Other relevant issues

7-1) Phases of the Study

The Team explained that the Study consisted of two phases; Phase I and II. In Phase I, JICA will prepare the draft report which includes a basic concept of the Project and its basic design. In phase II, JICA will prepare the draft final report which includes the engineering design on the basis of the study results of Phase II.

The final report will be completed by JICA through integration of the study results of both Phase I and II.

7-2) Target Year

Both sides confirmed that target year of the project shall be 2010.

7-3) Monitoring plan of the NEDS by the Mongolian side

Both sides confirmed the monitoring plan and locations of NEDS by the Mongolian side as follows;

Monitoring Plan of NEDS :

1.Air pollution	NH_3, CO_2, CH_4, SO_2, H_2O, Temperature for Landfill gas
2.Soil pollution	Soil hygiene assessment indicators stipulated by Minister's resolution # 68/A/61, June 22, 1989, Appendix 5, Ministry of Nature and Environment and Ministry of Health (UST 3297-91)..
3.Groundwater pollution	The indicators of bacteriology, nitrogen and other compounds stipulated by "The Drinking water quality standard UST0900-92"
4.Surfacewater pollution	Electric conductivity, Cl^-, pH
5.Noise	Noise level
6.Offensive odor	Personal check
7.Settlement	Settlement level of landfill surface

Monitoring locations: as attached in ANNEX-4.

The Mongolian side promised to arrange necessary budget and personnel for conducting the above-mentioned monitoring plan of NEDS.

The Japanese side explained that total amount of necessary budget and personnel for the monitoring will be shown in the draft report to be prepared by the Japanese side.

7-4) Resettlement of Ger Houses within the site of NEDS

The Mongolian side explained that the candidate site of NEDS is already secured by MUB but two Ger Houses still exist in the candidate site of NEDS.

The Mongolian side also explained that MUB shall allocate alternative lands for them and take necessary actions to resettle them by the end of August 2007.

7-5) Sanitary Landfill at NEDS

The Mongolian side explained that MUB shall operate sanitary landfill at NEDS after completion of construction of NEDS and procurement of machineries by the Project.

The Mongolian side also explained that MUB shall allocate necessary budget for recruiting necessary personnel and Operating and Maintenance (O&M) of machineries in order to properly operate sanitary landfill at NEDS.

The Japanese side explained that total amount of necessary budget and personnel for operating NEDS will be shown in the draft report to be prepared by the Japanese side.

7-6) Construction of Sorting Yard

The Japanese side proposed that sorting yard requested by the Mongolian side shall be constructed by the Mongolian side using construction machineries to be procured under the Project because introduction of separate waste collection system which is prerequisite of sanitary hand sorting is not decided yet.

The Mongolian side strongly requested construction of sorting yard should be included in the Project, but after discussions between both sides, the Mongolian side finally agreed on it and both sides confirmed that construction of sorting yard is excluded from the requested items by the Mongolian side.

Both sides also confirmed that sorting yard is the very important and necessary facility for securing job opportunities and sanitary working conditions of Waste Pickers, and the Mongolian side explained that they will construct it by themselves.

The Mongolian side promised to proceed to further study for introducing separate waste collection system with the cooperation of JICA Development Study Team on "The Study on Solid Waste Management Plan for Ulaanbaatar City in Mongolia".

7-7) RDF manufacturing plant

The Mongolian side strongly requested that construction of RDF manufacturing plant shall be included in the Project because they put much emphasis on promotion of 3Rs (Recycle, Reduce,

Reuse) and treatment of paper and plastic waste.

The Japanese side explained that construction of RDF manufacturing plant is difficult under the Japanese Grant Aid Scheme because introducing of separate waste collecting system which is prerequisite of introducing RDF manufacturing is not decided yet and construction of RDF plant was not originally requested in the application form for Japanese Grant Aid submitted by the Mongolian side.

After discussions between both sides, both sides finally confirmed that RDF manufacturing plant shall not be included in the Project.

The Mongolian side explained that they will proceed to further study for introducing RDF manufacturing with the cooperation of JICA Development Study Team on "The Study on Solid Waste Management Plan for Ulaanbaatar City in Mongolia".

7-8) Considerations for Waste Pickers

The Mongolian side promised to pay necessary attention and consideration to Waste Pickers who are currently working at Ulaan Chuluut Disposal Site (hereinafter referred as "UCDS") and prospected to move to NEDS for Waste Picking after closing of UCDS and opening of NEDS.

The Mongolian side explained that MUB will introduce separate waste collection system in the Planned Area and construct Naragiin Enger Recycling Complex (NERC) next to NEDS including sorting yard in future in order to provide job opportunities for Waste Pickers.

The Japanese side proposed that the Mongolian side shall secure necessary place and time for Waste Picking in landfill operation of NEDS before completion of construction of NERC (especially sorting yard). The Mongolian side agreed on it and both side confirmed that the Japanese side will study operation methods of landfill in order for Waste Pickers to continue their works at NEDS.

The Mongolian side requested necessary facilities for organization of Waste Pickers and the Japanese side promised to convey the request to the Government of Japan.

7-9) Construction of the Central Workshop for waste collection equipment

The Mongolian side explained that the Central Workshop shall be constructed by the Mongolian side by the end of 2007 and necessary budget will be approved by the end of December 2006.

The Mongolian side promised to arrange necessary budget and personnel to properly operate the Central Workshop.

The Japanese side explained that total amount of necessary budget and personnel for operation and maintenance of the equipment to be procured by the Project will be shown in the draft report to be prepared by the Japanese side.

7-10) Provision of Collection Service to all the households in UBC

The Mongolian side explained that they shall provide collection services to all the households in UBC including Ger area by the year 2010 and promised to make all possible efforts to realize it including reorganization of waste management and financial system for solid waste management.

7-11) Reorganization of financial system for solid waste management

The Mongolian side explained that MUB had revised collection fee on 1st September 2006 and reorganization of financial system for solid waste management is under consideration and will be approved by the end of December 2006.

Both sides confirmed that the Team will discuss further with the Mongolian side to effectively reorganize financial system for solid waste management.

7-12) Green belts of NEDS

Both sides confirmed that trees for Green belts of NEDS shall be planted and maintained by the Mongolian side.

The Mongolian side requested that the Japanese side shall construct fences for Green belts to prevent plastic waste from flying into another area.

The Japanese side promised to convey the request to the Government of Japan.

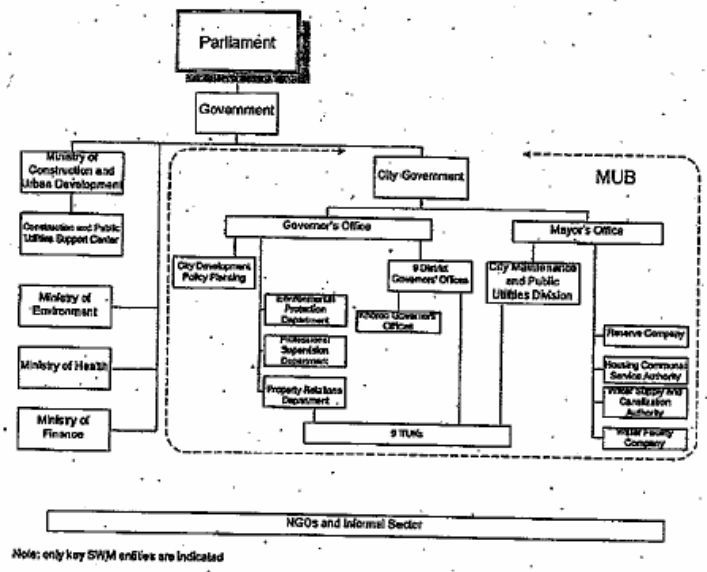
7-13) Both sides confirmed that the Mongolian side shall be responsible for the results of the execution of the Project on the basis of all documents and drawings prepared as a result of the Study.

ANNEX-1: Project Area and Location of NEDS

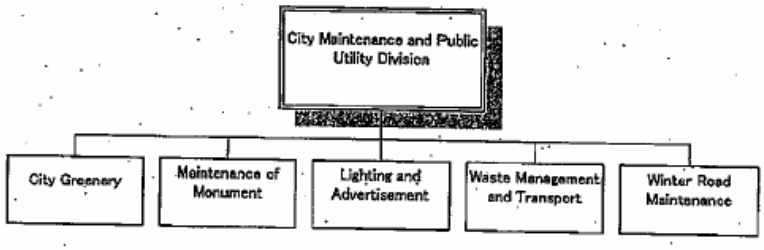
Project Area (7 Duuregs in Ulaanbaatar City)

Annex-2:

Organization chart of Municipality of Ulaanbaatar (MUB)



Organization chart of City Maintenance and Public Utility Division (CMPUD)



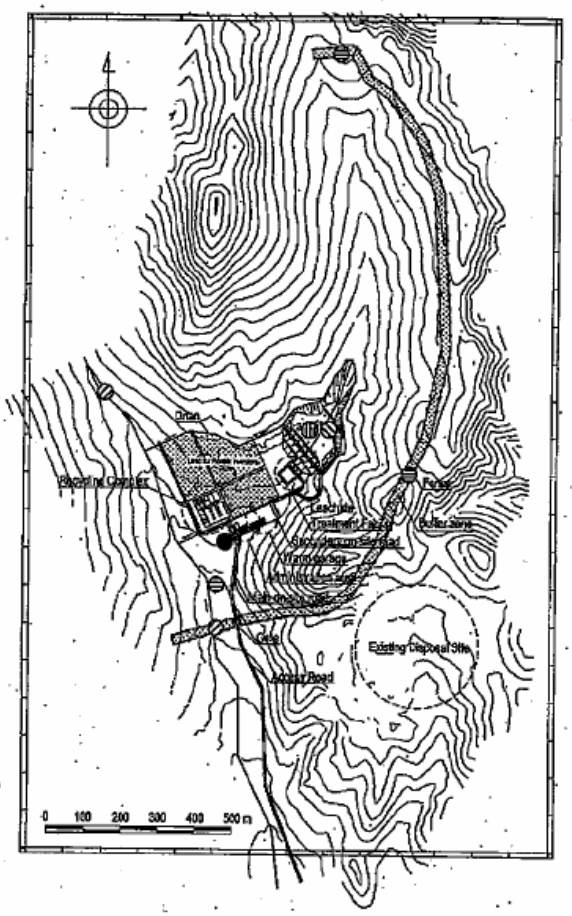
Annex-3:Items requested by the Mongolian side

1) Construction of Nagiin Enger Disposal Site

2) Procurement of equipment listed as below;

Equipment	Specification	Unit	Quantity
1.Waste collection equipment			
1.1 Compactor truck	15 m3	Unit	14
1.2 Compactor truck	8 m3	Unit	6
1.3 Dump truck	8 ton	Unit	13
1.4 Skip Loader Truck	for 5m3 container	Unit	2
1.5 Container	5 m3	Unit	40
1.6 Truck	2 ton	Unit	2
2. Landfill equipment			
(For NEDS)			
2.1 Bulldozer	21 ton class	Unit	2
2.2 Excavator	0.7 m3	Unit	1
2.3 Dump truck	10 ton	Unit	3
2.4 Water tank truck	6000L	Unit	1
2.5 Pick up truck	4WD	Unit	1
(For Morin Davaa and Khoroo21)			
2.7 Bulldozer	13 ton class	Unit	1
2.8 Wheel loader	1.2m3	Unit	1
(For Nalaikh)			
2.9 Wheel Loader	1.2m3	Unit	1
3. Workshop equipment and tools			
3.1 Equipment	Tire changer, compressor, welder, car lifter etc	Lump sum	1
3.2 Tools	maintenance tools	Lump sum	1

ANNEX-4 : Planed Locations for Monitoring of NEDS



- Ground water (Monitoring well)
- Surface water (Existing river)
- Landfill gas
- Offensive odor and Noise
- Settlement of Landfill Surface

ANNEX-5 : JAPAN'S GRANT AID SCHEME

1. Grant Aid Procedure

1) Japan's Grant Aid Program is executed through the following procedures.

Application (Request made by a recipient country)
Study (Basic Design Study conducted by JICA)
Appraisal & Approval (Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation (The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA send a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

2. Basic Design Study

1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Study are as follows:

a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
d) preparation of a basic design of the Project; and

e) estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even through they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

2) Selection of Consultants

For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

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

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality,)

5) Necessity of "Verification"
The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability of Japanese taxpayers.

6) Undertakings required to the Government of the recipient country
a) to secure a lot of land necessary for the construction of the Project and to clear the site;
b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.

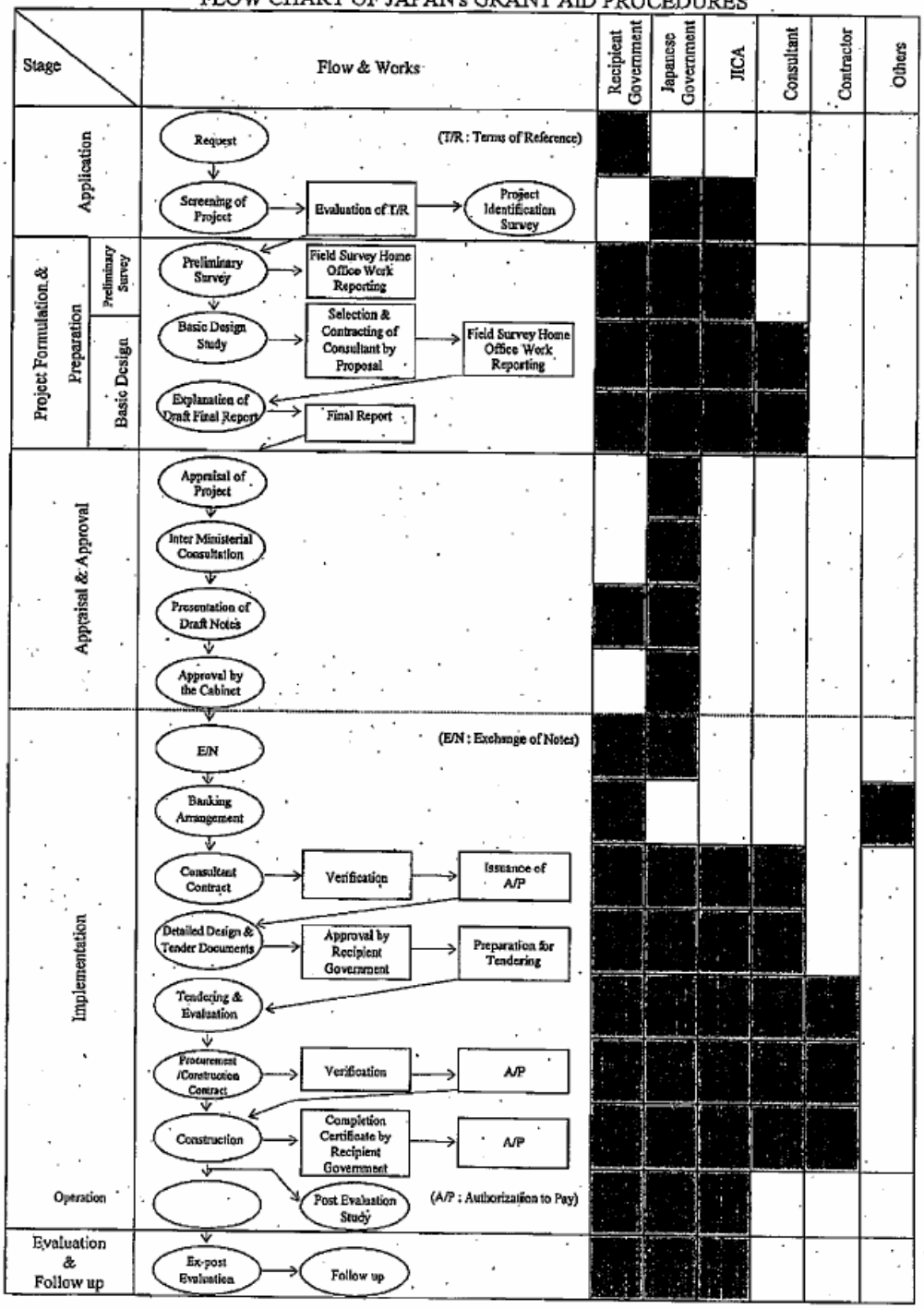
7) "Proper Use"
The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.

8) "Re-export"
The products purchased under the Grant Aid shall not be re-exported from the recipient country.

9) Banking Arrangement (B/A)
a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

Attachment for Annex-5

FLOW CHART OF JAPAN's GRANT AID PROCEDURES



Annex-6: Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To Clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site	●	●
4	To construct the parking lot		●
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the buildings	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water supply		
	a. The city water distribution main to the site	—	—
	b. The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site	—	—
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Telephone system		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	5) Furniture and Equipment		
	a. General furniture		●
	b. Project Equipment	●	
8	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		●
	2) Payment commission		●
9	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from port of disembarkation to the project site	●	
10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract.		●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
13	To bear all the expenses , other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

B/A:Banking Arrangement A/P:Authorization to Pay

MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR IMPROVEMENT OF SOLID WASTE MANAGEMENT IN ULAANBAATAR IN MONGOLIA
(EXPLANATION OF DRAFT REPORT)

In September and October 2006, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Basic Design Study Team on the Project for Improvement of Solid Waste Management in Ulaanbaatar in Mongolia (hereinafter referred to as "the Project") to Mongolia (hereinafter referred to as "Mongolia"), and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult with the Government of Mongolia on the components of the draft report, JICA sent to Mongolia the Draft Report Explanation Team (hereinafter referred to as "the Team"); which is headed by Mr. Tsutomu MORIYA, Resident Representative, JICA Mongolia Office, from January 14 to January 27, 2007.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Ulaanbaatar, January 18, 2007

Mr. Tsutomu MORIYA
Leader
Draft Report Explanation Team
Japan International Cooperation Agency (JICA)

Mr. Gombosuren MUNKHBAYAR
General Manager of Ulaanbaatar city
Head of the Governor's office
Municipality of Ulaanbaatar
The Government of Mongolia

Mr. Togmid DORJKHAND
Deputy Director-General
Department of Policy and Coordination for Loans and Aid
Ministry of Finance
The Government of Mongolia

Mr. Gavaa ENKHEE
Director
International Cooperation Department
Ministry of Nature and Environment
The Government of Mongolia

ATTACHMENT

1. Components of the Draft Report

The Government of Mongolia agreed and accepted in principle the components of the draft report explained by the Team.

2. Japan's Grant Aid scheme

The Mongolian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Mongolia as explained by the Team and described in Annex-5 and Annex-6 of the Minutes of Discussions signed by both parties on September 8, 2006.

3. Responsible and Implementing Agency

3-1) The Responsible Agency is Municipality of Ulaanbaatar (hereinafter referred as "MUB")

3-2) The Implementing Agency is City Maintenance and Public Utility Agency (hereinafter referred as "CMPUA") of MUB.

The Mongolian side explained that after reorganization of waste management system of MUB CMPUA was at present in charge of both waste collection works and final disposal sites operation works including maintenance of equipment, and CMPUA directly manages them.

3-3) Present Organization Chart of Implementing Agency is described in Annex-1

4. Schedule of the Study

4-1) The consultant members of the team will proceed to further studies in Mongolia until January 27, 2007.

4-2) JICA will proceed to further study and prepare the draft final report and dispatch a mission in order to explain its contents in the middle of March 2007.

4-3) In case that the contents of the draft final report is accepted in principle by the Government of Mongolia, JICA will complete the final report and send it to the Government of Mongolia by July 2007.

5. Other relevant issues

5-1) Components of the Project

Both sides confirmed that the Project would be composed of the items listed in Annex-2 in case the Japanese Government would finally decide to implement the Project.

Both sides also confirmed that procurement of Wheel loader with back hoe for Morin Davaa Disposal Site (MDDS) would be further studied by the Japanese side.

1

5-2) Reorganization of financial system for solid waste management

The Mongolian side explained that they introduced new financial system for waste management called "Waste Fund" as described in Annex-3 and the "Waste Fund" system was put into effect on 1 January 2007.

5-3) Budget and Personnel Allocations for Operation and Maintenance (O&M)

The Japanese side explained necessary budget and personnel for operation and maintenance (O&M) of the Project as described in Annex-4, and both sides confirmed that the Mongolian side should allocate all the necessary budget and personnel for O&M of the Project as described in Annex-4 in case the Japanese Government would finally decide to implement the Project.

The Mongolian side explained that necessary budget for the Project would be covered by waste collection and disposal fee and own budget of MUB.

5-4) Monitoring plan of the Narangiin Enger Disposal Site (NEDS) by the Mongolian side

The Mongolian side explained that they should conduct periodical environmental monitoring in Narangiin Enger Disposal Site (NEDS) and promised to arrange necessary financial arrangement as described in Annex -7.

The Mongolian side promised to send periodical Monitoring Reports to JICA Mongolia Office every year.

5-5) Preparation works for Central Workshop and warm garages for waste collection equipment

The Mongolian side explained that CMPUA had already secured necessary budget for preparation works for Central Workshop and warm garages and promised to complete necessary works by the end of 2007.

5-6) Equipment for Morin Davaa Disposal Site (MDDS)

The Mongolian side strongly requested to include Wheel loader with back hoe for Morin Davaa Disposal Site (hereinafter referred as "MDDS") in the Project and explained as follows;

a) EIA process of MDDS is on-going and will be completed by the end of July 2007.
b) MDDS is duly approved and owned disposal site by MUB and it was constructed before introduction of Mongolian EIA law. There is no legal problem in disposing of wastes in MDDS.
c) The Mongolian side will take necessary measures for introducing semi-sanitary landfilling in MDDS including leveling existing wastes and covering them with soils.

The Japanese side promised to convey the request to the Government of Japan.

The Japanese side explained that Wheel loader with back hoe for MDDS cannot be included in the Project without completion of the EIA process and it should be excluded from

the Project unless the Mongolian side complete the EIA process by the end of July 2007. The Mongolian side understood it.

5-7) Technical assistance (Soft Components)

Both sides confirmed that technical assistance (so-called "Soft Components") listed in Annex-5 will be implemented in case the Japanese Government would finally decide to implement the Project.

The Japanese side explained that detail components of technical assistance (Soft Components) are under consideration and will be explained by the Team around the middle of March 2007.

The Mongolian side promised to allocate necessary personnel and resources to conduct technical assistance (Soft Components).

The Mongolian side requested technical assistance for waste collection works such as management of waste collection vehicles to be included the Soft Components and the Japanese side promised to covey the request to the Government of Japan.

5-8) Hazardous Wastes

The Mongolian side agreed that the hazardous wastes such as hazardous medical wastes and hazardous industrial wastes should not be transported and disposed of at NEDS and other three municipal landfill sites and MUB will take necessary measures described in the Annex-6

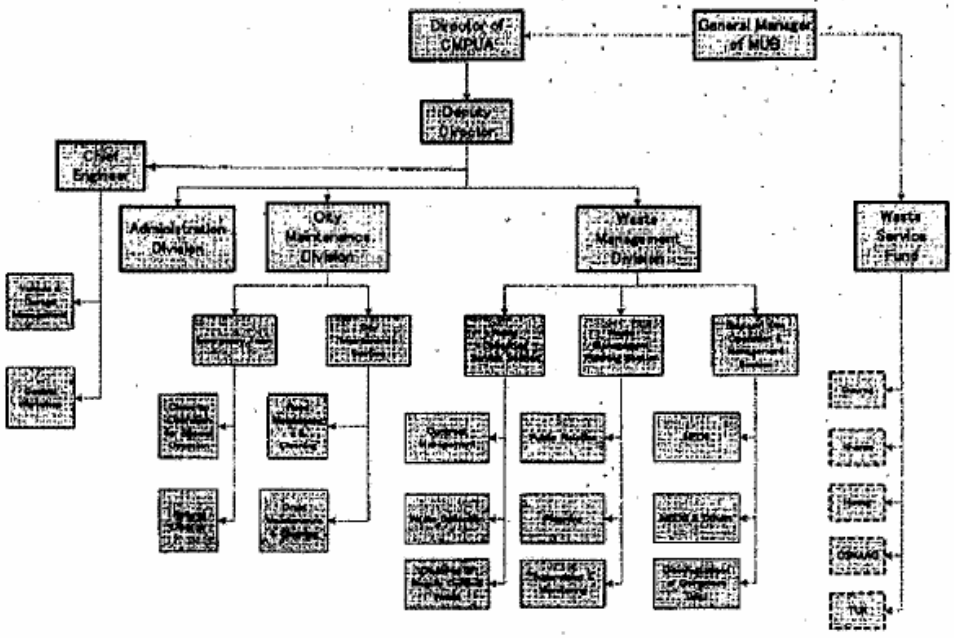
5-9) Obligations of the Mongolian side for implementing the Project

The Mongolian side agreed to take necessary measures and bear the necessary cost for implementing the Project as described in Annex-8

5-10) Submersible pump for recirculation of leachate treatment facility of NEDS

The Mongolian side agreed to purchase submersible pump for recirculation of leachate treatment facility of NEDS by their own budget before the completion of construction works of NEDS. The Japanese side promised to inform the Mongolian side of the required detail spec of the pump.

Annex-1: Organization chart of City Maintenance and Public Utility Agency (CMPUA)



Annex-2: Components of the Project

Facilities Lists

No	Description	Specification	Quantity	Purposes
A	Narangiin Enger Disposal Site			
	Facilities of Disposal Site			
A 1	Embankment	Filling, Crown width:8m, Hight:10m	1 no	Proper waste disposal
A 2	Rainwater drainage	V shape concrete U shape concrete Earth drainage	Approx.1,200m Approx.800m Approx.600m	Diversion of rainwater and clear boundary of disposal site
A 3	Road for common vehicles and waste collection vehicles	Asphalt pavement	Approx.800m	Access to disposal site smoothly
A 4	Road for heavy equipment	Gravel pavement	Approx.500m	Access to disposal site
	Environmental Protection Facility			
A 5	Leachate collection facility	Perforate steel pipe diameter⌀600mm Impervious wall(Reinforced concrete)	Approx.320m 1 no	Collection and transfer of leachate to treatment facility
A 6	Leachate Treatment Facility	Reinforced Concrete	1 no	Treatment of the Leachate
A 7	Gas removal facility	Perforated steel pipe, cobble stone	26 nos.	Removal of methane gas
A 8	Fence for prevention of waste scattering	Inside net fence :H=3.0m Outside=2.0m	Approx.2,200m Approx.2,200m	Prevention of plastic waste scattering
A 9	Buffer zone(Mongolian side responsibility)	Zones planted with trees	1 unit	Mitigation of environment deterioration
A 1 0	Tire wash pit	Reinforced concrete	1 no	Wash the dirty tire of collection vehicle after dumping waste
	Operation & Maintenance Facility			
A 1 1	Final Disposal Site Administration Office	Reinforced concrete ,steel frame structure: 1 story	1 no	Operation & Maintenance of final disposal site and welfare for waste pickers
A 1 2	Weight Bridge & Control House	Reinforced concrete: 1 story	1 no	Weigh of collection vehicles & control of registration
A 1 3	Public toilet for waste pickers	Closet bowl for men: 3nos. Closet bowl for women:3 nos	1no	Sanitary facility for waste pickers working at the disposal site
A 1 4	Main gate	Steel structure	1 no	Control of collection vehicle and prevention of illegal dumping in the night.
A 1 5	Telephone line		App.300m	Communication
A 1 6	Utility pole and electric wire		App.600m	Operation of facilities at the disposal site

5

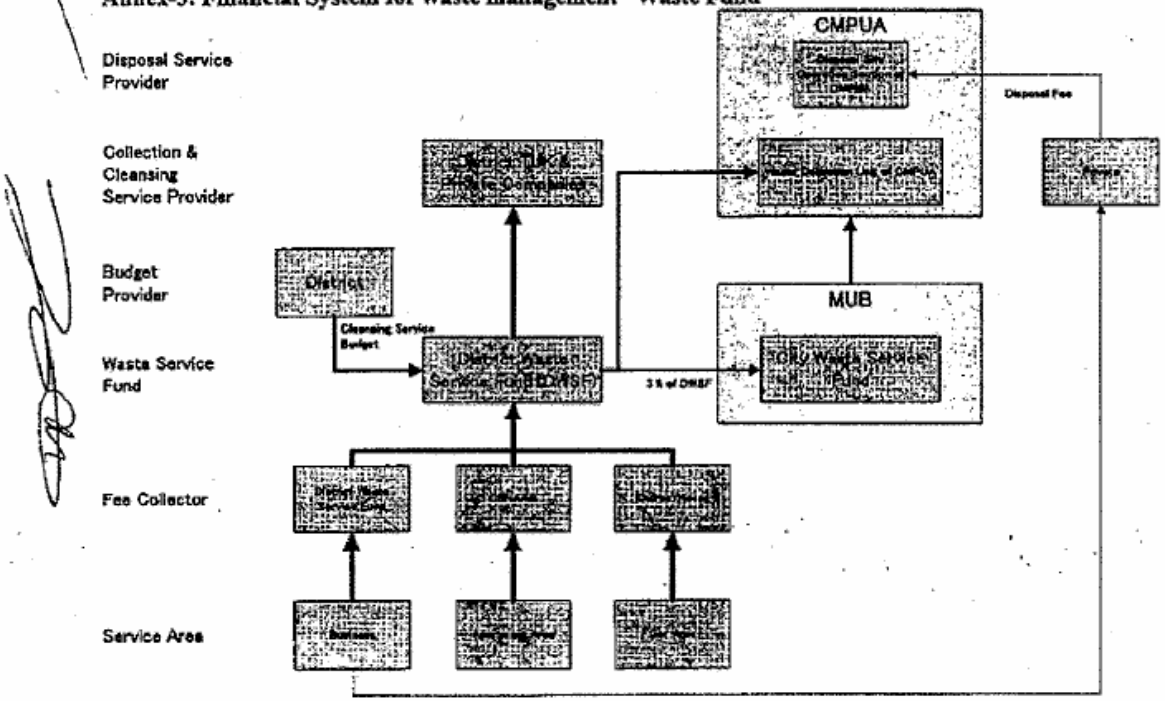
Equipment List

Number	Equipment Name	Major Specification	Q'ty	Purpose
A	Collection and Transportation Equipment			
A.1	Compactor Track	Max Volume 15 ㎥	23	Collection of Apartment Waste, Business Waste and NH Medical waste
A.2	Compactor Track	Max Volume 8 ㎥	7	Collection of Apartment Waste, Business Waste and NH Medical waste
A.3	Dump Track	Pay load 6 t with Overhead Cover	13	Collection of Ger waste
A.4	Wheel Loader with Back Hoe	Bucket capacity 1.0 ㎥	1	Collection of waste from remote area and non-accessible area
B	Equipment for Final Disposal Site			
B.1	For Narangiin Enger final Disposal Site (NEDS)			
B.1.1	Bulldozer	Equipment weight 21 t class, dry type crawler	3	Laying, compaction of waste, laying of covered soil, construction of earth dam and divider
B.1.2	Excavator	Bucket capacity 0.6 ㎥	1	Excavation of covered soil, unload, maintenance of on site road and construction of drainage
B.1.3	Dump Track	Pay load 10 t	2	Transport of covered soil, dam material and maintenance material for on site road
B.1.4	Water tanker with water gun	Tank capacity 6000 litter	1	Fire fighting, transport of drinking water, water spraying for on site road and watering to green belt
B.2	For Morin Davaa final Disposal Site (MDDS)			
B.2.1	Wheel loader with back Hoe [*]	Bucket capacity 1.0 ㎥	1	Laying, compaction of waste ,laying of covered soil and construction of divider.
C	For workshop and warm garage			
C.1	For Central workshop			
C.1.1	Warm water car washer	Discharge volume 800 litter/hr	1	Washing car which bringing to central workshop
C.1.2	Part cleaner		1	Washing of parts
C.1.3	Hydraulic jack for dump track	Max lifting capacity 15 t	2	Lifting up of dump track
C.1.4	Portable jack for compactor track	Max lifting capacity 10 t	2	Lifting up of compactor track
C.1.5	Rigid rack	Max weight 10 t	8	Holding of car body
C.1.6	High pressure grease pump	Max pressure 25Mpa	1	Refill of grease
C.1.7	Oil bucket pump	For 20 litter can	1	Oil changer for track
C.1.8	Tools for oil changing		1	Oil filter wrench, Oil measure, portable fuel can and dram pump
C.1.9	Air compressor	Pressure 9.5 kg/cm ^{2}	1	Air refilling to Tire and power source of air tools
C.1.10	Air Impact wrench (Small)	Socket size 8—32mm	1	Desorption of parts
C.1.11	Air Impact wrench (Large)	Socket size19—41mm	1	Desorption of parts
C.1.12	Tire changer	Applicable tire size 16—26 inch	1	Desorption of tire
C.1.13	Tire maintenance tools		1	Tire lever, bar, Air chuck, air meter, wheel wrench and tire puncture repair set
C.1.14	Basic tools	For metric and inch size	2	Basic tools
C.1.15	Basic tools storage		2	Storage of basic tools
C.1.16	Torque wrench set	Covered range 10—45、40—180、80—560 Nm	1	Checking of tighten up bolt

Number	Equipment Name	Major Specification	Q'ty	Purpose
C.1.17	Rapidity buttery charger	12—24V、35/70A	1	Buttery charge
C.1.18	Buttery service set		1	Gravity check and refilling of buttery liquid
C.1.19	Digital circuit tester		1	Checking of electrical component
C.1.20	Electrical welder		1	Welding and sheeting
C.1.21	Gas welder set		1	Welding and cutting
C.1.22	Disk sander	Disk diameter 100mm	1	Grinding of welding area
C.1.23	Electrical Drill	Applicable steel plate thickness 6.5mm	2	Making hole for steel and sheeting
C.1.24	High speed abrasive cutter		1	Cutting of steel and sheeting
C.1.25	Work bench		2	Work bench for parts assembling
C.2	For Naranglin Enger warm garage			
C.2.1	Warm water car washer	Discharge volume 600 litter/hr	1	Washing car which bringing to central workshop
D	Equipment for environment monitoring			
D.1	Portable gas analyzer	0~1000ppm	2	Analyzing of flammable gas

[*]Wheel loader with back hoe for Morin Davaa Disposal Site (MDDS) will be further studied by the Japanese side

Annex-3: Financial System for waste management "Waste Fund"



Annex-4: Necessary budget and personnel for Operation and Maintenance

BGD:Bayangol District, BZD:Baganuur District, SkhD:Songinokhairkhan District
SBD:Sukhbaatar District, KhUD:Khan Uul District, Chd:Chingeltei District, NAD:Nalaikh District

1. O & M cost for Collection and Transportation of Waste

Operation and Maintenance Cost for Collection and Transportation of wastes in Winter in 2010 (for the duration of 6 months)

Unit : Million MNT

Winter	Compactor 15m3		Compactor 8m3		Dump Truck		Total
	Nos	Amount	Nos	Amount	Nos	Amount	
BGD	7	114	0	0	10	161	275
BZD	6	112	0		23	362	474
SKhD	4	60	0		21	321	381
SBD	2	36	2	25	13	226	287
KhUD	3	54	0		13	222	276
ChD	0		4	50	16	278	328
NAD	0		1	11	4	57	68
Total	22	376	7	86	100	1627	2089

Operation and Maintenance Cost for Collection and Transportation of wastes in Summer in 2010 (for the duration of 6 months)

Unit : Million MNT

Summer	Compactor 15m3		Compactor 8m3		Dump Truck		Total
	Nos	Amount	Nos	Amount	Nos	Amount	
BGD	7	115	0	0	9	145	260
BZD	6	112	0		12	197	309
SKhD	4	60	0		11	169	229
SBD	3	54	2	25	7	122	201
KhUD	3	55	0		9	155	210
ChD	0		4	50	8	140	190
NAD	0		1	11	2	28	39
Total	23	396	7	86	58	956	1438

2. O & M cost for NEDS

Followings are the expected O & M cost for NEDS in year 2010.

Description	Amount (1,000MNT/year)
Salary	27,504
Fuel	289,354
Spare Parts	79,416
Electricity and Heating	50,400
Maintenance of facilities (Extension of Gas Extraction Pipe)	37,200
Others	17,126
Total	501,000

3. **O&M cost for Central Workshop**

Followings are the expected O & M cost for central workshop.

Description	Amount (1,000MNT/year)
Salary	15,000
Fuel	17,000
Tools and Parts	34,000
Electricity and Heating	20,000
Total	86,000
Total	86,000

4. Required personnel

Following personnel will be required for implementing requested project.

	Position	Person
1	NEDS Disposal Site	
	Section chief	1
	Engineer	2
	Clerk (include Weighbridge)	5
	Supervisor & Mechanic	3
	Operator (Bulldozer, etc)	8
	Mechanic	1
	Worker	2
2	Central Workshop	
	Manager	1
	Technician	1
	Mechanic	3
	Assistant Mechanic	3
	Store keeper	1
	Supervisor	2
	Accountant	1
3	Collection of Wastes	
	Operators for Compactor	30
	Operators for Dump Truck	13
	Workers	86

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Annex-5: Components of Technical Assistance (So called "Soft Components")

Item	Activity
Education and training for sanitary landfilling	Organization of Waste Pickers
	Planning and design of landfilling methods in order to maintain WPs activities in landfilling site.
	Training for Supervisors and Operators for sanitary and safe operation method.
	Modification and Tune up of Environmental Monitoring Plan. Training for the NEDS staff for monitoring.
Education and training for the staff in central workshop for periodical inspection of collection trucks.	Determination of periodical inspection item, frequency and procurement planning of spare parts.
	Technical training to the mechanic.

Detail contents are under consideration.

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Annex-6:

Hazardous Waste Management

1. Hazardous Medical Waste

The CMPUA understood that four municipal disposal sites (Narangiin Enger Disposal Site(NEDS), Morin Davaa Disposal site(MDDS), Nalaikh Disposal Site and Khoroo 21 Disposal Site), prohibit disposing of the hazardous medical wastes. Therefore, in order to avoid disposal of hazardous medical wastes along with non-hazardous (municipal) wastes MUB/CMPUA shall conduct the following measures in cooperation with relevant agencies:

1. The Ministry of Health (MOH), which is responsible for supervising waste management at medical institutions, must ensure the strict separation of hazardous medical wastes at the source, at every stage including collection, intermediate treatment, storage, and disoharge. Then MOH shall instruct medical institutions not to bring hazardous medical wastes to the municipal landfills without treatment.
2. CMPUA, responsible for municipal landfills, shall establish a strict monitoring system for incoming haulage vehicles to prevent the disposal of untreated hazardous medical wastes along with municipal waste at the municipal disposal sites.
3. MUB/CMPUA and relevant agencies shall facilitate construction of a centralized treatment plant (incinerator, autoclaves, etc.) for hazardous medical wastes by formulating treatment plan as soon as possible.
4. Until the centralized treatment plant operates, hazardous medical wastes shall be treated by the existing incinerators as much as possible by repairing them.

2. Hazardous Industrial Waste

The CMPUA also understood that four municipal disposal sites (Narangiin Enger Disposal Site(NEDS), Morin Davaa Disposal site(MDDS), Nalaikh Disposal Site and Khoroo 21 Disposal Site), prohibit disposing of the hazardous industrial wastes. The MUB/CMPUA in cooperation with MOE shall accelerate construction of a HW management facility. Until the facility is operated, it is recommended that the authorities of the government practice the following measures in the management of HW.

1. MOE shall formulate relevant legislations including standards and guideline to identify, manage and control HW as soon as possible, and enforce disposal of polluter-pay-principle strictly.
2. The Ministry of Environment (MOE), which is responsible for supervising waste management at factories, must ensure the strict separation of HW at the source. Then MOE shall instruct factories not to bring HW to the municipal landfills without treatment.
3. CMPUA, responsible for municipal landfills, shall establish a strict monitoring system for incoming haulage vehicles to prevent the disposal of untreated HW along with municipal waste at the municipal disposal sites. Especially wastes from industries categorized as highly potential hazardous industrial waste generators such as leather, chemicals and metal processing, shall be strictly checked at the entrance. Only when the industries prove that their waste is not hazardous they will be entitled to dispose waste at the municipal disposal site. Factories in Ulaanbaatar City and possible HW which are discharged and brought into the disposal sites are summarized in the table below.

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Code	Category of Industries	Number of Factory*1	Possible HW discharged and brought into the municipal disposal sites
01	Agriculture, Food, Dairy product	2,878	Waste oil (grease, lubricants, etc.)
02	Leather	130	Waste water and sludge containing chromium compound, waste oil
03	Textile	122	Organic waste water such as dye, etc. and their sludge, waste oil
04	Chemical	74	Organic waste water, waste medicals, waste oil
05	Cement & Brick	77	Waste oil, less possibility of HW generation
06	Metal processing	16	Plating waste water and its sludge, waste oil
07	Furniture	157	Waste oil, less possibility of HW generation
08	Paper Processing	153	Waste acid, waste oil
09	Mining industry, Metallurgy	251	Waste acid, plating waste water and its sludge, waste oil
10	Others included construction	663	Waste acid
	total	4,521	

*1 : Answer from MOE and MUB to the questionnaire for the preliminary study team of JICA SWM Study

Among HW mentioned above, the following wastes are required the strictest control:

- Waste oil from all factories
- Sludge containing chromium compound from leather factory
- Waste medicals from Chemical factory
- Sludge from Metal processing factory

4. In parallel with the above, MOE shall oblige industries to minimize HW generation and to handle and store waste within their premises.

5. MOE shall also investigate the use of existing facilities for treatment of HW (incineration in kilns of cement factories and furnace of non-ferrous metal smelting factories, etc.). Then it shall oblige industries to treat such waste type prior to discharge and to store in their premises those that cannot be treated in the existing facilities.

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Annex-7:

Environmental Monitoring Plan for NEDS

Item	Environmental Monitoring which prescribed in EIA report.			Environmental Monitoring which JICA Development Study recommended.		
	Monitoring Item	Frequency	Annual cost (1000Tg)	Monitoring Item	Frequency	Annual Cost (1000Tg)
1. Air	NH3, CO2, CH4, SO2	4 times a year	400	CH4, CO2, H2O, Gas Temperature	Once a week	0
2. Soil	Joint Order by Ministry of Nature and Environment and Ministry of Health.(# 68/A/61, June 22, 1989, Appendix 5. Ministry of Nature and Environment and Ministry of Health	2 times a year	450	nil	-	0
3. Under ground Water	Drinking water standard (Mongolian Standard UST 0900-92)	2 times a year	2,300	Electric conductivity, Cl-, pH, water temperature	Once a week (except winter)	0
4. Surface Water	Nil	-	-	Electric Conductivity, Cl-, pH, water temperature	Once a week (except winter)	0
5. Noise	Nil	-	-	Noise level	Once a year	10
6. Odor	Nil	-	-	Personal check	Once a year	0
7. Settlement	Nil	-	-	Settlement of landfill site	Once a year	20
Total			3,150			30

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Annex-8: Obligation of the Mongolian Side for implementing the Project

Description	Amount(US$)	Remarks
Improvement of Access Road to the NEDS	100,000	Around 1km
Central Workshop and Warm Garage	200,000	
Tree Planting inside Fence	125,000	Around 5 ha
Main line of Electricity and Telephone to the entrance of NEDS	20,000	Around 2 km
Submersible pump for Leachate Treatment Pond for NEDS	3,000	
Bank Charges	4,300	B/A and A/P commission
Total (US$)	452,300	
Total (Yen)	52,634,000	

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MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON
THE PROJECT FOR IMPROVEMENT OF WASTE MANAGEMENT IN ULAANBAATAR IN MONGOLIA
(EXPLANATION OF DRAFT FINAL REPORT)

In January 2007, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Draft Report Explanation Team on the Project for Improvement of Waste Management in Ulaanbaatar in Mongolia (hereinafter referred to as "the Project") to Mongolia, and through discussion, field survey, and technical examination of the study results in Japan, JICA prepared a draft final report of the study.

In order to explain and to consult with the Government of Mongolia on the components of the draft final report, JICA sent to Mongolia the Draft Final Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Tsutomu MORIYA, Resident Representative, JICA Mongolia Office, from March 14 to 24, 2007.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Ulaanbaatar, March 23, 2007

Mr. Tsutomu MORIYA
Leader
Draft Report Explanation Team
Japan International Cooperation Agency (JICA)

Mr. Gombosuren MUNKHBAYAR
General Manager of Ulaanbaatar city
Head of the Governor's office
Municipality of Ulaanbaatar
The Government of Mongolia

Mr. Togmid DORJKHAND
Deputy Director General
Department of Policy and Coordination for Loans and Aid
Ministry of Finance
The Government of Mongolia

Mr. Gavaa ENKHEE
Director
International Cooperation Department
Ministry of Nature and Environment
The Government of Mongolia

ATTACHMENT

1. Components of the Draft Final Report

The Government of Mongolia agreed and accepted in principle the components of the draft final report explained by the Team.

2. Japan's Grant Aid scheme

The Mongolian side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Mongolia as explained by the Team and described in Annex-5 and Annex-6 of the Minutes of Discussions signed by both parties on September 8, 2006.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Mongolia by June 2007.

4. Other relevant issues

4-1) Fortnightly Meeting with Waste Pickers

It is essential to organize and maintain close relationships between Waste Pickers and City Maintenance and Public Utility Agency (CMPUA) to implement sanitary landfilling in Narangiin Enger Disposal Site (NEDS).

In order to achieve above, the Mongolian side (CMPUA) promised to hold fortnightly meeting with waste pickers and discuss topics listed in Annex-1, and also promised to submit monthly reports of fortnightly meeting to the Japanese side every month.

4-2) Renovation of Central Workshop and Warm Garage

Mongolian side submitted the detailed schedule for the renovation of central workshop and warm garages as attached in Annex 2.

Mongolian side confirmed that the renovation work will be completed within the year 2007.

4-3) Equipment for Morin Davaa Disposal Site (MDDS)

Mongolian side explained that the EIA process for MDDS is on-going and will be completed by end of July. IEE will be issued by the Ministry of Nature and Environment by the end of March 2007.

The Japanese side explained that Wheel loader with back hoe for MDDS cannot be

included in the Project without completion of the EIA process and it should be excluded from the Project unless the Mongolian side complete the EIA process by the end of July 2007. The Mongolian side understood it.

4-4) Technical Assistance (Soft Components)

The Japanese side explained technical assistance for management of waste collection vehicles requested by the Mongolian side would be implemented in case the Japanese Government would finally decide to implement the Project.

Both sides confirmed that technical assistance (so-called "Soft Components") listed in Annex-3 would be implemented in case the Japanese side would finally decide to implement the Project.

4-5) City Maintenance and Public Utility Agency (CMPUA) is able to complete the tender documents through reviewing all documents and drawings prepared as a result of the study. CMPUA shall be responsible for project implementation and the output of the project executed through the contract between Japanese firms.

4-6) Draft detailed specification and drawings of the Project

The Team handed one copy of the draft detailed specification and drawings of the project to the Mongolian side. Both sides agreed that this draft specification was confidential and should not be duplicated or released to any outside parties.

4-7) Project Title

Both sides confirmed that title of this project should be "The project for Improvement of Waste Management in Ulaanbaatar in Mongolia".

4-8) Components of the Project

Both sides confirmed that the Project would be composed of the items listed in Annex-4 in case the Japanese Government would finally decide to implement the Project.

Annex-1: Topics to be discussed during WP meeting.

- Picking rule inside landfilling area
- Progress of Waste Pickers Fund
- Price of Valuables which traders are dealing with WPs
- Instruction to the traders for the guidance of fair trading
- Instruction of safety operation at landfill site.
- Registration of WPs and update of WP database.
- Updating ID card.

Annex-2: Detailed Schedule for Renovation of Central Workshop and Warm Garage

Батлав.
Хот тохижилтын газрын
дарга ... Болд

Хот тохижилтын газрын
Дэнжийн 1000 дахь засварын цех, авто гражийн засварын ажлын календарчилсан төлөвлөгөө

ID	Task Name	Start	Finish	Duration	2007: Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	Нийслэлийн хөрөнгө оруулалтын газарт зураг зүйн компаниудаас шалгаруулалт хийж, засварын зураг ба төсөв зохиолгох, экспертизийн дүгнэлт хийлгэх	3/19/2007	[illegible]	14d								
2	Нийслэлийн хөрөнгө оруулалтын газарт засварлах объект, хийгдэх ажлын жагсаалт гаргаж өгөх	[illegible] 2007	[illegible] 2007	4d								
3	Тендерийн үнэлгээний хороо байгуулах	[illegible] 2007	[illegible] 2007	[illegible]								
4	Тендерийн материал бэлтгэх	3/26/2007	4/10/2007	13d								
5	Засварын гүйцэтгэгч хийх компаниудын дунд тендер зарлаж, шалгаруулах	4/10/2007	5/10/2007	23d								
6	Тендерт шалгарсан компанитай гэрээ байгуулах	5/10/2007	5/15/2007	4d								
7	Засварын гүйцэтгэлийн ажлыг хийлгэх	5/16/2007	[illegible] 2007	[illegible]								
8	Засвар хийгдсэн объектуудыг ажлын комисст хүлээлгэж өгөх	10/1/2007	10/1[illegible]/2007	11d								

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Annex-3: Components of Technical Assistance (So-called "Soft Components)

Table1: Activities and Outputs of Soft Components

Item	Activity	Outputs	Verification Method
1. Education and training for sanitary land filling and safe operation	1. Monitoring and advice for Organization of Waste Pickers	Waste pickers will be organized waste picking will be done safely.	1. Minutes of meetings and monitoring record.
	2. Planning and design of land filling methods in order to maintain WPs activities in land filling site.	Preparation for Commencement of land filling operation at NEDS.	1. Sanitary land filling operation guide. 2. Working plan for landfill equipment and safety operation guideline.
	3. Training for Supervisors and Operators for sanitary and safe operation method.	Preparation for Commencement of land filling operation at NEDS.	1. Training Record
	4. Modification and Tune up of Environmental Monitoring Plan. Training for the NEDS staff for monitoring.	The person in charge for monitoring will understand monitoring item, frequency, location and methods of analysis.	1. Monitoring plan and training record.
2. Education and training for the staff in central workshop for periodical inspection of collection trucks.	1. Determination of periodical Inspection item, frequency and procurement planning of spare parts.	Appropriate maintenance system for collection trucks will be developed.	1. Operation and maintenance plan for collection trucks
	2. Technical training to the mechanic.	Mechanic will understand the inspection items, frequency and spare parts order methods in order to conduct proper maintenance.	1. Training record
3. Education and training for the staff in CMPUA for dispatching of collection trucks.	1. Training of dispatch plan of collection truck for CMPUA staff	Dispatch plan can be developed considering waste amount, distance to the disposal site and so on.	1. Dispatch Plan

Annex-4: Components of the Project.

Facilities Lists

No	Description	Specification	Quantity	Purposes
A	Narangiin Enger Disposal Site			
	Facilities of Disposal Site			
A1	Embankment	Filling, Crown width:8m, Hight:10m	1 no	Proper waste disposal
A2	Rainwater drainage	V shape concrete U shape concrete Earth drainage	Approx.1,200m Approx.800m Approx.600m	Diversion of rainwater and clear boundary of disposal site
A3	Road for common vehicles and waste collection vehicles	Asphalt pavement	Approx.800m	Access to disposal site smoothly
A4	Road for heavy equipment	Gravel pavement	Approx.500m	Access to disposal site
	Environmental Protection Facility			
A5	Leachate collection facility	Perforate steel pipe diameterφ600mm Impervious wall(Reinforced concrete)	Approx.320m 1 no	Collection and transfer of leachate to treatment facility
A6	Leachate treatment facility	Reinforced concrete Pump for Recirculation	1 no 1 no	Reservoir of leachate and recirculation of it to disposal site
A7	Gas removal facility	Perforated steel pipe, cobble stone	26 nos.	Removal of methane gas
A8	Fence for prevention of waste scattering	Inside net fence :H=3.0m Outside=2.0m	Approx.2,200m Approx.2,200m	Prevention of plastic waste scattering
A9	Buffer zone(Mongolian side responsibility)	Zones planted with trees	1 unit	Mitigation of environment deterioration
	Operation & Maintenance Facility			
A11	Final Disposal Site Administration Office	Reinforced concrete ,steel frame structure: 1 story	1 no	Operation & Maintenance of final disposal site and welfare for waste pickers
A12	Weight Bridge & Control House	Reinforced concrete: 1 story	1 no	Weigh of collection vehicles & control of registration
A13	Public toilet for waste pickers	Closet bowl for men: 3nos. Closet bowl for woment:3 nos	1no	Sanitary facility for waste pickers working at the disposal site
A14	Main gate	Steel structure	1 no	Control of collection vehicle and prevention of illegal dumping in the night.
A15	Telephone line		App.300m	Communication
A16	Utility pole and electric wire		App.600m	Operation of facilities at the disposal site

Equipment List

Number	Equipment Name	Major Specification	Q'ty	Purpose
A	Collection and Transportation Equipment			
A.1	Compactor Truck	Max Volume 15 ㎥	23	Collection of Apartment Waste, Business Waste and NH Medical waste
A.2	Compactor Truck	Max Volume 8 ㎥	7	Collection of Apartment Waste, Business Waste and NH Medical waste
A.3	Dump Truck	Pay load 6 t with Overhead Cover	13	Collection of Ger waste
A.4	Wheel Loader with Back Hoe	Bucket capacity 1.0 ㎥	1	Collection of waste from remote area and non-accessible area
B	Equipment for Final Disposal Area			
B.1	For Narangiin Enger Final Disposal Area			
B.1.1	Bulldozer	Equipment weight 21 t class, dry type crawler	3	Laying, compaction of waste, laying of covered soil, construction of earth dam and divider
B.1.2	Excavator	Bucket capacity 0.6 ㎥	1	Excavation of covered soil, unload, maintenance of on site road and construction of drainage
B.1.3	Dump Truck	Pay load 10 t	2	Transport of covered soil, dam material and maintenance material for on site road
B.1.4	Water tanker with water gun	Tank capacity 6000 litter	1	Fire fighting, transport of drinking water, water spraying for on site road and watering to green belt
B.2	Morin Davaa final disposal area			
B.2.1	Wheel loader with back Hoe	Bucket capacity 1.0 ㎥	1	Laying, compaction of waste ,laying of covered soil and construction of divider
C	For workshop and warm garage			
C.1	For Central workshop			
C.1.1	Warm water car washer	Discharge volume 800 litter/hr	1	Washing car which bringing to central workshop
C.1.2	Part cleaner		1	Washing of parts
C.1.3	Hydraulic jack for dump truck	Max lifting capacity 15 t	2	Lifting up of dump track
C.1.4	Portable jack for compactor truck	Max lifting capacity 10 t	2	Lifting up of compactor track
C.1.5	Rigid rack	Max weight 10 t	8	Holding of car body
C.1.6	High pressure grease pump	Max pressure 25Mpa	1	Refill of grease
C.1.7	Oil bucket pump	For 20 litter can	1	Oil changer for track
C.1.8	Tools for oil changing		1	Oil filter wrench, Oil measure, portable fuel can and dram pump
C.1.9	Air compressor	Pressure 9.5 kg/cm ^{2}	1	Air refilling to Tire and power source of air tools
C.1.10	Air Impact wrench (Small)	Socket size 8—32mm	1	Desorption of parts
C.1.11	Air Impact wrench (Large)	Socket size19—41mm	1	Desorption of parts
C.1.12	Tire changer	Applicable tire size 16—26 inch	1	Desorption of tire
C.1.13	Tire maintenance tools		1	Tire lever, bar, Air chuck, air meter, wheel wrench and tire puncture repair set
C.1.14	Basic tools	For metric and inch size	2	Basic tools
C.1.15	Basic tools storage		2	Storage of basic tools
C.1.16	Torque wrench set	Covered range 10—45、40—180、80—560 Nm	1	Checking of tighten up bolt
C.1.17	Rapidity buttery charger	12—24V、35/70A	1	Buttery charge

Number	Equipment Name	Major Specification	Q'ty	Purpose
C.1.18	Buttery service set		1	Gravity check and refilling of buttery liquid
C.1.19	Digital circuit tester		1	Checking of electrical component
C.1.20	Electrical welder		1	Welding and sheeting
C.1.21	Gas welder set		1	Welding and cutting
C.1.22	Disk sander	Disk diameter 100mm	1	Grinding of welding area
C.1.23	Electrical Drill	Applicable steel plate thickness 6.5mm	2	Making hole for steel and sheeting
C.1.24	High speed abrasive cutter		1	Cutting of steel and sheeting
C.1.25	Work bench		2	Work bench for parts assembling
C.2	For Naranglin Enger warm garage			
C.2.1	Warm water car washer	Discharge volume 800 litter/hr	1	Washing car which bringing to central workshop
D	Equipment for environment monitoring			
D.1	Portable gas analyzer	0~1000ppm	1	Analyzing of flammable gas

TECHNICAL NOTES
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR IMPROVEMENT OF SWM
IN ULAANBAATAR
IN MONGOLIA

Based on the Minutes of Discussions signed on 8 September 2006, between the Basic Design Study Team (hereinafter referred to as "the Team" of Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Municipality of Ulaanbaatar (hereinafter referred to as "MUB") on the Project for Improvement of Solid Waste Management (hereinafter referred to as "the Project"), the consultant members of the Team had a series of discussions and conducted field surveys from 4 September 2006 to 28 September 2006.

As a result of the discussions and the surveys, both sides confirmed the technical conditions described on attached sheets.

Ulaanbaatar, 29 September 2006.

Mr. Ichiro KONO
Chief Consultant,
Basic Design Study Team
Japan International Study Team(JICA)

Mr. Tsegmid BOLD
Director of the City Maintenance and Public Utility Agency
Under Mayor of Ulaanbaatar

ATTACHMENT

The both parties agreed upon and confirmed the following items.

A. Facility

1. Sewage water should not be discharged to the surroundings and stored inside the Site. Mongolian Side agreed that CMPUA under MUB will arrange vacuum truck periodically in order to vacuum the waste water and transport to the designated discharge point.
2. Mongolian Side agreed the layout of the building in NEDS shown in the Appendix 1.
3. Mongolian Side agreed that the telephone and electricity line including transformer up to the gate of NEDS shall be provided by the Mongolian Side.

B Equipment

1. Mongolian Side agreed the type and number of the equipment and its priority shown in the Appendix 2.
2. Mongolian Side agreed that the procurement of the collection truck will be done by both Japanese Side and Mongolian Side in order to give collection services to all the resident in ger area in 2010
3. Mongolian Side requested the tools and equipment necessary for central workshop which will be constructed by MUB since maintenance of compactor trucks especially for diesel engine and compaction mechanism (hydraulic system) is new to the Mongolian Side.
4. Mongolian Side requested the monitoring equipment necessary for conducting environmental monitoring at NEDS shown in the Appendix 3 and Japanese side agreed to convey this request to the Japanese Government.

C Soft Component

Mongolian side requested following soft component to be carried out during implementation stage and Japanese Side agreed to convey this request to the Japanese Government.

1. Education and training for the maintenance of Compactor Trucks especially for Diesel Engine and Compaction mechanism.
2. Education and training for the operation of sanitary landfilling method which cooperate with waste pickers activities at disposal site.
3. Education and training for environmental monitoring which will be conducted by the MUB staff working at disposal site.

D General

1. Mongolian side agreed that the hazardous wastes such as hazardous medical waste and hazardous industrial waste should not be transported and disposed of at proposed NEDS and other 3 municipal landfills and MUB will take necessary measures shown in the Appendix 4
2. Mongolian Side confirmed that City Maintenance and Public Utility Agency (CMPUA) was formed on 15th Sep 2006 in order to strengthen the current organization of SWM in Ulaanbaatar and necessary measures will be taken as shown in the Appendix 5.
3. Mongolian Side confirmed that the MUB/CMPUA plans to improve the financial system for SWM as shown in the Appendix 6.

Appendix 1

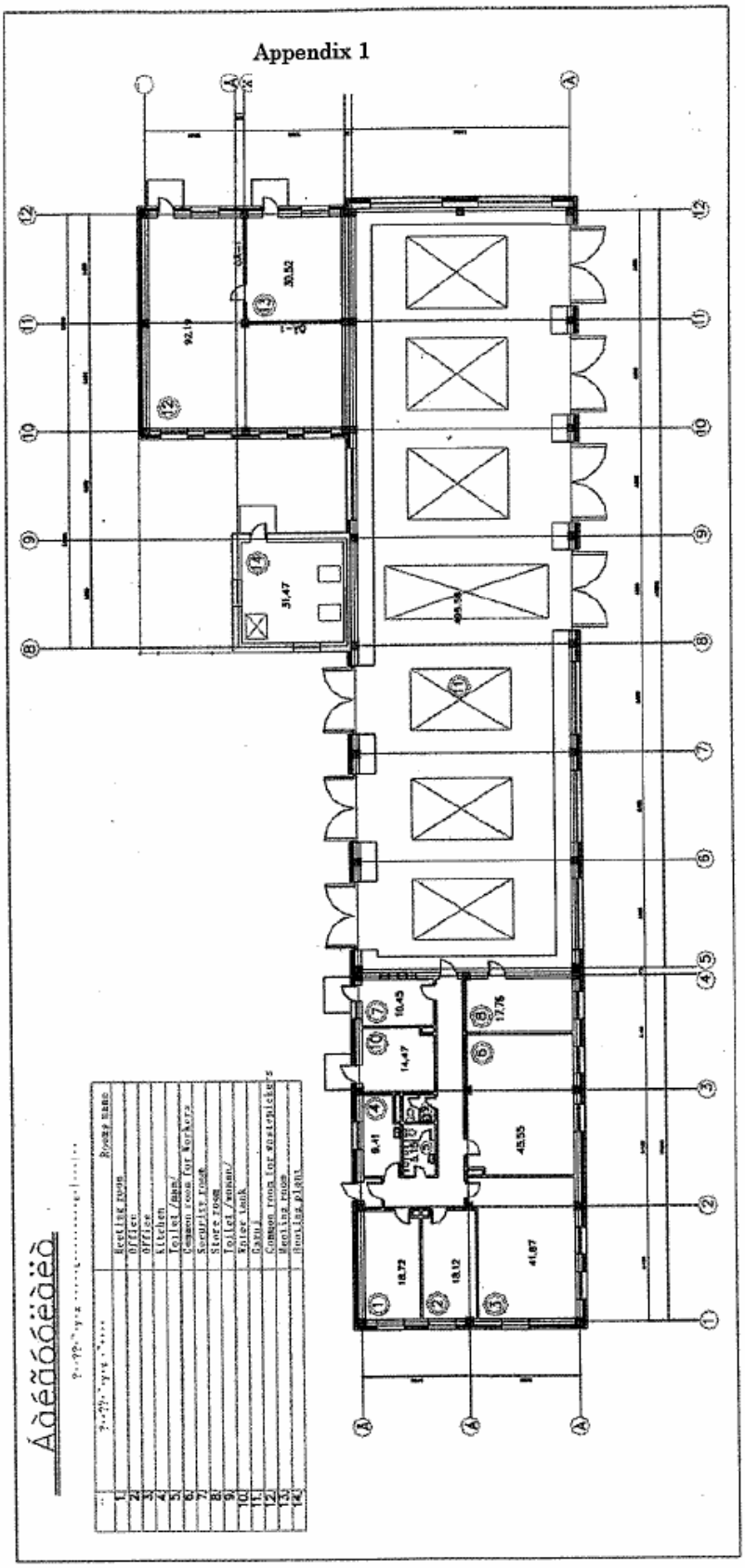

Figure 1 : Plan of Operation Building in NEDS

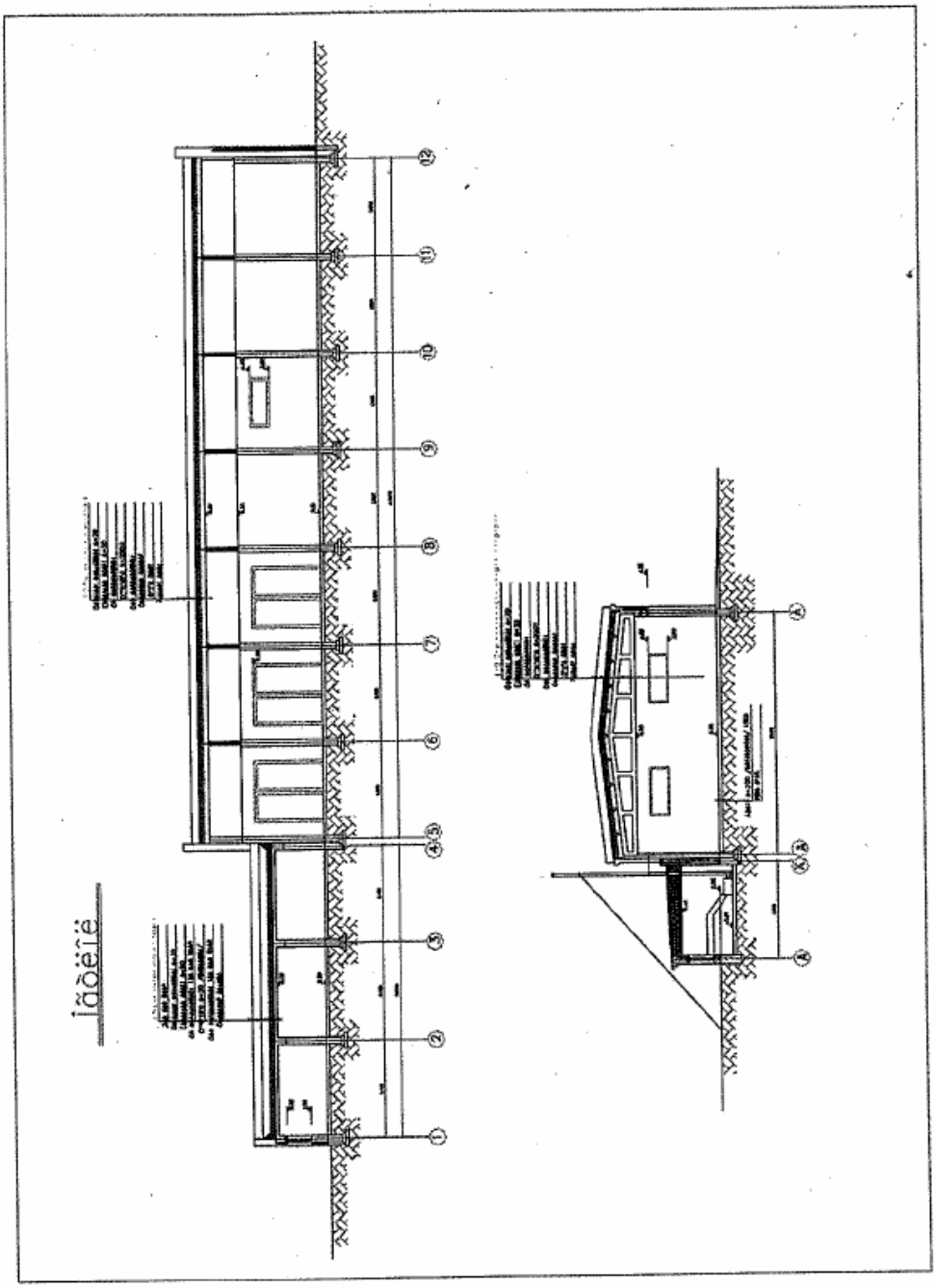

Figure 2 : Elevation of Operation Building in NEDS

Appendix 2

No	Name of Equipment	Specification	Request	Basic Design	Priority
A. Landfill Equipment					
For Narangiin Enger Disposal Site (NEDS)					
1	Bulldozer	18 ton	2	3	A
2	Excavator	0.6 m3	1	1	A
3	Dumptruck	10 ton	3	2	A
4	Water Truck	6,000liter	1	1	A
5	Pick Up		1	0	C
For Morin Davaa Disposal Site (MDDS), Nalaikh Disposal Site (NDS) and Khoroo21 Disposal Site (Kh21)					
6	Bulldozer	13 ton	1	0	C
7	Wheel Loader	1.2m3	2	0	C
8	Wheel Loader with Backhoe		0	1	A
B. Equipment for Collection					
1	Compactor	15 m3	14	23	A
2	Compactor	8 m3	6	7	A
3	Dumptruck	8 ton	13	0	C
4	Close Top Dumptruck	6 ton	0	17	A
5	Skip Loader	5 m3	2	0	C
6	Container for Skip Loader	5 m3	40	0	C
7	Truck	2 ton	2	0	C
8	Wheel Loader with Backhoe		0	1	A
9	Dump Truck	6 ton	0	2	A

5

Appendix 3

Monitoring Equipment

The monitoring plan of NEDS, agreed on September 8, 2006 and stated in the minutes of discussions on the basic design (B/D) study, is divided into the following two categories:

- Monitoring items which are stipulated to conduct by the EIA Report (EIA Monitoring Items)
- Monitoring items which are recommended by the JICA SWM Study Team (JICA Study Recommended Monitoring Items)

The former one shall be conducted several times by the analytical experts in laboratory. The latter one is proposed to conduct frequently like once a week by staffs of the disposal site operator in order to identify leakage of leachate and generation of hazardous gas and to take an action to prevent the surrounding environment from contamination by the pollutants as soon as possible. In addition monitoring costs of the latter is almost negligible while it of the former requires a budget allocation.

The CMPUA understood the importance of the latter monitoring (JICA Study Recommended Monitoring Items). Therefore, it request the B/D study team to provide the monitoring equipment necessary for the JICA Study Recommended Monitoring Items as shown in the table below.

No	Equipment	Purpose
1	Surface water sampler	Sampling of surface water for water quality analysis
2	Ground water samplers	Sampling of ground water for water quality analysis
3	Water level transmitter	To measure of water table in the well
4	Portable electrical conductivity meter	To measure electrical conductivity
5	pH meter	To measure pH figure
6	Water temperature meter	To measure water temperature
7	Portable chloride ion meter	To measure chloride ion
8	Thermo hygrometer	To measure temperature and humidity at new landfill site
9	Portable gas analyzer (CH4)	To measure CH4 gas at new landfill site
10	Portable gas analyzer (CO2)	To measure CO2 gas at new landfill site
11	Portable gas analyzer (H2O)	To measure H2O gas at new landfill site
12	Portable gas analyzer (H2S)	To measure H2S gas at new landfill site

Appendix 4

Hazardous Waste Management

1. Hazardous Medical Waste

The CMPUA understood that four municipal disposal sites, which are planned to be constructed (NEDS) or improved (MDDS, NDS and Khoroo 21 DS) by the grant aid program, prohibit disposing of the hazardous medical wastes. Therefore, in order to avoid disposal of hazardous medical wastes along with non-hazardous (municipal) wastes MUB/CMPUA shall conduct the following measures in cooperation with relevant agencies:

1. The Ministry of Health (MOH), which is responsible for supervising waste management at medical institutions, must ensure the strict separation of hazardous medical wastes at the source, at every stage including collection, intermediate treatment, storage, and discharge. Then MOH shall instruct medical institutions not to bring hazardous medical wastes to the municipal landfills without treatment.
2. CMPUA, responsible for municipal landfills, shall establish a strict monitoring system for incoming haulage vehicles to prevent the disposal of untreated hazardous medical wastes along with municipal waste at the municipal disposal sites.
3. MUB/CMPUA and relevant agencies shall facilitate construction of a centralized treatment plant (incinerator, autoclaves, etc.) for hazardous medical wastes by formulating treatment plan as soon as possible.
4. Until the centralized treatment plant operates, hazardous medical wastes shall be treated by the existing incinerators as much as possible by repairing them.

2. Hazardous Industrial Waste

The CMPUA also understood that four municipal disposal sites, which are planned to be constructed (NEDS) or improved (MDDS, NDS and Khoroo 21 DS) by the grant aid program, prohibit disposing of the hazardous industrial wastes. The MUB/CMPUA in cooperation with MOE shall accelerate construction of a HW management facility. Until the facility is operated, it is recommended that the authorities of the government practice the following measures in the management of HW.

1. MOE shall formulate relevant legislations including standards and guideline to identify, manage and control HW as soon as possible, and enforce disposal of polluter-pay-principle strictly.
2. The Ministry of Environment (MOE), which is responsible for supervising waste management at factories, must ensure the strict separation of HW at the source. Then MOE shall instruct factories not to bring HW to the municipal landfills without treatment.
3. CMPUA, responsible for municipal landfills, shall establish a strict monitoring system for incoming haulage vehicles to prevent the disposal of untreated HW along with municipal

waste at the municipal disposal sites. Especially wastes from industries categorized as highly potential hazardous industrial waste generators such as leather, chemicals and metal processing, shall be strictly checked at the entrance. Only when the industries prove that their waste is not hazardous they will be entitled to dispose waste at the municipal disposal site. Factories in Ulaanbaatar City and possible HW which are discharged and brought into the disposal sites are summarized in the table below.

Code	Category of Industries	Number of Factory*1	Possible HW discharged and brought into the municipal disposal sites
01	Agriculture, Food, Dairy product	2,878	Waste oil (grease、lubricants, etc.)
02	Leather	130	Waste water and sludge containing chromium compound, waste oil
03	Textile	122	Organic waste water such as dye, etc. and their sludge, waste oil
04	Chemical	74	Organic waste water, waste medicals, waste oil
05	Cement & Brick	77	Waste oil, less possibility of HW generation
06	Metal processing	16	Plating waste water and its sludge, waste oil
07	Furniture	157	Waste oil, less possibility of HW generation
08	Paper Processing	153	Waste acid, waste oil
09	Mining industry, Metallurgy	251	Waste acid, plating waste water and its sludge, waste oil
10	Others included construction	663	Waste acid
	合計	4,521	

*1 : Answer from MOE and MUB to the questionnaire for the preliminary study team of JICA SWM Study

Among HW mentioned above, the following wastes are required the strictest control:

- Waste oil from all factories
- Sludge containing chromium compound from leather factory
- Waste medicals from Chemical factory
- Sludge from Metal processing factory

4. In parallel with the above, MOE shall oblige industries to minimize HW generation and to handle and store waste within their premises.

5. MOE shall also investigate the use of existing facilities for treatment of HW (incineration in kilns of cement factories and furnace of non-ferrous metal smelting factories, etc.). Then it shall oblige industries to treat such waste type prior to discharge and to store in their premises those that cannot be treated in the existing facilities.

Appendix 5

Organization

In order to strengthen the current organization for SWM in Ulaanbaatar, the mayor of the city issued the Capital City Mayor Order No. 445 which instructed to establish a new organization, CMPUA (City Maintenance and Public Utility Agency) from September 15, 2006.

In response to the Order, CMPUA commenced to build up a new organization structure for it according to the following figure. The CMPUA plans to employ the following staffs.

Schedule	Staffs employed and Paid by MUB	Staffs employed and Paid by CMPUA	Total
By the end of 2006	30	To be advised by the JICA B/D Study Team	NA
By the end of 2008	45	To be advised by the JICA B/D Study Team	NA

9

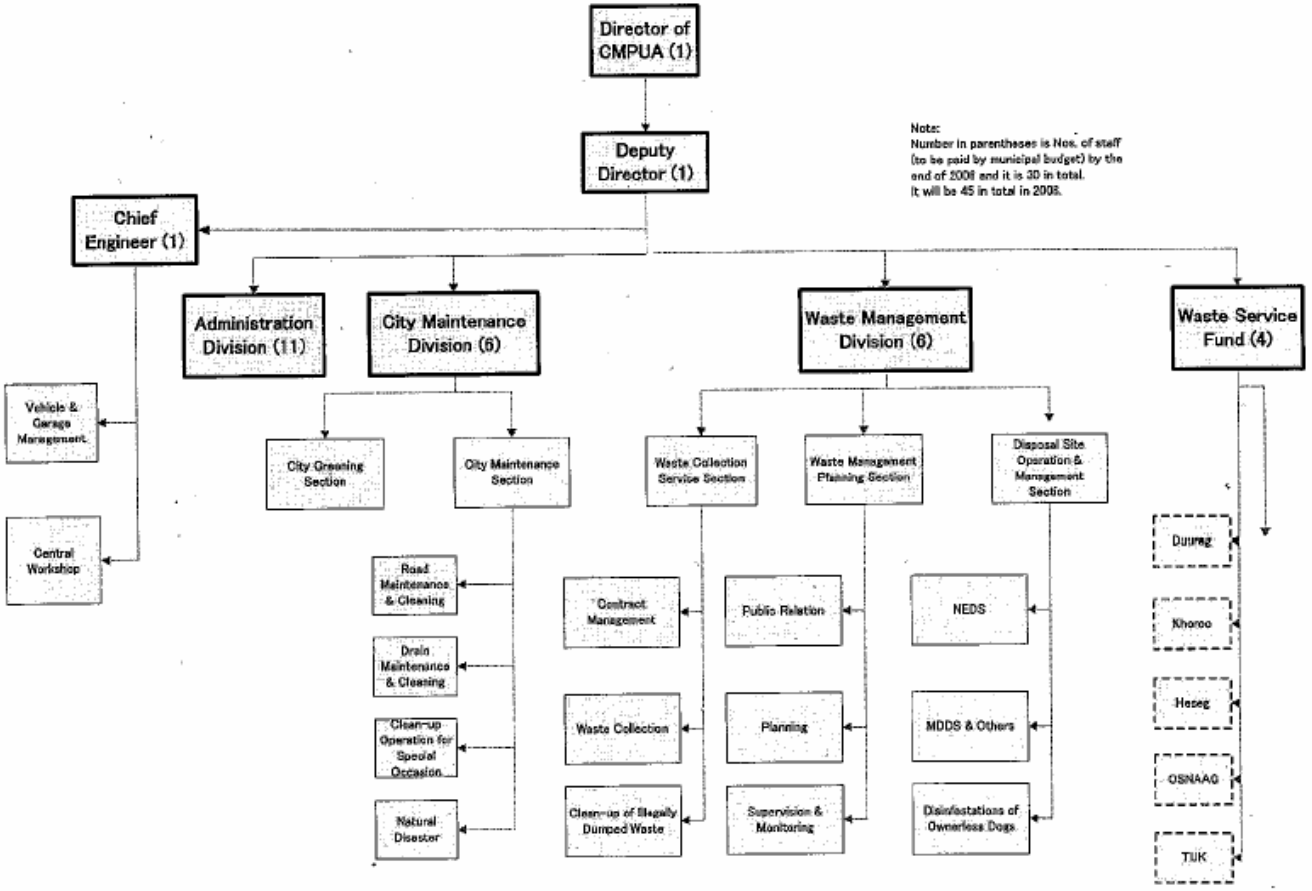

Figure 3: Organization Chart of CMPUA

10

Appendix 6

Financial System for SWM

In response to the Article 20.3 of Law of Mongolia on Household and Industrial Waste, MUB intends to establish a Waste Service Fund to improve current financial system for SWM (See the following Figure). The MUB/CMPUA plans to improve the financial system for SWM as shown in Figure 3.

Current Financial System For SWM

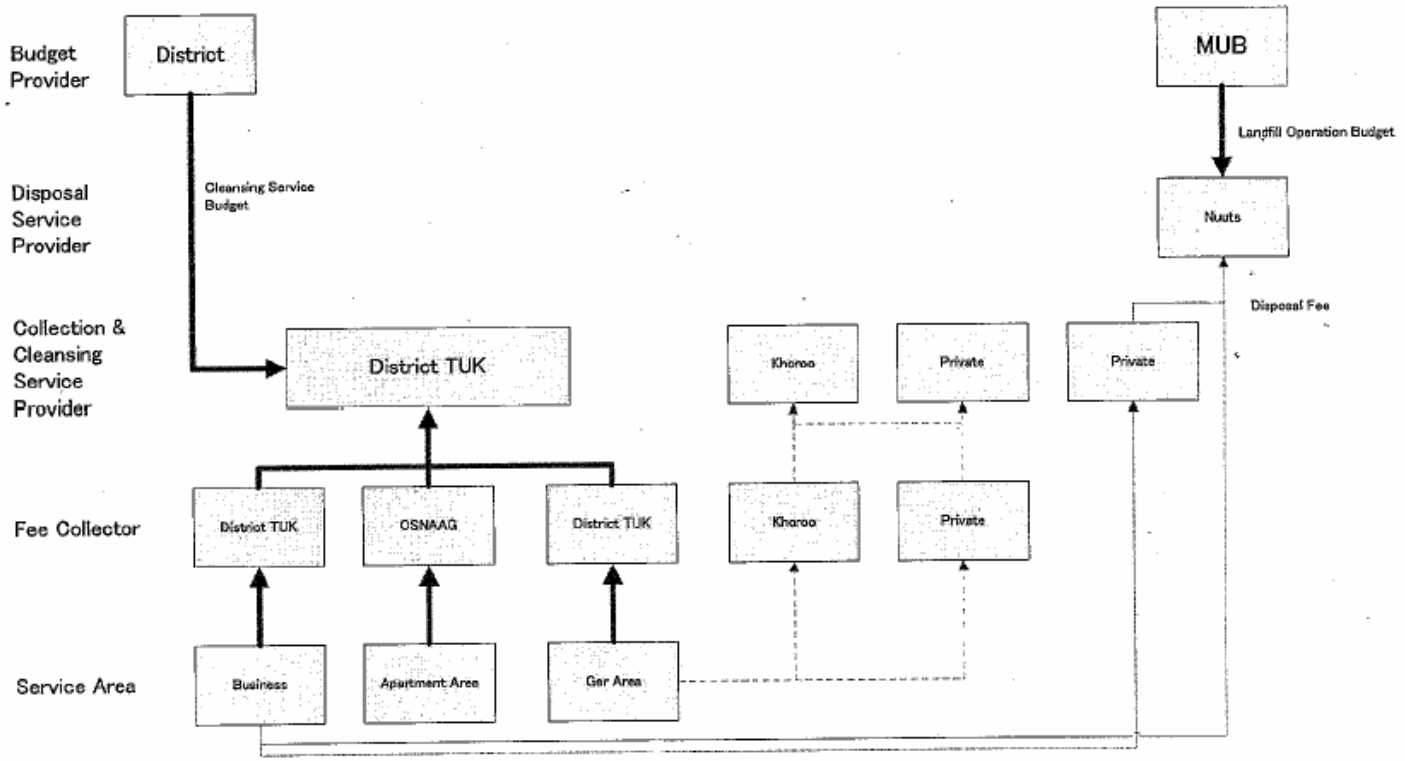

Figure 4: Current Financial System for SWM

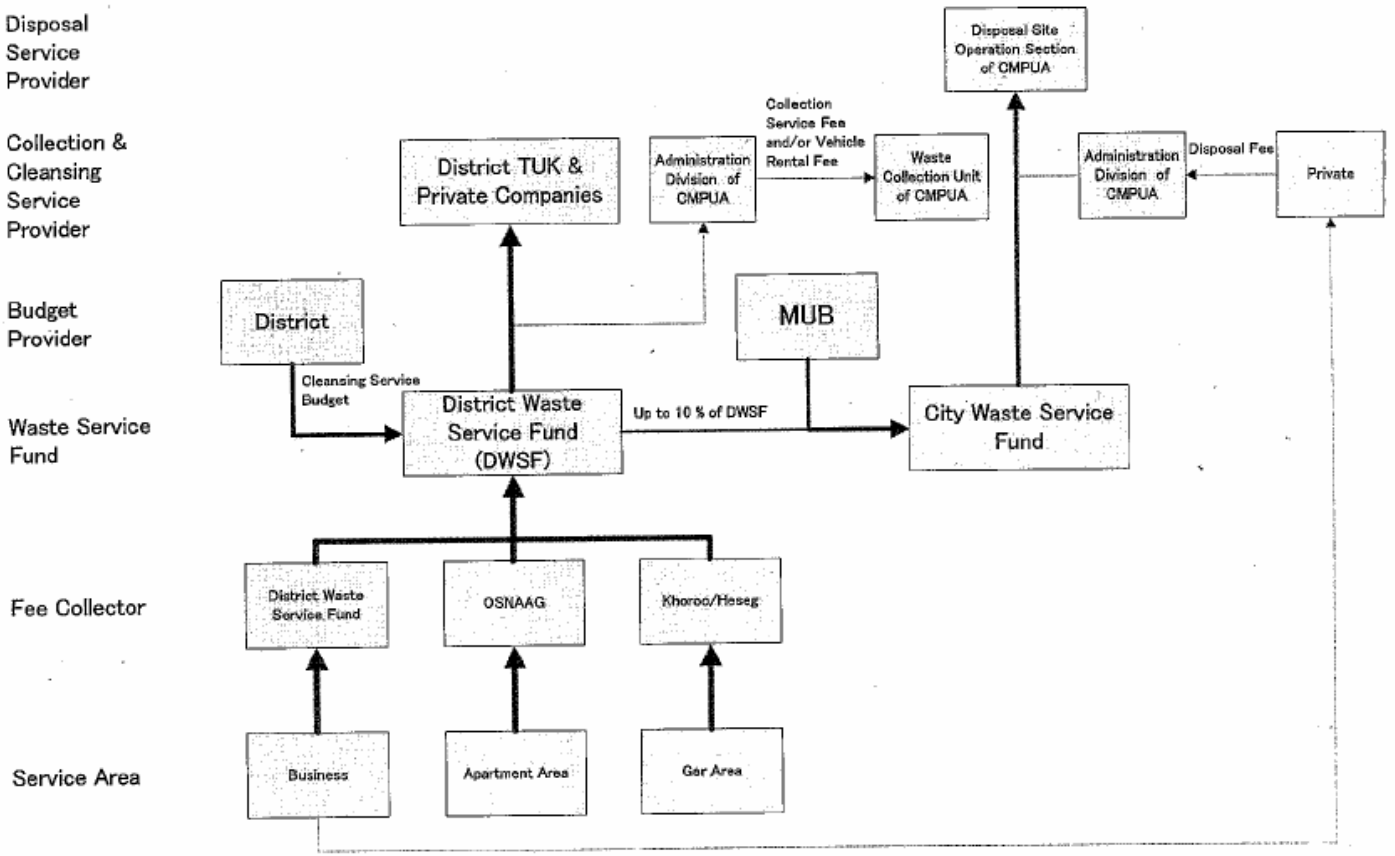

Figure 5 : Future Financial System for SWM

TECHNICAL NOTES

ON THE BASIC DESIGN STUDY

ON THE PROJECT FOR IMPROVEMENT OF SWM

IN ULAANBAATAR

IN MONGOLIA

Based on the Minutes of Discussions signed on January 18, 2007, between the Basic Design Study Team (hereinafter referred to as "the Team" of Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Municipality of Ulaanbaatar (hereinafter referred to as "MUB") on the Project for Improvement of Solid Waste Management (hereinafter referred to as "the Project"), the consultant members of the Team had a series of discussions and conducted field surveys from January 15, 2007 to January 25, 2007.

As a result of the discussions and the surveys, both sides confirmed the technical conditions described on attached sheets.

Ulaanbaatar, January 25, 2007.

Mr. Ichiro KONO
Chief Consultant,
Basic Design Study Team
Japan International Study Team(JICA)

Mr. [illegible]
Director of the City Maintenance and Public Utility Agency
Under Mayor of Ulaanbaatar

Attachment

The both parties agreed upon and confirmed the following items.

A. Utilities supply and construction of facilities to Central work shop

The utilities supply and construction of facilities to Central work shop, CMPUA agreed contents as below.

- Supply electricity

Name of equipment	Procured quantities	Required electrical capacity per equipment (KVA)	Total required electrical capacity	Used frequency (%)	Actual required electrical capacity (KVA)
Three-phase, 380V, 50Hz					
Warm water car washer	1	5.2	5.2	100%	5.2
Sub Total			5.2		5.2
Single-phase, 220V, 50Hz					
Parts cleaner	1	0.1	0.1	50%	0.1
Buttery charger	1	1.2	1.2	100%	1.2
Arc welder	1	14.5	14.5	80%	11.6
Disk sander	1	1.1	1.1	50%	0.6
Electrical drill	2	0.6	1.2	50%	0.6
High speed abrasive cutter	1	1.5	1.5	50%	0.7
Sub Total					14.7

- Supply Clean Water and prepare water storage tank

Name of equipment	Procured quantities	Expected car wash number (unit per day)	Unit volume of water for car washing (unit per litter)	Required clean water for car washing (litter per day)	Required clean water storage tank (litter)
Warm water car washer	1	3	200	600	600

- Construction of Car washing bed and drainage system

Required washing bay and drainage system are shown in sketch below.

Central work shop layout
Existing sawarage line
Garage–1
Garage–2
Work shop
Car Washing bay
250.000
150.000
60.000
20.000
30.000
70.000
25.000
20.000
10.000
5.000
35.890

Car washing bay
B–B
5,000
4,600
200
200
300
300
PLAN
10,000
A
B
B
A
200
4,600
200
6,000
A–A
Original ground
2,000
10,000
2,000
Reinforced concrete
Drainage Pipe
Crushed stone
200
200
300

B. Equipment for Environmental Monitoring

CMPUA agreed to purchase following equipment for environmental monitoring.

Name of equipment	Purpose	Quantities
Surface water sampler	Sampling of surface water for water quality analysis	1
Ground water sampler	Sampling of surface water for water quality analysis	1
Water level transmitter	To measure of water table in the well	1
pH meter / EC meter	To measure pH figure and electrical conductivity	1
Water temperature meter	To measure water temperature	1
Thermo hygrometer	To measure ambient temperature and humidity	1

【資料－５：事業事前計画表（基本設計時）】

事業事前計画表（基本設計時）

１．案件名

モンゴル国ウランバートル市廃棄物管理改善計画

２．要請の背景（協力の必要性・位置付け）

モンゴル国（以下、「モ」国）は東アジア北部の内陸国で、面積約 154 万 ㎢、人口約 259 万人（2006 年）、一人当たり GDP は 482.8 ドル（2006 年速報値）の国である。「モ」国最大の都市である首都ウランバートル市（人口約 96.5 万人[2005 年]、面積 4704㎢）は、近年、人口の急増（1990 年から 1999 年の年平均人口増加率約 2.5%）や市場経済に伴う消費生活の進展に伴い、排出されるごみ量が増加し、廃棄物管理に係わる問題が深刻化している。

現在市の廃棄物管理に関しては、様々な問題を抱えながらも基本的にそのシステムは機能しているが、資機材の老朽化と絶対量の不足、及び収集・運搬・最終処分に至る一連の廃棄物処理に係わる無計画･技術の不足が大きな問題となっている。最終処分場における処分も衛生埋め立てではなく単純な投棄であって覆土も行われておらず、周辺には不法投棄廃棄物が散乱していて環境への甚大な影響及び周辺住民やウェストピッカーへの影響等が懸念されている。

こうした状況から、２００１年には「モ」国政府から我が国に対してウランバートル市の廃棄物管理システム計画を策定するための開発調査が要請され、２００４年度から２００６年度の３年間で開発調査「ウランバートル市廃棄物管理計画調査」(以下、「開発調査」)が実施された。

本プロジェクトは、開発調査の優先プロジェクトに係るＦＳ調査の提言を踏まえて実施されるもので、①ナラギンエンゲル新処分場の建設(約 27.8ｈａ、埋立容量 272 万m3、ウランバートル市街地の北西約 10ｋｍに位置)、②埋立用機材、③ごみ収集運搬用機材、④中央ワークショップ等における修理機材についての無償資金協力の要請があったものである。

３．プロジェクト全体概要

（１）　　プロジェクト全体計画の目標（裨益対象の範囲および規模）

ウランバートル市において、環境保全と調和する廃棄物管理システムが構築される。

〔裨益対象：ウランバートル市中心 7 区における全市民　約 86.7 万人（2005 年）〕

（２）　　プロジェクト全体計画の成果

ア．　ウランバートル市アパート地区の 100%、ゲル地区の 80%にごみ収集サービスが提供される。

イ．　ウランバートル市の 90%のごみがナランギンエンゲル処分場で衛生的に処分される。

（３）　プロジェクト全体計画の主要活動

ア．　プロジェクト運営のための人員を配置する。

イ．　ごみ収集運搬用・衛生埋め立て用機材を調達する。

ウ．　ナランギンエンゲル新規処分場を建設する。

エ．　調達した機材の運営維持管理活動ならびに衛生埋立に係る技術訓練を実施する。

（４）　投入（インプット）

ア．　日本側（＝本案件）：無償資金協力　10.05　億円

イ．　モンゴル国側

(ｱ) 必要な人員

(ｲ) 用地確保およびアクセス整備

(ｳ) 中央ワークショップ改修工事

(ｴ) 電気電話の引き込み

(ｵ) 緩衝帯における植樹

(ｶ) 施設の運営維持管理（環境モニタリングを含む）

（５）　実施体制

主管官庁：　ウランバートル市

実施機関：　ウランバートル市　都市保全公共施設庁（CMPUA）

４．無償資金協力案件の内容

（１）　サイト

モンゴル国ウランバートル市中心７区

（２）　概要

ア．　ウランバートル市ナランギンエンゲルにおける新規処分場の建設(最終埋立面積約 27.8ｈａ、埋立容量 317.6 万m3、埋立可能年数 11 年)

イ．　ごみ収集運搬用機材の調達（コンパクター、ダンプトラック等 44 台）

ウ．　衛生埋立用機材の調達（ブルドーザー、エクスカベーター等 8 台）

エ．　中央ワークショップにおける整備機材の調達

オ．　CMPUA 職員を対象に調達した機材の運営維持管理ならびに衛生埋立に関する技術指導。

（３）　相手国側負担事項

ア．　用地確保及びアクセス整備

イ．　中央ワークショップ改修工事

ウ．　電気電話の引き込み

エ． 緩衝帯における植樹

（４） 概算事業費

概算事業費 10.57 億円（無償資金協力 10.05 億円、モンゴル国側負担 0.52 億円）

（５） 工期

詳細設計・入札期間を含め約 21 ヶ月（予定）

（６） 貧困・ジェンダー、環境および社会面への配慮

ナラギンエンゲル新処分場に隣接するウランチュルート既設処分場には約３００名のウェストピッカーが存在しており、廃棄物からの有価物の回収により生計を立てている。ウランチュルート既設処分場が２００８年に満杯となり閉鎖された後にはウェストピッカーは新設するナラギンエンゲル新処分場で引続き有価物の回収を行うことが想定されるが、新処分場においては、これらウェストピッカーと共存する衛生埋立方法を指導訓練する。

また自然環境省に承認された EIA では、施設の運営にあたって、環境モニタリングを実施することならびにその基準が記載されているため、「モ」国側実施機関はこれを確実に実施する必要がある。

５．外部要因リスク（プロジェクト全体計画の目標の達成に関するもの）

- 予測を大幅に超える急激な人口の増加がない。

６．過去の類似案件からの教訓の活用

- 特になし

７．プロジェクト全体計画の事後評価に係る提案

（１） プロジェクト全体計画の目標達成を示す成果指標

モンゴル国ウランバートル市中心 7 区におけるゴミ収集率及び最終処分方法

	現状	目標年（2010 年）
人口比ごみ収集率 アパート地区 ゲル地区	 100% 42%	 100% 80%
最終処分方法	オープンダンプ	衛生埋立

（１） その他の成果指標

なし

（２） 評価のタイミング

2010 年以降（計画目標年）

【資料－６：参考資料／入手資料リスト】

調査名 ： モンゴル国ウランバートル市廃棄物管理改善計画 基本設計調査

番号	名称	形態 図書・ビデオ 地図・写真等	オリジナル・コピー	発行機関	発行年
1	市長命令第 445 号（CMPUA設立書）	書面	コピー	ウランバートル市	2006 年
2	市長命令第 594 号（廃棄物サービス基金設立書）	書面	コピー	ウランバートル市	2006 年
3	ゲル地区ゴミ収集率調査結果	エクセルシート	コピー	BD調査団	2006 年
4					
5					
6					
7					
8					
9					
10					

【1．市長命令第 445 号】

НИЙСЛЭЛИЙН ЗАСАГ ДАРГЫН
ЗАХИРАМЖ

2006 оны 9 сарын 13 өдөр Дугаар 445 Улаанбаатар хот

Хот тохижилтын газар байгуулах тухай

Монгол Улсын "Засаг захиргаа, нутаг дэвсгэрийн нэгж, түүний удирдлагын тухай" хуулийн 28 дугаар зүйлийн 1, 3 дахь заалт, Монгол Улсын Засгийн газрын 2005 оны 15 дугаар тогтоолын 5 дугаар заалтыг үндэслэн ЗАХИРАМЖЛАХ НЬ

Нэг. Бүтэц, зохион байгуулалтыг шинэчлэн тогтоосонтой холбогдуулан Улаанбаатар хотын Захирагчийн харьяанд хот нийтийн эзэмшлийн тохижилтын ажлыг эрхлэх, хог хаягдлын менежментийг хэрэгжүүлэх, тохижилт цэвэрлэгээний байгууллагуудын үйл ажиллагааг нэгтгэн зохион байгуулах, цэвэрлэгээний ажлыг шуурхай гүйцэтгэх үүрэг бүхий Хот тохижилтын газрыг 2006 оны 9 дүгээр сарын 15-ны өдрөөс байгуулсугай.

Хоёр. Цэгмидийн Болдыг 2006 оны 9 дүгээр сарын 15-ны өдрөөс Хот тохижилтын газрын даргаар томилсугай.

Гурав. Хот тохижилтын газрын бүтцийг 3 алба, хог хаягдлын үйлчилгээний сантай, орон тооны хязгаарыг 45 хүртэл / үүнээс удирдлага 3/ байхаар тогтоож, дэргэдээ хог, цас мөс цэвэрлэгээний гэрээгээр ажиллах шуурхай ажлын хэсэгтэйгээр ажиллуулсугай.

Дөрөв. Хот тохижилтын газар байгуулагдсантай холбогдуулан тус газрын дүрмийг батлуулж, төсвийн ерөнхийлөн захирагчтай үр дүнгийн гэрээ байгуулан ажиллахыг Хот тохижилтын газар /Ц.Болд/-т үүрэг болгосугай.

Тав. Хот тохижилтын газрын үйл ажиллагаа явуулахад шаардагдах хөрөнгийг төсвийн зохицуулалт хийж гаргахыг Нийслэлийн Засаг даргын Тамгын газрын Санхүү, эдийн засаг, төрийн сангийн хэлтэс /Д.Ганболд/, албан контор, авто гражтай болгох асуудлыг шийдвэрлэх, тус газрын удирдлагатай гэрээ байгуулж цагийг тогтоохыг Нийслэлийн Өмчийн харилцааны газар /М.Цэрэндорж/-т тус тус даалгасугай.

Зургаа.Хот тохижилтын газрын үйл ажиллагаанд дэмжлэг үзүүлж, мэргэжил, арга зүйн удирдлагаар ханган ажиллахыг Улаанбаатар хотын Захирагчийн ажлын алба /Г.Мөнхбаяр/-нд үүрэг болгосугай.

НИЙСЛЭЛИЙН ЗАСАГ ДАРГА
БӨГӨӨД УЛААНБААТАР
ХОТЫН ЗАХИРАГЧ Ц.БАТБАЯР

0201711

CAPITAL CITY MAYOR
ORDER

Date: 13 September 2006 No 445 Ulaanbaatar city

Establishment of City Maintenance and Public Utilities Agency

With reference to the Article 28.1 and 28.3 of the "Law on Administration, Territorial Division, and its Management", and Article 5 of the Government Resolution No 15, the Mayor orders the following:

One. In connection with the establishment of new organizational structure, approve the establishment of the City Maintenance and Public Utilities Agency[1] from September 15, 2006, which be responsible to conduct works related to the maintaining the city's public area, to implement waste management, to unify and organize operations of city maintenance and cleaning organizations, and to carry out timely cleaning works under Ulaanbaatar city Mayor.

Two. Appoint Mr. Tsegmid Bold as a director of the City Maintenance and Public Utilities Agency from September 15, 2006.

Three. The City Maintenance and Public Utilities Agency shall have 3 bureaus[2], waste service fund, and the number of staff shall not exceed 45 persons (out of which 3 is management staff). The Emergency team that will deal with waste, snow and ice shall operate on the contract basis under the City Maintenance and Public Utilities Agency.

Four. In connection with the establishment of the City Maintenance and Public Utilities Agency, oblige the Agency /Ts.Bold/ to draft and approve its Agency's regulation and to make performance contract with the budget general chief.

Five. Oblige the Finance, Economy and Treasury Division /D.Ganbold/, Governor's Office, Capital City Government to make budget coordination of the required financial resource for the operation of the City Maintenance and Public Utilities Agency, and oblige Capital City Property Relations Department /M.Tserendorj/, to provide office and garage space as well as make a contract with the Agency's authorities to set a salary scheme.

Six. Oblige the Mayor's Office of the Ulaanbaatar City Government /G.Munkhbayar/ to support and provide with professional and methodological guidelines the City Maintenance and Public Utilities Agency.

CAPITAL CITY GOVERNOR AND
ULAANBAATAR CITY MAYOR /*signed and stamped*/ TS.BATBAYAR

[1] *Agency is Department*
[2] *Bureau is Division*

【2．市長命令第 594 号】

НИЙСЛЭЛИЙН ЗАСАГ ДАРГЫН ЗАХИРАМЖ

2006 оны 11 сарын 30 өдөр　　Дугаар 594　　Улаанбаатар хот

Хог хаягдлын үйлчилгээний сан байгуулах тухай

Монгол Улсын "Засаг захиргаа, нутаг дэвсгэрийн нэгж, түүний удирдлагын тухай" хуулийн 28 дугаар зүйлийн 1, 3 дахь хэсэг, "Ахуйн болон үйлдвэрлэлийн хог хаягдлын тухай" хуулийн 21 дүгээр зүйлийн 1 дэх хэсэг, Нийслэлийн Иргэдийн Төлөөлөгчдийн Хурлын Тэргүүлэгчдийн 2006 оны "Хог хаягдлын үйлчилгээний сангийн журам батлах тухай" 248 дугаар тогтоолыг үндэслэн ЗАХИРАМЖЛАХ НЬ:

Нэг. Нийслэлийн хог хаягдлын үйлчилгээний санг Улаанбаатар хотын Захирагчийн ажлын албаны дэргэд, дүүргүүдийн хог хаягдлын салбар санг дүүргийн Засаг даргын Тамгын газрын дэргэд тус тус байгуулсугай.

Хоёр. Хог хаягдлын үйлчилгээний санг батлагдсан журмын дагуу зохион байгуулж бэлтгэл ажлыг хангуулан, 2007 оны 01 дүгээр сарын 01-ний едрөөс эхлэн сангийн үйл ажиллагааг эхлүүлж, хяналт тавьж ажиллахыг Улаанбаатар хотын Ерөнхий менежер Г.Мөнхбаяр, дүүргүүдийн Засаг дарга нарт үүрэг болгосугай.

НИЙСЛЭЛИЙН ЗАСАГ ДАРГА
БӨГӨӨД УЛААНБААТАР
ХОТЫН ЗАХИРАГЧ　　Ц.БАТБАЯР

CAPITAL CITY MAYOR
ORDER

Date: 30 November 2006 No 594 Ulaanbaatar city

Establishment of Waste Service Fund

With reference to the Article 28.1 and 28.3 of the "Law on Administration, Territorial Division, and its Management", and the Article 21.1 of the "Law on Household and Industrial Waste", and the Decree 248 of the "Approval of the Waste Service Fund Regulation" issued by the Presidium of the Capital Citizen's Representatives, the Mayor ORDERS the following:

One. Establish the capital waste service fund at the Mayor's Office of MUB, and districts' waste service fund at District's Governments.

Two. Oblige the Ulaanbaatar City General Manager /G.Munkhbayar/ and District Governors to prepare necessary measurers for the organization of the Waste Service Fund according to the approved Regulation, and to start the operation of the Fund from 1 January 2007, and to ensure the monitoring.

CAPITAL CITY GOVERNOR AND
ULAANBAATAR CITY MAYOR /*signed and stamped*/

TS.BATBAYAR

【3．Khoroo 収集率調査結果】

Basic Data				Survey Result			
				Number of residents	Number of households	Number of households pay waste fee	Fee collection rate
DISTRICT	Khoroo No.	Type	Population	people	households	households	%
Bayangol	1	Apartment	8,561				
	2	Apartment	5,437				
	3	Apartment	8,872				
	4	Apartment	10,596				
	5	Apartment	7,390				
	6	Apartment	9,047				
	7	Apartment	7,913				
	8	Apartment	7,447				
	9	Ger/Apart	10,469	9,000	2,000	200	10%
	10	Ger	9,714	11,988	3,119	3,000	96%
	11	Ger	9,807	4,621	1,263	140	11%
	12	Apartment	10,649				
	13	Apartment	6,125				
	14	Apartment	5,902				
	15	Apartment	5,735				
	16	Ger	5,853	5,480	1,400	275	20%
	17	Apartment	5,581				
	18	Apartment	8,568				
	19	Apartment	7,112				
	20	Apartment	2,784				
BGD	total			31,089	7,782	3,615	46%
Bayanzurkh	1	Apartment	5,765				
	2	Ger	22,963	23,898	5,690	2,059	36%
	3	Apartment	4,909				
	4	Apartment	9,250				
	5	Ger/Apartment	11,684	9,819	2,338	1,181	51%
	6	Apartment/Gel	7,801	214	210	178	85%
	7	Apartment	8,024				
	8	Ger	9,746	6,946	1,654	1,323	80%
	9	Ger	8,297	9,400	2,350	776	33%
	10	Ger	10,860	13,318	3,171	1,484	47%
	11	Ger	3,459	3,604	950	0	0%
	12	Ger	8,957	9,710	2,312	1,849	80%
	13	Ger	7,462	8,689	2,069	1,758	85%
	14	Ger	6,657	8,589	2,045	1,630	80%
	15	Apartment	5,253				
	16	Apartment/Gel	11,401	546	130	124	95%
	17	Ger	8,260	8,164	1,944	816	42%
	18	Apartment	7,924				
	19	Ger	8,954	12,184	2,901	1,421	49%
	20	Ger	5,198	3,200	800	320	40%
BZD	Total				28,564	14,919	52%

Basic Data				Survey Result			
				Number of residents	Number of households	Number of households pay waste fee	Fee collection rate
DISTRICT	Khoroo No.	Type	Population	people	households	households	%
Songinokhai	1	Ger	12,785	14,943	3,745	1,498	40%
rkhan	2	Ger	4,649	5,052	1,052	600	57%
	3	Ger	9,389	11,057	2,250	900	40%
	4	Ger	8,160	10,240	2,016	705	35%
	5	Ger	9,629	10,515	2,332	785	34%
	6	Ger	13,100	14,849	3,295	1,318	40%
	7	Ger	11,179	14,666	3,177	1,270	40%
	8	Ger	6,964	7,608	1,482	592	40%
	9	Ger	11,815	14,092	3,423	1,540	45%
	10	Ger	10,201	11,228	2,240	784	35%
	11	Ger	12,552	10,566	2,384	476	20%
	12	Apartment	6,305				
	13	Apartment	6,938				
	14	Apartment	7,023				
	15	Apartment	6,864				
	16	Apartment	6,694				
	17	Ger	7,204	1,328	332	0	0%
	18	Apartment	9,237				
	19	Apartment	9,527				
	20	Ger	7,876	1,200	250	32	13%
	21	Ger	4,062	4,062	800	0	0%
SkhD					28,778	10,500	36%
Sukhbaatar	1	Apartment	3,329				
	2	Apartment	5,262				
	3	Apartment	5,419				
	4	Apartment	3,786				
	5	Apartment	4,744				
	6	Apartment	4,624				
	7	Apartment	7,054				
	8	Apartment	9,037				
	9	Ger	9,360	10,134	2,040	600	29%
	10	Apartment	7,429				
	11	Ger	9,658	10,004	2,055	700	34%
	12	Ger	5,910	6,381	1,512	900	60%
	13	Ger	6,458	6,480	2,050	200	10%
	14	Ger	5,167	5,770	1,340	550	41%
	15	Ger	9,672	11,640	2,860	1,716	60%
	16	Ger	9,258	11,311	2,914	500	17%
SBD					14,771	5,166	35%

Basic Data				Survey Result			
				Number of residents	Number of households	Number of households pay waste fee	Fee collection rate
DISTRICT	Khoroo No.	Type	Population	people	households	households	%
Khan-Uul	1	Apartment	7,605				
	2	Apartment	7,630				
	3	Apartment	6,795				
	4	Ger	5,803	6,110	1,390	510	37%
	5	Ger	5,709	5,721	1,163	233	20%
	6	Ger	6,655	6,825	1,546	390	25%
	7	Ger	5,023	4,900	1,300	322	25%
	8	Ger	7,541	8,060	2,010	950	47%
	9	Ger	10,251	10,355	2,946	487	17%
	10	Ger	4,990	5,419	1,439	234	16%
	11	Ger	4,030	1,304	145	75	52%
	12	Ger/Apart	4,719	3,736	888	400	45%
	13	Ger	2,778	2,873	618	301	49%
	14	Ger	1,611	1,729	512	0	0%
KhU					13,957	3,902	28%
Chingeltei	1	Apartment	4,561				
	2	Apartment	3,700				
	3	Apartment	4,587				
	4	Apartment	5,005				
	5	Apartment	4,782				
	6	Apartment	5,381				
	7	Ger	8,900	11,300	2,501	875	35%
	8	Ger	5,588	5,743	1,250	860	69%
	9	Ger	6,666	7,280	1,616	441	27%
	10	Ger	6,404	6,998	1,392	875	63%
	11	Ger	6,300	6,575	1,375	825	60%
	12	Ger	9,167	10,315	2,035	814	40%
	13	Ger	7,314	7,908	1,800	980	54%
	14	Ger	7,136	7,368	1,665	666	40%
	15	Ger	8,065	8,640	1,627	769	47%
	16	Ger	8,645	9,032	1,900	1,330	70%
	17	Ger	8,400	10,000	2,323	1,161	50%
	18	Ger	11,882	14,000	3,081	1,540	50%
CTD					22,565	11,136	49%
Nalaikh	1	Ger	5,807	6,855	1,715	686	40%
	2	Apartment	6,820				
	3	Ger	4,120	4,277	1,025	205	20%
	4	Ger	4,453	4,567	1,064	425	40%
	5	Ger	2,500	596	233	93	40%
	6	Ger	987	987	200	0	0%
ND					4,237	1,409	33%
Total Average				**553,058**	**237,071**	**99,885**	**42%**