

6.2. Questionnaire Survey for Experiment on Improvement of Refuse Collection System

This questionnaire is for the planning of 'Sanitary Environment Improvement in Granada' by the Granada Municipality and the JICA's Study Team.

1. Is your community covered by the municipality's garbage collection service?
 - a. Yes, regularly.
 - b. Yes, but irregularly
 - c. No.

2. Do you (you and your family's members) discharge garbage to a river?
 - a. Yes, always do it.
 - b. Yes, often do it.
 - c. Yes, sometimes do it.
 - d. No, never do it.

3. Can you stop to discharge garbage to a river, if you receive the garbage collection service regularly?
 - a. Yes.
 - b. No.

4. If a certain point is decided as a garbage collection point, can you appropriately discharge garbage to the point? (The place may be near by a illegally waste discharged point.)
 - a. Yes.
 - b. No.

5. Can you cooperate to maintain the point?
 - a. Yes.
 - b. No.

The following table contains the answers of 60 interviewees of three different areas.

Answers of the questionnaire for the planning of 'Sanitary Environment Improvement in Granada'

No.	Q - 1			Q - 2				Q - 3*		Q - 4		Q - 5	
	a	b	c	a	b	c	d	a	b	a	b	a	b
Rpto. Eddy Ruíz	9	9	2	5	0	1	14	6	0	20	0	16	4
Rpto. Villa Sultana	11	1	8	5	0	0	15	5	0	18	2	17	3
Rpto. San Ignacio	0	0	20	10	0	2	8	12	0	20	0	19	1
Total	20	10	30	20	0	3	37	23	0	58	2	52	8

* 37 persons answered that they never throw garbage in the river reason why the question No. 3 does not complete the 60 interviewees, as the other four questions.

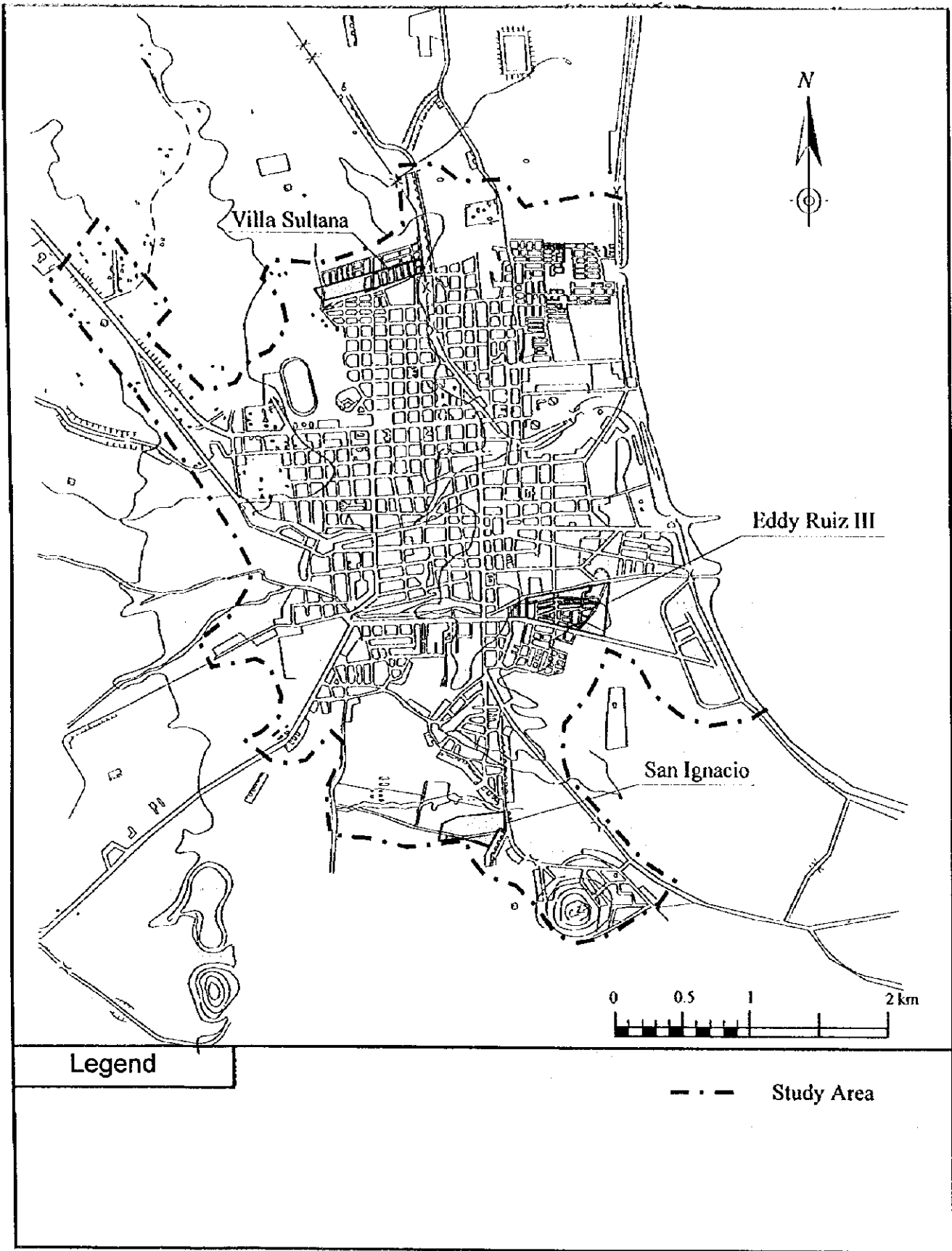


Figure 6-1: Candidate Sites for Experiment on Improvement of Refuse Collection System

Guidance of Experiment on Improvement of Refuse Collection System

This guidance is to explain the 'Experiment on Improvement of Waste Collection System' which will be conducted by the Granada Municipality and authorities concerned, and the JICA's Study Team as one of pilot projects of the Study on the Improvement of Urban Sanitation Environment of Principal Cities in the Republic of Nicaragua.

I. Background of the 'Experiment on Improvement of Waste Collection System'

Residents in the areas where the municipal waste collection service is very insufficient or not provided are easily lead to dump their domestic wastes anywhere in public places or others. To improve this situation, the experiment will be conducted, and Eddy Ruiz III is chosen as a model area.

II. Purpose of the Experiment

Point collection system which designates certain points as waste collection points is introduced in the experiment. Under the existing collection system (curb collection system), the only wastes discharged by houses which are located in front of waste collection routes are collected. Then, other residents are easily lead to dump their wastes to the Arroyo Zacatiligue and other public places. Furthermore, a lot of waste is uncollected in the rainy season due to bad road conditions. The point collection system aims to collect all the wastes generated from the community under the point collection system. For the success of the point collection system, cooperation from the residents is indispensable.

Role of Waste Collection Bay and Waste Deposit Container

A waste collection bay and waste deposit containers are installed at a collection point in order to:

- show the place where waste is collected at.
- keep waste properly for some hours until a waste collection vehicle comes to pick it up, not for storing waste even for a night.

III. How to Execute the Experiment

Discharge of waste

Waste has to be discharged to a waste collection point until 8:00 in the morning on the day when a collection vehicle comes. Discharging waste even on the previous day is prohibited.

Waste should be put in a waste collection bay or a container with being kept in a sac, a plastic bag or another receptacle. If the receptacle is reusable one, please put your name or a sign onto the receptacle to show that it belongs to you.

Collection of waste

The collection vehicle comes to pick up waste to collection points on Tuesday, Thursday Saturday.

IV. Roles of Relevant Organizations

Organizations	Roles
Granada Municipality	<ul style="list-style-type: none"> - Explanation of the experiment to residents concerned with, - Implementation of a public education and cooperation campaign, - Improvement of access roads to the waste collection points, and - Execution of the periodical waste collection service.
MINSA	<ul style="list-style-type: none"> - Explanation of the experiment to residents concerned with, and - Implementation of a public education and cooperation campaign.
JICA's Study Team	<ul style="list-style-type: none"> - Preparation of the experiment (construct waste collection bays, provide waste deposit containers, and provide a waste collection vehicle) - Supervision and evaluation of the experiment, and - Support the Municipality for a public education and cooperation campaign.
Community	<ul style="list-style-type: none"> - Never dump their waste into the river and other public places, - Discharge waste with being kept in a receptacle to the waste collection bays or containers appropriately, and - Maintain the waste collection points clean.

Punto de Recolección

La colocación de la basura es a partir de las 08:00 AM

Los días Lunes, Miércoles y Viernes

El Camión la recogerá a partir de las 08:00 AM



NOTA IMPORTANTE:

- No vaciar la basura en los contenedores, déjelo con todo y el saco y después lo retira
- La colocación de la basura el día anterior a la recolección es prohibida
- La basura se debe colocar en sacos o bolsas cerradas y amarradas
- Si el saco ó el recipiente es reusable se le debe poner su nombre, a manera de identificación
- No botar basura revuelta con tierra
- Las ramas de los arboles deben amarrarse y cortarse, lo mas pequeño posible

NO BOTAR ANIMALES MUERTOS, ES PROHIBIDO

**“TRABAJEMOS JUNTOS
PARA UNA
GRANADA MAS LIMPIA”**

AREA DE RECOLECCION

**COLOCAR LA BASURA ANTES DE 08:00
AM**

LOS DIAS MARTES, JUEVES Y SABADO

EI CAMION PASARA A LAS 08:00

IMPORTANTE:

- **NO VACIE LA BASURA**
- **DEJE EL SACO O RECIPIENTE**

NO BOTAR ANIMALES MUERTOS

Questionnaire on Refuse Collection Service (before)

This questionnaire is for planning of 'Sanitary Environment Improvement in Granada' by the Granada Municipality and the JICA's Study Team.

We would appreciate it if you would answer to the following questions.

Questions:

Q.1. Do you receive the municipality's waste collection service?

- a. Yes.
How often do you receive the service?
 - i. more than twice a week
 - ii. once a week
 - iii. once two week
 - iv. once a month
 - v. less than once a month
- b. No.

Q.2. If a waste collection bay is installed at a certain point, can you cooperate to discharge waste to the bay.

- a. Yes, if the bay is installed within 20m from my house.
- b. Yes, if the bay is installed within 50m from my house.
- c. Yes, if the bay is installed within 100m from my house.
- d. Yes, even though the bay is installed outside 100m from my house.
- e. No.(please specify)

Q.3. Do you pay a fee for the waste collection service?

- a. Yes.
How much do you pay per month?
 - i. less than 2.0C\$/month/household
 - ii. 2.0-4.0C\$/month/household
 - iii. 4.0-6.0C\$/month/household
 - iv. 6.0-8.0C\$/month/household
 - v. 8.0-10.0C\$/month/household
 - vi. more than 10.0C\$/month/household
- b. No.

Q.4. Are you willing to pay a fee for waste collection service, if it is done appropriately?

- a. Yes, up to 2.0C\$/month/household.
- b. Yes, up to 4.0C\$/month/household.
- c. Yes, up to 6.0C\$/month/household.
- d. Yes, up to 8.0C\$/month/household.
- e. Yes, up to 10.0C\$/month/household.
- f. Yes, more than 10.0C\$/month/household.
- g. No.

Thank you very much.

Result of Questionnaire of "Experiment on Improvement of Refuse Collection System" (before)

Questions:

Q.1. Do you receive the municipality's waste collection service?

- a. Yes.
How often do you receive the service?
 - i. more than twice a week
 - ii. once a week
 - iii. once two week
 - iv. once a month
 - v. less than once a month
- b. No.

	a					b	Total
	i.	ii.	iii.	iv.	v.		
Eddy Ruiz, No1	7	2	0	0	0	0	9
Eddy Ruiz, No2	7	1	0	0	0	1	9
Total	14	3	0	0	0	1	18

Q.2. If a waste collection bay is installed at a certain point, can you cooperate to discharge waste to the bay.

- a. Yes.
 - i. Yes, if the bay is installed within 20m from my house.
 - ii. Yes, if the bay is installed within 50m from my house.
 - iii. Yes, if the bay is installed within 100m from my house.
 - iv. Yes, even though the bay is installed outside 100m from my house.
- b. No.(please specify)

	a				b	Total
	i.	ii.	iii.	iv.		
Eddy Ruiz, No1	2	5	2	0	0	9
Eddy Ruiz, No2	4	5	0	0	0	9
Total	6	10	2	0	0	18

Q.3. Do you pay a fee for the waste collection service?

- a. Yes.
How much do you pay per month?
 - i. less than 2.0C\$/month/household
 - ii. 2.0-4.0C\$/month/household
 - iii. 4.0-6.0C\$/month/household
 - iv. 6.0-8.0C\$/month/household
 - v. 8.0-10.0C\$/month/household
 - vi. more than 10.0C\$/month/household
- b. No.

	a						b	Total
	i.	ii.	iii.	iv.	v.	vi.		
Eddy Ruiz, No1	0	0	0	0	0	0	9	9
Eddy Ruiz, No2	1	0	0	0	0	0	8	9
Total	1	0	0	0	0	0	17	18

- Q.4. Are you willing to pay a fee for waste collection service, if it is done appropriately?
- a. Yes.
 - i. Yes, up to 2.0C\$/month/household.
 - ii. Yes, up to 4.0C\$/month/household.
 - iii. Yes, up to 6.0C\$/month/household.
 - iv. Yes, up to 8.0C\$/month/household.
 - v. Yes, up to 10.0C\$/month/household.
 - vi. Yes, more than 10.0C\$/month/household.
 - b. No.

	a						b	Total
	i.	ii.	iii.	iv.	v.	vi.		
Eddy Ruiz, No1	4	0	2	0	2	0	1	9
Eddy Ruiz, No2	6	1	1	0	0	0	1	9
Total	10	1	3	0	2	0	2	18

Result of Questionnaire on Expenses and incomes at the Waste Collection Points in Eddy Ruiz III

Expenses

	0-200	201-400	401-600	601-800	801-1000	1001-1200	1201-1400	1401-1600	1601-1800	1801-2000	2001-2500	2501-3000	invalid	Total
Eddy Ruiz 1		5	1								1		2	9
Eddy Ruiz 2		2	2	1	1		1		1				1	9
Total	0	7	3	1	1	0	1	0	1	0	1	0	3	18

Income

	0-200	201-400	401-600	601-800	801-1000	1001-1200	1201-1400	1401-1600	1601-1800	1801-2000	2001-2500	2501-3000	invalid	Total
Eddy Ruiz 1			2							1		1	5	9
Eddy Ruiz 2			2	1					1				5	9
Total	0	0	4	1	0	0	0	0	1	1	0	1	10	18

Questionnaire on Waste Collection Service for Eddy Ruiz (after)

This questionnaire is for planning of 'Sanitary Environment Improvement in Granada' by the Granada Municipality and the JICA's Study Team.

We would appreciate it if you would answer to the following questions.

Date:

Name of interviewee:

Address of interviewee:

Role in her/his family (husband, wife, son, etc.)

Questions:

Q.1. Did you use the waste collection bay?

- a. Yes.
- b. No.

If Yes, please answer Q.2.

If No, please answer Q.3.

Q.2. Did the waste collection system using the bay satisfy you?

- a. Yes.
- c. No.

Q.3. Why did not you use the bay?

- a. Because the bay was far from the house.

Please mention the distance.

- i. within 20m
- ii. within 50m
- iii. within 100m
- b. Others.(please specify reason)

Q.4. Was the waste collection bay useful for maintaining the community cleanly?

- a. Yes.
- d. No.(please specify reason)

Q.5. Are you willing to pay a fee for the waste collection service?

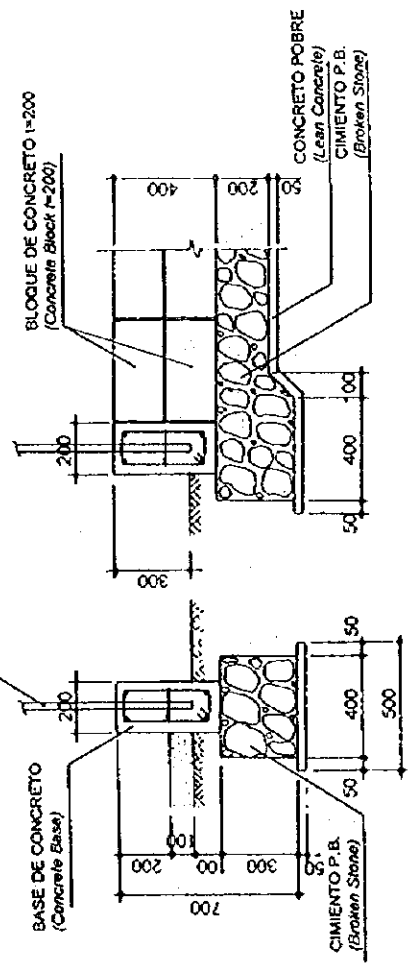
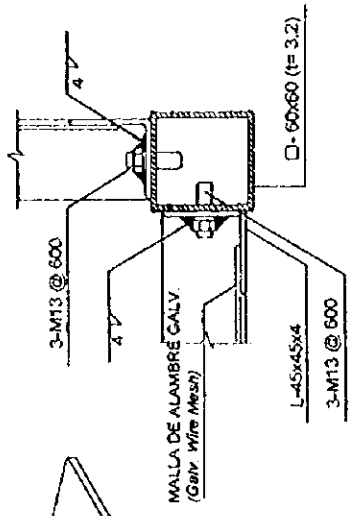
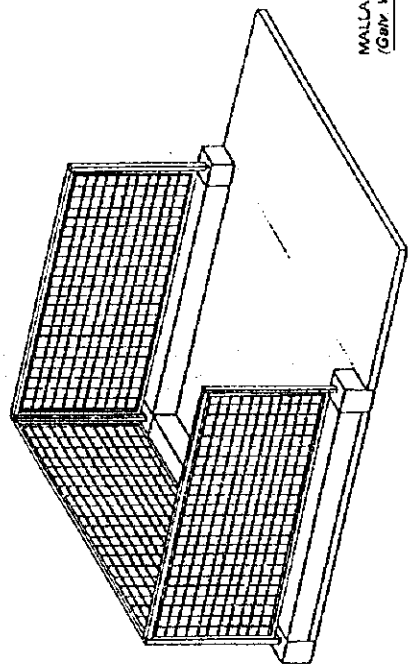
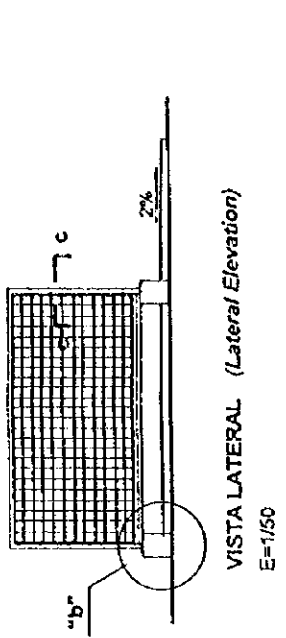
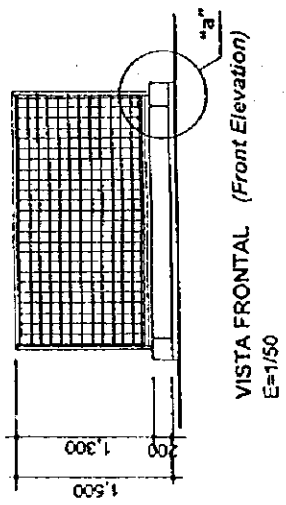
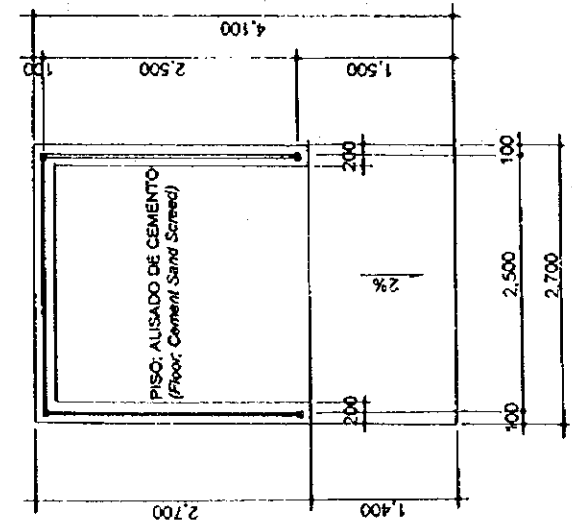
- a. Yes.
 - i. up to 2.0C\$/month/household.
 - ii. up to 4.0C\$/month/household.
 - iii. up to 6.0C\$/month/household.
 - iv. up to 8.0C\$/month/household.
 - v. up to 10.0C\$/month/household.
 - vi. more than 10.0C\$/month/household.
- d. No.

Thank you very much.

Data acquired by the Experiment on Improvement of Refuse Collection System

Unit: m³

Collection Point	No. of houses	Estimated Volume	July							August		Total	Average
			22	24	26	29	31	August					
										2			
1 EDDY RUIZ (1)	27	0.66	1.00	0.50	1.00	0.50	0.50	0.50	0.50	0.50	0.50	4.00	0.67
2 EDDY RUIZ (2)	38	0.93	1.00	0.50	1.00	0.50	0.50	0.50	0.50	0.75	0.75	4.25	0.71
3 EDDY RUIZ (3)	58	1.42	1.50	1.00	1.50	1.00	1.00	1.00	1.00	1.00	1.00	7.00	1.17
4 EDDY RUIZ (4)	80	1.96	1.00	0.50	1.00	1.00	1.00	1.00	1.00	0.25	0.25	4.75	0.79
5 EDDY RUIZ (5)	60	1.47	2.00	0.50	1.00	0.50	0.50	0.50	0.50	1.00	1.00	5.75	0.96
6 EDDY RUIZ (6)	35	0.86	1.00	0.50	1.00	0.50	0.50	0.50	0.50	0.75	0.75	4.25	0.71
7 EDDY RUIZ (7)	15	0.37	1.00	0.50	1.00	0.50	0.50	1.00	1.00	0.75	0.75	4.75	0.79
8 EDDY RUIZ (8)	40	0.98	1.00	1.00	2.00	1.00	1.00	1.00	1.00	0.00	0.00	6.75	1.13
9 EDDY RUIZ (9)	18	0.44	0.75	0.75	0.00	0.25	0.25	0.00	0.00	0.00	0.00	1.75	0.29
10 EDDY RUIZ (10)	9	0.22	0.75	0.00	0.75	0.25	0.25	0.25	0.25	0.50	0.50	2.50	0.42
Total	380	9.31	11.00	5.75	10.25	6.00	6.00	6.75	6.75	6.00	6.00	45.75	7.63



AREA DE RESIDUOS
PLANTA, VISTAS Y DETALLES

(Waste Bay
Plan,
Elevations and Details)

6.3. Questionnaire Survey for Experiment on Improvement Arroyo Zacatellgue Sanitation Environment

This questionnaire is for the planning of 'Sanitary Environment Improvement in Granada by the Granada Municipality and the JICA's Study Team.

1. Is your community covered by the municipality's garbage collection service?
 - a. Yes, regularly.
 - b. Yes, but irregularly.
 - c. No.

2. Do you (you and your family's members) discharge garbage to a river?
 - a. Yes, always do it.
 - b. Yes, often do it.
 - c. Yes, sometimes do it.
 - d. No, never do it.

3. Can you stop to discharge garbage to a river, if you receive the garbage collection service regularly?
 - a. Yes.
 - b. No.

4. If a certain point is decided as a garbage collection point, can you appropriately discharge garbage to the point? (The place may be near to a illegally waste discharged point.)
 - a. Yes.
 - b. No.

5. Can you cooperate to maintain the point?
 - a. Yes.
 - b. No.

The following table contains the answers of 60 interviewee of six different points.

Answers of the questionnaire for the planning of 'Sanitary Environment Improvement in Granada'

No. Area	Q - 1			Q - 2				*Q - 3		Q - 4		Q - 5	
	a	b	c	a	b	c	d	a	b	a	b	a	b
I	-	2	8	7	-	3	-	10	-	10	-	10	-
II	3	2	5	5	-	2	3	7	-	10	-	8	2
III	1	-	9	6	-	-	4	6	-	10	-	10	-
IV	1	-	9	5	1	-	4	6	-	10	-	10	-
V	-	2	8	5	-	1	4	6	-	10	-	10	-
VI	6	1	3	3	2	5	-	8	2	9	1	9	1
Total	11	7	42	31	3	11	15	43	2	59	1	57	3

* 15 Persons answered that they never throw garbage in the river; reason why the question No. 3 doesn't complete the 60 interviewees, as the other four questions.

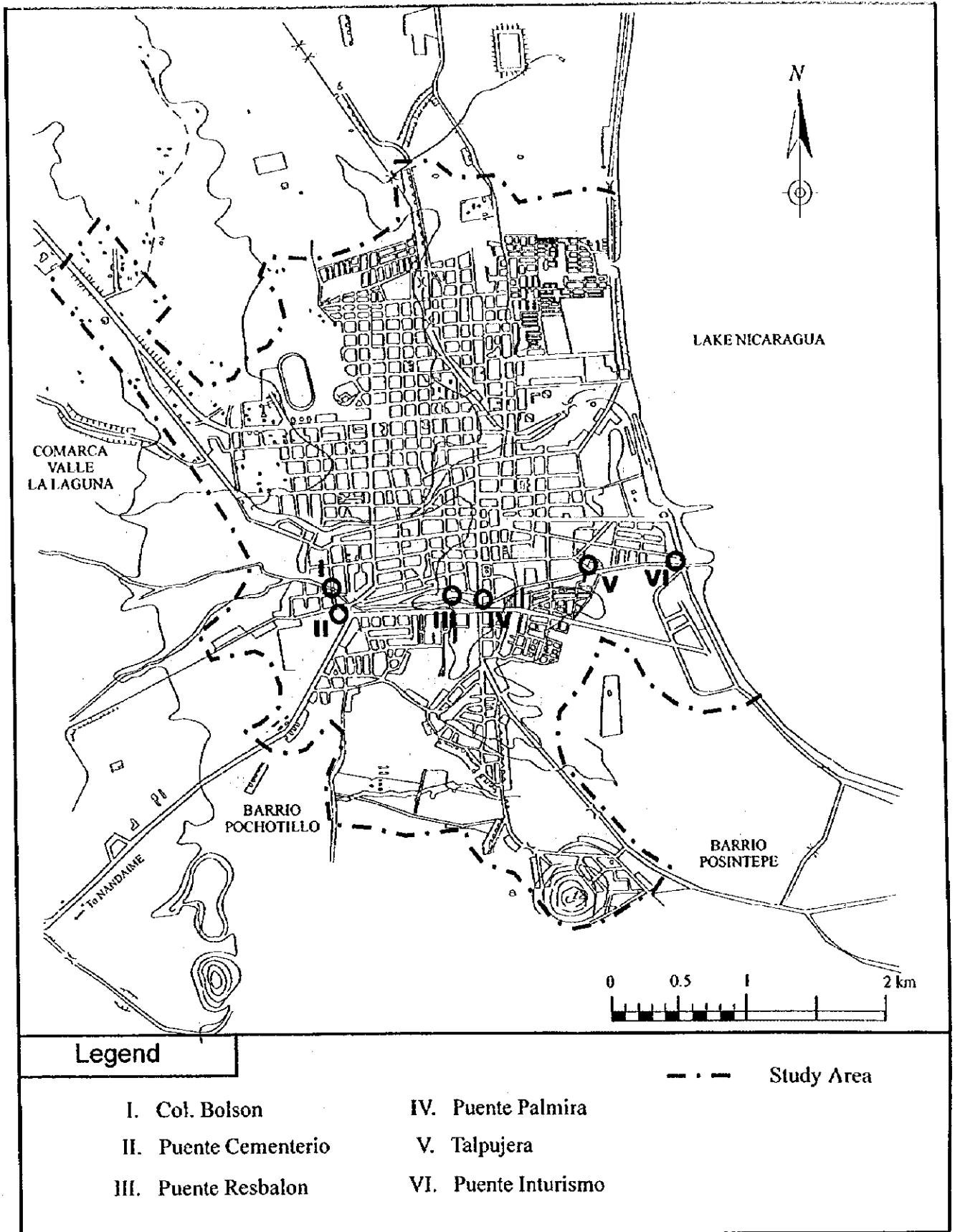


Figure 6-2: Candidate Sites for Experiment on Improvement of Arroyo Zacatiligue Sanitation Environment

Guidance of Experiment on Improvement of Arroyo Zacatiligue Sanitation Environment

This guidance is to explain the 'Experiment on Improvement of Arroyo Zacatiligue Sanitation Environment' which will be conducted by the Granada Municipality and authorities concerned, and the JICA's Study Team as one of pilot projects of the Study on the Improvement of Urban Sanitation Environment of Principal Cities in the Republic of Nicaragua.

I. Background of the 'Experiment on Improvement of Arroyo Zacatiligue Sanitation Environment'

One of the most critical environmental problems in Granada is illegal waste dumping in the river courses (arroyo). The illegal waste dumping in arroyos causes river water pollution and the pollution of Lake Nicaragua as well. To improve this situation, the experiment will be conducted, and the Arroyo Zacatiligue is chosen as a model river.

II. Purpose of the Experiment

The purposes of the experiment are to stop the illegal waste dumping into the river and to keep it clean by cooperation of the residents and the Granada municipality. Under the existing collection system (curb collection system), the only wastes discharged by houses which are located in front of waste collection routes are collected. However, the areas along the river do not receive the service sufficiently due to their adverse road conditions. Furthermore, the conditions become worse in the rainy season. This situation leads the residents to dump their wastes into the river easily. To collect all the wastes generated from the community, a point collection system which designates certain points as waste collection points is introduced. For the success of the experiment, cooperation of the residents is indispensable.

Role of Waste Collection Bay and Waste Deposit Container

A waste collection bay and waste deposit containers are installed at a collection points in order to:

- to show the place where waste is collected at.
- to keep waste properly for some hours until a waste collection vehicle comes to pick it up, not for storing wastes even for a night.

III. How to Execute the Experiment

Discharge of waste

Waste has to be discharged to a waste collection point until 8:00 in the morning on the day when the collection vehicle comes. Discharging waste even on the previous day is prohibited.

Waste should be put in a waste collection bay or a container with being kept in a sac, a plastic bag or another receptacle. If the receptacle is reusable one, please put your name or a sign onto the receptacle to show that it belongs to you.

Collection of waste

The collection vehicle comes to pick up waste to collection points on Monday, Wednesday and Friday.

IV. Roles of Relevant Organizations

Organizations	Roles
Granada Municipality	<ul style="list-style-type: none"> - Explanation of the experiment to residents concerned with, - Implementation of a public education and cooperation campaign, - Improvement of access roads to the waste collection points, and - Execution of the periodical waste collection service.
MINSA	<ul style="list-style-type: none"> - Explanation of the experiment to residents concerned with, and - Implementation of a public education and cooperation campaign.
JICA's Study Team	<ul style="list-style-type: none"> - Preparation of the experiment (construct waste collection bays, provide waste deposit containers, and provide a waste collection vehicle) - Supervision and evaluation of the experiment, and - Support the Municipality for a public education and cooperation campaign.
Community	<ul style="list-style-type: none"> - Never dump their wastes into the river - Discharge waste with being kept in a receptacle to the waste collection bays or containers appropriately, and - Maintain the waste collection points clean.

Questionnaire on Experiment on Improvement of Arroyo Zacatiligue Sanitation Environment (before)

This questionnaire is for planning of 'Sanitary Environment Improvement in Granada' by the Granada Municipality and the JICA's Study Team.

We would appreciate it if you would answer to the following questions.

Questions:

- Q.1. Do you receive the municipality's waste collection service?
- Yes.
How often do you receive the service?
 - more than twice a week
 - once a week
 - once two week
 - once a month
 - less than once a month
 - No.
- Q.2. If a waste collection bay is installed at a certain point, can you cooperate to discharge waste to the bay.
- Yes, if the bay is installed within 20m from my house.
 - Yes, if the bay is installed within 50m from my house.
 - Yes, if the bay is installed within 100m from my house.
 - Yes, even though the bay is installed outside 100m from my house.
 - No.(please specify)
- Q.3. Do you pay a fee for the waste collection service?
- Yes.
How much do you pay per month?
 - less than 2.0C\$/month/household
 - 2.0-4.0C\$/month/household
 - 4.0-6.0C\$/month/household
 - 6.0-8.0C\$/month/household
 - 8.0-10.0C\$/month/household
 - more than 10.0C\$/month/household
 - No.
- Q.4. Are you willing to pay a fee for waste collection service, if it is done appropriately?
- Yes, up to 2.0C\$/month/household.
 - Yes, up to 4.0C\$/month/household.
 - Yes, up to 6.0C\$/month/household.
 - Yes, up to 8.0C\$/month/household.
 - Yes, up to 10.0C\$/month/household.
 - Yes, more than 10.0C\$/month/household.
 - No.

Thank you very much.

Result of Questionnaire of Experiment on Improvement of Arroyo Zacatiligue Sanitation Environment" (before)

Questions:

Q.1. Do you receive the municipality's waste collection service?

- a. Yes.
 - i. more than twice a week
 - ii. once a week
 - iii. once two week
 - iv. once a month
 - v. less than once a month
- b. No.

	a					b	Total
	i.	ii.	iii.	iv.	v.		
El Bolson	9	0	0	0	0	0	9
El Resbalon	2	0	0	0	0	7	9
La Sirena	9	0	0	0	0	0	9
La Talpujera	6	3	0	0	0	0	9
Total	26	3	0	0	0	7	36

Q.2. If a waste collection bay is installed at a certain point, can you cooperate to discharge waste to the bay.

- a. Yes.
 - i. Yes, if the bay is installed within 20m from my house.
 - ii. Yes, if the bay is installed within 50m from my house.
 - iii. Yes, if the bay is installed within 100m from my house.
 - iv. Yes, even though the bay is installed outside 100m from my house.
- b. No.(please specify)

	a				b	Total
	i.	ii.	iii.	iv.		
El Bolson	3	5	1	0	0	9
El Resbalon	4	3	2	0	0	9
La Sirena	5	2	2	0	0	9
La Talpujera	3	2	4	0	0	9
Total	15	12	9	0	0	36

Q.3. Do you pay a fee for the waste collection service?

- a. Yes.
 How much do you pay per month?
 i. less than 2.0C\$/month/household
 ii. 2.0-4.0C\$/month/household
 iii. 4.0-6.0C\$/month/household
 iv. 6.0-8.0C\$/month/household
 v. 8.0-10.0C\$/month/household
 vi. more than 10.0C\$/month/household
 b. No.

	a						b	Total
	i.	ii.	iii.	iv.	v.	vi.		
El Bolson	0	1	0	0	0	0	8	9
El Resbalon	0	0	0	0	0	0	9	9
La Sirena	1	4	1	0	0	0	3	9
La Talpujera	0	0	0	0	0	0	9	9
Total	1	5	1	0	0	0	29	36

Q.4. Are you willing to pay a fee for waste collection service, if it is done appropriately?

- a. Yes.
 i. Yes, up to 2.0C\$/month/household.
 ii. Yes, up to 4.0C\$/month/household.
 iii. Yes, up to 6.0C\$/month/household.
 iv. Yes, up to 8.0C\$/month/household.
 v. Yes, up to 10.0C\$/month/household.
 vi. Yes, more than 10.0C\$/month/household.
 b. No.

	a						b	Total
	i.	ii.	iii.	iv.	v.	vi.		
El Bolson	4	3	0	0	0	0	2	9
El Resbalon	4	2	2	0	1	0	0	9
La Sirena	2	2	3	0	2	0	0	9
La Talpujera	5	2	1	0	1	0	0	9
Total	15	9	6	0	4	0	2	36

Result of Questionnaire on Expenses and incomes at the Waste Collection Points along the Arroyo Zacatlilgüe

Expenses

	0-200	201-400	401-600	601-800	801-1000	1001-1200	1201-1400	1401-1600	1601-1800	1801-2000	2001-2500	2501-3000	invalid	Total
El Bolson		1	2	2							1	1	2	9
El Resbalon		1	2		1				1	1			3	9
La Sirena			3	1	1	1						1	2	9
Talpujera			1	1	1	1							4	9
Total	0	2	8	4	3	1	2	0	1	1	1	2	11	36

Income

	0-200	201-400	401-600	601-800	801-1000	1001-1200	1201-1400	1401-1600	1601-1800	1801-2000	2001-2500	2501-3000	invalid	Total
El Bolson					1								8	9
El Resbalon						1							8	9
La Sirena										1			8	9
Talpujera			1										8	9
Total	0	0	1	0	1	1	0	0	0	1	0	0	32	36

Questionnaire on Waste Collection Service for Areas along the Arroyo Zacatiligue (after)

This questionnaire is for planning of 'Sanitary Environment Improvement in Granada' by the Granada Municipality and the JICA's Study Team.

We would appreciate it if you would answer to the following questions.

Date:

Name of interviewee:

Address of interviewee:

Role in her/his family (husband, wife, son, etc.)

Questions:

Q.1. Did you use the waste collection bay?

- a. Yes.
- b. No.

If Yes, please answer Q.2.

If No, please answer Q.3.

Q.2. Did the waste collection system using the bay satisfy you?

- a. Yes.
- b. No.

Q.3. Why did not you use the bay?

- a. Because the bay was far from the house.
Please mention the distance.
 - i. within 20m
 - ii. within 50m
 - iii. within 100m
- b. Others.(please specify reason)

Q.4 Was the waste collection bay useful for maintaining the community cleanly?

- a. Yes.
- d. No.(please specify reason)

Q.5. Are you willing to pay a fee for the waste collection service?

- a. Yes.
 - i. up to 2.0C\$/month/household.
 - ii. up to 4.0C\$/month/household.
 - iii. up to 6.0C\$/month/household.
 - iv. up to 8.0C\$/month/household.
 - v. up to 10.0C\$/month/household.
 - vi. more than 10.0C\$/month/household.
- b. No.

Q6. Used you to throw waste away to the river?

a. Yes.

b. No.

If yes, please answer Q7.

Q7. Did you stop throwing waste away to the river due to the waste collection service?

a. Yes.

b. No.

Thank you very much.

Data aquired by the Experiment on Improvement
of Arroyo Zacatilligüe Sanitation Environment

Unit: m³

	No. of houses	Estimated Volume	July					August	Total	Average
			21	23	25	28	30	1		
1 SIRENA	30	0.74	1.00	1.00	1.00	1.00	1.00	1.00	6.00	1.00
2 CUISCOMA	35	0.86	2.00	0.50	0.75	1.00	0.25	0.50	5.00	0.83
3 TALPUJERA	84	2.06	1.00	1.50	2.00	2.00	1.75	1.50	9.75	1.63
4 MAJULIA	42	1.03	1.00	1.00	1.00	0.25	1.00	1.50	5.75	0.96
5 PUENTE RESBALON	25	0.61	0.50	0.50	1.00	1.00	0.50	0.50	4.00	0.67
6 COL. BOLSON	81	1.98	0.00	0.75	1.50	1.00	0.50	0.50	4.25	0.71
7 ARROYO BOLSON	27	0.66	0.75	0.75	0.50	0.25	0.50	1.00	3.75	0.63
Total	324	7.94	6.25	6.00	7.75	6.50	5.50	6.50	38.50	6.42

6.4. Questionnaire Survey for Experiment on Sanitary Landfill Operation at La Joya Disposal Site

Questionnaire (before) for the Experiment on the Operation of a Sanitary Land Fill in the Actual Disposal Site: "La Joya"

1. Objective

The questionnaire will be done before and after the experiments of the operation of a sanitary land fill in the actual disposal site in La Joya, looking to understand how the residents impression about the site will change as a result of introducing appropriated techniques for the operation of a sanitary land fill in La Joya.

2. Criteria and Number of interviewees

The interviewees will be selected according the following (considering that non of the residents lives near to the site called La Joya):

- | | |
|--|---------------|
| • Community Leader | 10-15 persons |
| • Councilors | All of them |
| • Proprietors of poultry farm near to the new proposed final disposal site | 3 persons |
| • Reporters | 3-4 persons |

3. Method of the Questionnaire

The interviewer will guide the interviewees across the disposal site by bus and the questionnaire will be done after the visit.

4. Questionnaire (before)

Date of the Questionnaire: _____

Interviewees Data

Address: _____

Name: _____

Age: _____

Male/Female: _____

To which group do you belong to (please underline or close your answer in a circle):

Citizen, councilor, proprietary of the poultry farm, reporter

Q1. About the solid waste management

Do you know where and how it's disposed the solid waste that it's produced daily?

- No, I didn't know until today when I visited the final disposal site.
- Yes, I know from before the visit.

Q2. About the final disposal site

What do you think about the final disposal site after your visit?

(It's accepted several answers)

- a. The waste it's scattered in and out the disposal site, unhygienic.
- b. Bad scents, unhygienic.
- c. Cloud of dust, unhygienic.
- d. To many flies, unhygienic.
- e. Noisy and with vibrations, disagreeably.
- f. Fire and smoke, disagreeably.
- g. Very bad visual appearance.
- h. Cause of the worsening of the environment and the area around the disposal site.
- i. It cause me worry for the contamination of the water due the disposal site.
- j. It cause me worry for the contamination of the air due the disposal site.
- k. Others (please specify)

Thank you very much!!

Questionnaire (before) for the Experiment on the Operation of a Sanitary Land Fill in the Actual Disposal Site: "La Joya"

1. Objective

The questionnaire will be done before and after the experiments of the operation of a sanitary land fill in the actual disposal site in La Joya, looking to understand how the residents impression about the site will change as a result of introducing appropriated techniques for the operation of a sanitary land fill in La Joya.

2. Criteria and Number of interviewees

The interviewees will be selected according the following (considering that non of the residents lives near to the site called La Joya):

- | | |
|--|---------------|
| • Community Leader | 10-15 persons |
| • Councilors | All of them |
| • Proprietors of poultry farm near to the new proposed final disposal site | 3 persons |
| • Reporters | 3-4 persons |

3. Method of the Questionnaire

The interviewer will guide the interviewees across the disposal site by bus and the questionnaire will be done after the visit.

4. Questionnaire (before)

Date of the Questionnaire: _____

Interviewees Data

Address: _____

Name: _____

Age: _____

Male/Female: _____

To which group do you belong to (please underline or close your answer in a circle):

Citizen, councilor, proprietary of the poultry farm, reporter

C1. About the solid waste management

Do you know where and how it's disposed the solid waste that it's produced daily?

- No, I didn't know until today when I visited the final disposal site.
- Yes, I know from before the visit.

C2. About the final disposal site

What do you think about the final disposal site after your visit?

(It's accepted several answers)

- a. The waste it's scattered in and out the disposal site, unhygienic.
- b. Bad scents, unhygienic.
- c. Cloud of dust, unhygienic.
- d. To many flies, unhygienic.
- e. Noisy and with vibrations, disagreeably.
- f. Fire and smoke, disagreeably.
- g. Very bad visual appearance.
- h. Cause of the worsening of the environment and the area around the disposal site.
- i. It cause me worry for the contamination of the water due the disposal site.
- j. It cause me worry for the contamination of the air due the disposal site.
- k. Others (please specify)

Thank you very much for your cooperation!!

Questionnaire for the Experiment on the Operation of a Sanitary Land Fill in the Actual Disposal Site: "La Joya"

Name:	Age:	Address:	Group:	Q1		Q2												
				a	b	a	b	c	d	e	f	g	h	i	j	*k		
Tatiana Raskosky de Chamorro	52	Alcaldía de Granada	Major	--	X	X	--	--	X	X	--	--	X	X	X	X	X	--
Nidia Galeno	38	Radio Diriangén	Reporter	--	X	X	--	--	X	X	--	--	X	X	X	X	X	--
Lorenzo Larios Trujillo	51	Calle el Cementerio, Granada	Reporter	--	X	X	--	--	X	X	--	--	X	X	X	X	X	--
Zoula Parrales Ulloa	38	De donde fue el Cine Colonial, 1/2c. al Sur	Reporter	--	X	X	--	--	X	X	--	--	X	X	X	X	X	--
Manuel Arana Rocha	40	Reparto el Escudo	Councilor	--	X	X	--	--	X	X	--	--	X	X	X	X	X	X
Marlon Otero Nicoya	33	Villa Sandino D508, (Granada)	Councilor	X	--	X	--	--	X	X	--	--	X	X	X	X	X	X
Inés Correa Romero	33	Calle Nueva frente al plantel INA	Councilor	X	--	X	--	--	X	X	--	--	X	X	X	X	X	X
Wilmer Reyes Flores	22	Villa Sandino Grupo B casa # 137	Councilor	--	X	X	--	--	X	X	--	--	X	X	X	X	X	--
Salvador Acevedo Morales	72	Avenida 14 de Septiembre, de E. Chamorro 1c. al Sur	Councilor	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Teresa Pasos	45	Del puente de Valeriano Torres 1/2c. al Norte	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Damaris Bonilla Chavarria	25	Shell Guapinol 4c. al Norte	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Gustavo Carrillo	34	Rpto. Eddy Ruiz III etapa, del molino 3c. al norte, 30m al Oeste	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Marisa Alvarez	48	Calle Atravesada # 909, Granada	Citizen	--	X	X	--	--	X	X	--	--	X	X	X	X	X	--
Cristina Bernúdez Sieszar	24	Calle Nueva, de INA 1/2c. al Norte	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Joaquin Reyes	50	Calle Santa Lucia, Granada	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Maria Novoa de Baltodano	29	Rpto. Adeita 1 del colegio Lorenzo Guerrero 1/2c. al Sur	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Isabel Morales Martinez	62	Rpto. El Rosario, Granada	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--
Adelaida Rodríguez López	35	Rpto. Sn. Alejandro, de la morgue del H.B.D.O., 3c. Oeste 1c. Sur	Citizen	X	--	X	--	--	X	X	--	--	X	X	X	X	X	--

Name:	Age:	Address:	Group:	Q1		Q2														
				a	b	a	b	c	d	e	f	g	h	i	j	*k				
				hda	hda		hda													
Ada Luz Estrada	47	De la Ermita 7c. al Norte, B ^o Maria Elena Suncin	hda	hda	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
René Lugo Cano	47	B ^o La Talpajera I, Sn Juan del Sur 1/2c. lago 30vrs Sur	Citizen	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Paula Chatón	31	Rpto. Adelita I detrás del colegio Lorenzo Guerrero 1 1/2c. al Sur	Citizen	hda	hda	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Maximiliano Chávez Peña	46	Final de la Calle Sta. Lucia, Rpto. Juan de Dios Pilarte Hondoy	hda	hda	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
José Larios	44	B ^o El Rosario, del puente 100vrs. al Sur-Este, Casa # 803	Citizen (institutional worker, MARENA)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Nubia Miranda	32	Calle Corral Col. MF Auxiliadora 75vrs. al Este, Granada	Citizen (institutional worker, MARENA)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
TOTALS:						12	9	20	23	13	21	4	5	21	21	21	21	23	5	
24 Total Interviews counting: 1 Mayor, 3 Reporter's, 5 Councilor's, 11 citizen's, and 2 Institutional worker citizen's.																				

hda: He/She didn't Answer.

* People think that there is too much presence of animals like birds and cattle at the disposal site.

Comments on the Questionnaire (before) for the Experiment on the Operation of a Sanitary Land Fill in the Actual Disposal Site: "La Joya"

The disposal site selected by the municipality office years, was not appropriate there was no studies by part of the pertinent institutions who could stop this disposal site from the beginning and place it some were else, avoiding the environmental destruction that this have done. At the present there is no leachate management or treatment increasing the environment pollution in this disposal site.

In this disposal site they don't carry out a solid waste management, which is in contact with the environment. The control and maintenance of the site is very poor, and this is only worsening the condition of the place.

It's a reason to be worried just the fact of observe how so many groups of people are in direct contact with the garbage and already became to depend of the disposal site, turning their activities in this place in to a way of living, exposing their life's to different types of pollution's during the time when every day they are separating and selecting metals, papers, and empty glass bottles, that will be sold to recycling companies.

All the activities in the site are done with out any kind of security measure and with no kind of protection, reaching to such of point that when the poultry farmer go to deposit it remainder in the site, these are used as part of the alimentation of the people that keep in the area. As a matter of fact, this people provoke an enormous preoccupation for the way they live and how they are exposed to different dangers, but to try to stop this It's necessary to start to work on a way to create consciousness in the population, because this is the way to begin to find solutions that in most part of the time depend on the people willingness.

In the future as result of the citizen's environmental education, It should be put on practice a separation of the garbage and so generate job source's that could be based on the recycling activities, as the compost, that are activities that help in the bettering of the environment. These activities can produce a reducement of the volume amount of solid waste and at the same time It could be increased the life time of future land fills, by providing a proper solid waste management so much for organic as for inorganic waste.

The interrogation about the solid waste disposition in the future is something alarming, specially for the lack of education on the subject what It's easy reflected when It seen that there is no obligatory classification of the solid waste for this to be recycled, and this will help to reduce the volume of the waste.

La Joya disposal site has a very bad location, and people practice different activities in a very low human been condition, It has a bad administration, a lack of technical elements necessities on the garbage management, a lack of implements necessities for It maintenance, and workers don't have the appropriate equipment to do their work in the site, and for the lack of a fence in the surrounding area of the site there is no control of the animals and persons that go in It every day, reason why this should be fenced.

It should be taken in consideration that when the experiment of the temporary operation process in the disposal site "La Joya" had finished, the area should be compacted to accelerate the process to deperate the soils.

We really appreciate the help that the people and the government of Japan are doing for the city of Granada, trying to teach us to have a better and cleaner city.

Questionnaire (after) for the Experiment on the Sanitary Landfill in the actual Disposal Site: "La Joya"

Objective:

The questionnaire should be done before and after the experiment on the operation of a sanitary landfill in the actual disposal site, trying to understand the opinion of the residents as a result of the implementation of appropriate techniques for the operation of a sanitary landfill.

Questionnaire (after)

Date:

Name of interviewee:

Address:

Age:

Male/Female:

Belong to: Citizens, Residents who are opposed to the construction of the new disposal site, Councilors, Poultry Farm.

Q1 Comparison between the status of the landfill before and after the execution of the pilot project.

What do you think about the final disposal site compared to what you saw before the execution of the pilot project?

- a. Better than before.
- b. Same as before.

(If a, please answer Q2)

Q2 What do you think about the final disposal site after your visit today?

- A. There is not scattered waste over the disposal site as there was before the execution of the pilot project.
- B. There is less offensive odor than before (there are sanitary conditions now).
- c. There is less dust than before (there are sanitary conditions now).
- D. There are less flies than before (there are sanitary conditions now).
- E. There are less noise and vibration than before.
- F. There is not fire or smoke compared with before (there are sanitary conditions now).
- G. Visual appearance better than before.
- H. It does not deteriorate the environment around the disposal site with the actual disposal method.
- I. Others (please specify)

Thank you very much for your cooperation!!

Questionnaire (after) on the Operation of a Sanitary Landfill
in the actual disposal site: "La Joya"

Name:	Address:	Age:	Group:	Q1					Q2						
				a	b	a	b	c	d	e	f	g	h	i	
Tatiana Chamorro	Alcaldia de Granada	53	Mayor	X	--	X	X	X	X	X	X	X	X	X	--
Marlon Otero	Villa Presidente D508	33	Councilor	X	--	X	X	X	X	X	X	X	X	X	--
Manuel Arana	Rpto El Escudo	40	Councilor	X	--	X	X	X	X	X	X	X	X	X	--
Gustavo Bonilla Dinarte	Shell Guapinol 4c Norte	57	Reporter	X	--	X	--	X	X	--	X	X	X	X	--
Lorenzo Lazos I	Calle el Cementerio	51	Reporter	X	--	X	X	X	X	--	X	X	X	X	--
Gustavo Carrillo	Sabaneta III etapa, Molino 3c Norte 1/2c Oeste	35	Resident	X	--	X	X	X	X	X	X	X	X	X	--
René Lugo Cano	Calle San Juan del Sur, Talpujera 1	47	Community Leader	X	--	X	X	X	X	X	X	X	X	X	--
Adelaida Maveia Rodriguez	Rpto Sn Alejandro, de la Morgue H.B.D.O. 3c Oeste 1c Sur	35	Community Leader	X	--	X	X	X	X	X	X	X	X	X	--
Paula Baltodano Chacón	Rpto Adelita 1	32	Community Leader	X	--	X	X	X	X	X	X	X	X	X	--
Damaris Bonilla Chavarria	Shell Guapinol 4c Norte	25	Community Leader	X	--	X	--	X	X	--	X	X	X	X	--
Marta Novoa	Rpto Adelita 1	29	Community Leader	X	--	X	X	X	X	X	X	X	X	X	--
María E. Porras	Puente Valeriano Torres 1/2c Oeste	45	Community Leader	X	--	X	--	X	X	--	X	X	X	X	--
Ada Luz Estrada	Barrio Maria Elena Sumsin	46	Community Leader	X	--	X	X	X	X	X	X	X	X	X	X
TOTAL				13	0	13	13	13	13	13	13	13	13	11	1
<i>13 Interviewees, counting with 1 Mayor, 2 Councilors, 2 Reporters, 1 Resident, and 7 Community Leaders</i>															

Comments on the Questionnaire (after) for the Experiment on the Operation of a Sanitary Landfill in the actual disposal site: "La Joya"

There is an amazing change in the place that is incomparable to our last visit. What was done to the disposal site was an excellent work. Was something satisfactory to see such of changes, that from the first moment was easily observed in all the aspects.

The way the waste was placed in the disposal site help to reduce the environment contamination, presence of flies and bad scents. This new situation of the disposal site help a lot to increase the possibility of living in a good health condition for those who live near to this area.

The changes that was done to the disposal site is a benefit for the health of the people, who now will start to create or work on a better hygiene condition for the future, starting by protecting the water from a possible contamination of this resource that is so necessary.

Something important of the changes of the disposal site, is that the area start to take the first steps of the security measures that should be implemented in the area. One of such of measures is the fencing of the place, that will protect the area from different affectations.

Since in the disposal site they already started to sow grass in the area, there is an opportunity to start a reforestation all around the place. This work would be very healthy for the site, creating a new forest that will come to rescue this area and in a near future became to be an environmental attraction. The reforestation of this place will be the work that will end the beginning of the improvement that was started in the site.

With the improvements that was done to the disposal site by our brothers of JICA, and for such of great job they did, now the disposal site can be seen from a different point of view, since in effect the place have a different aspect.

Thank to the work done by JICA, if the people continue with all the improvements that the place deserve, this area can start to be considered as a future tourists attraction, and for the easy access to the area this could became to be something important for the city.

The representation of "Adelita 1" appreciate what JICA did for the city with the improvement of the disposal site, but specially want to thank the people of JICA for the tremendous job what they are doing in Adelita 1.

6.5. Questionnaire Survey for Experiment on DWW Collective Treatment System

Questionnaire for Experiment on Domestic Waste Water Collective Treatment System (before)

Date of the questionnaire : _____
Interviewer : _____
Interviewee : _____
Address : _____
Age : _____
Male/Female : _____
Family Members Adults: _____ Children: _____
Water supply : INAA, Wells, Others (please specify _____)

Q1. Concerning sullage

Do you think that sullage worsens the environmental condition of your community?

- a. Yes.
- b. No.

If he/she answer "Yes", please continue with Q2.

Q2. Reasons worsened

- a. Sullage runs through the street.
- b. Bad odor.
- c. Causes flies and mosquitoes to breed.
- d. Causes of the contamination of the river.
- e. Others (please specify _____)

Q3. What do you think of the present sullage situation

- a. No problem
- b. One of the causes of environment destruction
- c. Others (please specify _____)

Q4. Monthly income and expenses

- a. How mach is the monthly income of your family?
- b. How mach is the monthly expenses of your family?

Thank you very much!!

Questionnaire for Experiment on Domestic Waste Water Collective Treatment System (after)																							
Name	Family Members			Water Source		Address	Q1					Q2					Q3			Q4		Q5	
	adults	kid's	INAA	Wells	Others		a.	b.	a.	b.	c.	d.	e.	a.	b.	c.	Expenditures per month	Incomes per month					
1	Andr's Z**jga	1	X	-	-	Adelita I	X	-	-	-	X	-	-	-	X	-	he doesn't know	he's unemployed					
2	Jaime Silva	2	X	-	-	Adelita I	X	-	-	X	X	-	-	-	X	-	he doesn't know	he's unemployed					
3	Mateo Gonz**les	2	X	-	-	Del colegio i.e. al Sur	X	-	-	X	X	-	-	-	X	-	1600	1500					
4	Gabriella Sandino	2	-	-	-	Adelita I	X	-	-	X	X	-	-	-	X	-	350	200					
5	Dora Quir**z	2	X	-	-	Adelita I	X	-	-	X	X	-	-	-	X	-	500	casual work					
6	Auriliadora Ponce	2	-	-	-	Adelita I	X	-	-	X	X	-	-	-	X	-	She doesn't know	700					
7	Dora Guadam**z	7	X	-	-	Adelita I	X	-	-	X	X	-	-	-	X	-	450	300					
8	Sara Rivas	3	X	-	-	Adelita I	X	-	-	X	X	-	-	-	X	-	400	250					
9	Pedro Calero	5	X	-	-	Detr**s de las tres Cruces	X	-	-	X	X	-	-	-	X	-	1500	he doesn't know					
10	Carlos Villareal	6	X	-	-	Adelita I	X	-	-	X	X	-	-	-	X	-	2000	1600					
11	Jos** Mirandn	1	6	X	-	Pulper**a camino al Charco	X	-	-	X	X	-	-	-	X	-	he doesn't know	he's unemployed					
12	Maritza Ponce	6	4	X	-	Adelita I	X	-	-	X	X	-	-	-	X	-	960	700					
13	Antonia Quir**z	2	3	X	-	Carretera al Charco	X	-	-	X	X	-	-	-	X	-	she doesn't	600					
14	Socorro Ramos	4	2	X	-	Costado Sur del colegio	X	-	-	X	X	-	-	-	X	-	1500	she didn't answer					
15	Corina Berm**dez	6	6	X	-	Colegio i.e. al lago 20vrs. al	X	-	-	X	X	-	-	-	X	-	900	she didn't answer					
16	Mar**a Berm**dez	6	1	X	-	Costado Sur de la escuela	X	-	-	X	X	-	-	-	X	-	1200	two persons work					
17	Tomasa Zambrano	2	3	X	-	Costado Sur del colegio	X	-	-	X	X	-	-	-	X	-	1200	she didn't answer					
18	Lesbia Centeno	2	2	X	-	Colegio 1/2c. al lago 1/2c. al	X	-	-	X	X	-	-	-	X	-	800	she didn't answer					
19	Mario Bonilla	6	3	X	-	Costado Sur del colegio	X	-	-	X	X	-	-	-	X	-	2000	he didn't answer					
20	Argentina del Socorro	2	2	X	-	75vrs. al Sur (Pulper**a)	X	-	-	X	X	-	-	-	X	-	600	Casual work					
21	In** Baracna	3	5	X	-	Contrigo a los managua en el	X	-	-	X	X	-	-	-	X	-	400	she didn't answer					
22	Juliana Arana	2	3	X	-	Costado Sur del Colegio	X	-	-	X	X	-	-	-	X	-	1500	she didn't answer					
23	Gloria Marengo	6	1	X	-	Costado Oeste de las 3 cruces	X	-	-	X	X	-	-	-	X	-	600	Casual work					
24	Jos** Jim**nez	6	-	X	-	Escuela Hnos. Salinas 1 1/2c. al Sur	X	-	-	X	X	-	-	-	X	-	800	Casual work					
25	Vicenta Mart**nez	7	1	X	-	Costado Sur de la escuela	X	-	-	X	X	-	-	-	X	-	300	she didn't answer					
26	Jer**nimo Gonz**lez	4	1	X	-	Escuela 1/2c. al Sur	X	-	-	X	X	-	-	-	X	-	he doesn't know	he didn't answer					
27	Jos** N**ez	4	9	X	-	Costado Sur del Colegio 1/2c. Sur	X	-	-	X	X	-	-	-	X	-	400	400					
28	Marta Nobao	5	2	X	-	Costado Sur de la escuela 80 metros al Sur	X	-	-	X	X	-	-	-	X	-	600	680					
29	Marta Miranda	2	10	X	-	Escuela 1 1/2c. al Sur	X	-	-	X	X	-	-	-	X	-	1200	Casual work					

30	Mar ^a Miranda	2	3	X	--	--	Det ^{rs} del colegio Hnos. Agosto Salinas	X	--	X	X	X	X	X	X	X	X	1000	1200
31	Felix Ort ^z	2	3	X	--	--	Det ^{rs} de la escuela 75vrs. al Sur	X	--	X	X	X	X	X	X	X	X	2000	2100
32	Antonia Aguirre	7	7	X	--	--	Colegio 1 1/2c. al Sur	X	--	X	X	X	X	X	X	X	X	1700	Several persons help with the expenses
33	Bianca Guti ^{errez}	4	1	X	--	--	Det ^{rs} del colegio Costado Sur del colegio 1 1/2c. al sur	X	--	X	X	X	X	X	X	X	X	2500	She didn't answer
34	Juana Baltodano	5	3	X	--	--	Det ^{rs} del colegio 1 1/2c. al Sur	X	--	X	X	X	X	X	X	X	X	900	1100
35	Paula Baltodano	1	4	X	--	--	Det ^{rs} del colegio 2c. al Sur	X	--	X	X	X	X	X	X	X	X	900	her father take care of the expenses
36	Mar ^a Castillo	2	--	X	--	--	Esquina Sureste de la escuela 200mts. al Sur	X	--	X	X	X	X	X	X	X	X	300	600 casual work
37	Albertina Baltodano	2	2	X	--	--	Esquina Sureste de la escuela 200mts. al Sur	X	--	X	X	X	X	X	X	X	X	800	casual work
38	Juan Baltodano	2	--	X	--	--	Esquina Sureste de la escuela 200mts. al Sur	X	--	X	X	X	X	X	X	X	X	400	he's unemployed
39	Rodolfo Cr ^z	4	4	X	--	--	Escuela 4 1/2c. al Sur	X	--	X	X	X	X	X	X	X	X	1200	1200
40	Margarita Mena	4	9	X	--	--	Costado Sur de la escuela 5vrs. al lago, 150vrs al sur	X	--	X	X	X	X	X	X	X	X	500	420 (casual work)
	TOTAL:	143	131																
		274	6.85																
	40 Persons Interviewed	38	0	2	House's Visited	40	0	35	36	37	38	0	0	40	0	---	---		
	PERCENTAGES:	95	0	5	---	100	0	88	90	93	95	0	0	100	0	---	---		

*Expenses and Incomes in the Table, are presented in C*rdobas (CS).

**Questionnaire for Experiment on Domestic Waste Water
Collective Treatment System (after)**

Date of the questionnaire : _____
Interviewer : _____
Interviewee : _____
Address : _____
Age : _____
Male/Female : _____
Family Members Adults: _____ Children: _____
Water supply : INAA, Wells, Others (please specify _____)

Q1. Concerning sullage

Sullage disappeared on the road. What do you think current situation?

- a. Improved environmental situation
- b. Not improved environmental situation

(Give a reason _____)

Q2. Concerning current situation

Are you satisfying current situation?

a. Yes

b. No (Give a reason _____)

Q3. Operation and maintenance of the domestic waste water treatment facility

It was built a collective domestic waste water treatment facility, but this facility will not function properly if the catch pit is not cleaned properly. Will you clean it?

a. Yes

b. No (Give a reason _____)

Q4. With respect to nightsoil treatment

If the latrine system is changed to flush water toilet, and you take on this additional cost, you will be able to discharge nightsoil into the treatment plant. Will you make any modifications?

a. Yes

b. No

c. I would like to transform it, but it is difficult to pay for it.

d. Others (Please specify _____)

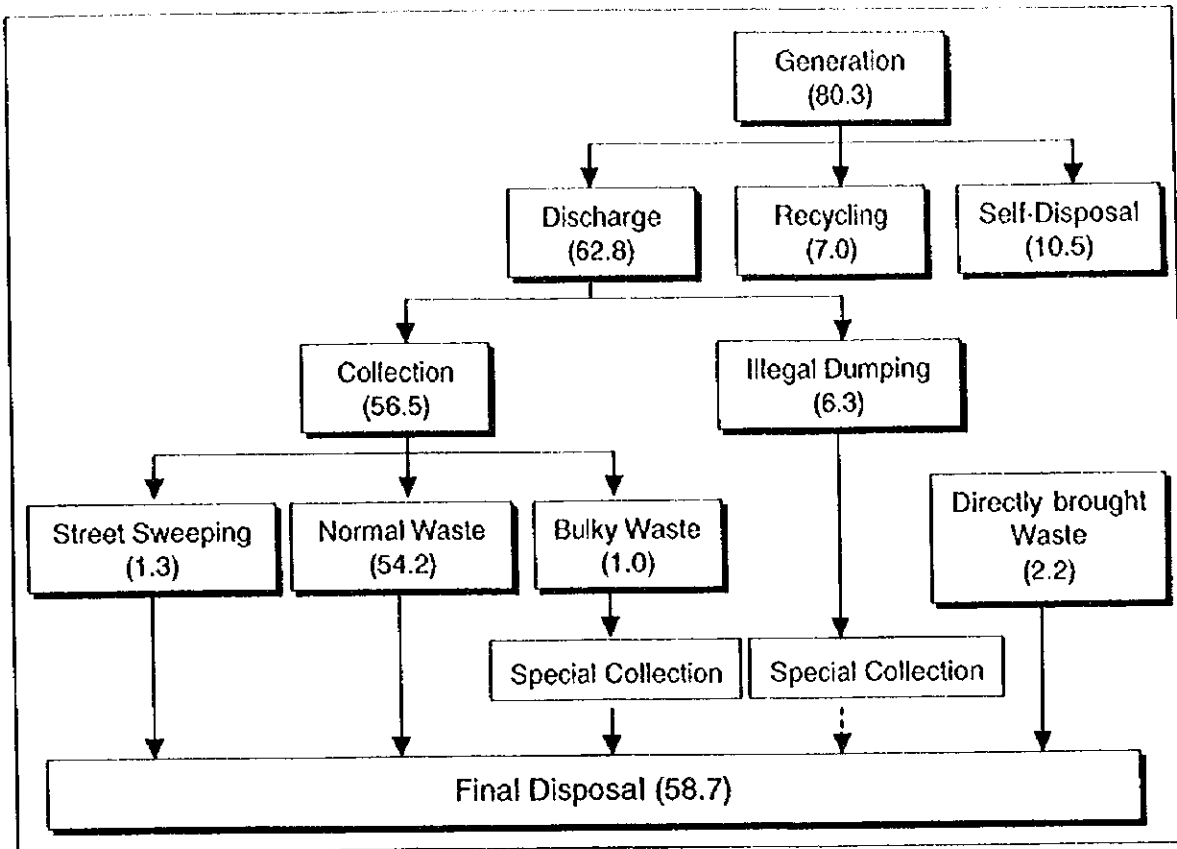
Thank you very much!!

Questionnaire for Experiment on Domestic Waste Water Collective Treatment System (after)

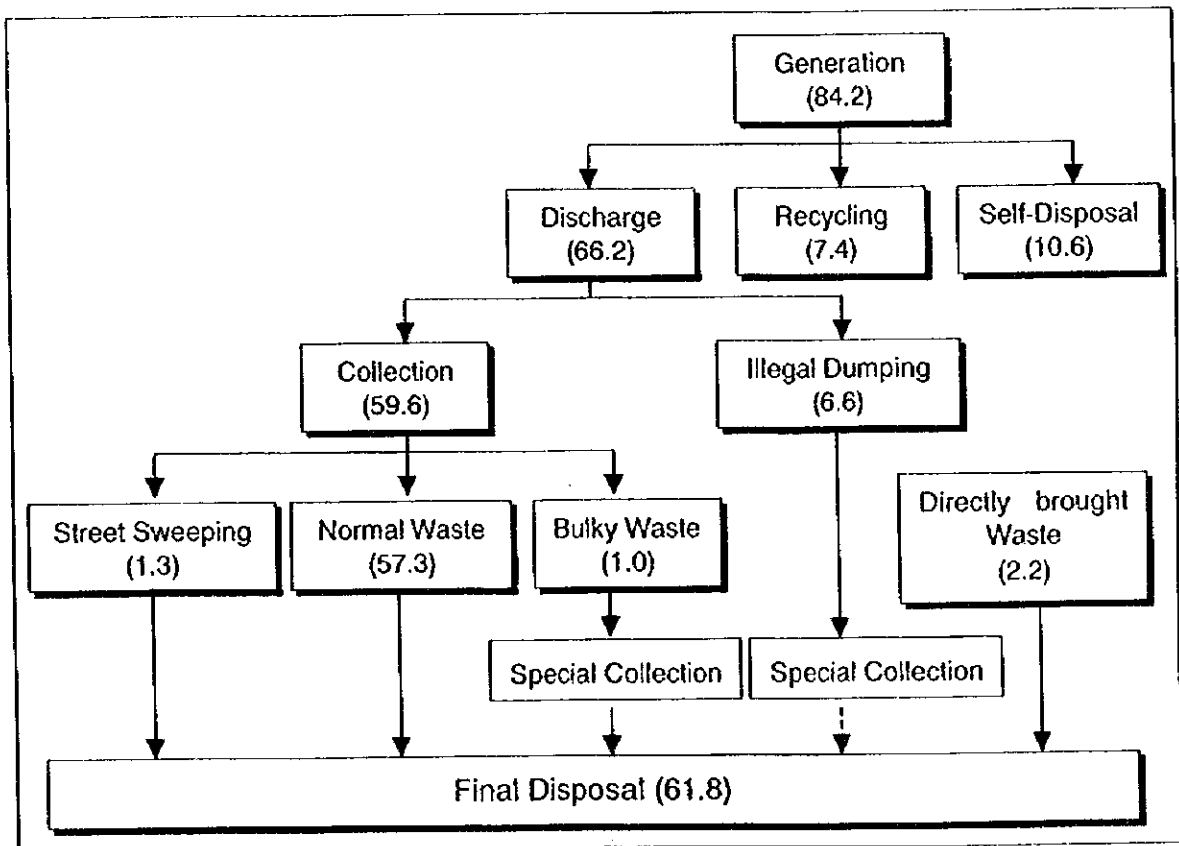
Name:	Address:	Family Members		Total Members		Q1.		Q2.		Q3.		Q4.	
		adults	children	Per Family	a	b	a	b	a	b	a	b	c
Karla Vanosa Vargas	Repto. Adelta # 2, atras del colegio A. Salinas	3	2	5	X		X	X		X		X	
Jose Rodolfo Miranda	Repto. Adelta # 2, costado Sur de la escuela	3	4	7	X		X	X		X		X	
Aaron Alvarez	Repto. Adelta # 2, detras del colegio	4	1	5	X		X	X		X		X	
Antonia Aguirre	Repto. Adelta # 2, colegio A. Salinas 1/2c Sur	5	4	9	X		X	X		X		X	
Rosario de Fatima	Repto. Adelta # 2, colegio 1 1/2c Lago, 1/2c Sur	3	1	4	X		X	X		X		X	
Auxiliadora Miranda	Repto. Adelta # 2, costado Sur del colegio	2	11	13	X		X	X		X		X	
Miriam Miranda Zuniga	Repto. Adelta # 2, detras del colegio A. Salinas	2		2	X		X	X		X		X	
Manuela Gabriela	Repto. Adelta # 2, Colegio 1/2c Sur	6	6	12	X		X	X		X		X	
Maritza Rivas	Repto. Adelta # 2, Colegio 100vrs Este, 25vrs Sur	5	5	10	X		X	X		X		X	
Dora Quiroz	Repto. Adelta # 2	6	5	11	X		X	X		X		X	
Jose Nunez	Repto. Adelta # 2, costado este del colegio 80m Sur	5	15	20	X		X	X		X		X	
Marta de Baltodano	Repto. Adelta # 2, carretera a "El Chirco"	5	2	7	X		X	X		X		X	
Dora Maria Guadanuz	Repto. Adelta # 2, detras del colegio A. Salinas	7	11	18	X		X	X		X		X	
Teofilo Rojas	Repto. Adelta # 2, colegio A. Salinas 2c Sur	5	2	7	X		X	X		X		X	
Socorro Chason	Repto. Adelta # 2, detras del colegio A. Salinas	3	1	4	X		X	X		X		X	
Socorro Ramos	Repto. Adelta # 2, costado Sur del Colegio	4		4	X		X	X		X		X	
Guillermo Gomez Lopez	Repto. Adelta # 2, colegio 1/2c Sur	4	2	6	X		X	X		X		X	
Pedro Gonzalez	Repto. Adelta # 2, costado Sur de la escuela	6	5	11	X		X	X		X		X	
Jeronimo Hernandez	Repto. Adelta # 2, contiguo a las tres cruces	4	2	6	X		X	X		X		X	
Isabel Mora	Repto. Adelta # 2, contiguo a las tres cruces	5	4	9	X		X	X		X		X	
Juana Sandoval	Repto. Adelta # 2, 1ra casa las tres cruces	5		5	X		X	X		X		X	
Mario Alberto	Repto. Adelta # 2, costado Sur del Colegio 75vrs Sur	7	3	10	X		X	X		X		X	
Ricardo Castillo	Repto. Adelta # 2, contiguo a las tres cruces	3		3	X		X	X		X		X	
Filomena Martinez	Repto. Adelta # 2, costado Sur de la escuela	5	2	7	X		X	X		X		X	
Tania Ramos	Repto. Adelta # 2, tres cruces 75vrs Sur	9	4	13	X		X	X		X		X	
Marvin Martinez	Repto. Adelta # 2, tres cruces 25vrs Sur	6	7	13	X		X	X		X		X	
Marta Lorena Alvarez	Repto. Adelta # 2	8	12	20	X		X	X		X		X	
Esmelda Ortiz Perez	Repto. Adelta # 2, tres cruces 1/2c Sur	7	4	11	X		X	X		X		X	
Dominga Aragon	Repto. Adelta # 2, costado Sur del colegio	9	3	12	X		X	X		X		X	
Valle de los Angeles Lopez	Repto. Adelta # 2, 3 cruces 1/2c Sur	5	1	6	X		X	X		X		X	
Domingo Garmendias	Repto. Adelta # 2, calle los leones	2	1	3	X		X	X		X		X	
Josefa Martinez Garcia	Repto. Adelta # 2, detras de las tres cruces	3	4	7	X		X	X		X		X	
Juan Ignacio Marengo	Repto. Adelta # 2, costado Sur del colegio	4	1	5	X		X	X		X		X	
Mama Auxiliadora Blanco	Repto. Adelta # 2	3	7	10	X		X	X		X		X	
*Maria Patricia Marengo	Repto. Adelta # 2, detras de las tres cruces	5	3	8	X		X	X		X		X	

DATA 7

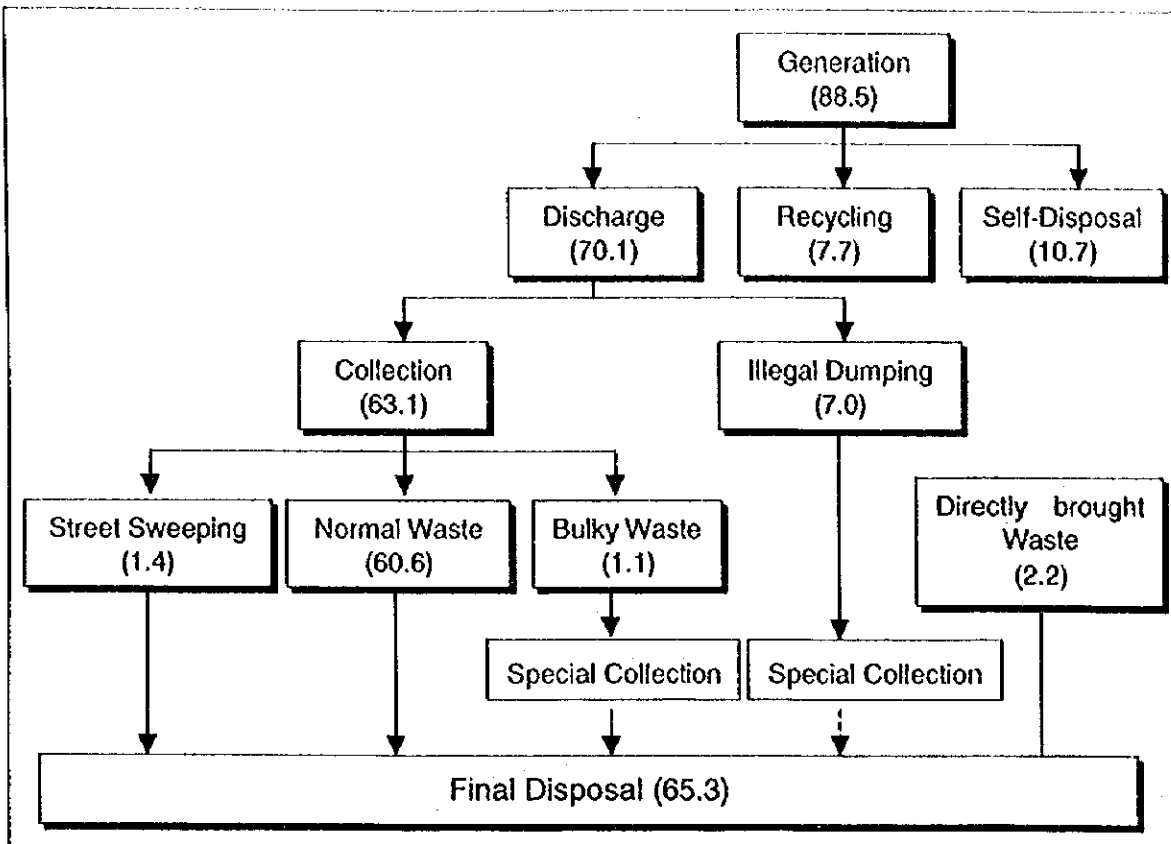
*Data and Drawings of F/S - 1:
Municipal SWM System
Improvement Project*



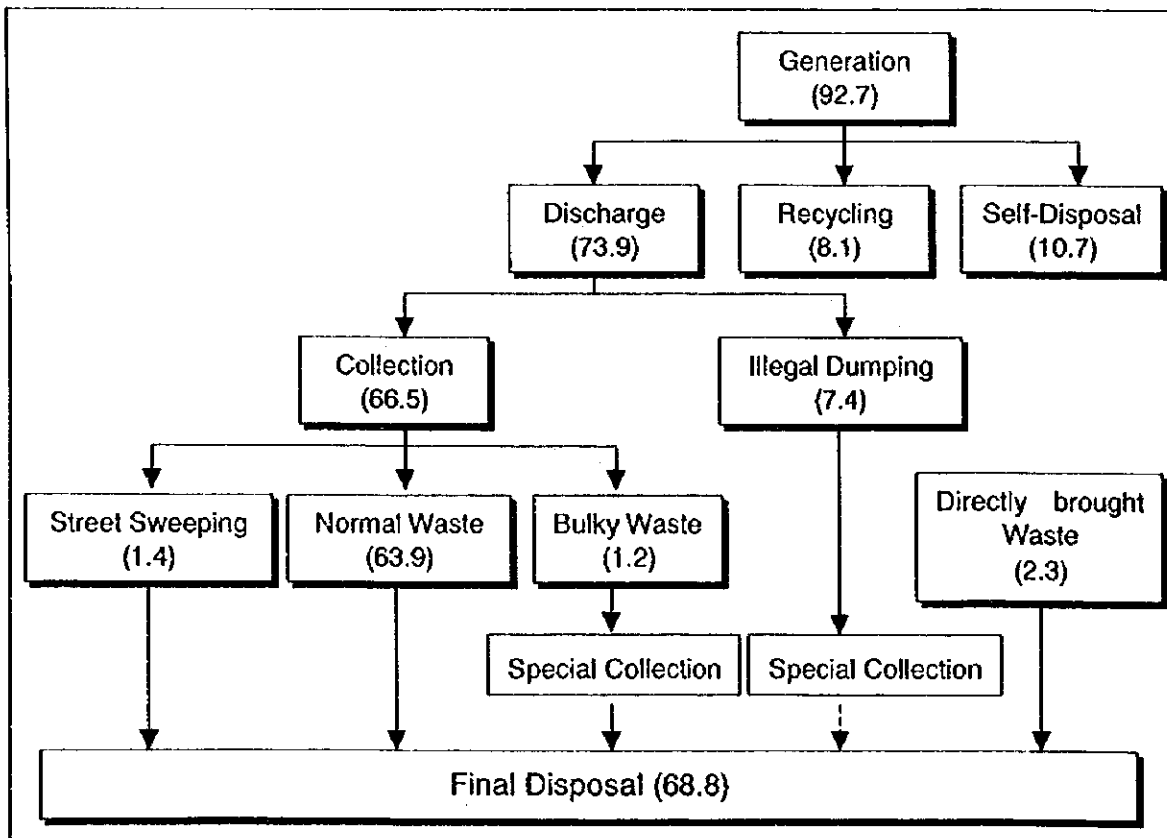
Future Waste Stream of Granada in 2001



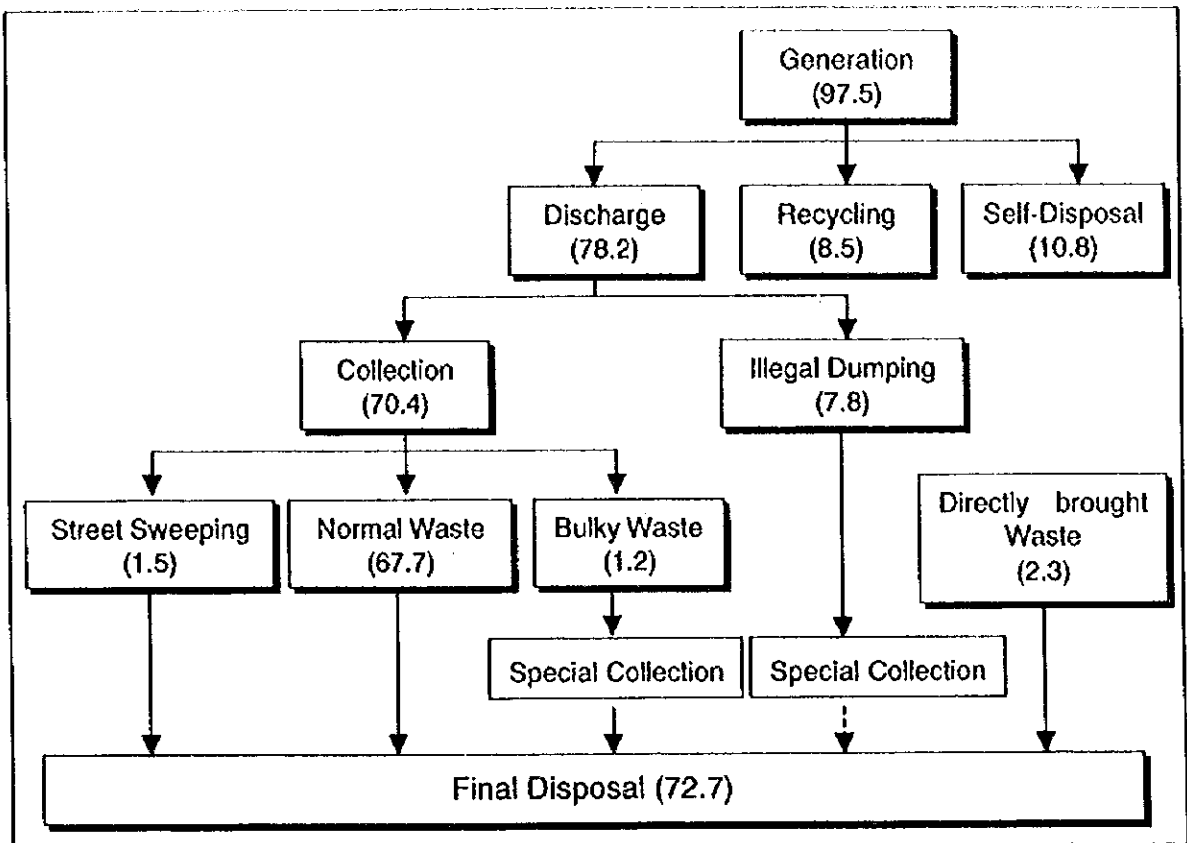
Future Waste Stream of Granada in 2002



Future Waste Stream of Granada in 2003



Future Waste Stream of Granada in 2004



Future Waste Stream of Granada in 2005

2001	Total	CCA(40%)	CCB(30%)	PCA(30%)	SCS	Other Waste
Population	89,083	35,633	26,725	26,725		
Household Waste	48.20	19.28	14.46	14.46		
Restaurant	1.00	0.40	0.30	0.30		
Other Shop Waste	1.10	0.44	0.33	0.33		
Institutional Waste	0.20	0.08	0.06	0.06		
Market Waste	3.70	3.70				
Bulky Waste	1.00				1.00	
Sub Total	55.20	24.00	15.15	15.15	1.00	0.00
Street Sweeping	1.30	1.30				
Directly brouhgt waste	2.20					2.20
Sub Total	3.50	1.30	0.00	0.00	0.00	2.20
Total	58.7	25.30	15.15	15.15	1.00	2.20
Illegal dumping	6.30				6.30	

Bulky Waste (Household Waste*2%)

2002	Total	CCA(40%)	CCB(30%)	PCA(30%)	SCS	Other Waste
Population	92,115	36,845	27,635	27,635		
Household Waste	51.00	20.40	15.30	15.30		
Restaurant	1.00	0.40	0.30	0.30		
Other Shop Waste	1.20	0.48	0.36	0.36		
Institutional Waste	0.20	0.08	0.06	0.06		
Market Waste	3.90	3.90				
Bulky Waste	1.00				1.00	
Sub Total	58.30	25.26	16.02	16.02	1.00	0.00
Street Sweeping	1.30	1.30				
Directly brouhgt waste	2.20					2.20
Sub Total	3.50	1.30	0.00	0.00	0.00	2.20
Total	61.8	26.56	16.02	16.02	1.00	2.20
Illegal dumping	6.60				6.60	

Bulky Waste (Household Waste*2%)

2003	Total	CCA(40%)	CCB(30%)	PCA(30%)	SCS	Other Waste
Population	95,249	38,099	28,575	28,575		
Household Waste	53.90	21.56	16.17	16.17		
Restaurant	1.10	0.44	0.33	0.33		
Directly brouhgt waste	1.20	0.48	0.36	0.36		
Institutional Waste	0.30	0.12	0.09	0.09		
Market Waste	4.10	4.10				
Bulky Waste	1.10				1.10	
Sub Total	61.70	26.70	16.95	16.95	1.10	0.00
Street Sweeping	1.40	1.40				
Directly brouhgt waste	2.20					2.20
Sub Total	3.60	1.40	0.00	0.00	0.00	2.20
Total	65.3	28.10	16.95	16.95	1.10	2.20
Illegal dumping	7.00				7.00	

Bulky Waste (Household Waste*2%)

2004	Total	CCA(40%)	CCB(30%)	PCA(30%)	SCS	Other Waste
Population	98,491	39,396	29,547	29,547		
Household Waste	56.90	22.76	17.07	17.07		
Restaurant	1.10	0.44	0.33	0.33		
Other Shop Waste	1.30	0.52	0.39	0.39		
Institutional Waste	0.30	0.12	0.09	0.09		
Market Waste	4.30	4.30				
Bulky Waste	1.20				1.20	
Sub Total	65.10	28.14	17.88	17.88	1.20	0.00
Street Sweeping	1.40	1.40				
Directly brouhgt waste	2.30					2.30
Sub Total	3.70	1.40	0.00	0.00	0.00	2.30
Total	68.8	29.54	17.88	17.88	1.20	2.30
Illegal dumping	7.40				7.40	

Bulky Waste (Household Waste*2%)

2005	Total	CCA(40%)	CCB(30%)	PCA(30%)	SCS	Other Waste
Population	101,843	40,737	30,553	30,553		
Household Waste	60.30	24.12	18.09	18.09		
Restaurant	1.20	0.48	0.36	0.36		
Other Shop Waste	1.40	0.56	0.42	0.42		
Institutional Waste	0.30	0.12	0.09	0.09		
Market Waste	4.50	4.50				
Bulky Waste	1.20				1.20	
Sub Total	68.90	29.78	18.96	18.96	1.20	0.00
Street Sweeping	1.50	1.50				
Directly brouhgt waste	2.30					2.30
Sub Total	3.80	1.50	0.00	0.00	0.00	2.30
Total	72.7	31.28	18.96	18.96	1.20	2.30
Illegal dumping	7.80				7.80	

Bulky Waste (Household Waste*2%)

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
73.00	1	1.1	0.2	3.7	1.3	7.0	10.5	6.3

Balky Waste①	Household			Restaurant	Other shop	Institutional	Market	Street Sweeping	Recycling	Self-Disposal	Illegal
	①-①-①-①-①	①-①-①-①-①	①-①-①-①-①								
0.9	74.40	72.13	48.33	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.018621974
0.91	74.39	72.12	48.32	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.018832781
0.92	74.38	72.11	48.31	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.019043676
0.93	74.37	72.10	48.3	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.019254658
0.94	74.36	72.09	48.29	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.019465728
0.95	74.35	72.08	48.28	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.019676885
0.96	74.34	72.07	48.27	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.019888129
0.97	74.33	72.06	48.26	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.020099461
0.98	74.32	72.05	48.25	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.020310881
0.99	74.31	72.04	48.24	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.020522388
1	74.30	72.03	48.23	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.020733983
1.01	74.29	72.02	48.22	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.020945666
1.02	74.28	72.01	48.21	0.99	1.09	0.20	3.7	1.09	0.20	3.7	0.021157436
1.03	74.27	72.00	48.20	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.021369295
1.04	74.26	71.99	48.19	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.021581241
1.05	74.25	71.98	48.18	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.021793275
1.06	74.24	71.97	48.17	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.022005398
1.07	74.23	71.96	48.16	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.022217608
1.08	74.22	71.95	48.15	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.022429907
1.09	74.21	71.94	48.14	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.022642293
1.1	74.20	71.93	48.13	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.022854768
1.11	74.19	71.92	48.12	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.023067332
1.12	74.18	71.91	48.11	0.99	1.08	0.20	3.7	1.08	0.20	3.7	0.023279983
1.13	74.17	71.90	48.1	0.98	1.08	0.20	3.7	1.08	0.20	3.7	0.023492723
1.14	74.16	71.89	48.09	0.98	1.08	0.20	3.7	1.08	0.20	3.7	0.023705552

2002

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
76.60	1	1.2	0.2	3.9	1.3	7.4	10.6	6.6

Balky Waste①	Household			Restaurant ②-③-④-⑤-⑥	Other shop ⑦-⑧-⑨-⑩-⑪	Institutional		Market	⑬/⑭
	①-②-③-④-⑤	⑥-⑦-⑧-⑨-⑩	⑪-⑫-⑬-⑭-⑮			⑯-⑰-⑱-⑲-⑳	㉑-㉒-㉓-㉔-㉕		
1	78.00	75.63	51.03	0.99	1.18	0.20	3.9	0.019596316	
1.01	77.99	75.62	51.02	0.99	1.18	0.20	3.9	0.019796158	
1.02	77.98	75.61	51.01	0.99	1.18	0.20	3.9	0.019996079	
1.03	77.97	75.60	51	0.99	1.18	0.20	3.9	0.020196078	
1.04	77.96	75.59	50.99	0.99	1.18	0.20	3.9	0.020396156	
1.05	77.95	75.58	50.98	0.99	1.18	0.20	3.9	0.020596312	
1.06	77.94	75.57	50.97	0.99	1.18	0.20	3.9	0.020796547	
1.07	77.93	75.56	50.96	0.99	1.18	0.20	3.9	0.02099686	
1.08	77.92	75.55	50.95	0.99	1.18	0.20	3.9	0.021197252	
1.09	77.91	75.54	50.94	0.99	1.18	0.20	3.9	0.021397723	
1.1	77.90	75.53	50.93	0.99	1.18	0.20	3.9	0.021598272	
1.11	77.89	75.52	50.92	0.99	1.18	0.20	3.9	0.0217989	
1.12	77.88	75.51	50.91	0.99	1.18	0.20	3.9	0.021999607	
1.13	77.87	75.50	50.90	0.99	1.18	0.20	3.9	0.022200393	
1.14	77.86	75.49	50.89	0.99	1.18	0.20	3.9	0.022401258	
1.15	77.85	75.48	50.88	0.99	1.18	0.20	3.9	0.022602201	
1.16	77.84	75.48	50.88	0.99	1.18	0.20	3.9	0.022798742	
1.17	77.83	75.47	50.87	0.99	1.18	0.20	3.9	0.022999803	
1.18	77.82	75.46	50.86	0.99	1.18	0.20	3.9	0.023200944	
1.19	77.81	75.45	50.85	0.98	1.18	0.20	3.9	0.023402163	
1.2	77.80	75.44	50.84	0.98	1.18	0.20	3.9	0.023603462	
1.21	77.79	75.43	50.83	0.98	1.18	0.20	3.9	0.02380484	
1.22	77.78	75.42	50.82	0.98	1.18	0.20	3.9	0.024006297	
1.23	77.77	75.41	50.81	0.98	1.18	0.20	3.9	0.024207833	
1.24	77.76	75.40	50.80	0.98	1.18	0.20	3.9	0.024409449	

2003

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
80.40	1.1	1.2	0.3	4.1	1.4	7.7	10.7	7.0

Balky Waste①	Household ①-②-③-④-⑤			Restaurant ⑥-⑦-⑧-⑨-⑩	Other shop ⑪-⑫-⑬-⑭-⑮	Institutional ⑯-⑰-⑱-⑲-⑳		Market ㉑/㉒
	①-②-③-④-⑤	⑥-⑦-⑧-⑨-⑩	⑪-⑫-⑬-⑭-⑮			⑯-⑰-⑱-⑲-⑳	㉑/㉒	
1	82.00	79.43	54.03	1.09	1.19	0.30	4.1	0.018508236
1.01	81.99	79.42	54.02	1.09	1.19	0.30	4.1	0.018696779
1.02	81.98	79.41	54.01	1.09	1.19	0.30	4.1	0.018885392
1.03	81.97	79.40	54	1.09	1.19	0.30	4.1	0.019074074
1.04	81.96	79.39	53.99	1.09	1.18	0.30	4.1	0.019262826
1.05	81.95	79.38	53.98	1.09	1.18	0.30	4.1	0.019451649
1.06	81.94	79.37	53.97	1.09	1.18	0.30	4.1	0.019640541
1.07	81.93	79.36	53.96	1.09	1.18	0.30	4.1	0.019829503
1.08	81.92	79.35	53.95	1.09	1.18	0.30	4.1	0.020018536
1.09	81.91	79.34	53.94	1.09	1.18	0.30	4.1	0.020207638
1.1	81.90	79.33	53.93	1.09	1.18	0.30	4.1	0.020396811
1.11	81.89	79.32	53.92	1.09	1.18	0.30	4.1	0.020586053
1.12	81.88	79.32	53.92	1.09	1.18	0.30	4.1	0.020771515
1.13	81.87	79.31	53.91	1.09	1.18	0.30	4.1	0.020960861
1.14	81.86	79.30	53.90	1.08	1.18	0.30	4.1	0.021150278
1.15	81.85	79.29	53.89	1.08	1.18	0.30	4.1	0.021339766
1.16	81.84	79.28	53.88	1.08	1.18	0.30	4.1	0.021529324
1.17	81.83	79.27	53.87	1.08	1.18	0.30	4.1	0.021718953
1.18	81.82	79.26	53.86	1.08	1.18	0.30	4.1	0.021908652
1.19	81.81	79.25	53.85	1.08	1.18	0.30	4.1	0.022098422
1.2	81.80	79.24	53.84	1.08	1.18	0.30	4.1	0.022288262
1.21	81.79	79.23	53.83	1.08	1.18	0.30	4.1	0.022478172
1.22	81.78	79.22	53.82	1.08	1.18	0.30	4.1	0.022668153
1.23	81.77	79.21	53.81	1.08	1.18	0.30	4.1	0.022858205
1.24	81.76	79.20	53.80	1.08	1.18	0.30	4.1	0.023048327

2004

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
84.30	1.1	1.3	0.3	4.3	1.4	8.1	10.7	7.4

Balky Waste①	Household			Restaurant ①-②/③-④-⑤-⑥	Other shop ⑦-⑧/⑨-⑩-⑪-⑫	Institutional		Market	⑬/⑭
	①-②/③-④-⑤	⑥-⑦-⑧-⑨-⑩	⑪-⑫-⑬-⑭-⑮			⑯-⑰-⑱-⑲-⑳	㉑-㉒-㉓-㉔-㉕		
1.1	85.90	83.23	57.03	1.09	1.28	0.30	4.3	0.019288094	
1.11	85.89	83.22	57.02	1.09	1.28	0.30	4.3	0.019466854	
1.12	85.88	83.21	57.01	1.09	1.28	0.30	4.3	0.019645676	
1.13	85.87	83.21	57.01	1.09	1.28	0.30	4.3	0.019821084	
1.14	85.86	83.20	57.00	1.09	1.28	0.30	4.3	0.02	
1.15	85.85	83.19	56.99	1.09	1.28	0.30	4.3	0.020178979	
1.16	85.84	83.18	56.98	1.09	1.28	0.30	4.3	0.02035802	
1.17	85.83	83.17	56.97	1.09	1.28	0.30	4.3	0.020537125	
1.18	85.82	83.16	56.96	1.09	1.28	0.30	4.3	0.020716292	
1.19	85.81	83.15	56.95	1.08	1.28	0.30	4.3	0.020895522	
1.2	85.80	83.14	56.94	1.08	1.28	0.30	4.3	0.021074816	
1.21	85.79	83.13	56.93	1.08	1.28	0.30	4.3	0.021254172	
1.22	85.78	83.12	56.92	1.08	1.28	0.30	4.3	0.021433591	
1.23	85.77	83.11	56.91	1.08	1.28	0.30	4.3	0.021613073	
1.24	85.76	83.10	56.90	1.08	1.28	0.30	4.3	0.021792619	
1.25	85.75	83.09	56.89	1.08	1.28	0.30	4.3	0.021972227	
1.26	85.74	83.08	56.88	1.08	1.28	0.30	4.3	0.022151899	
1.27	85.73	83.07	56.87	1.08	1.28	0.30	4.3	0.022331634	
1.28	85.72	83.06	56.86	1.08	1.28	0.30	4.3	0.022511432	
1.29	85.71	83.05	56.85	1.08	1.28	0.30	4.3	0.022691293	
1.3	85.70	83.04	56.84	1.08	1.28	0.30	4.3	0.022871217	
1.31	85.69	83.03	56.83	1.08	1.28	0.30	4.3	0.023051205	
1.32	85.68	83.02	56.82	1.08	1.28	0.30	4.3	0.023231257	
1.33	85.67	83.01	56.81	1.08	1.28	0.30	4.3	0.023411371	
1.34	85.66	83.00	56.80	1.08	1.28	0.30	4.3	0.023591549	

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
88.60	1.2	1.4	0.3	4.5	1.5	8.5	10.8	7.8

Balky Waste①	Household		Restaurant	Other shop	Institutional	Market	Institutional		Market	①/⑩
	①-②/③-④	⑤-⑥/⑦-⑧					⑨-⑩/⑪-⑫	⑬-⑭/⑮-⑯		
1.15	90.35	87.49	60.39	1.18	1.38	0.30	4.5	0.019042888		
1.16	90.34	87.48	60.38	1.18	1.38	0.30	4.5	0.019211659		
1.17	90.33	87.47	60.37	1.18	1.38	0.30	4.5	0.019380487		
1.18	90.32	87.46	60.36	1.18	1.38	0.30	4.5	0.01954937		
1.19	90.31	87.45	60.35	1.18	1.38	0.30	4.5	0.01971831		
1.2	90.30	87.44	60.34	1.18	1.38	0.30	4.5	0.019887305		
1.21	90.29	87.43	60.33	1.18	1.38	0.30	4.5	0.020056357		
1.22	90.28	87.42	60.32	1.18	1.38	0.30	4.5	0.020225464		
1.23	90.27	87.41	60.31	1.18	1.38	0.30	4.5	0.020394628		
1.24	90.26	87.40	60.30	1.18	1.38	0.30	4.5	0.020563847		
1.25	90.25	87.39	60.29	1.18	1.38	0.30	4.5	0.020735123		
1.26	90.24	87.38	60.28	1.18	1.38	0.30	4.5	0.020902455		
1.27	90.23	87.37	60.27	1.18	1.38	0.30	4.5	0.021071843		
1.28	90.22	87.36	60.26	1.18	1.38	0.30	4.5	0.021241288		
1.29	90.21	87.35	60.25	1.18	1.38	0.30	4.5	0.021410788		
1.3	90.20	87.34	60.24	1.18	1.38	0.30	4.5	0.021580345		
1.31	90.19	87.33	60.23	1.18	1.38	0.30	4.5	0.021749958		
1.32	90.18	87.32	60.22	1.18	1.38	0.30	4.5	0.021919628		
1.33	90.17	87.31	60.21	1.18	1.38	0.30	4.5	0.022089354		
1.34	90.16	87.30	60.20	1.18	1.38	0.30	4.5	0.022259136		
1.35	90.15	87.29	60.19	1.18	1.38	0.30	4.5	0.022428975		
1.36	90.14	87.28	60.18	1.18	1.38	0.30	4.5	0.02259887		
1.37	90.13	87.27	60.17	1.18	1.38	0.30	4.5	0.022768822		
1.38	90.12	87.26	60.16	1.18	1.38	0.30	4.5	0.02293883		
1.39	90.11	87.25	60.15	1.18	1.38	0.30	4.5	0.023108894		

2006

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
92.80	1.2	1.4	0.3	4.8	1.5	8.9	10.8	0.0

Balky Waste①	Household			Restaurant ⑥-⑦-⑧-⑨-⑩	Other shop ⑪-⑫-⑬-⑭-⑮	Institutional		Market	⑰/⑱
	①-②-③-④-⑤	⑥-⑦-⑧-⑨-⑩	⑪-⑫-⑬-⑭-⑮			⑯-⑰-⑱-⑲-⑳	㉑-㉒-㉓-㉔-㉕		
1.4	94.30	91.44	71.74	1.18	1.38	0.30	4.8	0.019514915	
1.41	94.29	91.43	71.73	1.18	1.38	0.30	4.8	0.019657047	
1.42	94.28	91.42	71.72	1.18	1.38	0.30	4.8	0.019799219	
1.43	94.27	91.41	71.71	1.18	1.38	0.30	4.8	0.019941431	
1.44	94.26	91.40	71.70	1.18	1.38	0.30	4.8	0.020083682	
1.45	94.25	91.39	71.69	1.18	1.38	0.30	4.8	0.020225973	
1.46	94.24	91.38	71.68	1.18	1.38	0.30	4.8	0.020368304	
1.47	94.23	91.37	71.67	1.18	1.38	0.30	4.8	0.020510674	
1.48	94.22	91.36	71.66	1.18	1.38	0.30	4.8	0.020653084	
1.49	94.21	91.36	71.66	1.18	1.38	0.30	4.8	0.020792632	
1.5	94.20	91.35	71.65	1.18	1.38	0.30	4.8	0.020935101	
1.51	94.19	91.34	71.64	1.18	1.38	0.30	4.8	0.02107761	
1.52	94.18	91.33	71.63	1.18	1.38	0.30	4.8	0.021220159	
1.53	94.17	91.32	71.62	1.18	1.38	0.30	4.8	0.021362748	
1.54	94.16	91.31	71.61	1.18	1.38	0.30	4.8	0.021505376	
1.55	94.15	91.30	71.60	1.18	1.38	0.30	4.8	0.021648045	
1.56	94.14	91.29	71.59	1.18	1.38	0.30	4.8	0.021790753	
1.57	94.13	91.28	71.58	1.18	1.38	0.30	4.8	0.021933501	
1.58	94.12	91.27	71.57	1.18	1.38	0.30	4.8	0.022076289	
1.59	94.11	91.26	71.56	1.18	1.38	0.30	4.8	0.022219117	
1.6	94.10	91.25	71.55	1.18	1.38	0.29	4.8	0.022361985	
1.61	94.09	91.24	71.54	1.18	1.38	0.29	4.8	0.022504892	
1.62	94.08	91.23	71.53	1.18	1.38	0.29	4.8	0.02264784	
1.63	94.07	91.22	71.52	1.18	1.38	0.29	4.8	0.022790828	
1.64	94.06	91.21	71.51	1.18	1.38	0.29	4.8	0.022933855	

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
97.40	1.3	1.5	0.3	5	1.6	9.4	10.8	0.0

Balky Waste①	Household			Restaurant ②-③-④-⑤-⑥	Other shop ⑦-⑧-⑨-⑩-⑪	Institutional ⑫-⑬-⑭-⑮-⑯	Market		⑰/⑱
	①-②-③-④-⑤	⑥-⑦-⑧-⑨-⑩	⑪-⑫-⑬-⑭-⑮				⑯-⑰-⑱-⑲-⑳	㉑-㉒-㉓-㉔-㉕	
1.5	99.00	95.95	75.75	1.28	1.48	0.30	5	0.01980198	
1.51	98.99	95.94	75.74	1.28	1.48	0.30	5	0.019936625	
1.52	98.98	95.93	75.73	1.28	1.48	0.30	5	0.020071306	
1.53	98.97	95.92	75.72	1.28	1.48	0.30	5	0.020206022	
1.54	98.96	95.91	75.71	1.28	1.48	0.30	5	0.020340774	
1.55	98.95	95.90	75.70	1.28	1.48	0.30	5	0.020475561	
1.56	98.94	95.89	75.69	1.28	1.48	0.30	5	0.020610384	
1.57	98.93	95.88	75.68	1.28	1.48	0.30	5	0.020745243	
1.58	98.92	95.87	75.67	1.28	1.48	0.30	5	0.020880137	
1.59	98.91	95.86	75.66	1.28	1.48	0.30	5	0.021015067	
1.6	98.90	95.85	75.65	1.28	1.48	0.30	5	0.021150033	
1.61	98.89	95.84	75.64	1.28	1.48	0.30	5	0.021285034	
1.62	98.88	95.83	75.63	1.28	1.48	0.30	5	0.021420071	
1.63	98.87	95.82	75.62	1.28	1.48	0.30	5	0.021555144	
1.64	98.86	95.81	75.61	1.28	1.48	0.30	5	0.021690253	
1.65	98.85	95.80	75.60	1.28	1.48	0.30	5	0.021825397	
1.66	98.84	95.79	75.59	1.28	1.48	0.30	5	0.021960577	
1.67	98.83	95.78	75.58	1.28	1.48	0.30	5	0.022095793	
1.68	98.82	95.77	75.57	1.28	1.47	0.29	5	0.022231044	
1.69	98.81	95.76	75.56	1.28	1.47	0.29	5	0.022366331	
1.7	98.80	95.75	75.55	1.28	1.47	0.29	5	0.022501655	
1.71	98.79	95.74	75.54	1.28	1.47	0.29	5	0.022637014	
1.72	98.78	95.73	75.53	1.28	1.47	0.29	5	0.022772408	
1.73	98.77	95.72	75.52	1.28	1.47	0.29	5	0.022907839	
1.74	98.76	95.71	75.51	1.28	1.47	0.29	5	0.023043306	

2008

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
102.10	1.4	1.6	0.3	5.2	1.6	9.8	10.7	0.0

Balky Waste ①	Household		Restaurant	Other shop	Institutional	Market	Market		①/⑩
	①-②-③-④-⑤	⑥-⑦-⑧-⑨					⑩-⑪-⑫-⑬-⑭	⑮-⑯-⑰-⑱	
1.5	103.90	100.65	80.15	1.38	1.58	0.30	5.2	0.01871491	
1.51	103.89	100.64	80.14	1.38	1.58	0.30	5.2	0.018842026	
1.52	103.88	100.63	80.13	1.38	1.58	0.30	5.2	0.018969175	
1.53	103.87	100.62	80.12	1.38	1.58	0.30	5.2	0.019096355	
1.54	103.86	100.61	80.11	1.38	1.58	0.30	5.2	0.019223568	
1.55	103.85	100.60	80.10	1.38	1.58	0.30	5.2	0.019350811	
1.56	103.84	100.59	80.09	1.38	1.58	0.30	5.2	0.019478087	
1.57	103.83	100.58	80.08	1.38	1.58	0.30	5.2	0.019605395	
1.58	103.82	100.57	80.07	1.38	1.58	0.30	5.2	0.019732734	
1.59	103.81	100.56	80.06	1.38	1.58	0.30	5.2	0.019860105	
1.6	103.80	100.55	80.05	1.38	1.58	0.30	5.2	0.019987508	
1.61	103.79	100.54	80.04	1.38	1.58	0.30	5.2	0.020114943	
1.62	103.78	100.53	80.03	1.38	1.58	0.30	5.2	0.020242409	
1.63	103.77	100.52	80.02	1.38	1.58	0.30	5.2	0.020369908	
1.64	103.76	100.51	80.01	1.38	1.58	0.30	5.2	0.020497438	
1.65	103.75	100.50	80.00	1.38	1.57	0.30	5.2	0.020625	
1.66	103.74	100.49	79.99	1.38	1.57	0.30	5.2	0.020752594	
1.67	103.73	100.48	79.98	1.38	1.57	0.30	5.2	0.02088022	
1.68	103.72	100.47	79.97	1.38	1.57	0.30	5.2	0.021007878	
1.69	103.71	100.46	79.96	1.38	1.57	0.30	5.2	0.021135568	
1.7	103.70	100.45	79.95	1.38	1.57	0.30	5.2	0.02126329	
1.71	103.69	100.44	79.94	1.38	1.57	0.30	5.2	0.021391043	
1.72	103.68	100.43	79.93	1.38	1.57	0.30	5.2	0.021518829	
1.73	103.67	100.42	79.92	1.38	1.57	0.30	5.2	0.021646647	
1.74	103.66	100.41	79.91	1.38	1.57	0.30	5.2	0.021774496	

2009

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
107.10	1.4	1.6	0.3	5.5	1.7	10.3	10.6	0.0

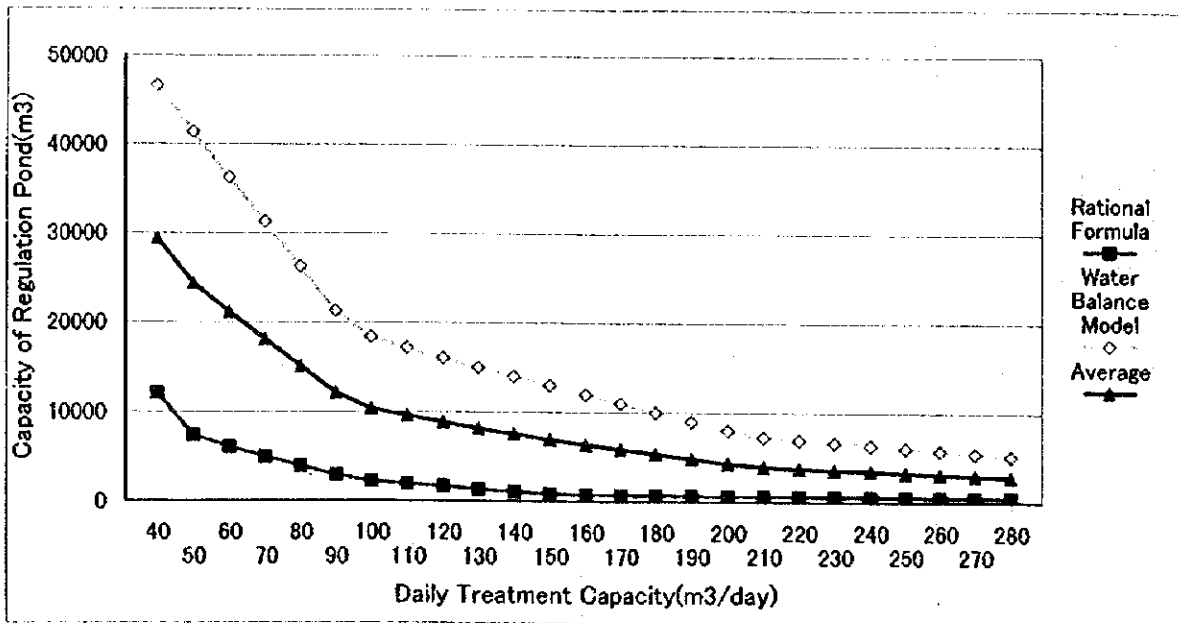
Balky Waste①	Household		Restaurant	Other shop	Institutional	Market	Market	
	①-②/③-④-⑤	⑥-⑦/⑧-⑨-⑩					⑪-⑫/⑬-⑭-⑮	⑯-⑰/⑱-⑲-⑳
1.6	108.80	105.55	1.38	1.58	0.30	5.5	0.30	0.018901359
1.61	108.79	105.54	1.38	1.58	0.30	5.5	0.30	0.019021739
1.62	108.78	105.53	1.38	1.58	0.30	5.5	0.30	0.019142148
1.63	108.77	105.52	1.38	1.58	0.30	5.5	0.30	0.019262586
1.64	108.76	105.51	1.38	1.58	0.30	5.5	0.30	0.019383052
1.65	108.75	105.50	1.38	1.58	0.30	5.5	0.30	0.019503546
1.66	108.74	105.49	1.38	1.58	0.30	5.5	0.30	0.019624069
1.67	108.73	105.48	1.38	1.58	0.30	5.5	0.30	0.019744462
1.68	108.72	105.47	1.38	1.58	0.30	5.5	0.30	0.0198652
1.69	108.71	105.46	1.38	1.58	0.30	5.5	0.30	0.019985809
1.7	108.70	105.45	1.38	1.58	0.30	5.5	0.30	0.020106446
1.71	108.69	105.44	1.38	1.58	0.30	5.5	0.30	0.020227111
1.72	108.68	105.43	1.38	1.58	0.30	5.5	0.30	0.020347806
1.73	108.67	105.42	1.38	1.57	0.30	5.5	0.30	0.020468528
1.74	108.66	105.41	1.38	1.57	0.30	5.5	0.30	0.020589279
1.75	108.65	105.40	1.38	1.57	0.30	5.5	0.30	0.020710059
1.76	108.64	105.39	1.38	1.57	0.30	5.5	0.30	0.020830868
1.77	108.63	105.38	1.38	1.57	0.30	5.5	0.30	0.020951705
1.78	108.62	105.37	1.38	1.57	0.30	5.5	0.30	0.02107257
1.79	108.61	105.36	1.38	1.57	0.30	5.5	0.30	0.021193464
1.8	108.60	105.35	1.38	1.57	0.30	5.5	0.30	0.021314387
1.81	108.59	105.34	1.38	1.57	0.30	5.5	0.30	0.021435339
1.82	108.58	105.33	1.38	1.57	0.30	5.5	0.30	0.021556319
1.83	108.57	105.32	1.38	1.57	0.30	5.5	0.30	0.021677328
1.84	108.56	105.32	1.38	1.57	0.30	5.5	0.30	0.021795783

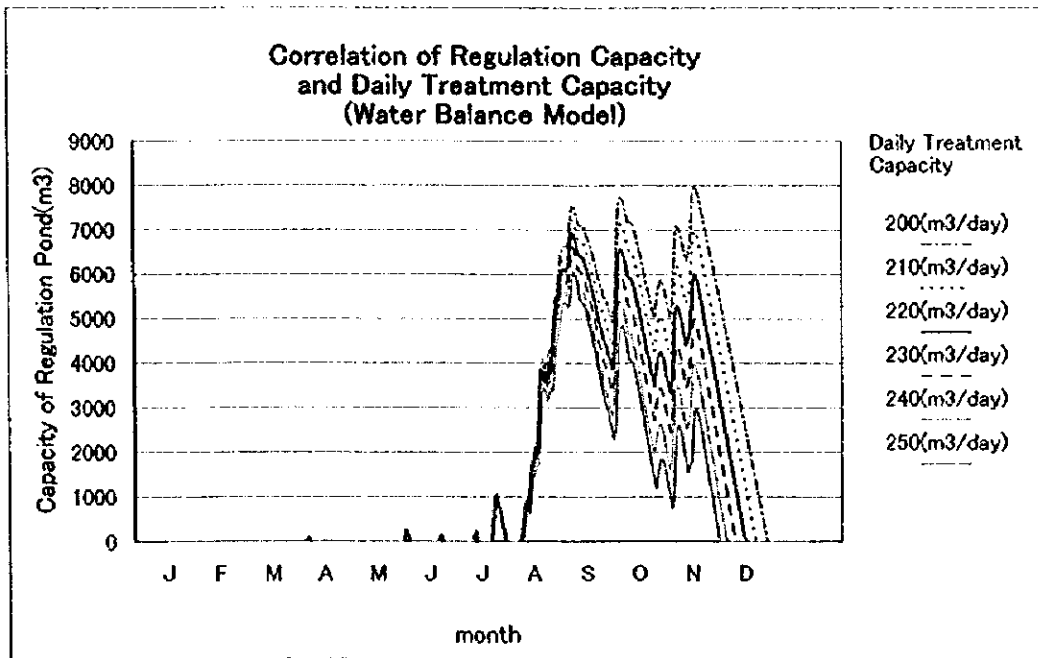
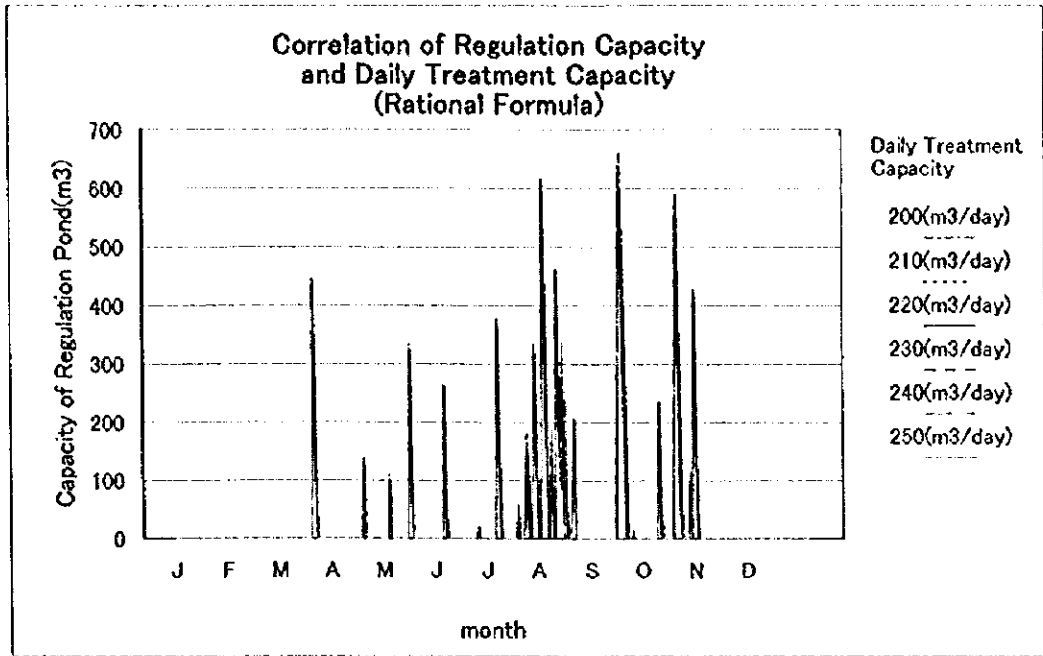
2010

Household ②	Restaurant ③	Other shop ④	Institutional ⑤	Market ⑥	Street Sweeping ⑦	Recycling ⑧	Self-Disposal ⑨	Illegal ⑩
112.30	1.5	1.7	0.4	5.8	1.7	10.8	10.6	0.0

Balky Waste①	Household			Restaurant	Other shop	Institutional		Market
	①-①-①-①-①-①	②-②-②-②-②-②	③-③-③-③-③-③			④-④-④-④-④-④	⑤-⑤-⑤-⑤-⑤-⑤	
1.7	114.20	110.65	89.25	1.48	1.68	0.39	5.8	0.019047619
1.71	114.19	110.64	89.24	1.48	1.67	0.39	5.8	0.019161811
1.72	114.18	110.63	89.23	1.48	1.67	0.39	5.8	0.019276028
1.73	114.17	110.62	89.22	1.48	1.67	0.39	5.8	0.019390271
1.74	114.16	110.61	89.21	1.48	1.67	0.39	5.8	0.01950454
1.75	114.15	110.60	89.20	1.48	1.67	0.39	5.8	0.019618834
1.76	114.14	110.59	89.19	1.48	1.67	0.39	5.8	0.019733154
1.77	114.13	110.58	89.18	1.48	1.67	0.39	5.8	0.019847499
1.78	114.12	110.58	89.18	1.48	1.67	0.39	5.8	0.019959632
1.79	114.11	110.57	89.17	1.48	1.67	0.39	5.8	0.020074016
1.8	114.10	110.56	89.16	1.48	1.67	0.39	5.8	0.020188425
1.81	114.09	110.55	89.15	1.48	1.67	0.39	5.8	0.02030286
1.82	114.08	110.54	89.14	1.48	1.67	0.39	5.8	0.020417321
1.83	114.07	110.53	89.13	1.48	1.67	0.39	5.8	0.020531807
1.84	114.06	110.52	89.12	1.48	1.67	0.39	5.8	0.02064632
1.85	114.05	110.51	89.11	1.48	1.67	0.39	5.8	0.020760857
1.86	114.04	110.50	89.10	1.48	1.67	0.39	5.8	0.020875421
1.87	114.03	110.49	89.09	1.48	1.67	0.39	5.8	0.02099001
1.88	114.02	110.48	89.08	1.48	1.67	0.39	5.8	0.021104625
1.89	114.01	110.47	89.07	1.48	1.67	0.39	5.8	0.021219266
1.9	114.00	110.46	89.06	1.48	1.67	0.39	5.8	0.021333932
1.91	113.99	110.45	89.05	1.48	1.67	0.39	5.8	0.021448624
1.92	113.98	110.44	89.04	1.48	1.67	0.39	5.8	0.021563342
1.93	113.97	110.43	89.03	1.48	1.67	0.39	5.8	0.021678086
1.94	113.96	110.42	89.02	1.47	1.67	0.39	5.8	0.021792856

Daily Treatment Capacity (m ³ /day)	Rational Formula VMAX(m ³)	Water Balance Model VMAX(m ³)	Average VMAX(m ³)
40	12,166.1	46,647.2	29,406.7
50	7,421.8	41,414.0	24,417.9
60	6,069.6	36,286.9	21,178.3
70	4,961.4	31,296.9	18,129.2
80	3,941.4	26,306.9	15,124.2
90	2,945.7	21,333.9	12,139.8
100	2,263.3	18,388.8	10,326.1
110	1,973.3	17,218.8	9,596.1
120	1,683.3	16,058.4	8,870.9
130	1,393.3	14,993.7	8,193.5
140	1,103.3	13,993.7	7,548.5
150	841.2	12,993.7	6,917.5
160	779.1	11,993.7	6,386.4
170	749.1	10,993.7	5,871.4
180	719.1	9,993.7	5,356.4
190	689.1	8,993.7	4,841.4
200	659.1	7,993.7	4,326.4
210	629.1	7,234.3	3,931.7
220	599.1	6,934.3	3,766.7
230	584.5	6,634.3	3,609.4
240	574.5	6,335.2	3,454.9
250	564.5	6,045.2	3,304.9
260	554.5	5,755.2	3,154.9
270	544.5	5,465.2	3,004.9
280	534.5	5,175.2	2,854.9

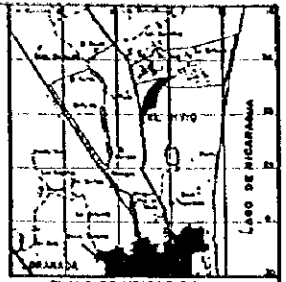




[Precipitation Data]

MAX 4,153.2 mm/year AVG 1,717.1 mm/year
 MIN 965.0 mm/year

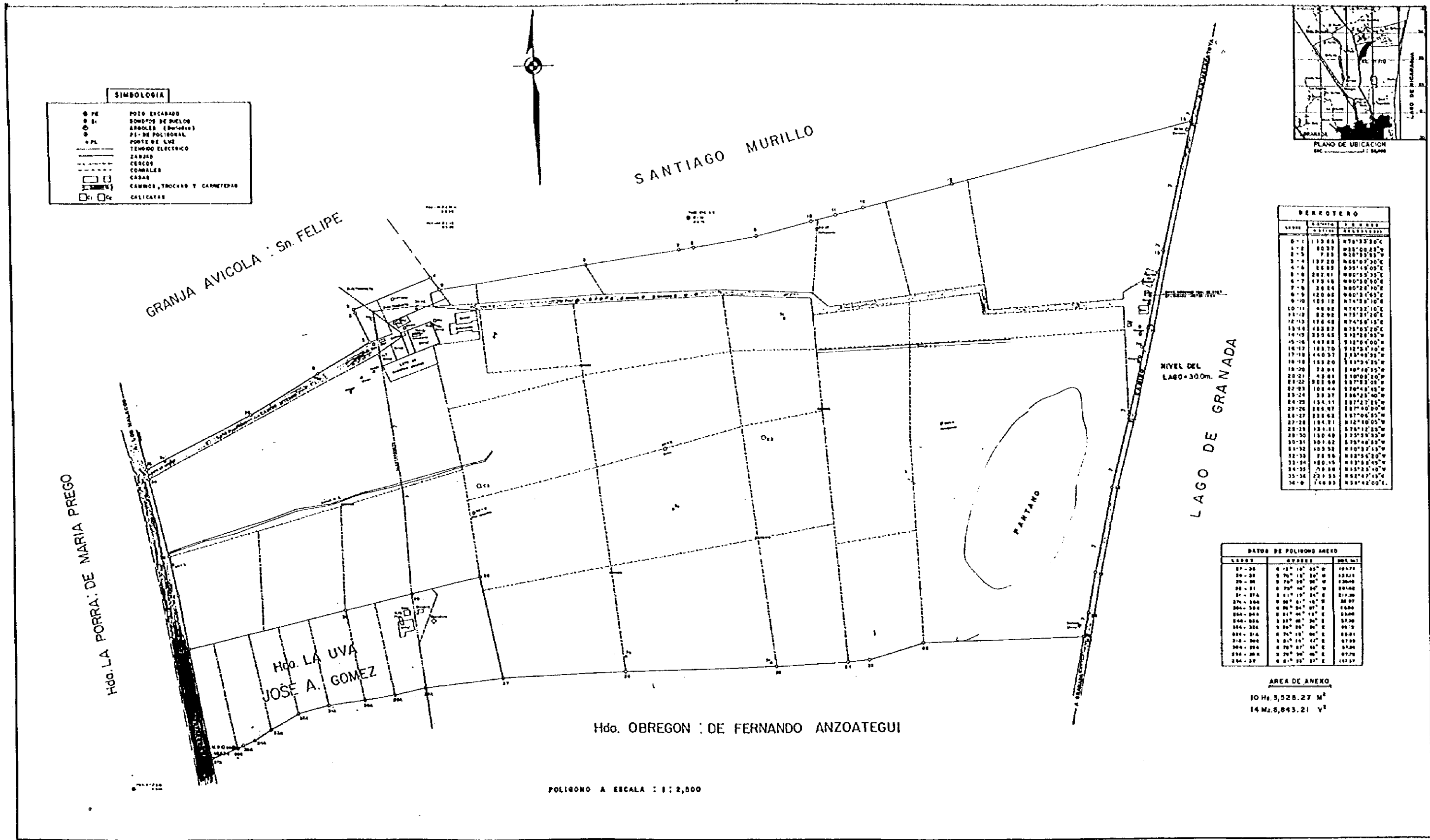
Year	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	
Days in the year	365	365	365	368	365	365	365	366	365	365	365	366	365	365	365	366	365	365	365	366	
Annual Precipitation(mm/year)	1,176.4	965.0	4,153.2	2,507.7	1,101.5	999.8	1,095.3	1,922.7	1,256.9	1,992.7	1,176.4	965.0	4,153.2	2,507.7	1,101.5	999.8	1,095.3	1,922.7	1,256.9	1,992.7	
Average Precipitation per day(mm/day)	3.2	2.6	11.4	6.9	3.0	2.7	3.0	5.3	3.4	5.5	3.2	2.6	11.4	6.9	3.0	2.7	3.0	5.3	3.4	5.4	
Monthly Precipitation (mm/month)	Jan.	38.3	8.0	10.0	72.6	44.1	2.6	0.5	10.1	8.2	0.1	38.3	8.0	10.0	72.6	44.1	2.6	0.5	10.1	8.2	0.1
	Feb.	1.5	3.6	6.3	27.4	2.7	0.6	0.0	0.0	8.6	1.6	1.5	3.6	6.3	27.4	2.7	0.6	0.0	0.0	8.6	1.6
	Mar.	1.1	0.0	0.0	7.8	4.5	0.7	0.0	0.0	0.0	81.3	1.1	0.0	0.0	7.8	4.5	0.7	0.0	0.0	0.0	81.3
	Apr.	0.0	4.7	0.2	1.4	0.4	0.2	0.0	27.3	33.6	60.3	0.0	4.7	0.2	1.4	0.4	0.2	0.0	27.3	33.6	60.3
	May.	0.0	0.0	0.0	0.0	179.2	0.0	101.2	701.3	162.1	123.9	0.0	0.0	0.0	0.0	179.2	0.0	101.2	701.3	162.1	123.9
	Jun.	314.9	101.5	620.4	81.4	125.1	316.3	320.8	202.5	257.1	183.6	314.9	101.5	620.4	81.4	125.1	316.3	320.8	202.5	257.1	183.6
	Jul.	173.9	154.0	828.8	375.5	36.1	192.2	195.8	127.3	37.0	333.4	173.9	154.0	828.8	375.5	36.1	192.2	195.8	127.3	37.0	333.4
	Aug.	92.0	200.6	246.8	337.0	35.8	98.7	101.5	220.8	51.5	461.3	92.0	200.6	246.8	337.0	35.8	98.7	101.5	220.8	51.5	461.3
	Sep.	91.9	150.5	761.6	314.4	202.5	39.5	197.4	446.1	302.5	293.7	91.9	150.5	761.6	314.4	202.5	39.5	197.4	446.1	302.5	293.7
	Oct.	175.9	116.0	502.8	776.6	331.0	143.2	134.5	128.7	268.1	367.9	175.9	116.0	502.8	776.6	331.0	143.2	134.5	128.7	268.1	367.9
	Nov.	233.3	215.6	1008.6	314.2	121.3	183.6	29.7	56.4	121.7	49.3	233.3	215.6	1008.6	314.2	121.3	183.6	29.7	56.4	121.7	49.3
	Dec.	53.6	10.5	167.7	199.4	18.8	22.2	13.9	2.2	6.5	36.3	53.6	10.5	167.7	199.4	18.8	22.2	13.9	2.2	6.5	36.3
Maximum daily precipitation in the month (mm/day)	Jan.	16.7	5.1	3.8	19.5	21.5	1.1	0.3	7.6	4.3	0.1	16.7	5.1	3.8	19.5	21.5	1.1	0.3	7.6	4.3	
	Feb.	0.8	3.2	2.4	8.5	1.3	0.6	0.0	0.0	8.6	1.0	0.8	3.2	2.4	8.5	1.3	0.6	0.0	0.0	8.6	1.0
	Mar.	0.7	0.0	0.0	3.6	1.3	0.6	0.0	0.0	0.0	71.6	0.7	0.0	0.0	3.6	1.3	0.6	0.0	0.0	0.0	71.6
	Apr.	0.0	4.7	8.5	0.7	0.4	0.2	0.0	18.6	17.2	37.5	0.0	4.7	0.1	0.7	0.4	0.2	0.0	18.6	17.2	37.5
	May.	0.0	0.0	0.0	0.0	52.3	0.0	66.2	132.8	66.6	59.4	0.0	0.0	0.0	0.0	52.3	0.0	66.2	132.8	66.6	59.4
	Jun.	84.7	27.2	179.7	25.9	44.6	97.4	92.2	37.8	144.6	51.7	84.7	27.2	179.7	25.9	44.6	97.4	92.2	37.8	144.6	51.7
	Jul.	34.2	64.5	287.4	122.4	35.5	103.9	104.8	55.1	13.1	64.1	34.2	64.5	287.4	122.4	35.5	103.9	104.8	55.1	13.1	64.1
	Aug.	25.5	54.6	70.8	148.4	17.0	20.7	45.0	51.2	11.1	90.5	25.5	54.6	70.8	148.4	17.0	20.7	45.0	51.2	11.1	90.5
	Sep.	39.2	33.2	188.2	82.8	37.8	7.6	41.7	160.3	93.8	66.5	39.2	33.2	188.2	82.8	37.8	7.6	41.7	160.3	93.8	66.5
	Oct.	45.8	42.1	165.2	192.4	56.0	46.3	79.5	54.1	44.2	69.8	45.8	42.1	165.2	192.4	56.0	46.3	79.5	54.1	44.2	69.8
	Nov.	51.2	58.3	230.6	86.2	44.6	57.0	13.0	18.8	20.7	10.3	51.2	58.3	230.6	86.2	44.6	57.0	13.0	18.8	20.7	10.3
	Dec.	18.4	8.7	61.3	42.8	4.7	21.0	4.6	1.1	4.4	17.3	18.4	8.7	61.3	42.8	4.7	21.0	4.6	1.1	4.4	17.3
Maximum in the first half year	84.7	27.2	179.7	25.9	52.3	97.4	92.2	132.8	144.6	71.6	84.7	27.2	179.7	25.9	52.3	97.4	92.2	132.8	144.6	71.6	
Maximum in the second half year	51.2	64.5	287.4	192.4	56.0	103.9	104.8	160.3	93.8	90.5	51.2	64.5	287.4	192.4	56.0	103.9	104.8	160.3	93.8	90.5	
Number of days with more than 10mm/day precipitation (days)	Jan.	1	0	0	4	1	0	0	0	0	1	0	0	4	1	0	0	0	0	0	
	Feb.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mar.	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
	Apr.	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	1	1	2
	May.	0	0	0	0	6	0	2	14	4	2	0	0	0	6	2	14	4	2	4	2
	Jun.	10	4	10	3	3	6	7	8	4	5	10	4	10	3	3	6	7	8	4	5
	Jul.	6	3	16	8	1	5	3	3	1	9	6	3	16	8	1	5	3	3	1	9
	Aug.	3	7	7	6	1	2	2	9	1	13	3	7	7	6	1	2	2	9	1	13
	Sep.	2	4	16	10	8	0	5	9	7	8	2	4	16	10	8	0	5	9	7	8
	Oct.	6	4	10	12	8	5	2	2	9	9	6	4	10	12	8	5	2	2	9	9
	Nov.	7	8	11	8	4	4	1	2	6	1	7	8	11	8	4	4	1	2	6	1
	Dec.	1	0	4	5	0	1	0	0	0	2	1	0	4	5	0	1	0	0	0	2
Maximum	10	8	16	12	8	6	7	14	9	13	10	8	16	12	8	6	7	14	9	13	



PLANO DE UBICACION
ESC. 1:50,000

SIMBOLOGIA

○ PE	POZO ESCABADO
○ B	BOMBAS DE BUELOS
○ A	ARBOLES (BOSQUES)
○ P	PI-DE POLIGONAL
— PL	PORTE DE LUZ
---	TIEMPO ELECTRICO
---	ZANJAS
---	CERCOS
---	COMALES
□	CASAS
---	CAMINOS, TROCHAS Y CARNETES
○	CALICATAS



VERTICERO

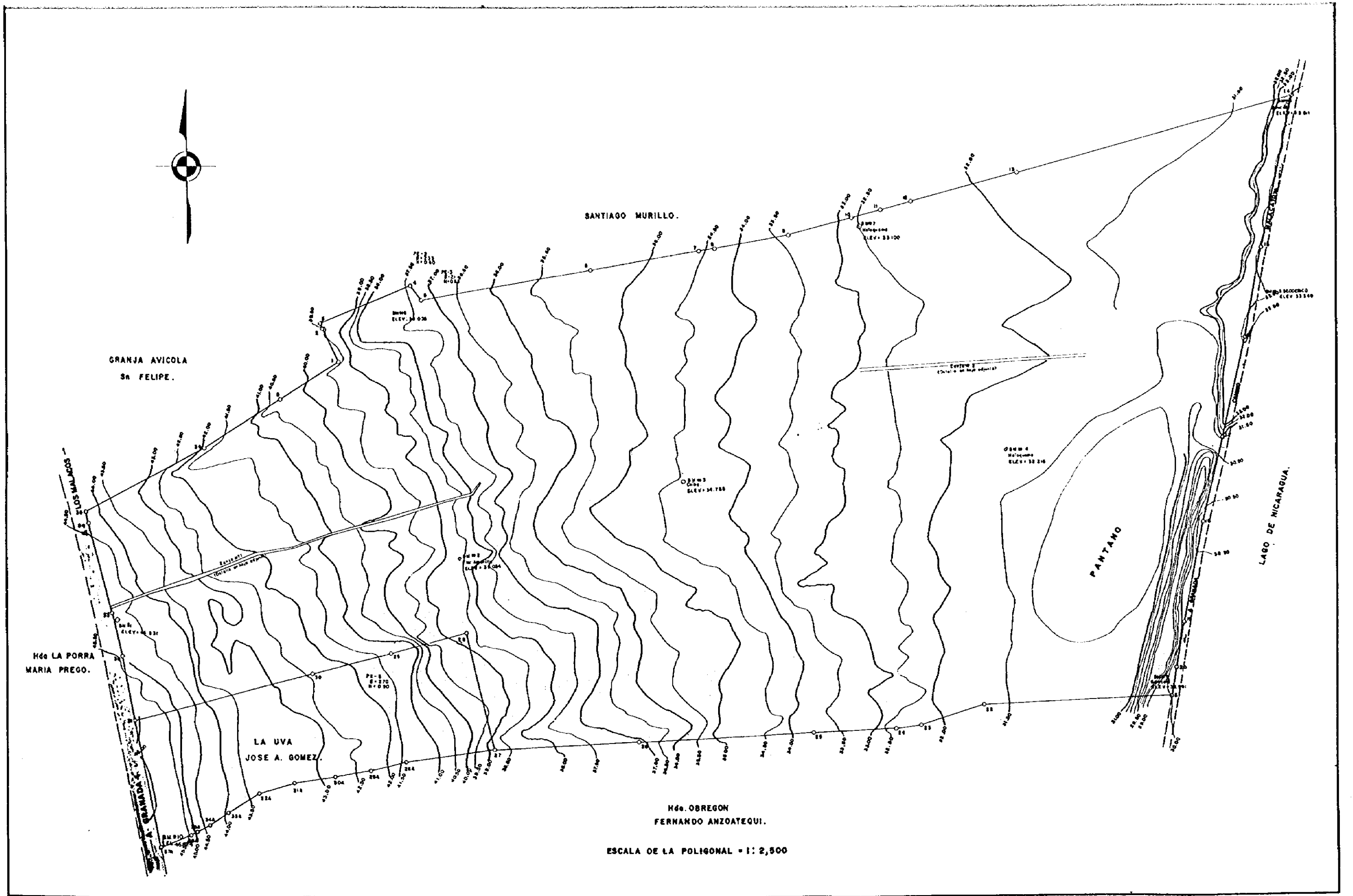
ANEXO	ALTIMETRIA	P. S. O. B. S. S.
0-1	133.83	N75°33'30"E
1-2	80.37	N85°00'00"W
2-3	7.83	N20°33'00"E
3-4	137.20	N65°07'30"E
4-5	82.89	N55°40'00"E
5-6	282.61	N00°30'30"E
6-7	173.16	N00°30'00"E
7-8	20.84	N00°00'00"E
8-9	120.91	N60°30'00"E
9-10	102.12	N75°33'10"E
10-11	46.02	N75°33'10"E
11-12	82.92	N75°33'10"E
12-13	176.48	N75°33'10"E
13-14	183.87	N75°33'10"E
14-15	250.42	N120°00'00"W
15-16	147.88	N120°00'00"W
16-17	183.70	N120°00'00"W
17-18	140.37	N120°00'00"W
18-19	150.20	N120°00'00"W
19-20	78.04	N100°00'00"W
20-21	43.81	N100°00'00"W
21-22	281.69	N75°33'10"E
22-23	100.44	N75°33'10"E
23-24	39.37	N00°00'00"E
24-25	154.11	N07°22'15"E
25-26	289.87	N07°00'00"E
26-27	238.62	N07°00'00"E
27-28	181.81	N12°00'00"E
28-29	131.81	N20°12'15"E
29-30	100.49	N20°33'30"E
30-31	301.82	N20°00'00"E
31-32	100.92	N10°33'15"E
32-33	78.56	N05°00'00"E
33-34	180.15	N03°00'00"E
34-35	78.88	N15°23'10"E
35-36	27.33	N55°47'15"E
36-0	148.93	N30°42'00"E

DATOS DE POLIGONO ANEXO

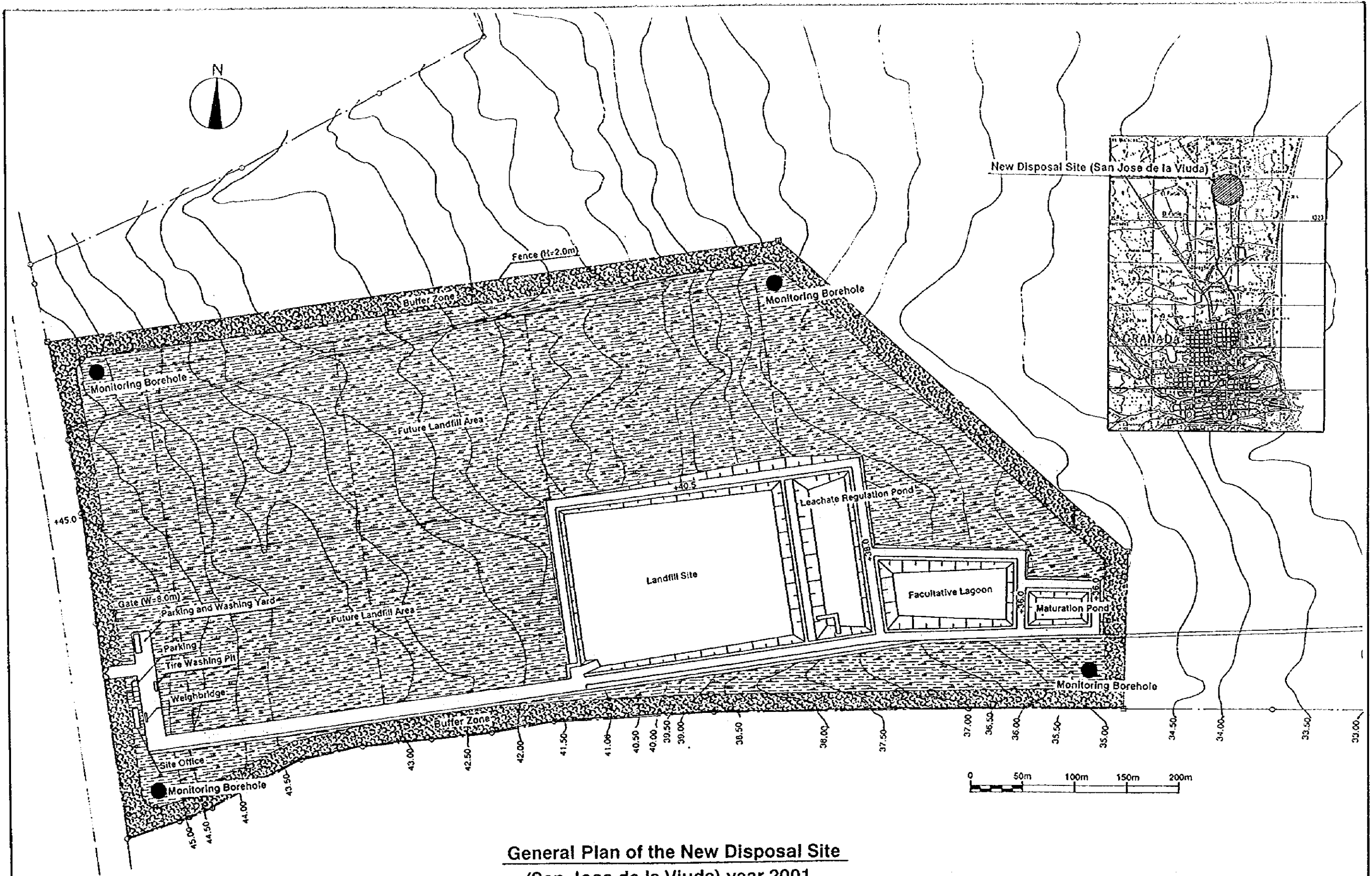
LABOR	ALTIMETRIA	DIR. (G)
01-02	8 15' 10" 30" E	104.72
02-03	8 70' 18" 30" W	120.11
03-04	8 70' 00" 30" W	120.00
04-05	8 70' 00" 30" W	120.00
05-06	8 11' 15" 24" E	119.20
06-07	8 00' 00" 15" E	90.07
07-08	8 00' 00" 00" E	100.00
08-09	8 00' 00" 00" E	100.00
09-10	8 20' 00" 00" E	100.00
10-11	8 20' 00" 00" E	100.00
11-12	8 20' 00" 00" E	100.00
12-13	8 20' 00" 00" E	100.00
13-14	8 20' 00" 00" E	100.00
14-15	8 20' 00" 00" E	100.00
15-16	8 20' 00" 00" E	100.00
16-17	8 20' 00" 00" E	100.00
17-18	8 20' 00" 00" E	100.00
18-19	8 20' 00" 00" E	100.00
19-20	8 20' 00" 00" E	100.00
20-21	8 20' 00" 00" E	100.00
21-22	8 20' 00" 00" E	100.00
22-23	8 20' 00" 00" E	100.00
23-24	8 20' 00" 00" E	100.00
24-25	8 20' 00" 00" E	100.00
25-26	8 20' 00" 00" E	100.00
26-27	8 20' 00" 00" E	100.00
27-28	8 20' 00" 00" E	100.00
28-29	8 20' 00" 00" E	100.00
29-30	8 20' 00" 00" E	100.00
30-31	8 20' 00" 00" E	100.00
31-32	8 20' 00" 00" E	100.00
32-33	8 20' 00" 00" E	100.00
33-34	8 20' 00" 00" E	100.00
34-35	8 20' 00" 00" E	100.00
35-36	8 20' 00" 00" E	100.00
36-0	8 20' 00" 00" E	100.00

AREA DE ANEXO
10 Hs. 5,528.27 M²
14 Mz. 8,843.21 Y²

POLIGONO A ESCALA : 1 : 2,500

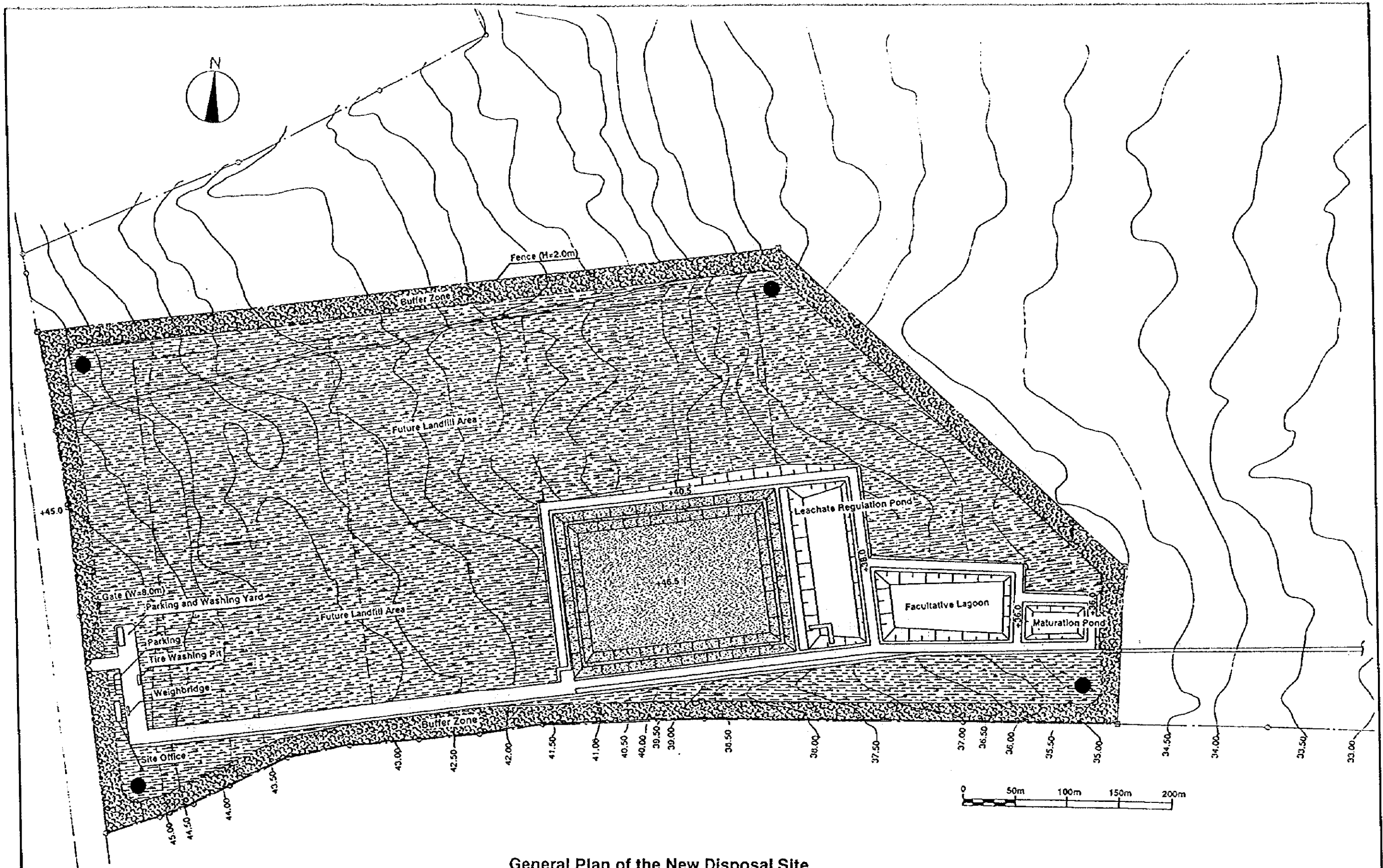


ESCALA DE LA POLIGONAL = 1 : 2,500



**General Plan of the New Disposal Site
(San Jose de la Viuda) year 2001**

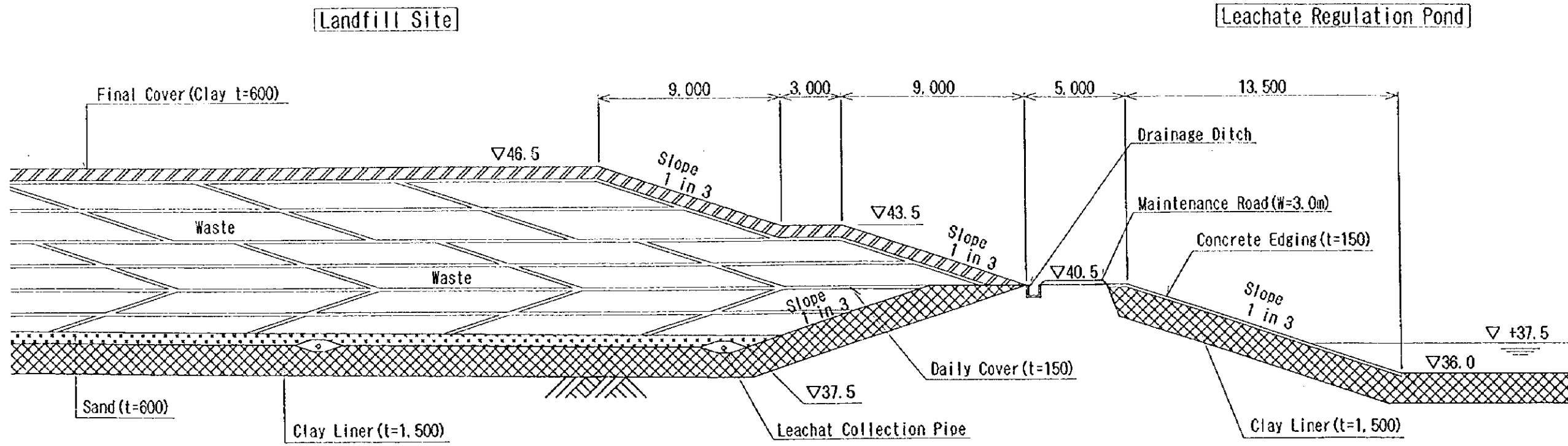
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SCALE	DWG. NO.	
		KOKUSAI KOGYO CO., LTD.



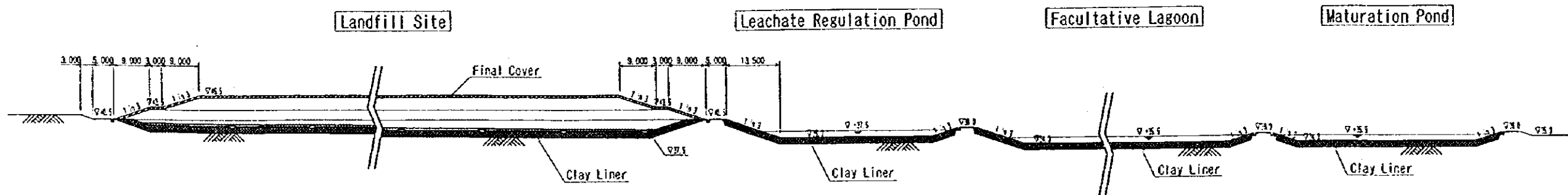
General Plan of the New Disposal Site
year 2005

DWG. TITLE		THE STUDY ON THE IMPROVEMENT OF URBAN SANITATION ENVIRONMENT OF PRINCIPAL CITIES IN THE REPUBLIC OF NICARAGUA
SCALE	DWG. NO.	KOKUSAI KOGYO CO., LTD.

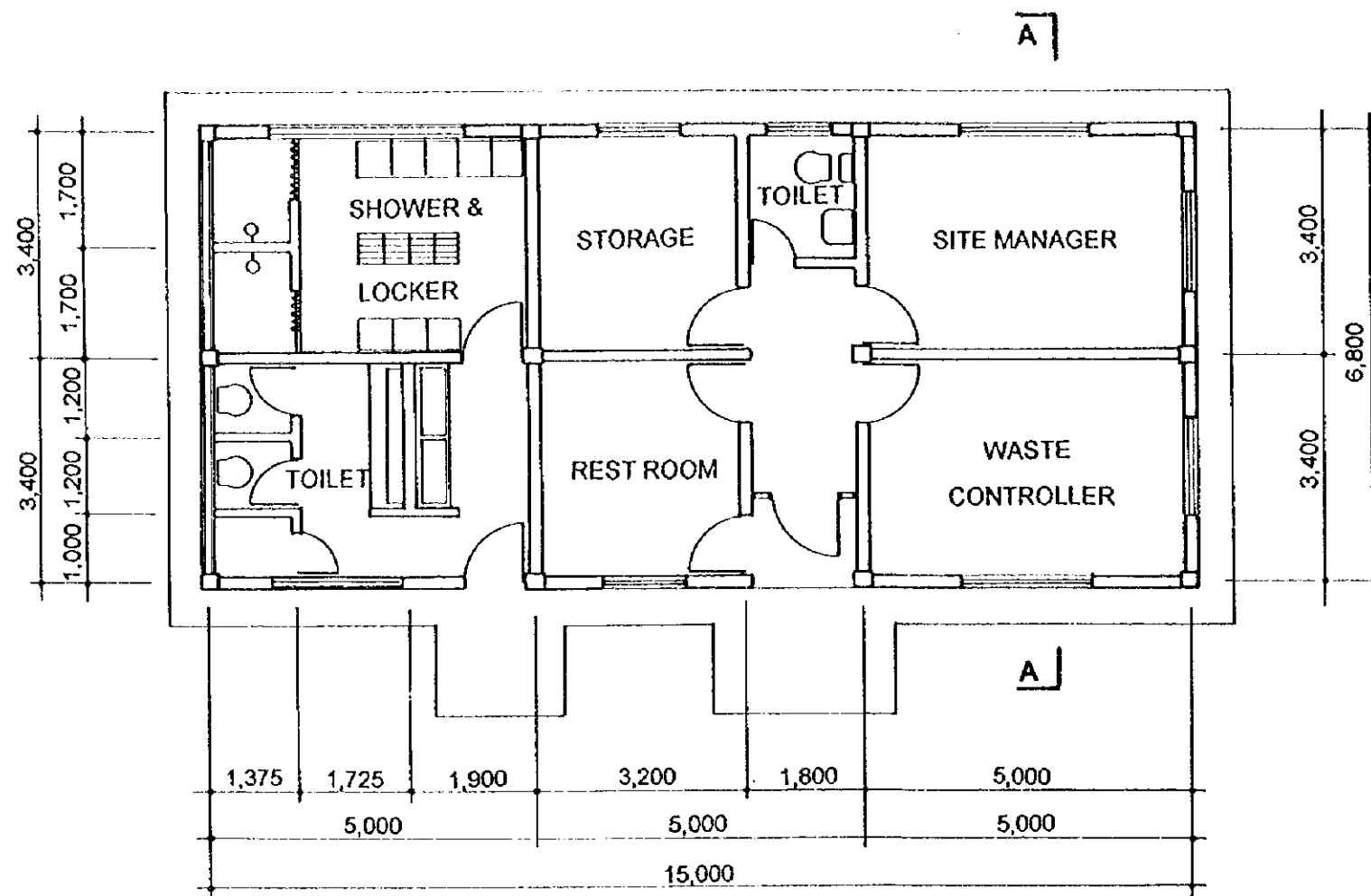
DETAIL SECTION S=1:200



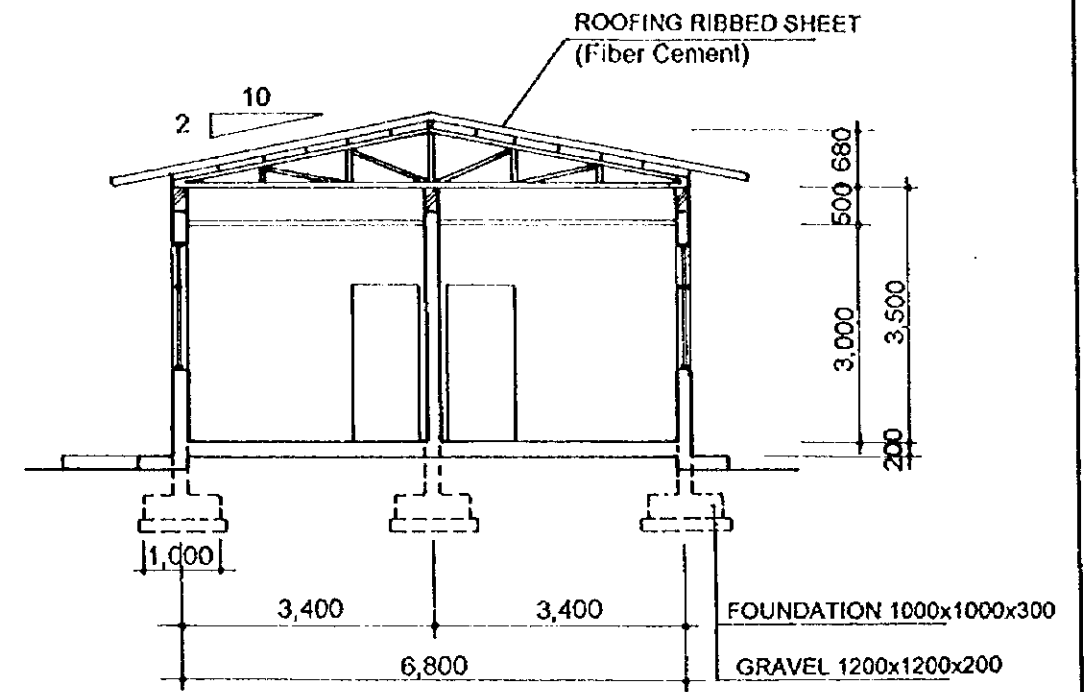
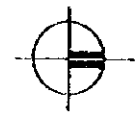
LONGITUDINAL SECTION S=1:1,000



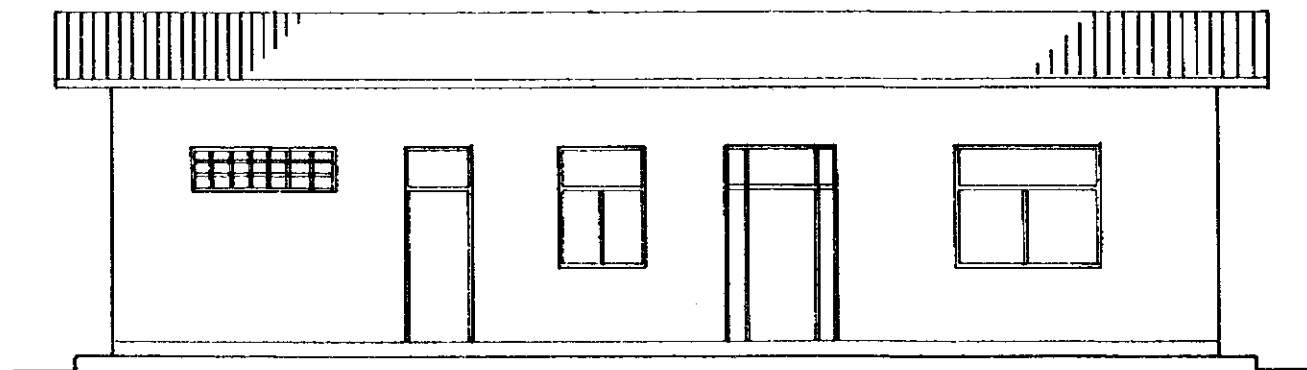
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SCALE	DWG. NO.	
		KOKUSAI KOGYO CO., LTD.



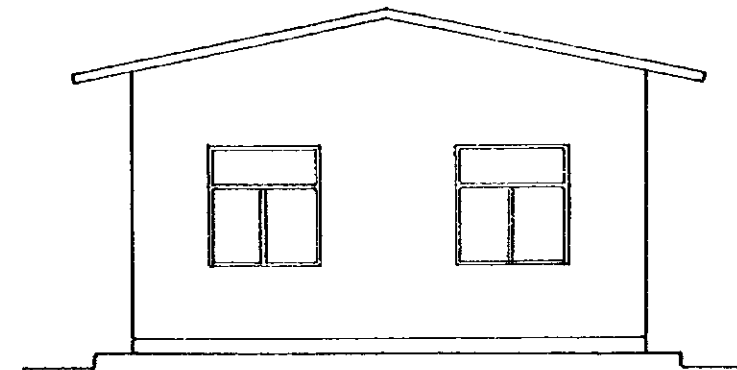
PLAN S = 1:100



A - A SECTION S = 1:100

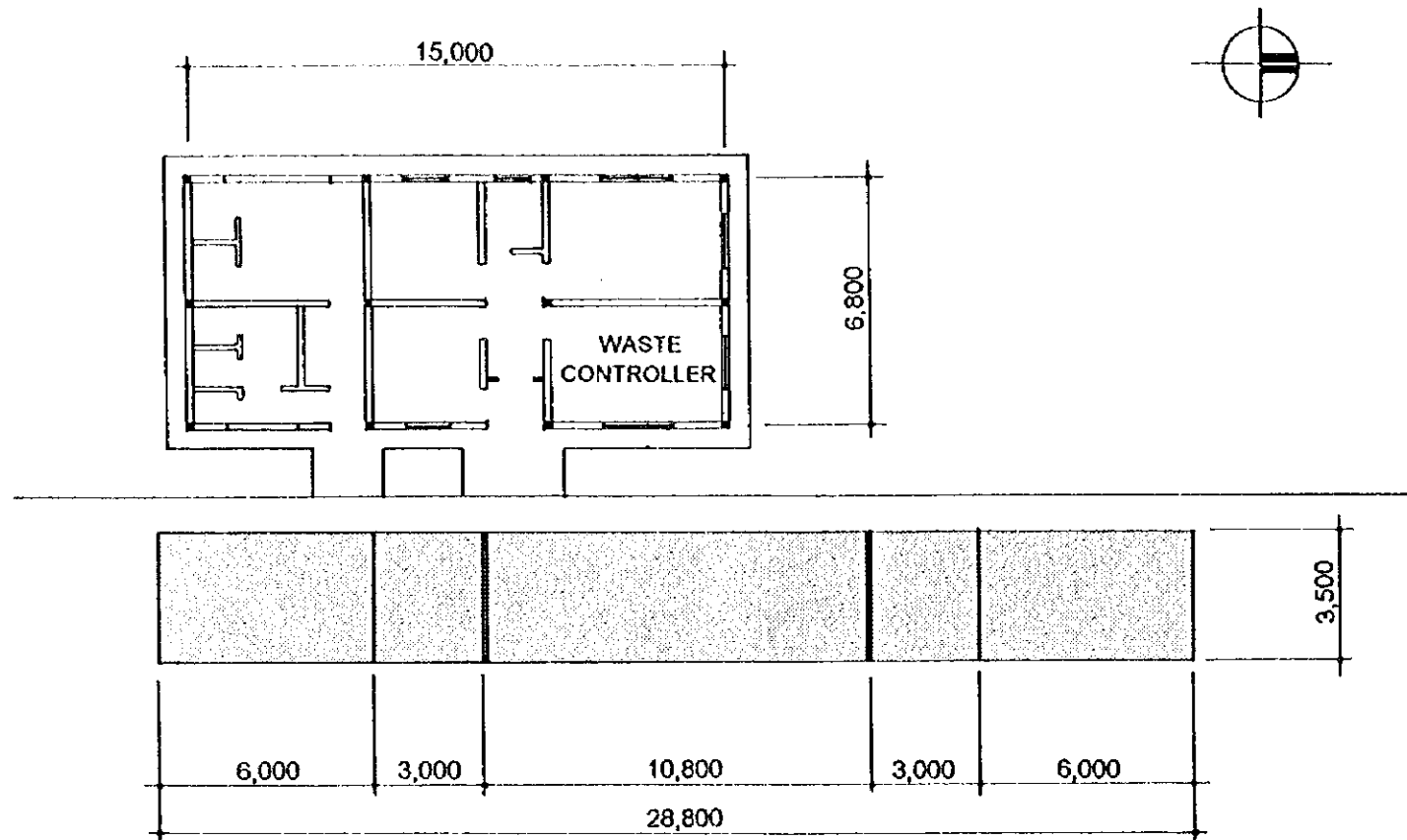


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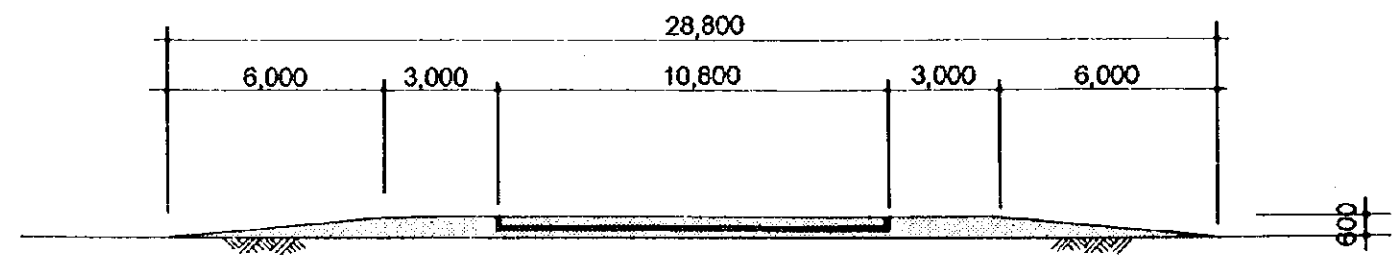


NORTH ELEVATION S = 1:100

DWG. TITLE		THE STUDY ON THE IMPROVEMENT OF URBAN SANITATION ENVIRONMENT OF PRINCIPAL CITIES IN THE REPUBLIC OF NICARAGUA
SITE OFFICE		
SCALE	DWG. NO.	KOKUSAI KOGYO CO., LTD.
1:100		

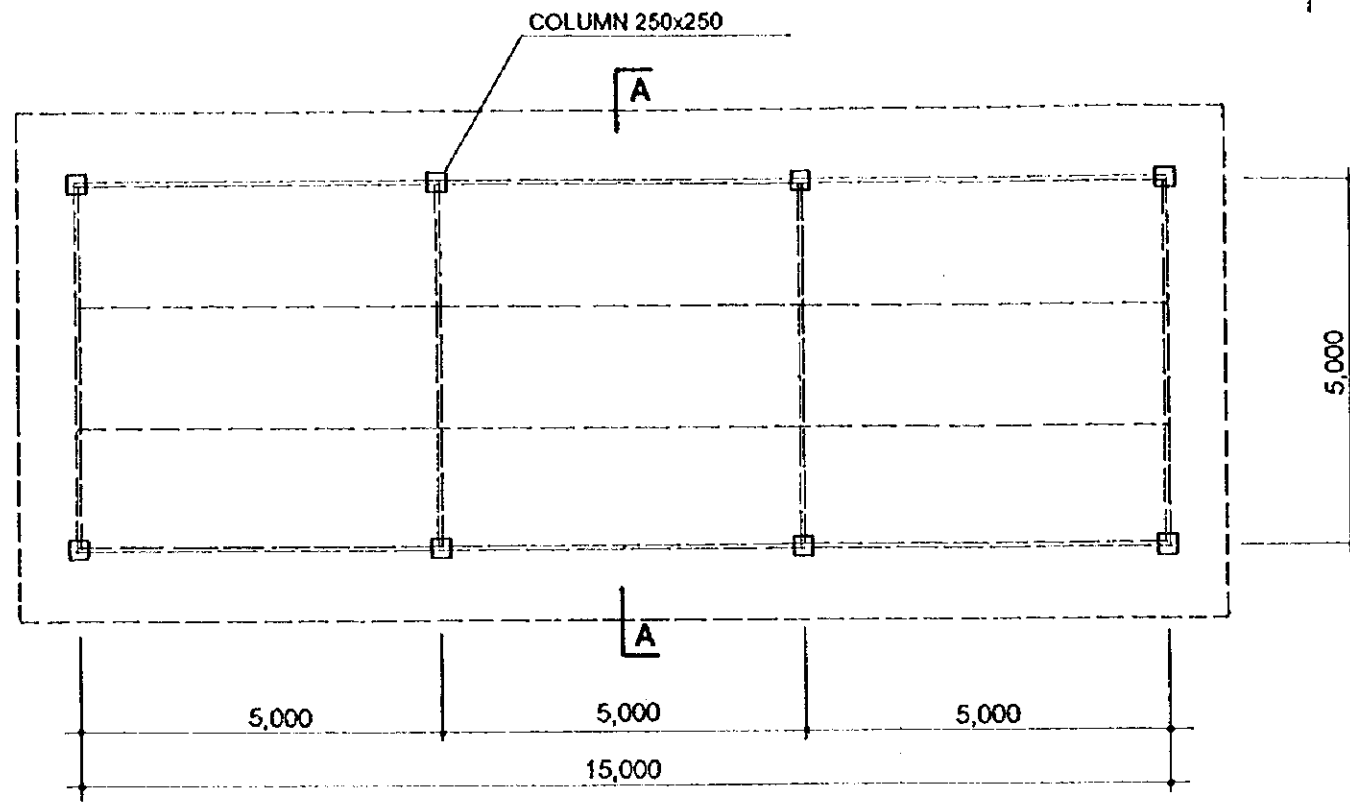


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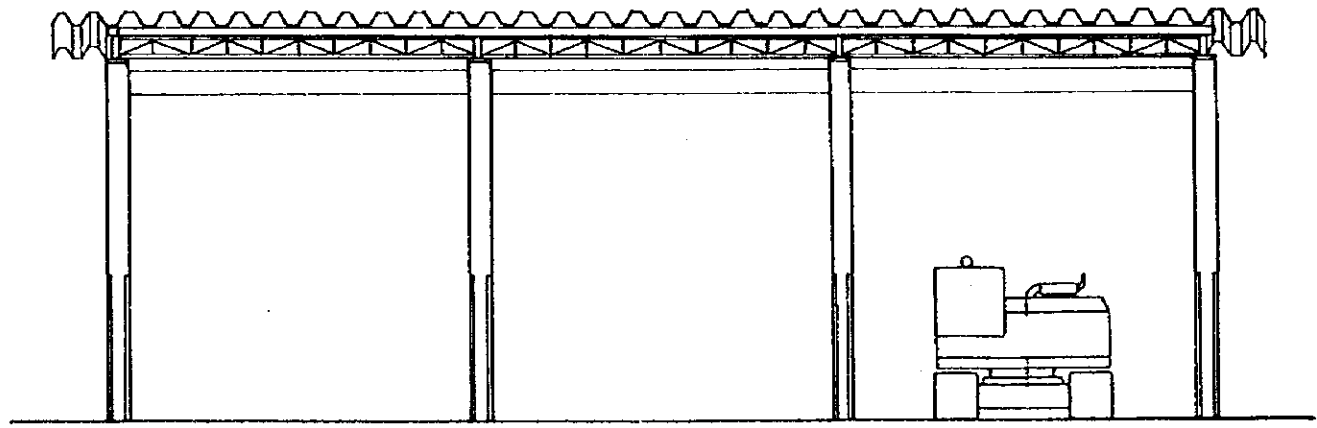


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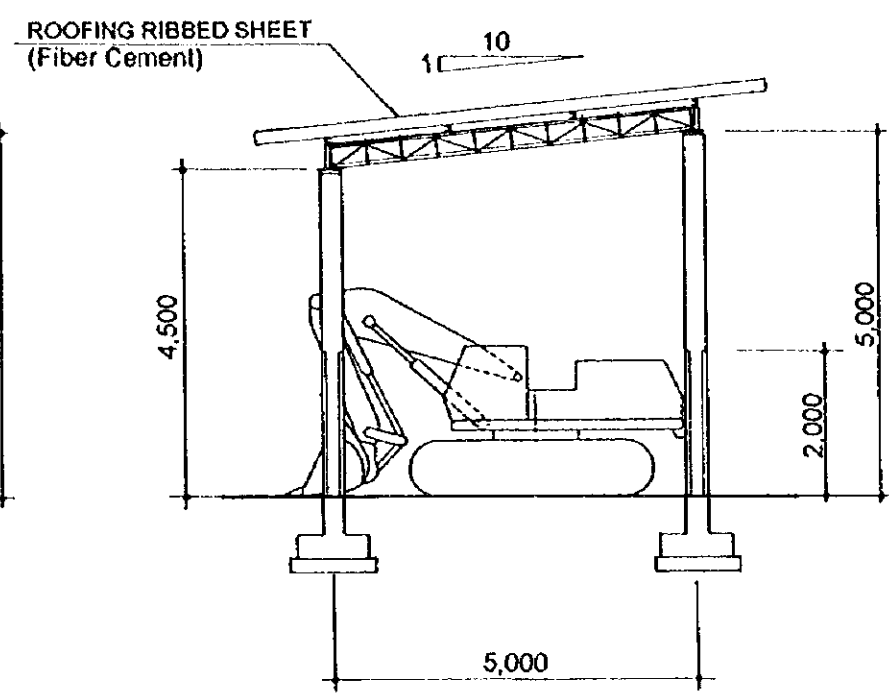
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SCALE 1:200	DWG. NO.	
		KOKUSAI KOGYO CO., LTD.



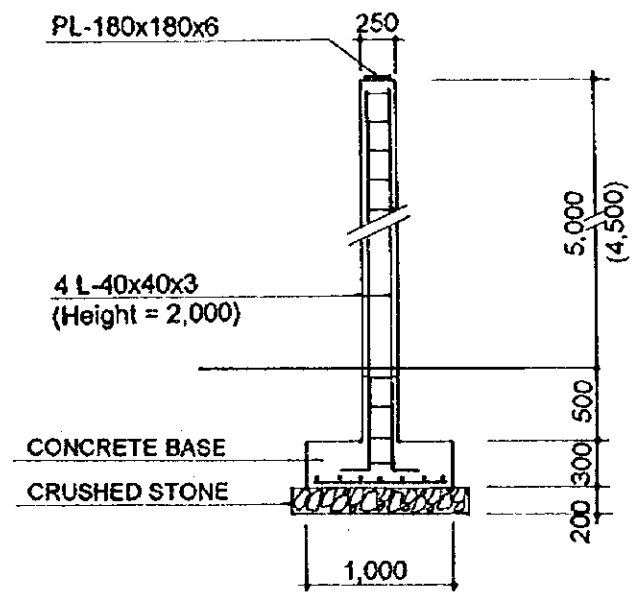
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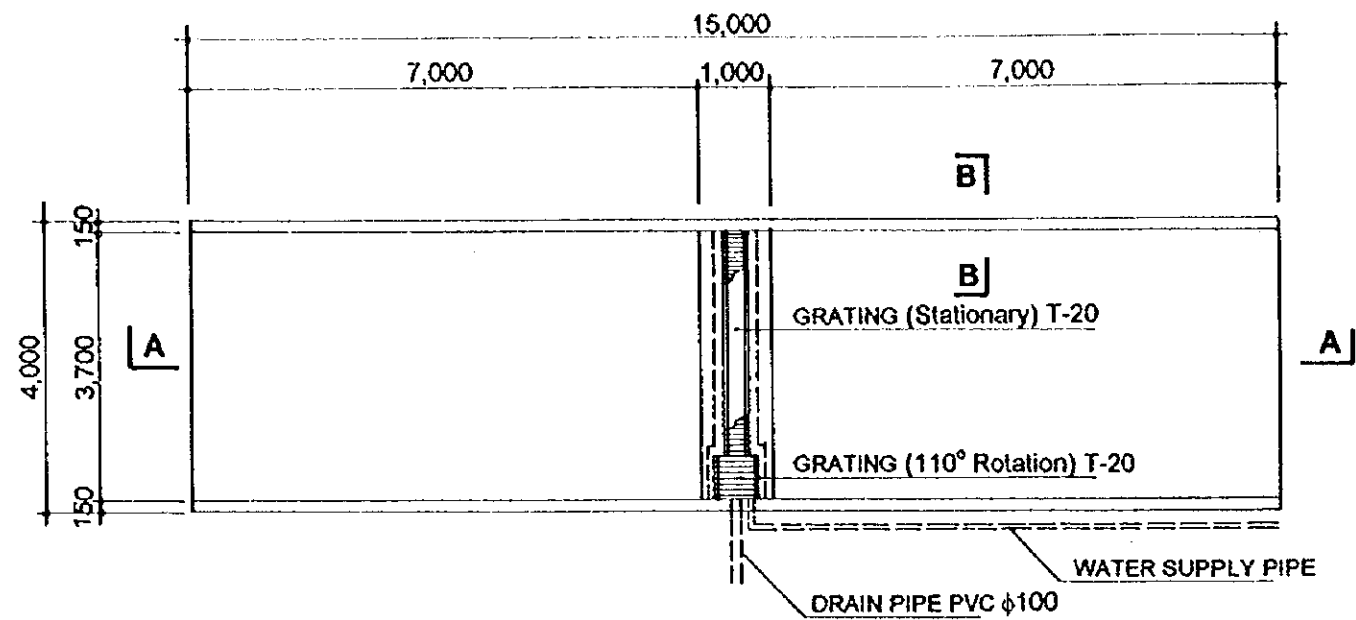


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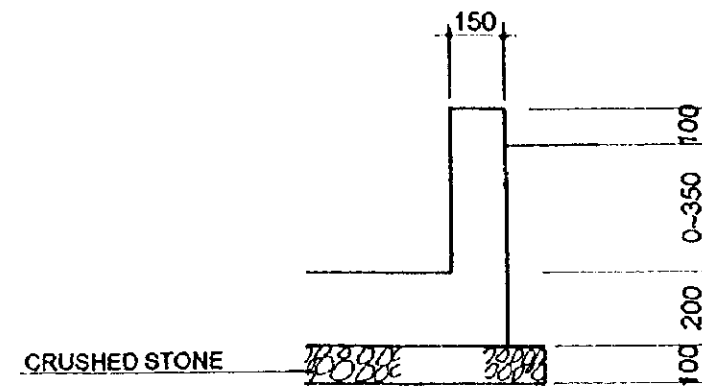


COLUMN DETAIL S = 1:50

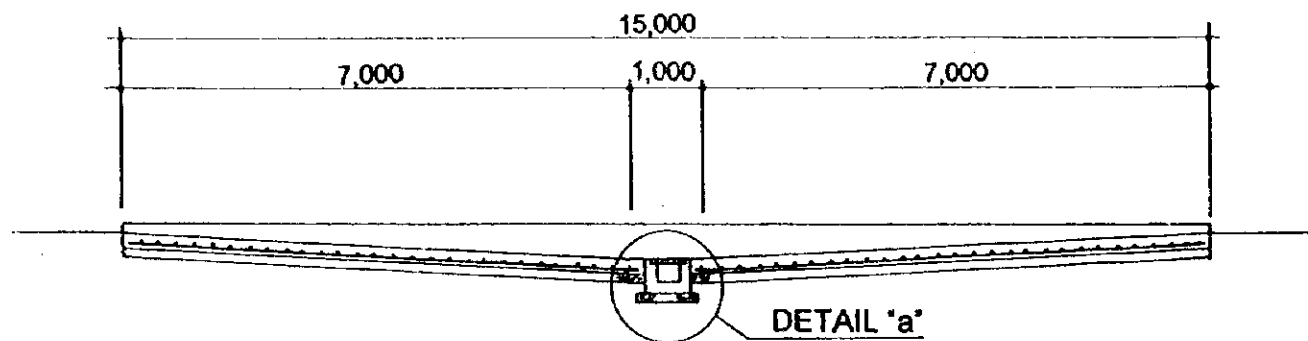
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PARKING YARD		
SCALE	DWG. NO.	KOKUSAI KOGYO CO., LTD.
1:100, 1:50		



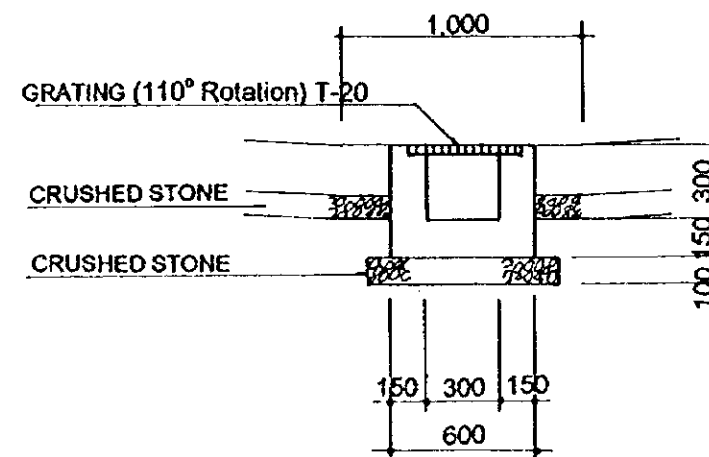
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B - B SECTION S = 1:20



A - A SECTION S = 1:100



DETAIL "a" S = 1:30

DWG. TITLE		THE STUDY ON THE IMPROVEMENT OF URBAN SANITATION ENVIRONMENT OF PRINCIPAL CITIES IN THE REPUBLIC OF NICARAGUA
TYRE WASHING PIT		
SCALE	DWG. NO.	KOKUSAI KOGYO CO., LTD.
1:20, 1:30, 1:100		

Cash Flow (Case A-1)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a.1 Finance							
Grant	0						0
Loan	47,018	853	0	67	853	0	48,791
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,211	2,403	2,598	2,822	3,065	13,098
Residents		1,310	1,449	1,604	1,775	1,966	8,103
Commercial etc		901	954	994	1,047	1,009	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		2,333	2,488	2,653	2,828	3,014	13,317
Total		4,737	5,086	5,445	5,854	6,283	27,405
Cash-in	47,018	5,590	5,086	5,512	6,707	6,283	76,196
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	235	474	479	479	484	488	2,639
Fee-collection		65	72	80	89	98	405
Total	235.09	2,888	3,075	3,087	3,106	3,295	15,452
Cash-out	47,253	3,741	3,075	3,154	3,959	3,295	64,478
c. Reserved Fund	-235	1,614	3,625	5,983	8,730	11,718	11,718

Profit and Loss Statement (Case A-1)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		4,737	5,086	5,445	5,854	6,283	27,405
b. Cost							
b.1 Expenditure	235	2,888	3,075	3,087	3,106	3,295	15,687
b.2 Depreciation		5,233	5,343	5,343	5,343	5,453	26,716
Cost Total	235	8,121	8,418	8,430	8,450	8,748	42,403
c. Profit and Loss	-235	-3,384	-3,333	-2,985	-2,596	-2,465	-14,998

Cash Flow (Case A-2)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a.1 Finance							
Grant	0						0
Loan	47,018	853	0	67	853	0	48,791
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		1,885	1,980	2,079	2,183	2,292	10,418
Total		4,290	4,577	4,871	5,208	5,560	24,506
Cash-in	47,018	5,143	4,577	4,938	6,061	5,560	73,297
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	235	474	479	479	484	488	2,639
Fee-collection		65	72	80	89	98	405
Total	235.09	2,888	3,075	3,087	3,106	3,295	15,452
Cash-out	47,253	3,741	3,075	3,154	3,959	3,295	64,478
c. Reserved Fund	-235	1,167	2,669	4,452	6,554	8,819	8,819

Profit and Loss Statement (Case A-2)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		4,290	4,577	4,871	5,208	5,560	24,506
b. Cost							
b.1 Expenditure	235.09	2,888	3,075	3,087	3,106	3,295	15,687
b.2 Depreciation		5,233	5,343	5,343	5,343	5,453	26,716
Cost Total	235	8,121	8,418	8,430	8,450	8,748	42,403
c. Profit and Loss	-235	-3,832	-3,841	-3,560	-3,241	-3,188	-17,896

Cash Flow (Case A-3)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a.1 Finance							
Grant	0						0
Loan	47,018	853	0	67	853	0	48,791
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		1,290	1,330	1,369	1,410	1,450	6,849
Total		3,694	3,927	4,162	4,435	4,719	20,937
Cash-in	47,018	4,547	3,927	4,229	5,288	4,719	69,728
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	235	474	479	479	484	488	2,639
Fee-collection		65	72	80	89	98	405
Total	235.09	2,888	3,075	3,087	3,106	3,295	15,452
Cash-out	47,253	3,741	3,075	3,154	3,959	3,295	64,478
c. Reserved Fund	-235	571	1,423	2,497	3,826	5,250	5,250

Profit and Loss Statement (Case A-3)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		3,694	3,927	4,162	4,435	4,719	20,937
b. Cost							
b.1 Expenditure	235.09	2,888	3,075	3,087	3,106	3,295	15,687
b.2 Depreciation		5,233	5,343	5,343	5,343	5,453	26,716
Cost Total	235	8,121	8,418	8,430	8,450	8,748	42,403
c. Profit and Loss	-235	-4,427	-4,491	-4,269	-4,014	-4,029	-21,465

Cash Flow (Case B-1)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Finance							
Grant	42,316						42,316
Loan	4,702	853	0	67	853	0	6,475
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		2,333	2,488	2,653	2,828	3,014	13,317
Total		4,737	5,086	5,445	5,854	6,283	27,405
Cash-in	47,018	5,590	5,086	5,512	6,707	6,283	76,196
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	24	51	56	56	60	65	311
Fee-collection		65	72	80	89	98	405
Total	24	2,465	2,652	2,664	2,683	2,872	13,336
Cash-out	47,042	3,318	2,652	2,731	3,536	2,872	15,109
c. Reserved Fund	-24	2,249	4,683	7,464	10,635	14,045	14,045

Profit and Loss Statement (Case B-1)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		4,737	5,086	5,445	5,854	6,283	27,405
b. Cost							
b.1 Expenditure	24	2,465	2,652	2,664	2,683	2,872	13,360
b.2 Depreciation		523	633	633	633	743	3,165
Cost Total	24	2,988	3,285	3,297	3,316	3,615	16,525
c. Profit and Loss	-24	1,749	1,801	2,148	2,538	2,668	10,880

Cash Flow (Case B-2)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a.1 Finance							
Grant	42,316						42,316
Loan	4,702	853	0	67	853	0	6,475
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		1,885	1,980	2,079	2,183	2,292	10,418
Total		4,290	4,577	4,871	5,208	5,560	24,506
Cash-in	47,018	5,143	4,577	4,938	6,061	5,560	73,297
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	24	51	56	56	60	65	311
Fee-collection		65	72	80	89	98	405
Total	23,509	2,465	2,652	2,664	2,683	2,872	13,336
Cash-out	47,042	3,318	2,652	2,731	3,536	2,872	62,151
c. Reserved Fund	-24	1,801	3,726	5,933	8,458	11,147	11,147

Profit and Loss Statement (Case B-2)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		4,290	4,577	4,871	5,208	5,560	24,506
b. Cost							
b.1 Expenditure	23,509	2,465	2,652	2,664	2,683	2,872	13,360
b.2 Depreciation		523	633	633	633	743	3,165
Cost Total	24	2,988	3,285	3,297	3,316	3,615	16,525
c. Profit and Loss	-24	1,302	1,292	1,574	1,892	1,946	7,982

Cash Flow (Case B-3)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a.1 Finance							
Grant	42,316						42,316
Loan	4,702	853	0	67	853	0	6,475
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		1,290	1,330	1,369	1,410	1,450	6,849
Total		3,694	3,927	4,162	4,435	4,719	20,937
Cash-in	47,018	4,547	3,927	4,229	5,288	4,719	69,728
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	24	51	56	56	60	65	311
Fee-collection		65	72	80	89	98	405
Total	24	2,465	2,652	2,664	2,683	2,872	13,360
Cash-out	47,042	3,318	2,652	2,731	3,536	2,872	62,151
c. Reserved Fund	-24	1,206	2,481	3,978	5,730	7,578	7,578

Profit and Loss Statement (Case B-3)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		3,694	3,927	4,162	4,435	4,719	20,937
b. Cost							
b.1 Expenditure	24	2,465	2,652	2,664	2,683	2,872	13,360
b.2 Depreciation		523	633	633	633	743	3,165
Cost Total	24	2,988	3,285	3,297	3,316	3,615	16,525
c. Profit and Loss	-24	706	642	864	1,119	1,104	4,412

Cash Flow (Case C-1)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2001-2005
a.1 Finance							
Grant	47,018						47,018
Loan	0	853	0	67	853	0	1,773
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		2,333	2,488	2,653	2,828	3,014	13,317
Total		4,737	5,086	5,445	5,854	6,283	27,405
Cash-in	47,018	5,590	5,086	5,512	6,707	6,283	76,196
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest		4	9	9	13	18	53
Fee-collection		65	72	80	89	98	405
Total		2,418	2,605	2,617	2,636	2,825	13,101
Cash-out	47,018	3,271	2,605	2,684	3,489	2,825	61,892
c. Reserved Fund	0	2,320	4,800	7,629	10,846	14,304	14,304

Profit and Loss Statement (Case C-1)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2001-2005
a. Revenue		4,737	5,086	5,445	5,854	6,283	27,405
b. Cost							
b.1 Expenditure		2,418	2,605	2,617	2,636	2,825	13,101
b.2 Depreciation	0	0	110	110	110	219	548
Cost Total		2,418	2,715	2,727	2,746	3,044	13,649
c. Profit and Loss		2,320	2,371	2,719	3,108	3,238	13,756

Cash Flow (Case C-2)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a.1 Finance							
Grant	47,018						47,018
Loan	0	853	0	67	853	0	1,773
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		1,885	1,980	2,079	2,183	2,292	10,418
Total		4,290	4,577	4,871	5,208	5,560	24,506
Cash-in	47,018	5,143	4,577	4,938	6,061	5,560	73,297
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	0	4	9	9	13	18	53
Fee-collection		65	72	80	89	98	405
Total	0	2,418	2,605	2,617	2,636	2,825	13,101
Cash-out	47,018	3,271	2,605	2,684	3,489	2,825	61,892
c. Reserved Fund	0	1,872	3,844	6,098	8,670	11,405	11,405

Profit and Loss Statement (Case C-2)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		4,290	4,577	4,871	5,208	5,560	24,506
b. Cost							
b.1 Expenditure	0	2,418	2,605	2,617	2,636	2,825	13,101
b.2 Depreciation		0	110	110	110	219	549
Cost Total	0	2,418	2,715	2,727	2,746	3,044	13,650
c. Profit and Loss	0	1,872	1,862	2,144	2,462	2,516	10,856

Cash Flow (Case C-3)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a.1 Finance							
Grant	47,018						47,018
Loan	0	853	0	67	853	0	1,773
Total	47,018	853	0	67	853	0	48,791
a.2 Revenue							
Collection & disposal		2,210	2,403	2,598	2,822	3,065	13,098
Residents		1,309	1,449	1,604	1,776	1,966	8,103
Commercial etc		901	954	994	1,047	1,100	4,995
Self-transfer		194	194	194	203	203	989
GM Budget Allocation		1,290	1,330	1,369	1,410	1,450	6,849
Total		3,694	3,927	4,162	4,435	4,719	20,937
Cash-In	47,018	4,547	3,927	4,229	5,288	4,719	69,728
b.1 Investment	47,018	853	0	67	853	0	48,791
b.2 Expenditure							
O/M Cost		2,348	2,524	2,528	2,534	2,709	12,643
Interest	0	4	9	9	13	18	53
Fee-collection		65	72	80	89	98	405
Total	0	2,418	2,605	2,617	2,636	2,825	13,101
Cash-out	47,018	3,271	2,605	2,684	3,489	2,825	61,892
c. Reserved Fund	0	1,277	2,598	4,143	5,942	7,836	7,836

Profit and Loss Statement (Case C-3)

Unit: C\$ 1,000

	2000	2001	2002	2003	2004	2005	Total 2000-2005
a. Revenue		3,694	3,927	4,162	4,435	4,719	20,937
b. Cost							
b.1 Expenditure	0	2,418	2,605	2,617	2,636	2,825	13,101
b.2 Depreciation		0	110	110	110	219	548
Cost Total	0	2,418	2,715	2,727	2,746	3,044	13,649
c. Profit and Loss	0	1,277	1,212	1,435	1,689	1,675	7,288