# Annex 8

*Preliminary Design of Sofulu Site Development*

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# 8 Preliminary Design of Sofulu Site Development

## 8.1 Outline of the Priority Projects

### 8.1.1 Selection of the Priority Projects

#### a. Selection of the Priority Projects

Following to the selection of the best scenario made by Adana GM, the priority projects were decided and agreed by the Turkish counterpart and the team as described below.

- Introduction of a separate collection system
- Construction of a sorting plant
- Construction of a compost plant
- Construction of Sofulu MSW disposal site
- Construction of Sofulu medical waste disposal site

#### b. Targets of the Priority Projects

The priority projects aim to conduct Phase 1 (2000 - 2005) improvement of the SWM M/P. The targets between 2000 and 2005 are summarised in the table below.

Table 8-1: The Targets of the Priority Projects for Adana GM (2002-2005)

| Components \ Phase | 1999 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|
| **1. MSW Generation** | | | | | |
| Population in Adana GM | **1,196,620** | **1,335,987** | **1,383,347** | **1,431,174** | **1,479,477** |
| Seyhan DM | 859,170 | 977,882 | 1,018,080 | 1,058,602 | 1,099,454 |
| Yuregir DM | 337,450 | 358,105 | 365,267 | 372,572 | 380,023 |
| MSW Amount (ton/year) | | | | | |
| Generation | 304,410 | 366,460 | 388,725 | 412,450 | 438,000 |
| Discharge | 293,095 | 355,145 | 377,410 | 401,135 | 426,685 |
| Collection | 284,700 | 348,992 | 372,005 | 396,477 | 422,774 |
| **2. Separate Collection** | | | | | |
| Separate collection rate to refuse collection (%) | 0 | 30 | 30 | 30 | 30 % |
| Separately collected amount (ton/year) | 0 | 104,697 | 111,602 | 118,943 | 126,832 |
| **3. Sorting plant** | | | | | |
| Treated amount (ton/year) | 0 | 39,785 | 44,641 | 48,766 | 54,538 |
| Recovered amount (ton/year) | 0 | 9,548 | 10,714 | 11,704 | 13,089 |
| Residue amount (ton/year) | 0 | 30,237 | 33,927 | 37,062 | 41,449 |
| **4. Compost plant** | | | | | |
| Treated amount (ton/year) | 0 | 64,912 | 66,961 | 70,176 | 72,294 |
| Compost amount (ton/year) | 0 | 11,684 | 12,053 | 12,632 | 13,013 |
| Residue amount (ton/year) | 0 | 2,597 | 2,678 | 2,806 | 2,892 |
| **5. MSW Final Disposal** | | | | | |
| Disposal amount (ton/year) | 290,540 | 286,984 | 307,593 | 328,717 | 352,693 |
| Landfill volume ($m^3$/year) | 435,810 | 430,476 | 461,390 | 493,076 | 529,040 |
| **6. Medical Waste Final Disposal** | | | | | |
| Disposal amount (ton/year) | 1,606 | 1,898 | 2,008 | 2,117 | 2,263 |
| Landfill volume ($m^3$/year) | 4.130 | 4,881 | 5,163 | 5,444 | 5,819 |

### 8.1.2 Sofulu Site Development Plan

#### a. Fundamental Issues

The most important issue on the planning the site development is the fact that this site is still currently in use as the final disposal site. There is also a need to consider the rehabilitation of the site (partly conducted by the pilot project) of which part was used as an open dumpsite. Although the Adana City Development Master Plan (City M/P) is being reviewed, the plan defined the site as a residential area. Further, the overall site development plan should fully consider the speed in which surrounding areas are undergoing urbanisation.

#### b. Overall Site Development Plan

An overall site development plan is presented in the figure below. The plan is summarised as follows:

- A 50m wide buffer zone (trees, plants) will be constructed along the ridge of the current disposal site catchment area to isolate the disposal site from the surrounding residents and thereby ease resident opposition to the operation of the site.
- Landfill operation will be carried out at the catchment area (77 ha), i.e., the interior of the buffer zone. The compost and sorting plant will be also constructed inside the buffer zone.
- Because the target site slopes from north to south, the leachate treatment facility will be constructed at the southernmost end.
- The sorting and compost plant will be constructed on the uppermost section upstream where the land slopes gently, in consideration of the plant space required and wastewater treatment which will be introduced to the leachate drain.

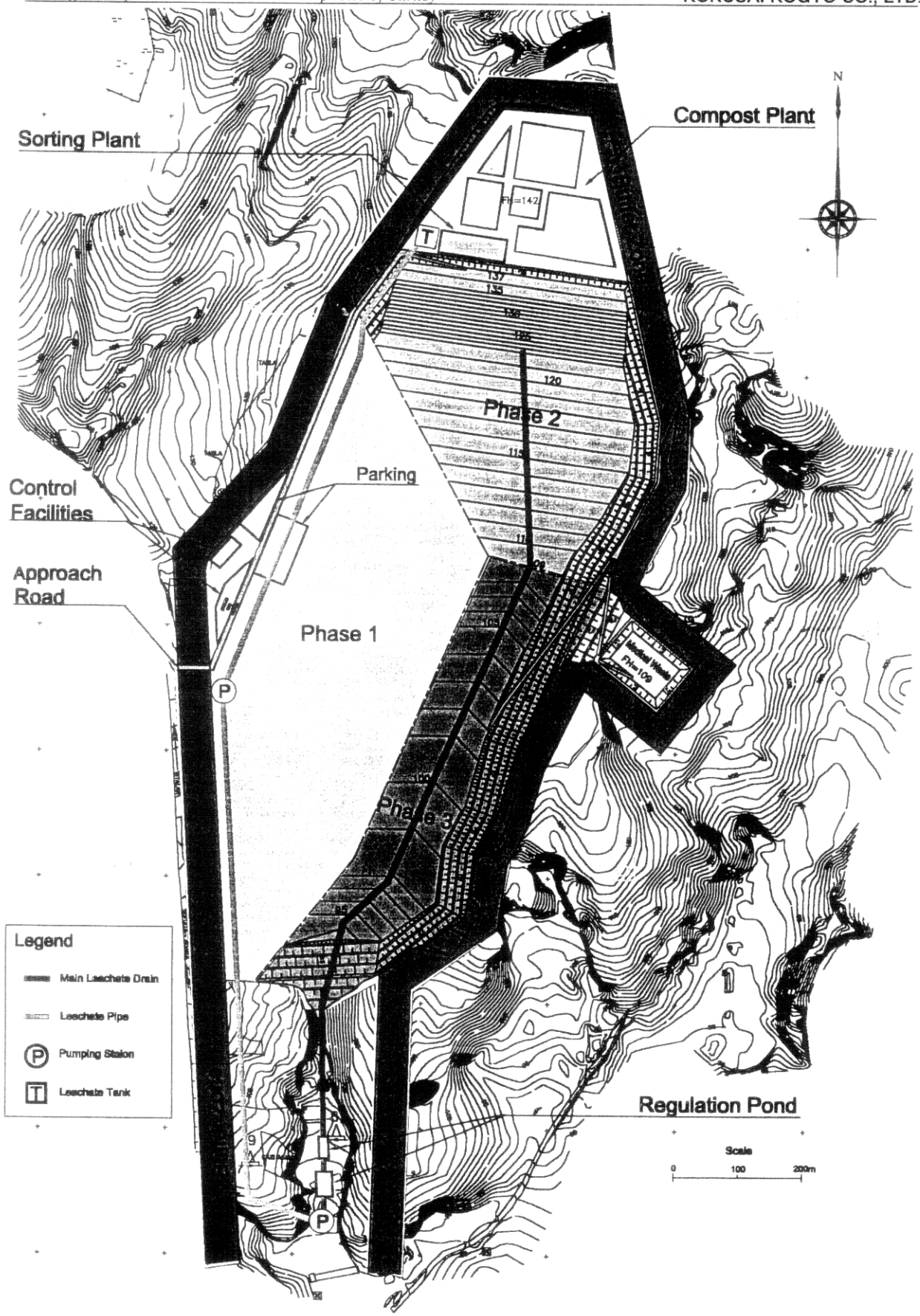


Figure 8-1: Overall Sofulu Site Development Plan