

SECTION 3
METROPOLITAN MEXICO CITY WATER SUPPLY SYSTEM

In this section, relevant information about the water systems of Metropolitan Mexico City is presented. The water distribution and waste water systems controlled by the Federal District as well as those controlled by the State of Mexico are described.

Mexico City, the largest city in the world, was founded by the Aztecs in 1325 in a close watershed known as the Valley of Mexico. Since the foundation of the city, then known as the Great Tenochtitlan the characteristics of the valley caused water related problems to inhabitants. Complicated water supply and sewage systems were constructed to overcome these problems.

Metropolitan Mexico City presently covers an approximate surface area of 1500 km² with a population that exceeds 18 million people [4]. The city is administratively divided in two parts. The larger part is located in the Federal District (D.F.) while the remaining part is located in the neighboring State of Mexico (E. de M). The D.F. is provided with a flow of 62m³ /sec and the metropolitan areas of the E. de M. with a somewhat smaller flow.

3.1 Federal District

The supply sources and the percentage of the total supply for the Federal District are given below:

Springs and Wells (D.F. and C.A.V.M.)	71.0%
Lerma System (D.F.)	14.5%
Cutzamala System	9.7%
Recycled Sewer Water	3.2%
Retained Rainfall	1.6%

The Ministry of Agriculture and Water Resources (SARH) through its Water Commission for the State of Mexico (CAVM), provides 20 m³/sec of the total flow of 62 m³/sec into the D.F.

A map showing the supply sources is presented in figure 3-1. The Federal

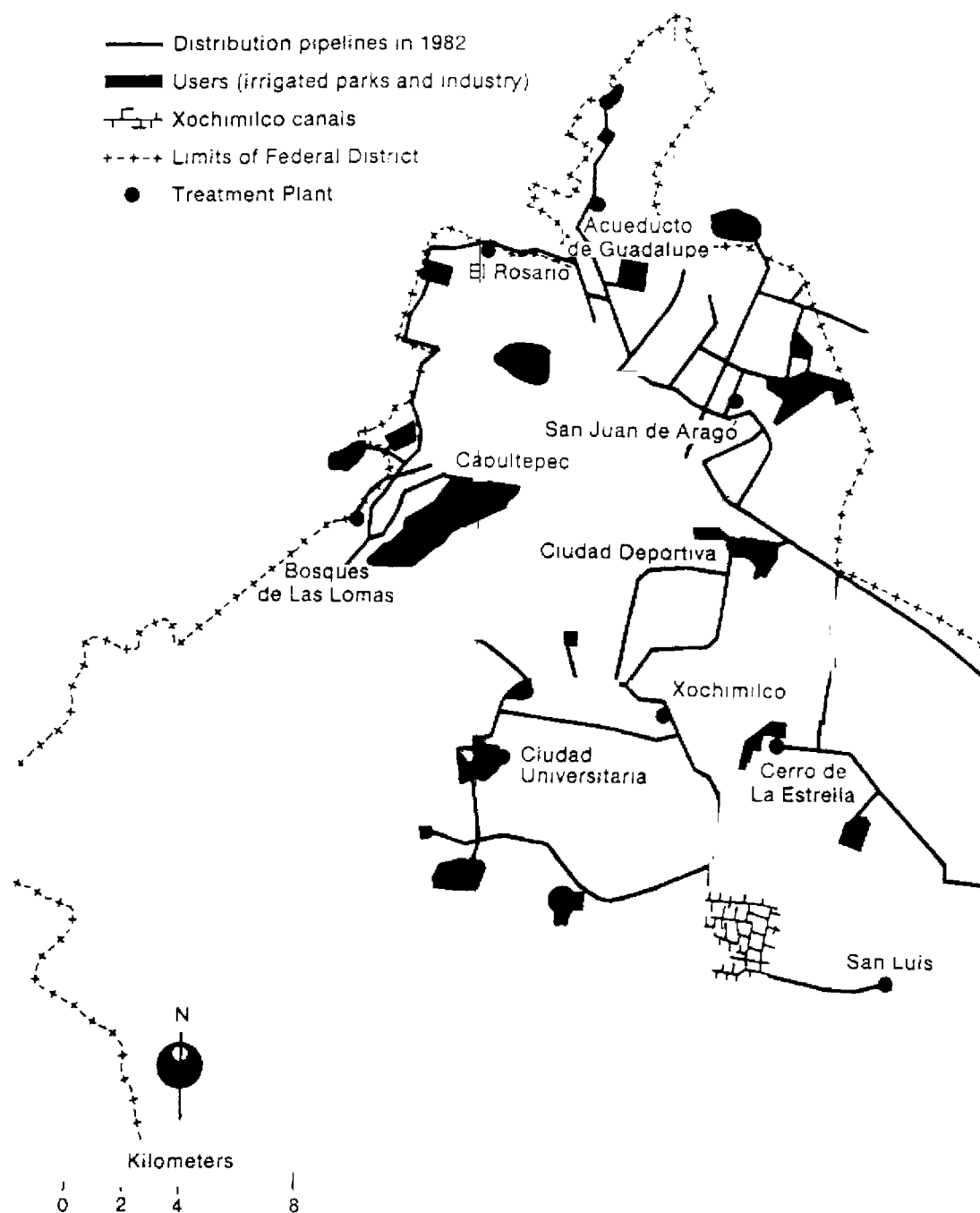


FIGURE 3-2 Recycled Waste Water Distribution Network

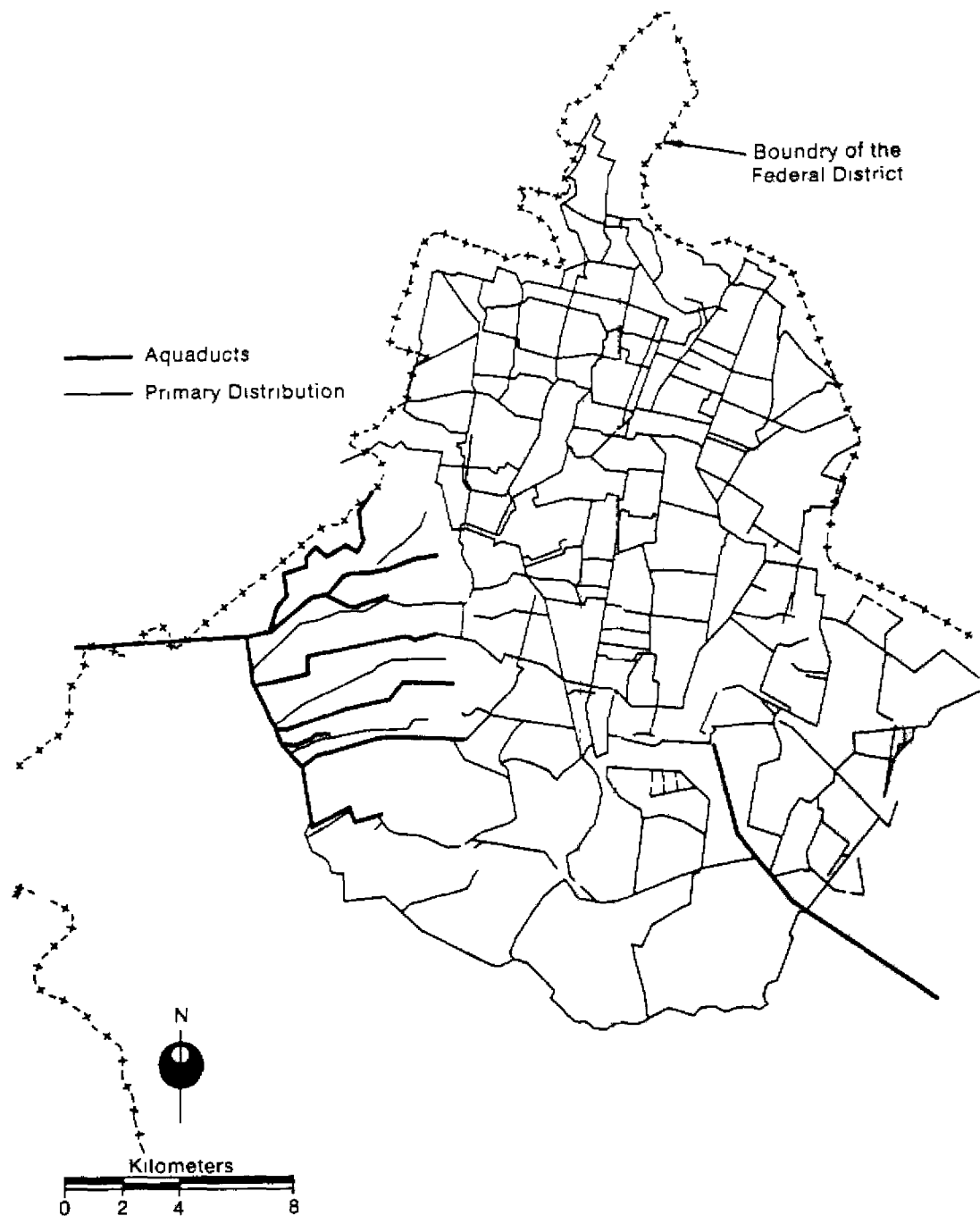


FIGURE 3-3 Aqueducts And Primary Distribution Lines Controlled By The Federal District

distributed in the northern (urbanized) portion of the D.F. The main lines of the collector system discharge into three large lines; the Gran Canal which is open, and two large tunnels at depth (200" to 250" diameter) known as 'Emisor Oriente' and 'Emisor Central' respectively.

3.2 State of Mexico

Regarding the parts of metropolitan area located in the State of Mexico, extensive damage to the water distribution system occurred at two different location known as 'Ciudad Nezahualcoyotl' and 'Municipio de Ecatepec'. These systems were built during the 1970's with well constructed asbestos cement pipes.

Figure 3-4 shows the water system of 'Ciudad Nezahualcoyotl'. The total length of the system is approximately 900 km. The distribution network is supplied by 25 deep wells pumping into the system. A main aqueduct, discussed in Section 7, comes from the 'Caldera' tank. This 9 km long main aqueduct is a 42" ϕ welded steel pipeline.

The water distribution network for the Municipio de Ecatepec is approximately 300 km long and is shown in figure 3-5. Except for the absence of the welded steel aqueduct, its characteristics are similar to those in Ciudad Nezahualcoyotl.

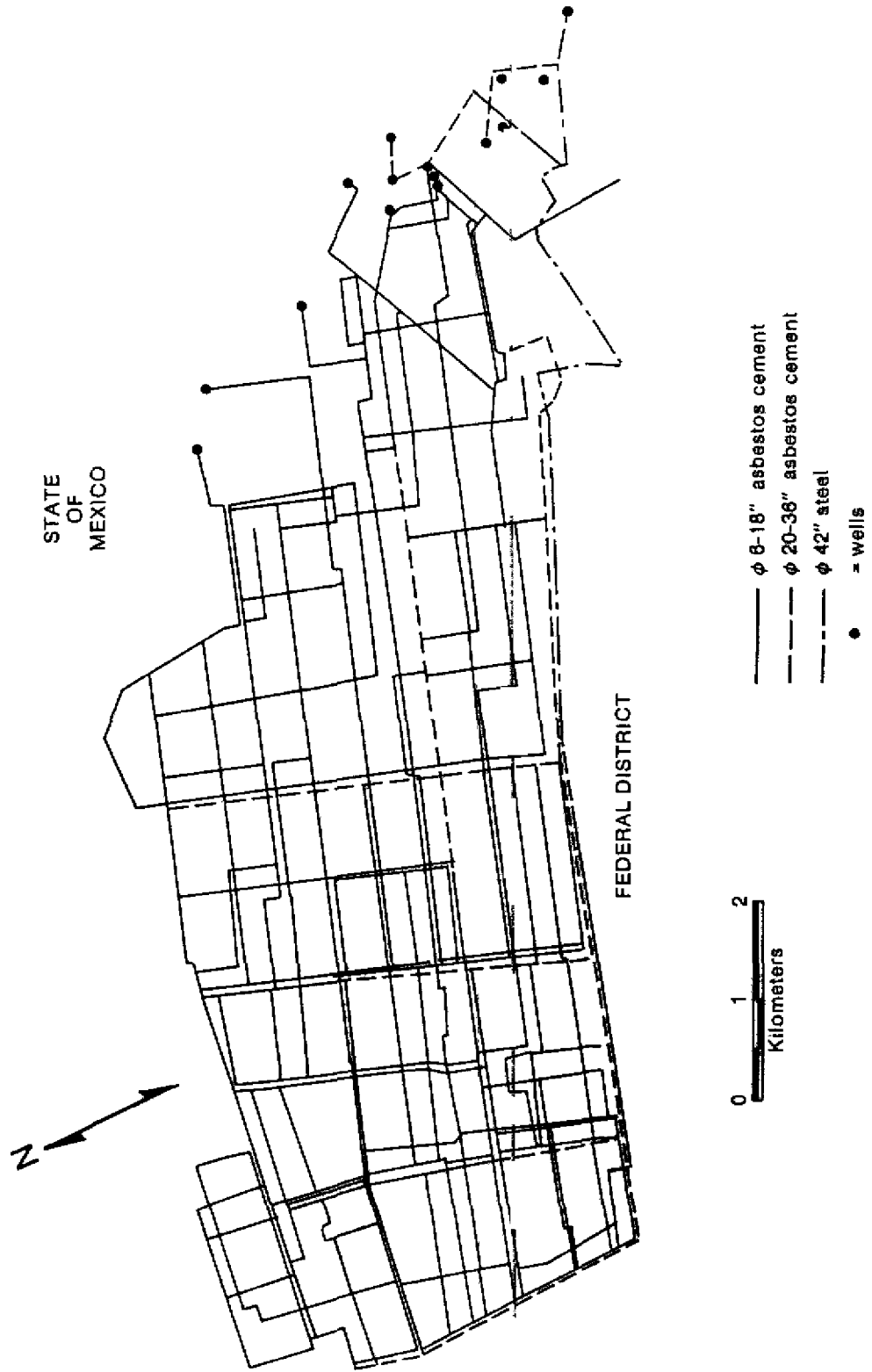


FIGURE 3-4 Water Distribution System In Ciudad Nezahualcoyotl (E.de.M.)

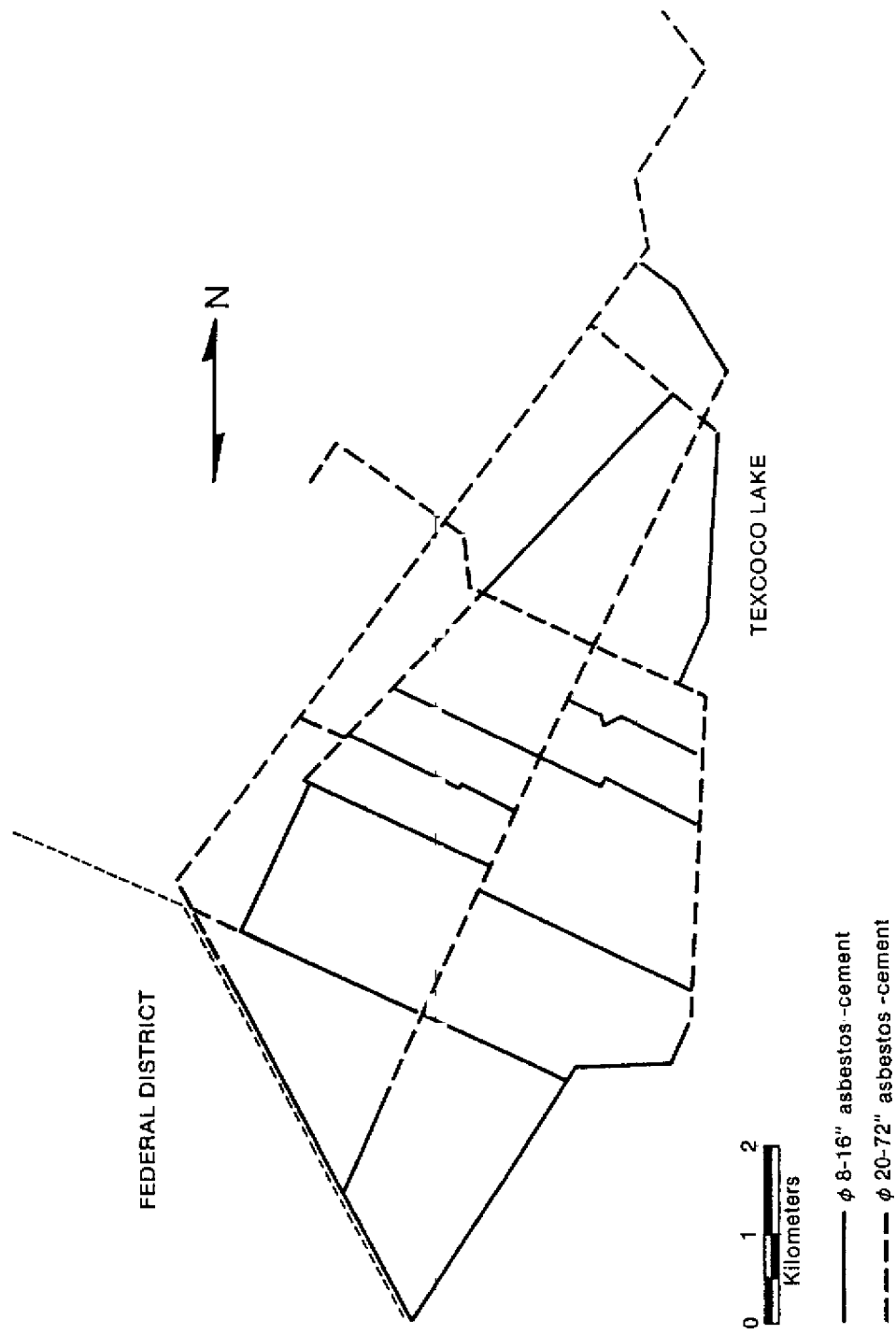


FIGURE 3-5 Water Distribution System In Municipio De Ecatepec (E.de.M.)