

**Council Grove
City Lake**

Association

P.O. Box 13, Council Grove, Kansas 67845

www.councilgrove.org



Waste Water Collection and Treatment Solutions Presentation to Council Grove Lake Association Board of Directors

May 23, 2009

Enviro-Line Company
Mark Mayer & Rick Owens



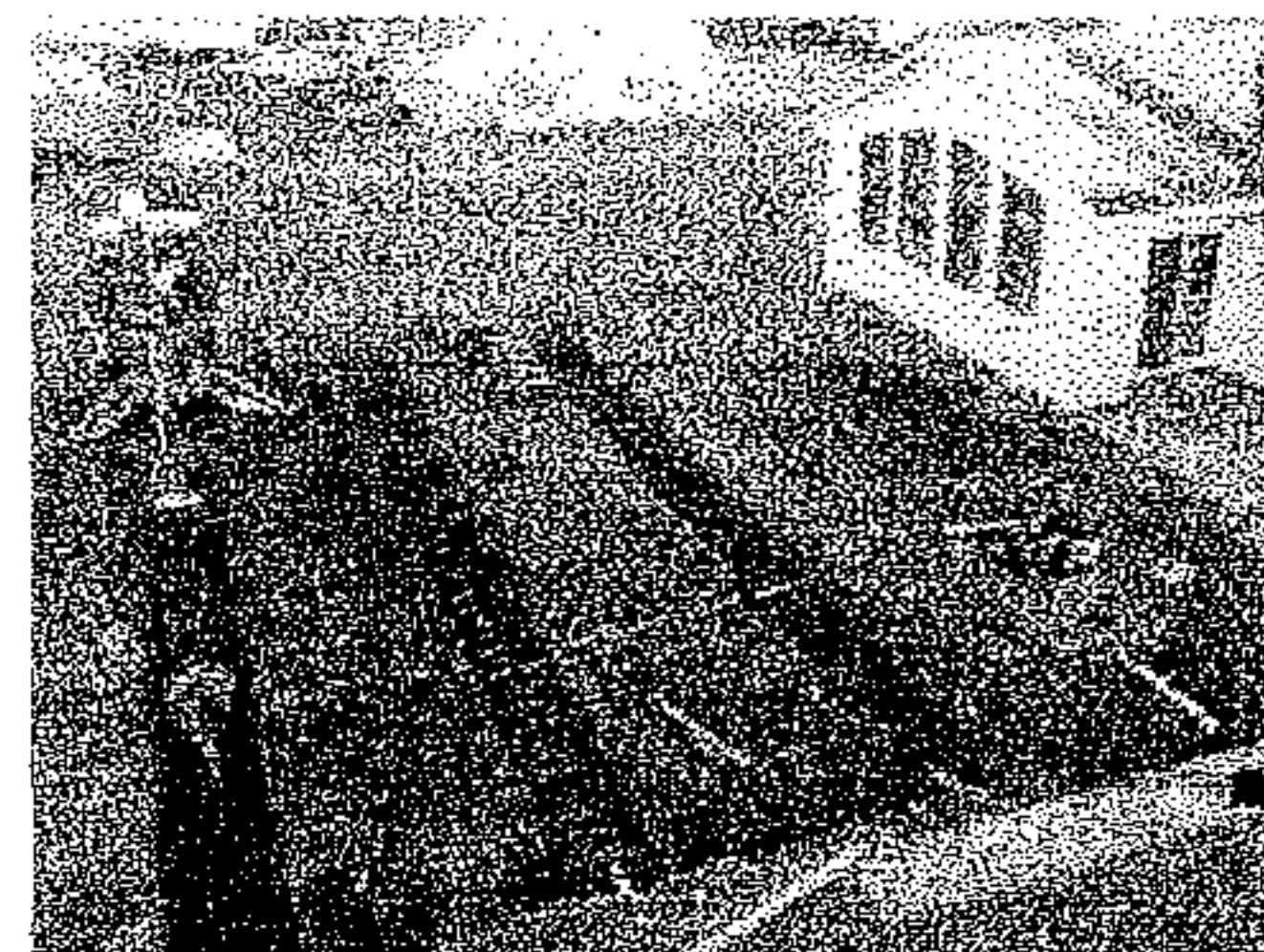
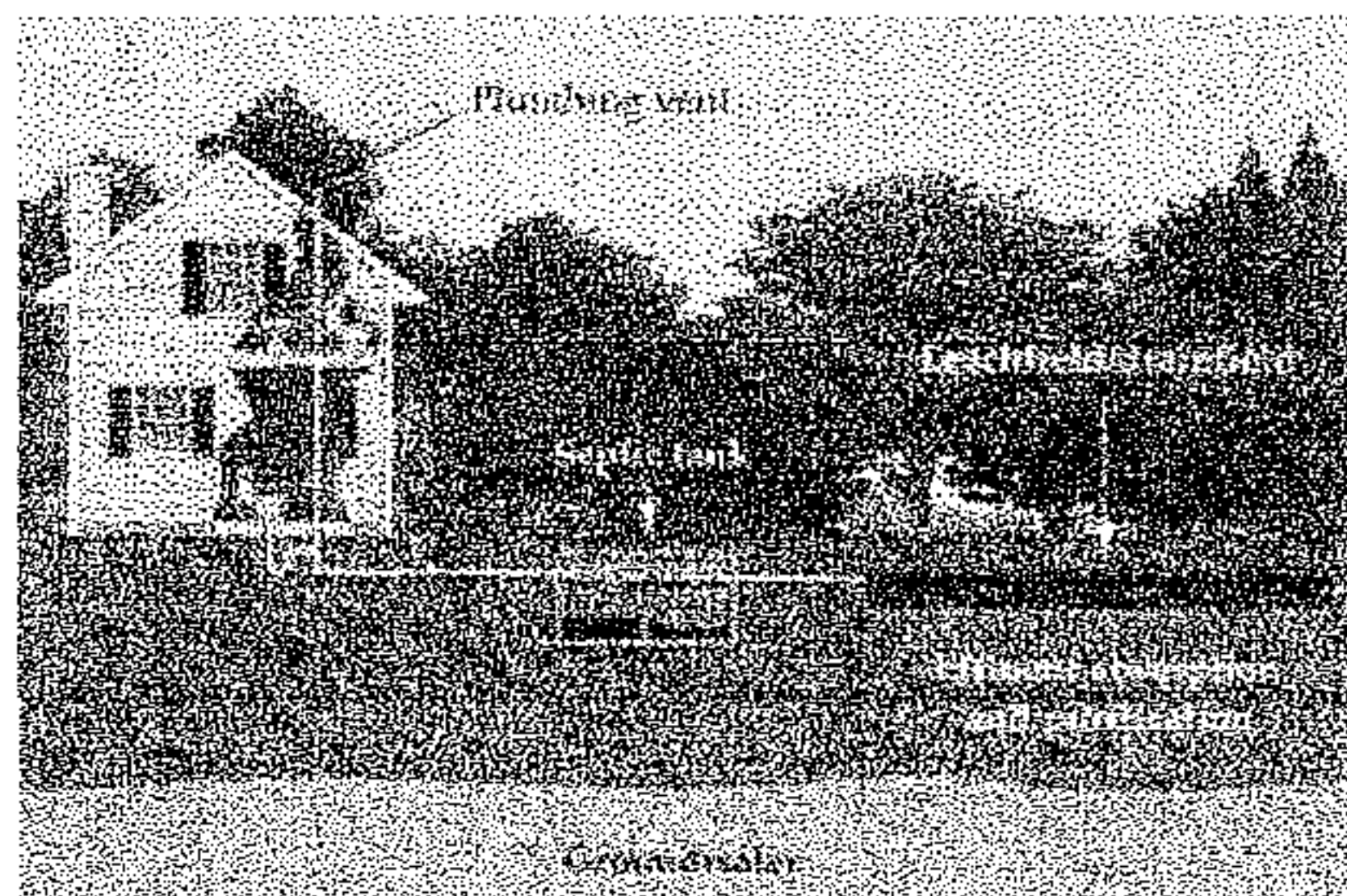
EnviroLine co., inc.

Introduction to Sewage Treatment Options and technologies

- Single Family Home Treatment System
 - Two Options
- Multiple Family Cluster Treatment System
 - Two Options
- Low Pressure Pumped Sewer System
 - Two Options

Single Family Home On Site System Option 1

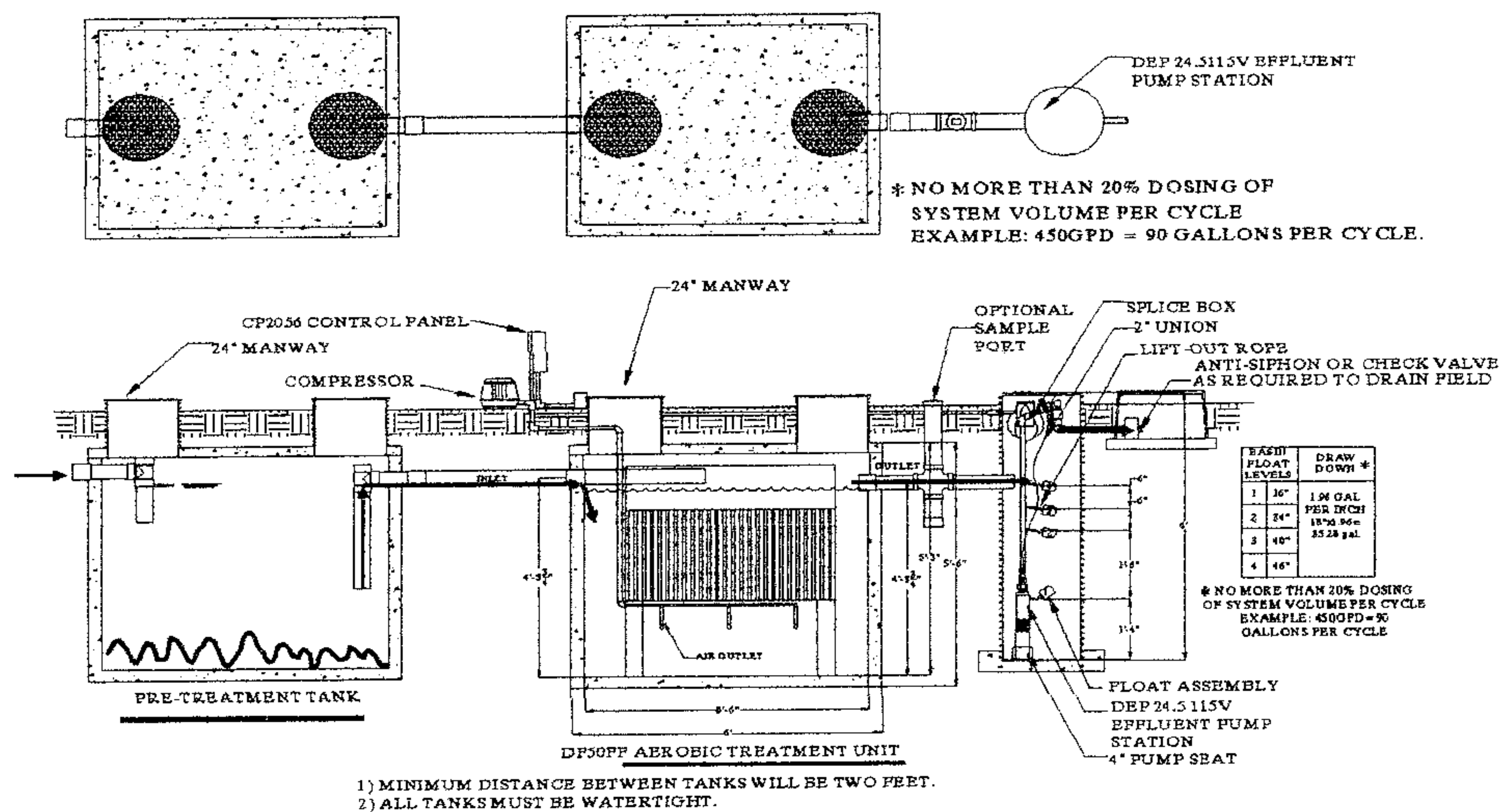
- Septic Tank Treatment Tank
- Disposal of water in “lateral field”



Single Family Home On Site System Option 2

- Pretreatment Tank (septic tank)
- Treatment Tank (Advanced Treatment Unit)
- Effluent Pumping System
 - aka -- Dosing Tank
- Disposal of water in "lateral field"

Single Family Home On Site System – Option 2



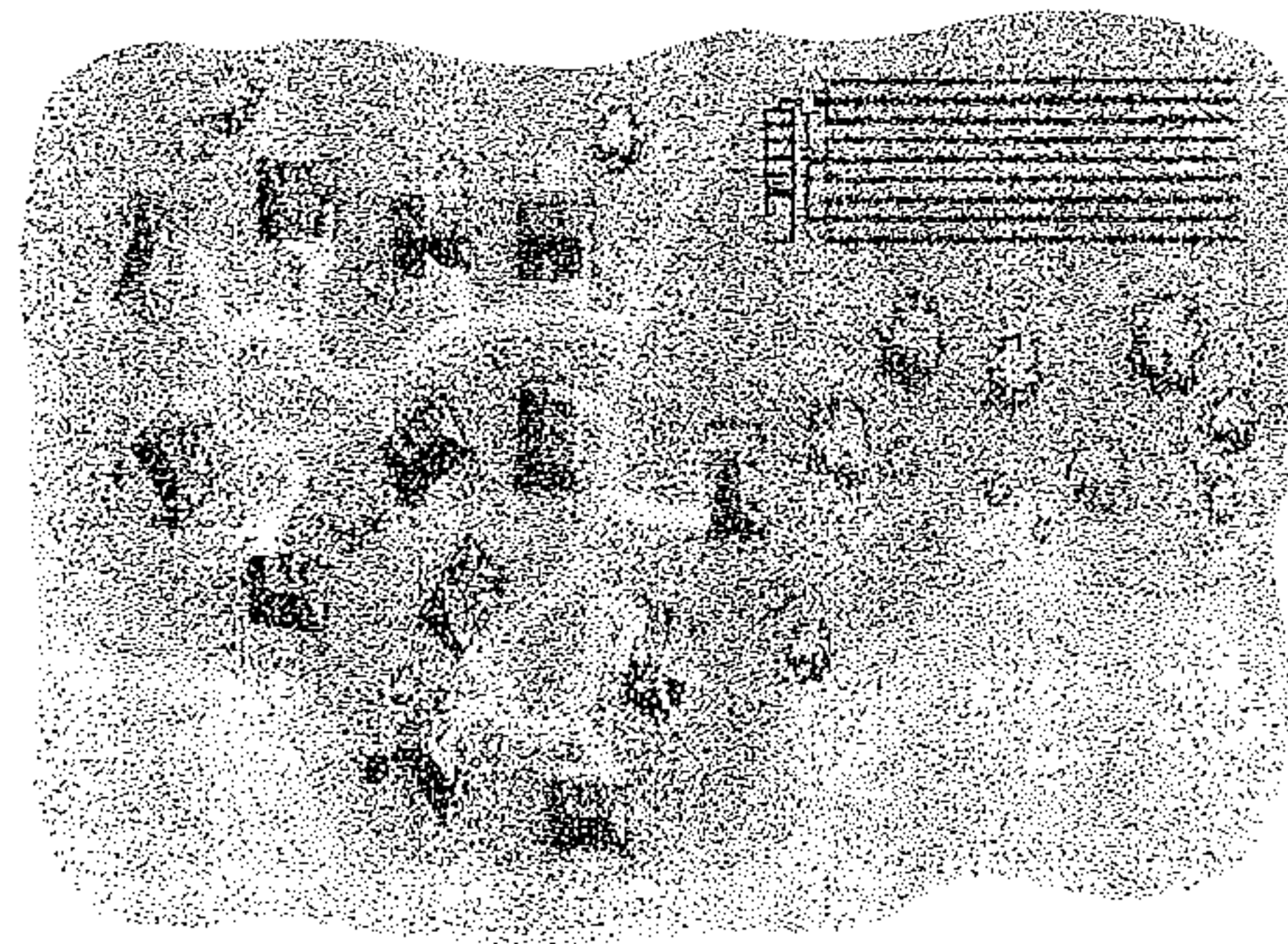
Multiple Family Cluster System Option 1

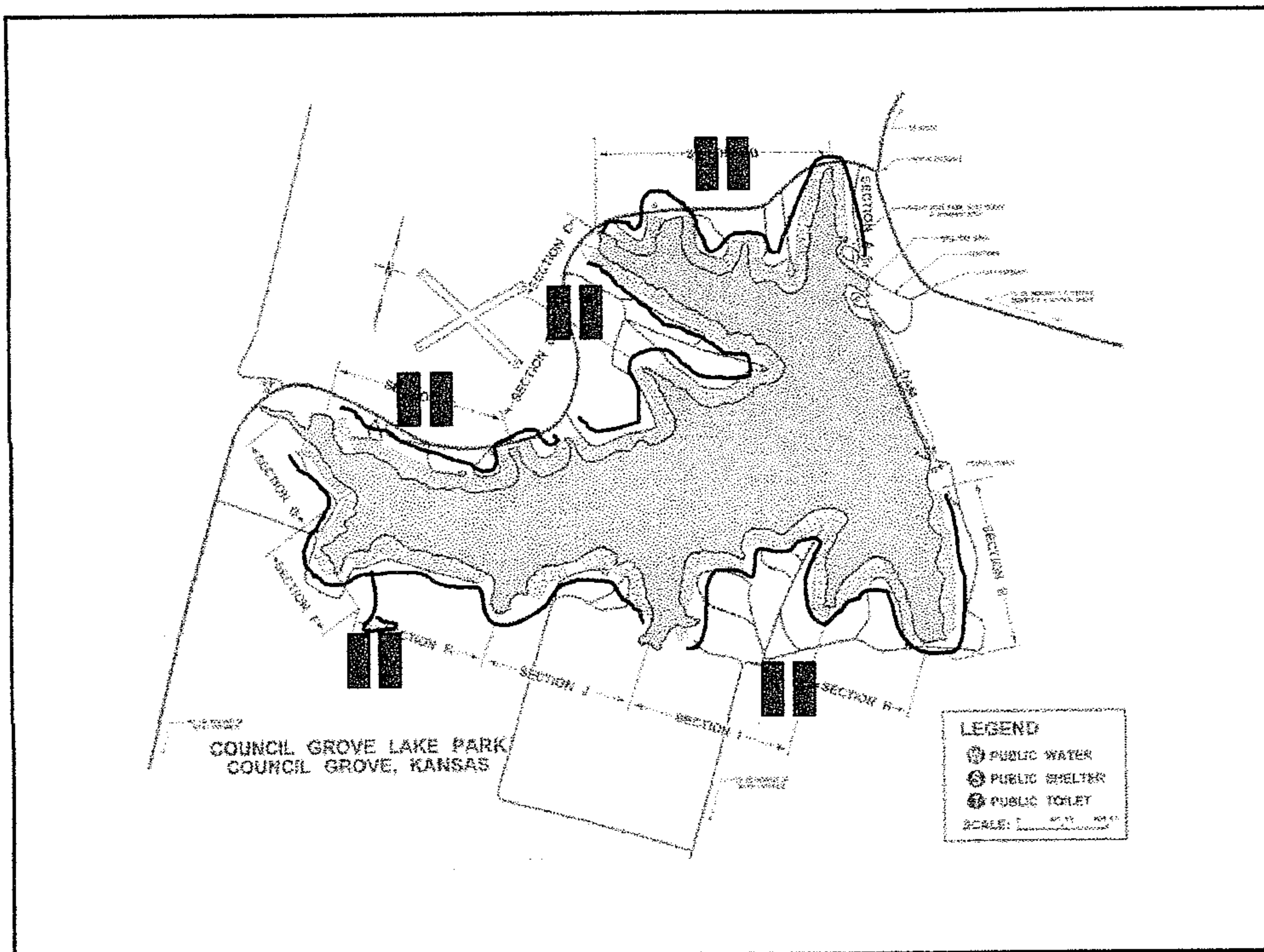
- Located At Each Home
 - Septic Tank Effluent Pump (STEP) Tank

- Located at a Central Location for Treatment
 - Primary Treatment tank
 - Larger Advanced Treatment Unit
 - Effluent Distribution

Distribution absorption laterals

- Larger version of traditional on-site drain field
- Need location for soil absorption - Perc Test
- Property requirements
 - Large lot
 - Relatively level
 - Well-drained
 - Deep, moderately permeable soil



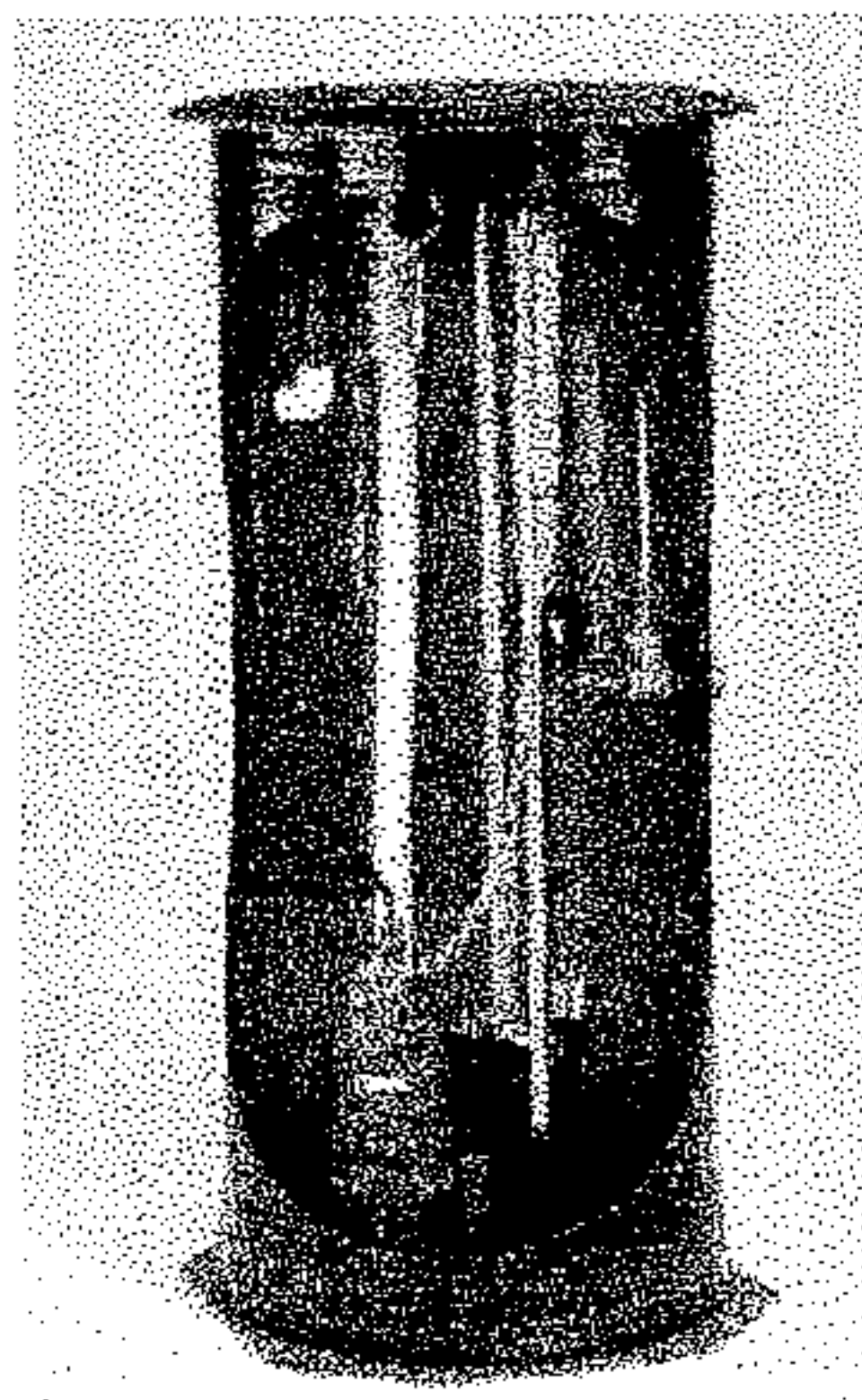


Cluster Sizing

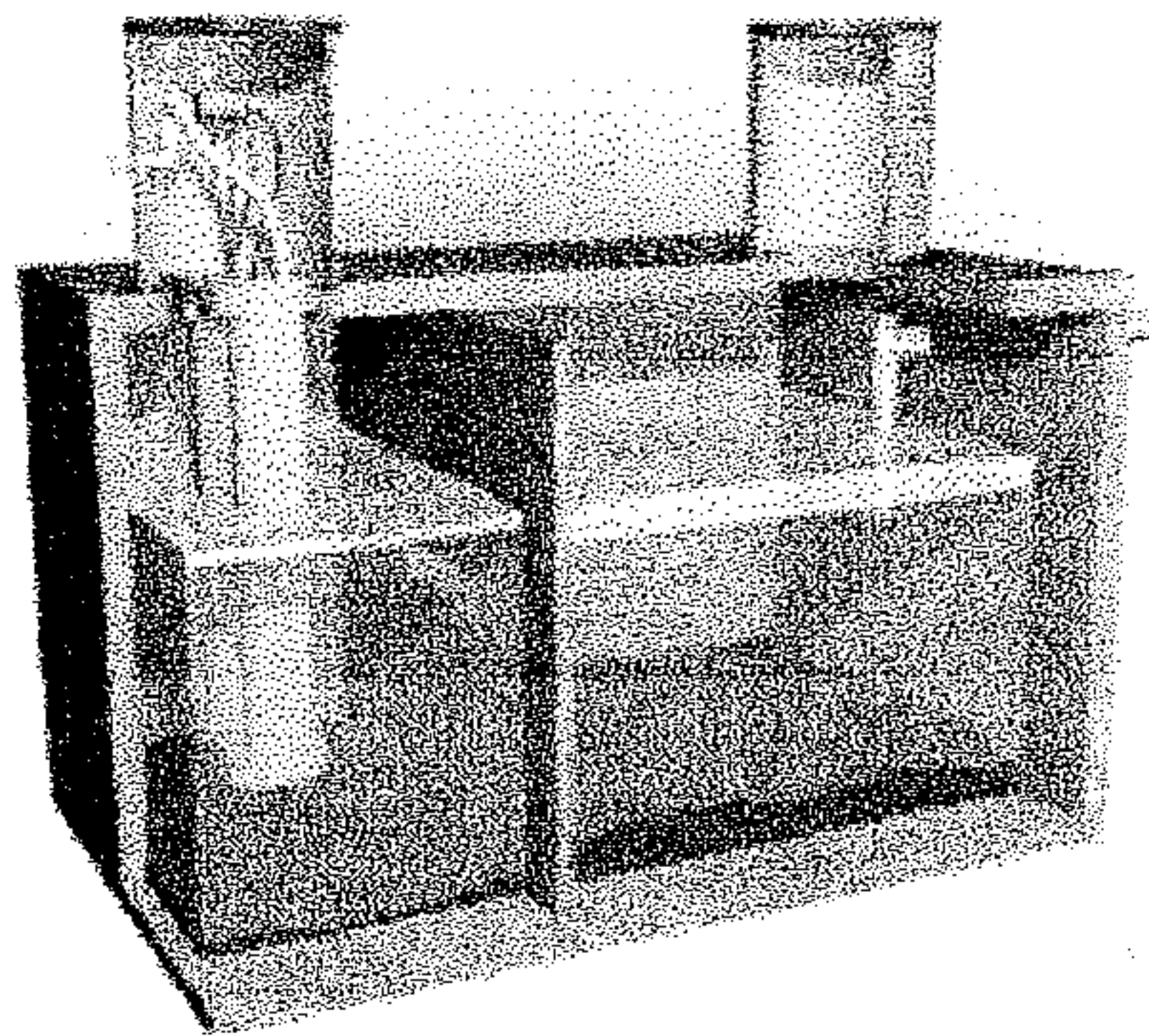
- Each Unit is 9,000 gpd treatment capacity
- Each Home – 250 gpd/home
- Each Cluster Unit – 36 homes

- 350 homes on lake – 10 units required

Cluster System from Home



Grinder Pump System



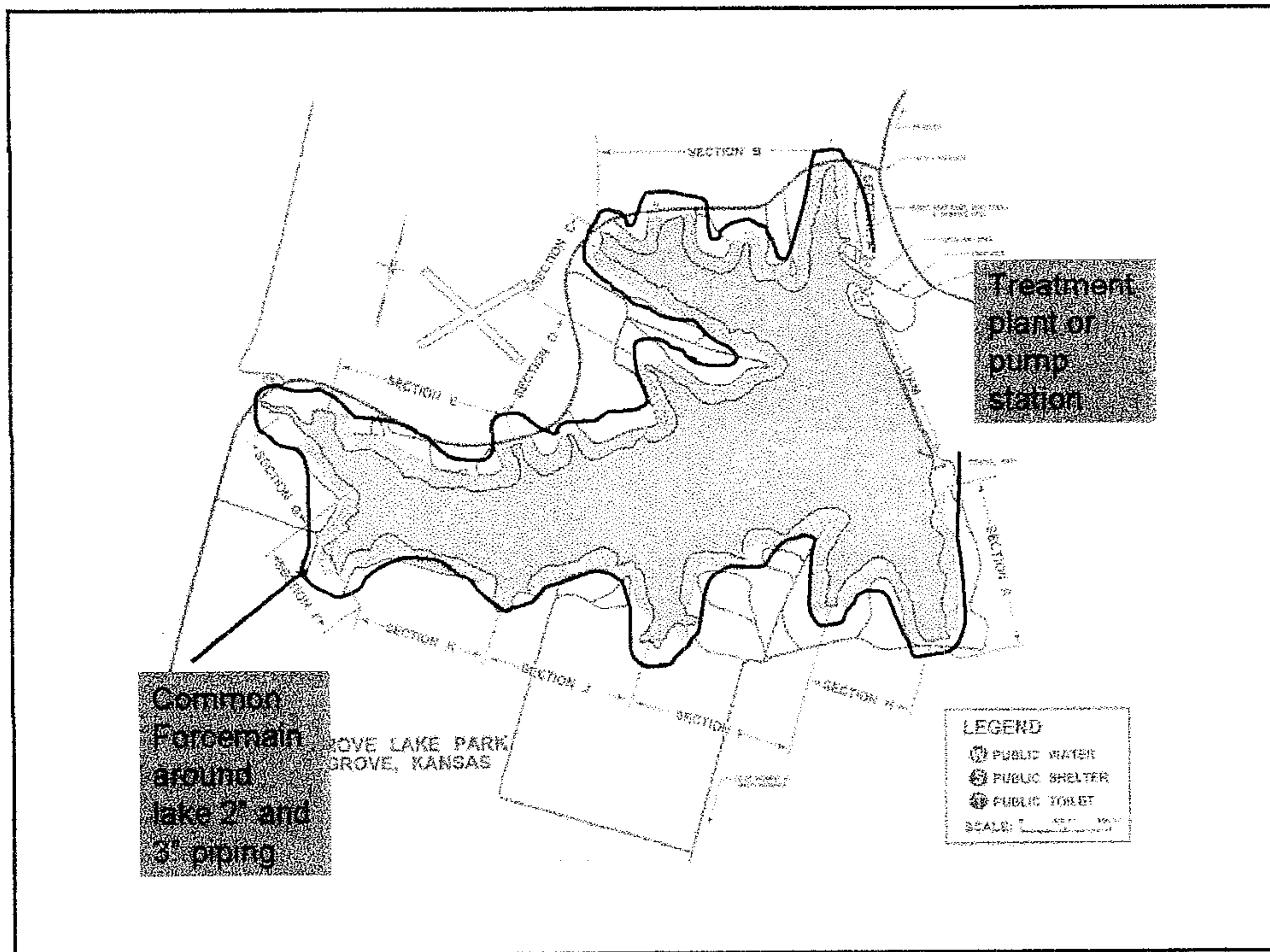
Septic Tank Effluent Pump System

Determine Where You Want to Have Solids Remain –

If new septic tank - then STEP – If not then Grinder Pump

Low Pressure Sewer (LPS) System

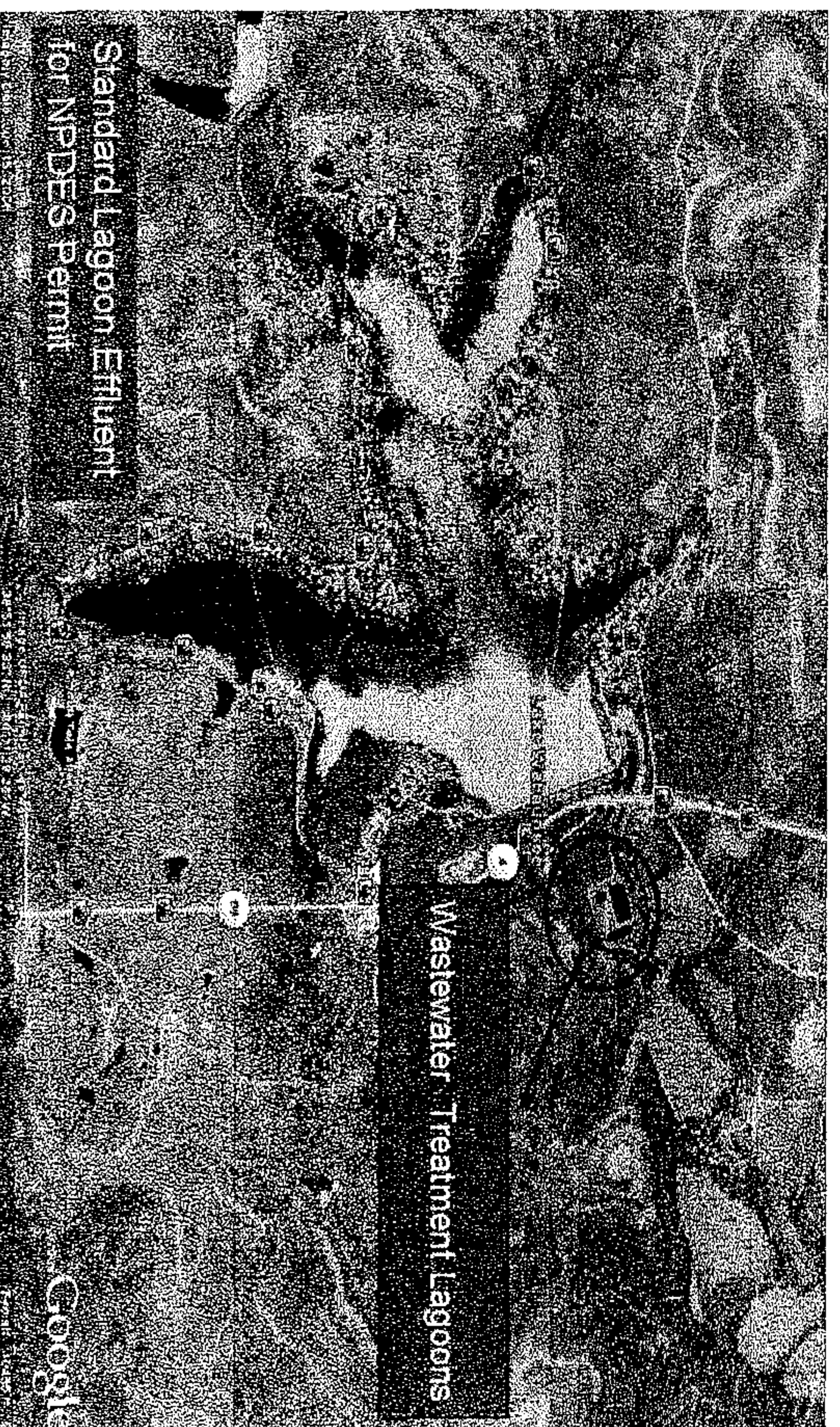
- Grinder Pump Station Located Outside the Home
- Force Main Installed Adjacent The Parameter Lake Road
- Waste pumped to treatment plant or lagoon



Council Grove City Lake and Council Grove WWTP Lagoons



Low Pressure Sewer (LPS) System with lagoon downstream of dam



Mechanical Treatment Plant Option



Permit to include Total Nitrogen and Phosphorus for NPDES discharge

