SECTION 3

EXISTING FACILITIES

West Water Pollution Control Plant

This facility is a 0.78 MGD activated sludge plant. Plant operation is described as follows:

Wastewater enters the facility via gravity flow directly into the automatic bar screen which is immediately followed by a vortex grit chamber. These pretreatment processes remove rags, sticks, grit, and other materials that could damage equipment or otherwise hinder plant operation. There is a manual bar screen available for use if the automatic bar screen is removed from service for maintenance.

After pretreatment, the influent is mixed with return sludge and lime as it flows to the first two aeration basins where air is used to promote the growth of microorganisms and the biological removal of pollutants. The lime is used to raise the pH to between 7.2 and 7.6 to maintain an environment that will promote the removal of ammonia nitrogen. After leaving the first two aeration basins, mixed liquor flows into a large lift station where it is pumped to the third aeration basin for similar treatment.

Mixed liquor then flows into the final clarifiers where floatable and settleable materials are removed. Sludge (the settleable material) is stored and thickened in the final clarifiers and either returned to the aeration basins or wasted to the digestors. The quantities of returned and wasted sludge are used to control population of microorganisms in the aeration basins. All scum (the floatable material) flows directly to the digestors.

Clarifier effluent flows to the chlorine contact chambers where it is disinfected. A reuse water system draws from these tanks for use within the plant. Flow measurement occurs directly at the end of both contact chambers through twin 90º v-notch weirs. Effluent then flows into a stair-step aerator to increase its dissolved oxygen content before entering the Little Tallapoosa Creek tributary.

In the digestors, waste sludge is stabilized by long term aeration which destroys insoluble organic matter. Digested sludge is pumped to eight sand drying beds where water drains off and the sludge is allowed to dry. Filtrate from the drying beds is pumped to the head of the aeration basins. Dried sludge is removed for disposal in a sanitary landfill.

North Water Pollution Control Plant

This facility is a 0.52 MGD extended air plant. Plant operation is described as follows:

Wastewater enters the facility via gravity flow directly into the manual bar screen which is immediately followed by a manual grit chamber. These pretreatment processes remove rags, sticks, grit, and other materials that could damage equipment or otherwise hinder plant operation.

After pretreatment, the influent is mixed with return sludge and lime as it flows to the aeration basins where air is used to promote the growth of microorganisms and the biological removal of pollutants. The lime is used to raise the pH enough to promote a healthy biological environment and to ensure effluent pH is maintained within permit requirements.

After leaving the aeration basins, mixed liquor flows into the final clarifiers where floatable and settleable materials are removed. Sludge (the settleable material) is stored and thickened in the final clarifiers and either returned to the aeration basins or wasted to the drying beds. The quantities of returned and wasted sludge are used to control population of microorganisms in the aeration basins. All scum (the floatable material) flows directly to the holding tank.

Clarifier effluent flows to the chlorine contact chambers where it is disinfected. Effluent then flows into a waterfall aerator to increase its dissolved oxygen content before entering Town Creek.

Waste sludge is pumped to six sand drying beds where water drains off and the sludge is allowed to dry. Filtrate from the drying beds is pumped to the head of the aeration basins. Dried sludge is removed for disposal in a sanitary landfill.

CHARACTERIZATION OF INDUSTRIES

A Significant Industrial User is defined in 40CFR 403.3 and may be summarized as follows:

(a) a user subject to categorical pretreatment standards, OR

(b) a user that discharges 25,000 gallons per day or more of process wastewater, OR

(c) a user that contributes more than 5% of the average dry weather hydraulic or organic treatment capacity of the POTW, OR

(d) a user that has a reasonable potential for adversely affecting the operation of the POTW.

The City of Villa Rica currently has around 200 businesses of which three dozen are classified as industries. Of these industries, one currently has an industrial treatment permit issued by the State of Georgia, Flowers Bakery. This industry has already gone through the state's evaluation process and the state has determined that they are a significant user. They have had an impact on the plant in the past so the city will also consider them a significant user.

Another industry, Leggett & Platt, has also had an impact on the plant in the past and the city will consider it a significant user. A third industry, Linetec, is classified as a categorical user which automatically makes them a significant user. Here is a general discussion on these industries:

- Flowers Bakery – This company bakes loaf bread and other related products for sale in grocery stores throughout the West Georgia area. The flow from their facility averages 8%-10% of the flow to the West WPCP. The flow also contains a substantial amount of BOD, TSS, and other pollutants. They currently have a pretreatment facility and are using it to reduce their impact on our facility. A permit is required per parts (b), (c), and (d) above.

- Leggett & Platt – This company makes carpet and cleans rags. The carpet process uses no water. Flow from the rag cleaning process averages about 4%-5% of the flow to the West WPCP. The rags are manufacturer's seconds and, with the exception of sizing, are basically clean. However, effluent from this process can have extreme pH variations and contain high amounts of chlorine, BOD, and especially COD. This facility has had a significant impact on the West plant in the past. Because of this, the company added a pretreatment system about two years ago. A permit is required per parts (c), and (d) above.

- Linetec – This is a metal finishing company that coats aluminum architecture products with chrome. Water flow is not significant. The flow from this facility is not expected to exceed the limits of any conventional pollutants with the possible exception of pH and COD. They have an on-site treatment system which is designed to remove heavy metals. As a categorical industry, they are automatically classified as a significant user. A permit is required per part (a) above.

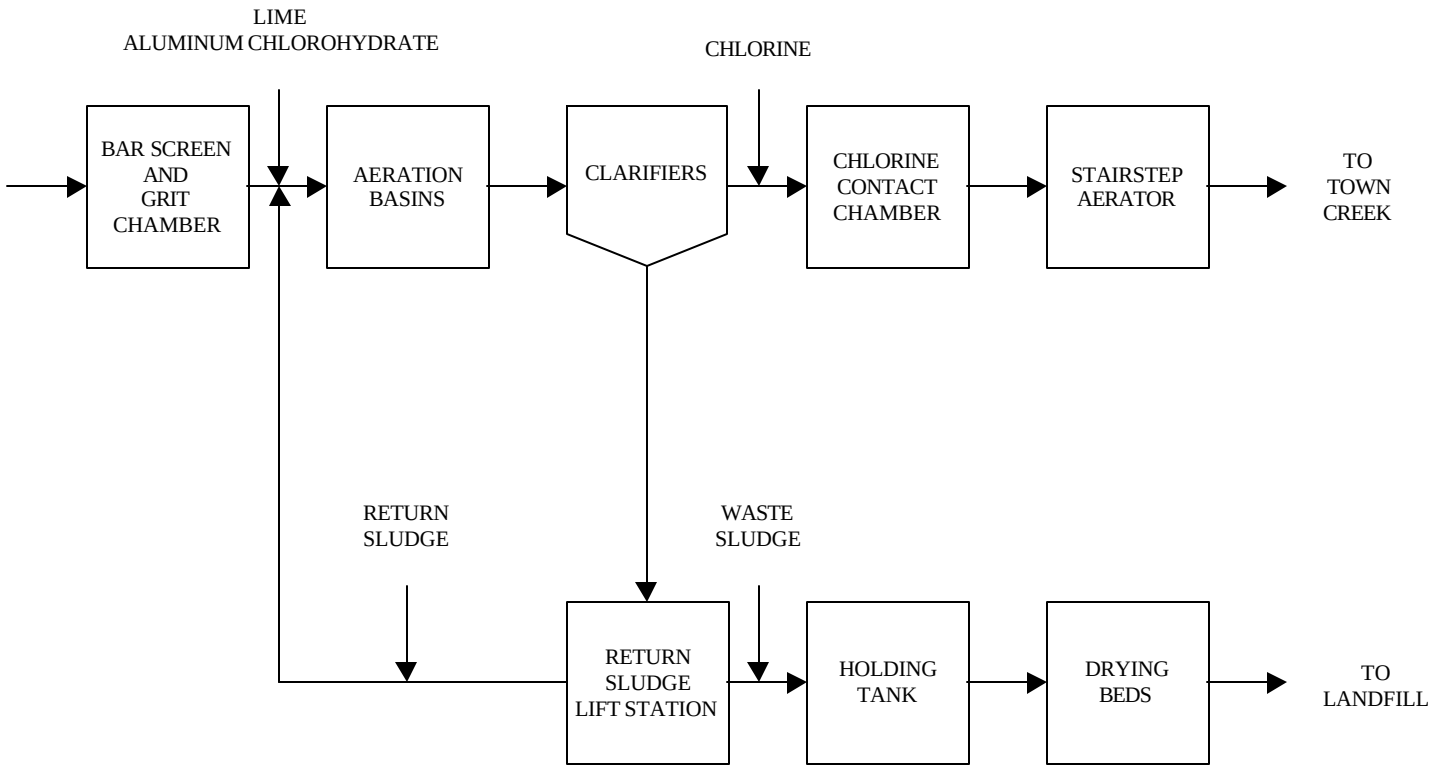
The City of Villa Rica is not aware of any other facilities which will require an industrial pretreatment permit. We performed a two-part survey to determine which industries were significant

users. First, we sent a small 4 page survey to every business in Villa Rica. The purpose of this survey was to determine which businesses and industries may be subject to further investigation.

Based on the outcome of the first survey, we sent a full survey/application form to all industrial users who we felt could potentially require a discharge permit under this plan. This resulted in the above list of industries which will be permitted. In addition to the above industries, we surveyed the following companies and made these determinations:

- King Denmon, Inc [sanitary wastes only]
- Leuco Tool Corporation [sanitary wastes only]
- Mary Ann Industries [sanitary wastes only]
- Printpak [sanitary wastes, cooling tower water, and an ultrasonic film wash (not significant)]
- Southeastern Color, Inc [sanitary wastes only, significant process are isolated from the sewer system and wastes hauled away]
- Vince Hosiery Mill [sanitary wastes only]

FLOW DIAGRAM
NORTH WATER POLLUTION CONTROL PLANT
0.52 MGD



FLOW DIAGRAM
WEST WATER POLLUTION CONTROL PLANT
0.78 MGD