

INTRODUCTION TO WASTE TREATMENT

Milanco Polymer chemicals are used in systems that separate undissolved contaminants from waters. These waters can be the influent (water flowing in to a plant), process (water used and recycled in the plant) and wastewater (flowing out of the plant).

INFLUENT CLARIFICATION

Less than 3 percent of the water found in nature is usable as is. This usable supply, which includes clear lake waters, some clean rivers, and some well waters, is a fairly fixed commodity pressured by an increasing usage by mankind. These usable waters often must be cleaned up prior to human and industrial consumption. City water works remove pathogenic and slits from the water processed for consumers. To enhance product taste, beverage bottlers treat water they draw from the city. These treatment processes include influent clarification (separating solids in and from the incoming water).

PROCESS WATER CLARIFICATION

When large volumes of water are used to wash and rinse off the commodity being processed, that producer usually has a concern for the cost and quality of the water he/she is using. First they ask themselves if they can use fresh water. The answer depends upon the type of dirt or contaminant that is in the used water.

For example, a large paving or construction company may wash sand and undesirable fines off quarried stone being crushed and sized. The dirtied water enters a holding containment where the undesirables settle out. Then the cleaner or clarified water is used again. Processes such as mining, steel making, asphalt/paving, and paper production employ techniques to clean up and reuse process waters.

WASTEWATER CLARIFICATION

Most processes that generate dirtied, contaminated water find that processing that water to a quality acceptable for their own reuse is more costly than discharging it as wastewater. After all, wouldn't it be more costly for you to clean up your dirty bath water at home than to empty it to the sewer and use clean city water for your next bathing?

Municipalities provide sophisticated Publicly Owned Treatment Works (POTW's) to clean up wastewaters that households and industry alike discharge to the sewers. The microorganisms at work in these POTW's turn dirty water in to water clean enough to discharge into a river without upsetting the balance of aquatic life.

Most POTW's are designed to treat household and light industry wastewater. The contaminants present in process industry wastewater could be harmful to the microorganisms at work at the POTW. POTW's, through regulatory agencies, establish maximum levels at which harmful contaminants can be present in an industrial wastewater discharged into the POTW's receiving sewers.

Industrial facilities must remove polluting contaminants such as toxic metals, oils and grease and chemicals from its wastewater before it can be discharged to the sewer. In essence, industry pretreats its water before discharging to a final treatment plant, the POTW.

For example, an appliance manufacturer cleans up the metal it receives and the formed part that it processes. The oil and zinc content of its dirty rinse water may not be acceptable to the POTW. So they remove the contaminants in their own wastewater pretreatment system before they discharge the water to the POTW.