



# Arkansas Department of Health

## Engineering Section

### PLAN REVIEW POLICY CONCERNING WASTEWATER TREATMENT PLANTS AND REQUIRED BUFFER AREAS AND SETBACK DISTANCES November 2009

#### I. INTRODUCTION

The Arkansas Department of Health (ADH) has, almost since its inception, regulated wastewater collection, treatment plants and disposal methods through the ADH's plan review and approval process under the "Rules and Regulations Pertaining to General Sanitation". The ADH has long recognized the public health importance of minimizing human exposure with regards to wastewater and treated wastewater.

A significant part of the ADH review process has been ensuring that the location of proposed wastewater treatment plants provide adequate buffer areas between the treatment plant and residences. For the purposes of this policy, residences are meant to include not only homes but also high use facilities that would typically contain food preparation such as schools, offices, restaurants, camps, etc.

Also evaluated during the plan review process are other aspects of the proposals that contain public health significance that include: proposed treated wastewater disposal methods, proposed discharge locations, set backs from property lines, etc. The purpose of this policy is to document existing and long standing Health Department requirements regarding buffer areas and set back distances for the purpose of facilitating the plan review and approval process.

#### II. WASTEWATER TREATMENT PLANT BUFFER AREAS

Typical wastewater treatment plants, other than those utilizing septic tanks and leach fields, usually provide biological treatment that utilizes aeration as method of supplying oxygen to a biological process. Invariably, these processes are capable of emitting aerosols that contain pathogens. The ADH requires that proposals for these types of treatment plants include a minimum buffer area of 300 feet between the proposed treatment plant and existing and proposed residences. The owner of the treatment plant is not required to own the entirety of the buffer area but rather to show that human habitation is not within nor likely to be within the buffer area distance. This allows the utility to select lower density areas (such as near farm land, forest areas, etc.) for the treatment plant site without necessarily having to purchase all of the buffer area.

In cases where aspects of a specific situation do not allow for provision of a 300 foot buffer area, this office will consider acceptance of design features that minimize aerosols such as enclosing the treatment plant inside a building, etc. The acceptance of less than a 300 feet buffer area will normally be limited to improvements of existing treatment plant facilities and when all other practical options have been evaluated.

Wastewater treatment plants that do not contain processes that typically produce aerosols can, when appropriate, be placed at sites providing only a 100 foot buffer area. Examples of treatment systems that would typically need only a 100 foot buffer area would be below grade and covered wastewater treatment plants that utilize a fixed film treatment process. There are many variations of treatment types that would meet this definition and would include: biologically active media, recirculating filters, etc.

All wastewater treatment plants must be provided with barriers to intrusion. The type of barriers can vary depending upon the specifics of the treatment plant design. Treatment plants with above ground units such as extended aeration units and/or filters should be provided with fencing around the site. Treatment plants with low profile or buried units such as some fixed film/packed media designs may rely on lockable covers if lockable covers are able to effectively prevent intrusion.

### III. TREATED WASTEWATER DISCHARGE LOCATIONS

The ADH conducts site inspections as part of the review process whenever a new treated wastewater surface discharge is proposed. The site inspection is intended to identify any potentially adverse public health impacts that might occur as a result of the proposed discharge. The ADH will attempt to work with the designer to locate the best possible discharge site based upon specific local circumstances. Whenever possible, a clearly defined receiving stream should be utilized. Impacts upon human activities and adjacent properties should be minimized.

The ADH requires that the disinfection process be included in the design of all wastewater treatment plants utilizing a surface discharge.

### IV. SUBSURFACE DISPOSAL FIELD SETBACKS

Wastewater treatment systems designed to utilize subsurface disposal systems must provide a setback between disposal application areas (both primary and alternative) and property boundaries of no less than 10 feet. When water bodies such as ponds or lakes are in the proximity, a distance of no less than 100 feet must be maintained between the application areas and the edge of the water body. All subsurface disposal application areas (primary and alternative) must be protected from vehicular traffic so that dispersal lines and soil suitability are not damaged.

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