



Air Diffusion Systems

a John Hinde Company

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DATE: _____

ADS WARRANTEE

The "ADS" warrantee for the _____ Wastewater Treatment Plant (ADS System Number _____) shall be as follows:

Air Diffusion Systems, A John Hinde Company warrants the equipment as outlined on our Scope of Supplies dated _____, against defects in materials, workmanship, and performance to meet NPDES Monthly Limits under normal use and service for a period of five (5) years to commence upon installation, provided that the installation, and operation and maintenance of the equipment is in accordance with the corporation's instructions and provided that the purchaser shall give prompt written notice of any such defects to the Corporation.

1. 100% of replacement or repair costs for a period of five (5) years from the date of installation. (Blowers carry a 24 month manufacturers warrantee.)
2. Any further normal maintenance labor to be contracted directly from the _____ to "ADS".
3. Any warranty labor for defective parts to be covered by "ADS".

The Air Diffusion Systems, A John Hinde Company performance warrantee is based upon the design criteria set forth below, as supplied by the _____, which indicates the following:

DESIGN CRITERIA

- A. The diffused aeration system shall be designed to provide BOD₅ reduction in municipal sewage Lagoons _____, based on the following criteria:
 1. Design Flow: _____ MGD
 2. Influent BOD₅: _____ mg/l
 3. Lagoon Configuration: As shown and on the plans
 4. Alpha: _____
 5. Beta: _____
 6. Summer Water Temperature: _____ C



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- 7. Winter Water Temperature: _____ C
- 8. Minimum Lagoon D.O.: _____ mg/l
- 9. Oxygen Demand: 2.0 x BOD₅ reduction minimum
- 10. Effluent BOD₅: Less than _____ mg/l monthly
- 11. Mixing: Less than _____ minutes
- 12. TSS: Less than _____ mg/l
- 13. pH: No less than _____
No greater than _____

Any design characteristics beyond the stated values requires our immediate notification.

The design treatment is based upon detention time not Air Supply Design. The total volume of the Aerated Lagoons are based on a full operating depth of _____ feet, less sludge accumulation in and around the inlet area, which could be a _____% reduction in water depth. If the sludge accumulation either exceeds _____% or is inorganic, such as sand or gravel we must be notified prior to installation. The design treatment will be based on _____ cells in series, with _____ days detention at full design flow, and full total lagoon volume. The discharge value is based on the Biological Reaction Kinetics Formula:

$$K_{et} = N \left[\sqrt[N]{\frac{1}{p}} - 1 \right]$$

- WHERE:**
- Ke Winter = _____ at _____ C
 - Ke Summer = _____ at _____ C
 - N = _____ lagoons
 - p = Per cent of remaining BOD in decimal
 - t = _____ Days of detention

Solving for p using winter Ke, _____ feet of water depth in the lagoons, yields _____ mg/l effluent BOD.

Solving for p using summer Ke, _____ feet of water depth in the lagoons, yields _____ mg/l effluent BOD.

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The biological aquatic life (Biota) reduces BOD in the presence of design oxygen.

The discharge Wastewater will measure on the average a minimum of _____ mg/l dissolved oxygen, at _____ feet water depth.

The Air Supply Design (SCFM) and the aeration tubing quantity (Linear Footage) are directly proportionate. Any change in the design SCFM will change the linear footage of "ADS" LWA1.5 Aeration Tubing. It is mandatory to maintain a minimum of 0.027 SCFM per foot of Aeration Tubing \pm 0.004 SCFM per foot.

In order to maintain oxygen transfer efficiency and a design pressure drop across the air releases, the above SCFM must be maintained. Reducing the blower SCFM will require a reduction in linear footage of Aeration Tubing. Increasing SCFM by operating the standby blower is allowable, especially during spring and summer turnovers.

Monthly maintenance and effluent records must be sent to "ADS" on a quarterly basis.

The installation of the Aeration Tubing without the proper SCFM per foot of tubing is not permissible. Blowers need to be fully operational at the time of installation of the Aeration Tubing.

Monthly effluent reports to be submitted to "ADS" by superintendent of the _____ Wastewater Treatment Plant.

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