

✓ 9-20-06

VARIANCE REQUEST

Iowa Department of Natural Resources

1. Date: December 7, 1999
2. Review Engineer: Bill Graham
3. Date Received: November 16, 1999
4. Facility Name: Douds-Leando WWTF
5. County Number: 89, Van Buren
6. Program Area: CP (wastewater)
7. Facility Type : C05
8. Subject Area: 350, number of lagoon cells
9. Rule Reference : 567-64.2(9)a
10. Design Stds Ref: 18C.5.1
11. Consulting Engr: McClure Engineering, Ankeny, Iowa
12. Variance Rule: 567-64.2(9)c

13. Decision: *Approved*
Date: *3/10/00*
14. Appeal:
Date:

15. Description of Variance Request:

The cities of Douds and Leando and the Rathbun Regional Water Association are requesting a variance from the design standard which requires a minimum of three cells for all facilities greater than one acre total surface area. RRWA is proposing a two cell lagoon even though total water surface area is 3.26 acres.

16. Consulting Engineer's Justifications

The Douds-Leando project is a participant in the Iowa Rural Water Association Small Community Wastewater Pilot Project. The project was the result of several meetings that included USDA Rural Development, the Iowa Rural Water Association, and IDNR. At these meetings affordable ways of providing wastewater treatment for small unsewered communities were discussed. The goals of the project were:

1. Improve Environmental Conditions. Centralized systems would be constructed to eliminate environmental and public health problems caused by failing septic tanks and lateral systems in tight soils.
2. Long Term Compliance. The collection and treatment systems will have a 20 year design life.
3. New Design Concepts. The program is intended to encourage new design concepts. Several variances from the design standards have been allowed based on program participation. None of these have involved new treatment concepts or processes.
4. Immediate Response to Problems: The financial and managerial ability to remedy operation and maintenance problems will be robust since these projects will be owned and operated by rural water associations.
5. Savings and Risks Are Balanced: A group of design engineers and rural water association representatives met with department engineers to "value-engineer" proposed cost saving designs and balance capital savings against increased operation and maintenance costs.
6. Better Management: This goal is to be met through Rural Water Association ownership and

management of the wastewater utilities.

Based on participation in the small community pilot program the department has approved several variances from the design standards. Construction of two-cell instead of three-cell lagoons for facilities with surface areas greater than one acre is one of these.

17. Department's Justifications

The relevant section of the March 8, 1995 IDNR letter to the executive director of the Iowa Rural Water Association:

"The Department will approve two cells as a value engineering design concept for most of these unsewered communities provided control structures are installed and the system is always operated as a controlled discharge lagoon facility. Three cells increase the operational flexibility and performance of the system to meet effluent limitations at all times. One secondary cell in a three-cell system can be filled while the other secondary cell is discharging. The reduction in pond reliability also must be weighed against the water quality impacts on the receiving stream should continuous discharge occur because one cell being out of service. There also shall be no transfer of wastewater from the primary cell to the secondary cell of a two cell system while the facility is discharging."

Departmental approval for this variance is recommended since Douds-Leando is one of the small community pilot projects.

18. Precedents Used

Previous pilot projects.

19. Staff Reviewer: Bill Graham

Date: December 7, 1999

20. Supervisor: 

Date: 12/3/99

21. Authorized by: J. Riessen

Date: 3/10/00