

12.5.1

**VARIANCE REQUEST**  
**Iowa Department of Natural Resources**

1. Date: May 31, 2001  
2. Review Engineer: Larry Bryant  
3. Date Received: November 8, 2000  
4. Facility Name: Kinross WWTF (RUSS)  
5. County Number: 54 (Keokuk)  
6. Program Area: CP (Wastewater Construction)  
7. Facility Type: C01 (Collection/Transport)  
8. Subject Area: 305 (Minimum Sewer Size)  
9. Rule Reference: 567-64.2(9)a  
10. Design Stds Ref: 12.5.1 (Diameter)  
11. Consulting Engr: Garden & Associates/Oskaloosa, IA  
12. Variance Rule: 567-64.2(9)c

13. Decision: *Approved*  
Date: *6/8/01*

14. Appeal:  
Date:

15. Description of Variance Request:

Project Background

The City of Kinross is an unsewered community with a 2000 Census population of 80 people. Regional Utility Services (RUSS), an intergovernmental organization of six southeast Iowa counties, is proposing a centralized gravity sewer system and controlled discharge lagoons for the City. Design and project costs are to be funded through a ID block grant, a USDA-RD grant and user fees. RUSS will own, operate and maintain the system in conjunction with service agreement with Wapello RWA. In order to minimize the financial impact of the project to the community, RUSS and the engineer are requesting multiple variances (similar to those granted for the small unsewered community pilot program) for the collection and treatment system.

Variance Request

A variance to allow 6-inch diameter sewer where sufficient hydraulic capacity exists as opposed to the 8" minimum size required by the standards.

16. Consulting Engineer's Justifications

Cost savings, equivalent effectiveness. Adequate maintenance equipment and capabilities will be readily available to RUSS. The smaller diameter sewer will adequately serve the small and stable population of Kinross, and measures will be taken to restrict extraneous flows from entering the system.

17. Department's Justifications

**Recommend variance approval (with conditions):**

Allow 6" sewer sizing provided that all 6" segments have adequate capacity and maintain a full-flow velocity of 2 fps (minimum slope of 0.6%). Given the size, location and recent growth trends (-10% growth from 1990 to 2000) of Kinross, the capacity of 6" sewer at the minimum slope of 0.6% will not be a concern. Maintaining the minimum slope will minimize potential clogging due to the smaller sizing. Six-inch sizing is allowed by the Standards for 800' max. dead-end runs for unsewered communities. See attached 12/4/00 Department letter.

18. Precedents Used

Persia (Shelby County RWD No. 1) - Approved 7/3/95  
Exline (Wapello County RWA) - Approved 1/3/97

Kirkville (Wapello County RWA) - Approved 3/3/97

19. Staff Reviewer: *[Signature]*

Date: *5/31/01*

20. Supervisor: *[Signature]*

Date: *6/5/01*

21. Authorized by: *J. Riessen*

Date: *6/8/01*