



STATE OF IOWA

CHESTER J. CULVER, GOVERNOR
PATTY JUDGE, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
RICHARD A. LEOPOLD, DIRECTOR

April 24, 2009

Mr. Jade Willcoxon
Regional Water, Inc.
108 N Hwy 59
Avoca, IA 51521 - 3303

Re: City of Mineola
Variance Request
IDNR Project No.: S2005-0565

Dear Mr. Willcoxon:

The Iowa Department of Natural Resources, in accordance with subrule 567 IAC 64.2(9), has reviewed the variances requested, from the Iowa Wastewater Facilities Design Standards, by the City in the letters dated March 10, 2009 and April 10, 2009 from your consulting engineer, DeWild, Grant, Rechert and Associates..

Based on the documentation presented by your Engineer, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of the variances requested which have been deemed to be reasonable and necessary pursuant to the Iowa Code section 455B.181.

The facts presented for the project present unique circumstances and the variances are therefore justified to provide the narrowest exception possible to the provisions of the rule in accordance with Rule 561 IAC 10.5. Since the project planning and construction may last more than one year, the variance is considered to be of a permanent nature. The validity of this variance approval shall last for a period of one year from the date of the construction permit in accordance with Rule 561 IAC 10.5.

Following is a summary and the disposition of the variance requests:

1. Chapter 12.5.1 – Diameter. Allow six inch sewer anywhere in the collection system in lieu of 8 inch diameter sewer pipe where the 6 inch pipe provides sufficient hydraulic capacity. The City has indicated that they have cleaning equipment available. This variance is **approved** based on the small community pilot project concept as providing equivalent effectiveness for the small collection system proposed.
2. Chapter 12.5.7.1.c – Location. Variance request to permit a cleanout in lieu of a manhole at the end of lines which are greater than 150 feet in length. These lines are 200 feet or less. The City has indicated that they have cleaning equipment available. This variance is **approved** based on the small community pilot project concept as providing equivalent effectiveness for the small collection system.
3. Chapter 18C.5.1.2 – Three Cells. Variance request to construct a two cell controlled discharge lagoon in lieu of a three cell controlled discharge lagoon when the total surface area exceeds one acre. This variance is **approved** based on the small community pilot project concept as providing equivalent effectiveness for the small collection system with the following conditions:
 - a. The two cell lagoon is approved provided it is always operated as a controlled discharge lagoon.

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- b. There shall be no transfer of wastewater from the primary cell to the secondary cell of a two cell system while the facility is discharging.
 - c. Three cells increase the operational flexibility, reliability, and performance of the system to meet effluent limits at all times. If at any time, the lagoon has difficulty meeting effluent limits, needs to discharge more frequently than a controlled discharge mode, or has trouble discharging within the limits of its operating permit, at third cell may be required.
4. Chapter 18C.5.6.2 – Inter-Cell Structure. Variance request to eliminate the inter-cell control structure and use multi-level draw-off pipes and buried valves. The above variance is **approved** based on the small community pilot project concept as providing equivalent effectiveness for the small collection system.
5. Chapter 18C.7.4.4 – Location. Variance request to install the influent line at or above the elevation of the pond seal in lieu of installing the pipe so that the crown is just below the average elevation of the pond seal. This variance is **approved** based on the small community pilot project concept as providing equivalent effectiveness for the small collection system and on the following conditions:
 - a. Ductile Iron Piping shall be used.
 - b. The influent discharge lines shall rest on a suitable concrete apron which is large enough so that the influent velocity at the end of the apron does not cause soil erosion as required by the Iowa Wastewater Facilities Design Standards 18C.7.4.6.
 - c. Adequate measures must be taken to ensure that the line is properly/securely anchored.
6. Chapter 18C.7.4.6 – Influent Discharge Apron. Variance request to eliminate the saucer shaped depression at the discharge point of the influent lines into the primary and secondary cells. This variance is **approved** based on the small community pilot project concept as providing equivalent effectiveness for the small collection system and the following conditions:
 - a. Ductile Iron Piping shall be used.
 - b. The influent discharge lines shall rest on a suitable concrete apron which is large enough so that the influent velocity at the end of the apron does not cause soil erosion as required by the Iowa Wastewater Facilities Design Standards 18C.7.4.6.
 - c. Adequate measures must be taken to ensure that the line is properly/securely anchored.

If you have any questions or comments, please feel free to contact Jim Hallmark at james.hallmark@dnr.iowa.gov. or at 515-281-7767.

Sincerely,



Charles C. Corell
Bureau Chief
Water Quality Bureau

cc: DGR & Associates
Variance File
DNR Records

VARIANCE REQUEST
Iowa Department of Natural Resources

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| 1. Date: April 21, 2009 2. Reviewer/Engr.: Jim Hallmark 3. Date Received: April 10, 2009 4. Facility Name: Mineola WWTF (Regional Water) 5. Facility Number: N/A (Unsewered) 6. County Number: 65 (Mills) 7. Program Area: CP (Wastewater Const.) 8. Facility Type: C01 (Collection/Transport) 9. Subject Area: 305 (Min. Sewer Size) 10. Rule Reference: 567-64.2(9)a; 561-10 11. Design Std. Ref.: 12.5.1 (Diameter) 12. Consulting Engr.: Dewild, Grant, Reckert 13. Variance Rule: 567-64.2(9)c; 561-10 | 14. Decision: <i>Approved</i> Date: <i>4/21/09</i> 15. Appealed: Date: |
| 16. <u>Description of Variance Request:</u> The City of Mineola is an unincorporated unsewered community with an approx. population of 173. The City (Regional Water) requests a variance from the design standard which requires a minimum sewer diameter of 8 inch with the exception of 6 inch sewer for last 800 feet of sewer in an unsewered community. The city is proposing to use 6 inch sewer everywhere. | |
| 17. <u>Applicant's/Consulting Engineer's Justification:</u> Cost savings, equivalent effectiveness. Adequate cleaning equipment is available. Provides adequate hydraulic capacity, velocity protection, depth slope, alignment, and maintenance while reducing construction costs. (Cost savings and equivalent effectiveness). The DNR has approved several projects with this variance request to the Small Community Wastewater Pilot Projects. | |
| 18. <u>Department's Justification:</u> This variance has been approved in the past for several unsewered communities under the Small Community Pilot Projects Program. Departmental approval is recommended since this project is for an unsewered community and there has been no documented evidence of problems in the past approved projects. Cost savings could be realized by using 6-inch sewers. | |
| 19. <u>Precedents Used:</u> Previous small communities rural water owned and operated pilot projects. | |
| 20. Staff Reviewer: <i>Jim Hallmark</i> | Date: <i>4/21/09</i> |
| 21. Supervisor: <i>Tatya Chennupati</i> | Date: <i>4/24/09</i> |
| 22. Authorized by: <i>Charles Correll</i> | Date: <i>4/27/2009</i> |