



TERRY E. BRANSTAD, GOVERNOR

~~NOTED 107~~
RECORD COPY

File Name Ankeny S.F. Sewage

Senders Initials RDM

DEPARTMENT OF NATURAL RESOURCES

LARRY J. WILSON, DIRECTOR

November 3, 1987

Mr. Richard Ash
Community Services Director
City Hall
Ankeny, Iowa 50021

SUBJECT: Variance Request
Saylor Creek Pumping Station
Ankeny, Iowa
C190790 07

Dear Mr. Ash:

The Iowa Department of Natural Resources has reviewed the variance request submitted on your behalf by Veenstra & Kimm, Inc. to Chapter 13.4.2 of the Iowa Wastewater Facilities Design Standards. The specific standard concerns the requirement for bar racks prior to large pumping stations. The request to use a trash basket with two inch clear openings is approved and the variance hereby granted.

If you have any questions, please feel free to contact Bob Graf at 515/281-8779.

Sincerely,

DARRELL McALLISTER
CHIEF
SURFACE AND GROUNDWATER PROTECTION BUREAU

DM:BG:pla/ANK

cc: Veenstra & Kimm, Inc., West Des Moines, IA
Field Office 5

187	4 ANKENY 07	5 77	6 CF	7 CO2	8 344 Pump protection
TIME REFERENCE	DESIGN STANDARD REFERENCE	DECISION DATE		APPEAL ACTION DATE	
64.2(9)	10 13.4.2	11 Approved 11/13/07		12	
ENGINEER		VARIANCE RULE			
3 VEENSTRA & KIMM		14 567-64.2(9)			

5. DESCRIPTION OF VARIANCE REQUESTED: The Consulting Engineer on behalf of the city requests that a trash basket be permitted in lieu of bar racks or a mechanically cleaned bar screen for a relatively large pump station.

- constant "7 equivalent" protection against pump clogging or damage. In addition, the installation of bar racks would require the operator to frequently enter the wet well which is deep and a potential safety hazard. In addition, ventilation equipment would need to be added. There is also a cost preference w/ the trash basket.

17. DEPARTMENTS JUSTIFICATION: The design standard is vague as to whether bar racks or a mechanical screen is needed. However, only bar racks are needed. The standard is for pump protection.

The bar rack standard is for 2 1/2 in. Max. openings. The design is a trash basket with 2 inch clear openings. Since all pumps are required to pass 3-inch spheres, spheres of rigid material of that size should not pass through a 2 inch basket. Certainly, anything that would pass the two-inch basket would pass the 2 1/2-in bar racks. The engineer only wants the larger rigid solids removed by the basket. Therefore this design provides at least equivalent if not improved effectiveness. Approve this variance.

18. PRECEDENTS USED: NONE

STAFF REVIEWER:

SUPERVISOR:

AUTHORIZED BY:

Paul D. [Signature]
[Signature] 11/1/87
Samuel W. [Signature] 11/13/87

DATA ENTRY SUMMARY:

COPY

DATA ENTRY SUMMARY:		DATA ENTERED		DATE		INITIALS	
DATE RECEIVED	FACILITY NAME	COUNTY NO.	PROGRAM AREA CODE	FACILITY TYPE CODE	SUBJECT AREA CODE		
9/5/86	City of Armstrong	32	CP	CO1	- 310		
RULE REFERENCE	DESIGN STANDARD REFERENCE	DECISION		APPEAL ACTION			
9 None	10 Chapter 12 Iowa Standards for Sewer Systems; Section 12.5.3	11 granted 9/9/86		12			

13 BRIEF DESCRIPTION OF VARIANCE REQUESTED: Construct a 10" diameter relief sewer on a sewer grade of 0.22% instead of the minimum sewer grade of 0.28% as required under Section 12.5.3 of the Iowa Standards for Sewer Systems.

14 JUSTIFICATION FOR DECISION: The relief sewer proposed will intercept an existing sanitary sewer line; therefore, elevations are already established. The elevation at the point of interception of the existing sewer has not been firmly established. Therefore, during construction it may be possible to increase the sewer grade after the sewer elevation is determined.

In a memorandum from Joe Obr to Wayne Farrand and Larry Haage dated 5/27/86 it was pointed out that the Commission directed review staff to use an interim criteria for sewer grades to allow a minimum sewer velocity of 1.5 feet per second in specific cases where significant savings in sewer depth are possible or a lift station could be eliminated. A copy of this memorandum is attached. The flowing full velocity in a 10" diameter sewer at a sewer grade of 0.22% is approximately 1.8 feet per second.

15 PRECEDENTS USED: Variances for use of sewer grades less than the minimum grades required by our design standards have previously been granted for the Cities of Anita, Hawarden, Jesup, Martelle and Pocahontas.

16 STAFF REVIEWER: Evans
 17 SUPERVISOR: Larry Haage - Recommend granting Variance
 18 AUTHORIZED BY: Daniel Wallate 9/9/86