



February 21, 2018

Corkrean Development, Inc.
Attn: Peter Corkrean
65 West Jefferson
Winterset, IA 50273

RE: Arbor Park Plat 3
Winterset, Iowa
DNR Project No. S2017-0151A

Subject: Variance Request from 567 IAC 64 and Design Standards Section 13.4.3

Dear Mr. Corkrean:

After careful and thorough consideration, the Department has **approved** your February 20, 2018 request for a variance from Iowa Administrative Code Subrule IAC 64.2(9a) and Chapter 13, 13.4.3 (Pump Clogging Protection) of the Iowa Wastewater Facilities Design Standards, which requires that lift station pumps, other than grinder pumps, have the capability to pass a 3-inch spherical solid.

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 a variance for the installation of a lift station pump that has the capacity to pass a 1.22-inch spherical solid installed with a trash basket with 1.125-inch opening. The requested variance is 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 variance is 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.

This decision is based on our review of justification presented to support the request. Our concurrence with the request is based on the Department's finding that the resulting project will provide substantially equivalent effectiveness as would be provided by technical compliance with the design standard on this issue.

Please feel free to contact Marty Jacobs at 515-725-8419 or email martin.jacobs@dnr.iowa.gov if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon Tack", is written over a horizontal line.

Jon Tack
Water Quality Bureau Chief

c: Gary L. Reed, P.E., Civil Design Advantage, LLC
DNR FO 5
DNR Sewage File 6-61-71-0-01

VARIANCE REQUEST
Iowa Department of Natural Resources

| | |
|---|--|
| 1. Date: February 21, 2018 2. Reviewer/Engr.: Marty Jacobs 3. Date Received: February 20, 2018 4. Facility Name: City of Winterset 5. Facility Number: 6-61-71-0-01 6. County Number: 61 (Madison) 7. Program Area: CP (Wastewater) 8. Facility Type: C01 (Collection/Transport) 9. Subject Area: 344 (Pump Clogging Protection) 10. Rule Reference: 567-64.2(9)a 11. Design Std. Ref.: 13.4.3 12. Consulting Engr.: Civil Design Advantage 13. Variance Rule: 567-64.2(9)c | 14a. Decision: Approval <i>JEN</i> Date: February 28, 2018 Expiration Date: <i>21</i> (if any): 14b. 15. Appealed: Date: |
| 16. <u>Description of Variance Request:</u> The Corkrean Development, Inc. is requesting variance from the Iowa Wastewater Facilities Design Standards Chapter 13 – Wastewater Pumping Stations and Force Mains – 13.4.3 (Pump Openings) for installing a submersible lift station pump that does not have the capability to pass a 3-inch spherical solid. | |
| 17. <u>Applicant's/Consulting Engineer's Justification:</u> The openings in the proposed trash basket are 1.125 inches. The proposed pump will pass solids of 1.22 inches. The trash baskets will remain in place as long as the pumps are operating. Flygt N technology was designed and produced to handle raw sewage including but not limited to rags, wet wipes, and nuisance materials that find their way into collection systems. Flygt pumps have been installed in numerous sites rarely having an issue with plugging. The size of pump used for this project is not available from a suitable manufacturer that could pass a 3-inch solid. | |
| 18. <u>Department's Justification:</u> Recommend variance approval. The proposed pump is able to pass a 1.22-inch solid (confirmed with product data from Flygt). As discussed among DNR staff, a trash basket with an opening of 1.125 inches is expected to provide an approvable level of protection for the proposed pump. This is expected to provide equivalent effectiveness to an installation meeting the requirements of 13.4.3. | |
| 19. <u>Precedents Used:</u> Granger - 8/2/16; Waukee - 4/8/16; Slater - 2/6/17 | |
| 20. Staff Reviewer: <i>Winterset for 2-21-18</i> Date: | |
| 21. Supervisor: <i>John Champagne</i> Date: <i>2/21/18</i> | |
| 22. Authorized by: <i>JEN</i> Date: <i>2/21/18</i> | |

2017-0151A



Civil Design Advantage

3405 SE Crossroads Dr, Ste G
Grimes, Iowa 50111
Office 515.369.4400
Fax 515.369.4410
civildesignadvantage.com

Transmittal

| | | | |
|-----------------|---|-----------------|--|
| To: | Marty Jacobs | From: | Doug Mandernach |
| Company: | Iowa DNR | Date: | February 20, 2018 |
| Address: | Wallace State Office Building 502 East 9 th Street Des Moines, Iowa 50319-0034 | Subject: | Variance Request Arbor park Plat 3 Winterset, IA |
| CC: | | | |

☐ **URGENT** ☐ **For Your Use** ☐ **Please Comment** ☒ **For Your Approval** ☐ **Sign & Return**

Transmitted Material:

1 - Variance form (signed)

● **Comments:**

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2017-0157A



CIVIL DESIGN ADVANTAGE L.L.C.

ENGINEERS, LANDSCAPE ARCHITECTS,
PLANNERS & SURVEYORS

September 13, 2017

Iowa Department of Natural Resources
Attn: Wastewater Engineering Section Supervisor
502 E. 9th Street
Des Moines, Iowa 50319-0034

RECEIVED

RE: Arbor Park Plat 3, Winterset, Iowa
Lift Station pump Variance Request

FEB 22 2018

Dear Wastewater Engineering Section Supervisor;

Per 561 Iowa Administrative Code (IAC) Chapter 10, Corkrean Development, Inc. is requesting a variance to the Iowa Department of Natural Resources (IDNR) Wastewater Facilities Design Standards for the above referenced project and issuance of the related Construction Permit. The applicable Construction Permit application form and fee were submitted to you on October 5, 2016.

The following information has been provided per the IDNR's Variance Request Guidance document:

1. Name, address and telephone number of entity requesting the variance:
 - a. Corkrean Development, Inc.
65 West Jefferson
Winterset, IA 50273
Ph: 515-462-3120
2. A description and citation of the specific rule from which a waiver or variance is requested.
 - a. A variance is requested from Chapter 13, Section 4.3 of the IDNR Wastewater Facilities Design Standards.
3. The specific waiver or variance requested, including the precise scope and operative period that the waiver or variance will extend.
 - a. A variance is requested from the requirement to provide pumps capable of passing spheres at least 3 inches in diameter as cited in Chapter 13, Section 4.3 of the IDNR Wastewater Facilities Design Standards
 - b. The proposed lift station will have Flygt pumps that provide a 1.22" throughlet which will be protected by trash baskets with a maximum opening size of 1.125".
 - c. The trash baskets will remain in place as long as the pumps are operating.
4. The relevant facts that the petitioner believes would justify a waiver or variance. The factual statement is to include a signed statement from the petitioner attesting to the accuracy of the facts provided in the petition and a statement of reasons that the petitioner believes will justify a waiver or variance.

RECEIVED FEB 23 2018



- a. Flygt N technology was designed and produced to handle raw sewage including but not limited to rags, wet wipes and nuasense materials that find their way into the collections systems. Attached is a technical white paper involving this design.
 - b. The developer is proposing Flygt pumps that provide a 1.22" throughlet.
 - c. The proposed will have a maximum opening size of 1.125".
 - d. With the trash basket installed objects larger than 1.125" will be stopped from entering the pump.
 - e. The Flygt pumps have been installed in numerous sites rarely having an issue with plugging.
 - f. The size of pump used for this project is not available from a suitable manufacture that could pass a 3-inch solid.
 - g. Since the 1995 Design Standards were adopted the design of pumps and impellers has evolved significantly and pumps with smaller non-clog openings is now considered the standard industry practice.
 - h. The impact of not granting the variance would require the developer to install a less desirable pump with older technology in lieu of a pump that has a proven record of operational durability and dependability even though it does not pass a 3-inch solid.
5. The history of prior contacts between the Department and the petitioner for the past five years. The history must include a description of each affected permit held by the petitioner and any notices of violation, administrative orders, contested case proceedings, and lawsuits involving the Department or the petitioner.
 - a. The applicable Construction Permit application form and fee were submitted to you on October 5, 2016.
 - b. Supplemental information has been submitted to equipment to be installed as part of the lift station.
 6. Any information known to the petitioner regarding the Department's treatment of similar cases.
 - a. We understand variances have been granted in similar situations to the City of Granger, the City of Slater and the City of Waukee in the past two years.
 7. The name, address, and telephone number of any public agency or political subdivision of the state or federal government which also regulates the activity in question, or might be affected by the granting of a waiver or variance.
 - a. None
 8. The name, address, and telephone number of any person or entity that would be adversely affected by the granting of the petition.
 - a. None



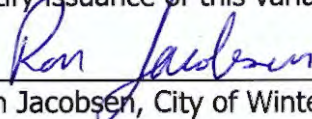
CIVIL DESIGN ADVANTAGE L.L.C.

ENGINEERS, LANDSCAPE ARCHITECTS,
PLANNERS & SURVEYORS

9. The identity of those having knowledge of relevant facts concerning the variance.
- Mark Nitchals, City Administrator, City of Winterset
 - Ron Jacobsen, Wastewater Superintendent, City of Winterset
 - Gary Reed, P.E., Civil Design Advantage


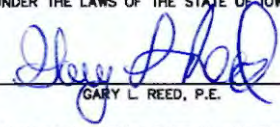
10. Signed release.

- a. I attest to the accuracy of the facts provided in this petition and the reasons listed to justify issuance of this variance request.


Ron Jacobsen, City of Winterset

9-28-17
Date:

- b. I attest to the accuracy of the facts provided in this petition and the reasons listed to justify issuance of this variance request.

| | |
|---|--|
|  | I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA. |
| | <p> GARY L. REED, P.E. <u>2-20-2018</u> DATE</p> <p>MY LICENSE RENEWAL DATE IS DECEMBER 31, 2018 PAGES OR SHEETS COVERED BY THIS SEAL: <u>ALL SHEETS</u></p> |

Sincerely,

CIVIL DESIGN ADVANTAGE, LLC

Gary Reed, Project Engineer

cc: Peter Corkrean, Corkrean Development, Inc.
Ron Jacobsen, City of Winterset
Doug Mandernach, CDA

VARIANCE REQUEST NOTIFICATION
Iowa Department of Natural Resources

All Fields are Required

| | | | |
|----|---|----|---------------------------|
| 1. | Reviewer/Engr.: <u>Marty Jacobs</u> | 7. | Decision: <u>Approval</u> |
| 2. | Date Received: <u>2/21/2018</u> | | |
| 3. | Facility Name: <u>City of Winterset</u> | | |
| 4. | Program Area: <u>CP (Wastewater)</u> | | |
| 5. | Subject Area: <u>344 (Pump Clogging Protection)</u> | | |
| 6. | Rule Reference: <u>567-64.2(9)c</u> | | |

8. Description of Variance Request: Summarize (250 characters)

Corkrean Development is requesting variance from the Iowa Wastewater Facilities Design Standards Chapter 13 – 13.4.3 (Pump Openings) for installing a submersible lift station pump that does not have the capability to pass a 3-inch spherical solid.

9. Department's Justification: Summarize (250 characters)

The proposed pump is able to pass a 1.22-inch solid. A trash basket with an opening of 1.125 inches is expected to provide an approvable level of protection for the proposed pump. This is expected to provide equivalent effectiveness.

10. Type name:

Jon Tack

2/21/2018

Supervisor/Bureau Chief/DA

Date

*The original, approvals, letters, code and other supporting documentation is to be maintained by the program in accordance with the Records Retention Schedule.

To Submit: Attach this form to an email and send it to Webmaster@dnr.iowa.gov with the subject line: Variance Submittal (542-0541)