



STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

December 9, 2013

Scott Sovers
City of Cedar Rapids
1201 6th St. SW
Cedar Rapids, IA 52404

RE: SW Quadrant, 2008 Flood Area Sanitary
Sewer Restoration, Phase 2, Part 2
DNR Project No. S2013-0204

Subject: Variance Request from 567 IAC 64.2(9) and Design Standards Sections 12.4 and 12.6

Dear Mr. Sovers:

After careful and thorough consideration, the Department has approved your November 13, 2013 request for a variance from Iowa Administrative Code Subrule 64.2(9) and Sections 12.4 and 12.6 of the Iowa Wastewater Facilities Design Standards; Section 12.4 describes allowable sanitary sewer pipe materials, and Section 12.6 describes the requirements for the installation of sanitary sewers by means of open cut construction.

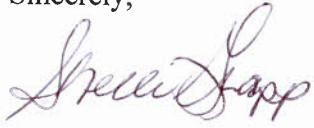
Based on the documentation presented by your Engineer, it is the determination of this Department that satisfactory justification has been presented to warrant the granting of a variance for the installation of approximately 677 linear feet of 8-inch, 161 linear feet of 10-inch, and 335 linear feet of 18-inch HDPE sanitary sewer by means of pipe bursting. The requested variance is deemed 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 call Jeremy Enano at 515-242-5521 or email him at jeremy.enano@dnr.iowa.gov if you have any further questions.

Sincerely,

A handwritten signature in dark ink, appearing to read "Shelli Grapp", written in a cursive style.

Shelli Grapp
Water Quality Bureau Chief

Cc: Patrick Schwickerath, Snyder & Associates
DNR FO 1
DNR Sewage File 6-57-15-0-01
DNR Legal Services

VARIANCE REQUEST
Iowa Department of Natural Resources

1. Date: December 9, 2013
2. Reviewer/Engr.: Jeremy Enano
3. Date Received: Original: 11/13/13; Revised: 12/6/13
4. Facility Name: City of Cedar Rapids STP
5. Facility Number: 6-57-15-0-01
6. County Number: 57 (Linn)
7. Program Area: CP (Wastewater)
8. Facility Type: C01 (Collection/Transport)
9. Subject Area: 393 - Pipe Reaming/Bursting - Materials & Joints
394 - Pipe Reaming/Bursting - Installation
10. Rule Reference: 567-64.2(9) a
11. Design Std. Ref.: 12.4 (Materials) & 12.6 (Details of Construction)
12. Consulting Engr.: Snyder & Associates
13. Variance Rule: 567-64.2(9) c

14. Decision *Approved*
Date: *12-10-13*

15. Appealed
Date:

16. Description of Variance Request:

The City of Cedar Rapids is requesting variance from Sections 12.4 and 12.6 of the Iowa Wastewater Facilities Design Standards. Section 12.4 of the Standards describes allowable sanitary sewer pipe materials. Section 12.6 describes requirements for the installation of sanitary sewers by means of open-cut construction.

The City proposes to replace several VCP sanitary sewers with HDPE pipe installed by means of pipe bursting. The proposed sewer material and installation method is not covered in the Design Standards.

17. Applicant's/Consulting Engineer's Justification:

The City proposes to replace several VCP sanitary sewers (damaged by the Floods of 2008) with HDPE pipe installed by pipe bursting. Below is information on the sewers to be replaced:

<u>Sewer Designation</u>	<u>Pipe Diameter</u>	<u>Length of Replacement</u>
SW-2-024	10 inches	161
SW-2-406	8 inches	349
SW-2-405	8 inches	328
SW-2-370	18 inches	144
SW-2-372	18 inches	191

Sewer segments SW-2-024, SW-2-406 and SW-2-405 are located in close proximity to (and generally, directly beneath) established trees within street right-of-way.

Sewer segment SW-2-370 is located in a sewer easement on private property, in close proximity to an existing building.

Sewer segment SW-2-372 is located in pavement, in close proximity to an existing 84-inch brick storm sewer.

The City proposes replacing the sewers by pipe bursting so as to minimize impact on adjacent trees, homes, and storm sewer. The use of HDPE is common for the proposed pipe bursting installation method [specifics about the pipe are included in the project specifications].

18. Department's Justification:

Recommend variance approval:

Recommend variance approval for the installation of approximately 1,173 linear feet of 8-inch to 18-inch HDPE pipe by means of pipe bursting.

The HDPE sewers will be installed at existing grades; which are greater than the minimum slopes listed in the Design Standards. Below are the existing sewer grades and the minimum slopes required for each (per the Standards).

<u>Sewer Designation</u>	<u>Pipe Diameter</u>	<u>Existing Slope</u>	<u>Min. Required Slope</u>
SW-2-024	10 inches	0.28 %	0.280 %
SW-2-406	8 inches	0.60 %	0.400 %
SW-2-405	8 inches	0.45 %	0.400 %
SW-2-370	18 inches	0.12 %	0.120 %
SW-2-372	18 inches	0.15 %	0.120 %

The procedure has been previously approved by the Iowa DNR.

19. Precedents Used:

- City of Cedar Rapids, 4/8/13
- City of Lowden, 10/2/12
- City of Grimes, 3/10/10
- City of North Liberty, 5/2/05

20. Staff Reviewer:

Jeremy Ross *ACO*

Date: 12/9/13

21. Supervisor:

Shyama Channupati

Date: 12/9/13

22. Authorized by:

Nelli Shapp

Date: 12-10-13

VARIANCE REQUEST

1. City of Cedar Rapids
1201 6th St. SW
Cedar Rapids, IA 5244
Project Representative: Mr. Scott Sovers, P.E., Project Engineer, 319.286.5547
2. Iowa Wastewater Facilities Design Standards, Chapter 12, Iowa Standards for Sewer Systems, Sections 12.4 & 12.6. Materials & Details of Construction respectively. These sections of the Design Standards detail the allowable sanitary sewer material and excavation, bedding, installation and backfill for sanitary sewers.
3. In lieu of the Materials called for in Section 4 of Chapter 12 of the Iowa Wastewater Facilities Design Standards "HDPE (high-density polyethylene) Pipe" shall be utilized where specified in the plans for the SW Quadrant, 2008 Flood Area Sanitary Sewer Restoration, Phase 2, Part 2 project.



In lieu of the Details of Construction called for in Section 6 of Chapter 12 of the Iowa Wastewater Facilities Design Standards "Pipe Bursting" shall be utilized where specified in the plans for the SW Quadrant, 2008 Flood Area Sanitary Sewer Restoration, Phase 2, Part 2 project.

4. Proposed sewers SW-2-024, SW-2-370, SW-2-372, SW-2-405 and SW-2-406 were damaged during the Flood of 2008. Replacement of the sewers is planned as part of a flood restoration project funded by FEMA. Sewer SW-2-370 is in close proximity to a private house, SW-2-372 is in close proximity to an 84" brick storm sewer and the remaining sewers listed above are in close proximity to several trees. To minimize impacts to the adjacent, home, storm sewer and trees pipe bursting is the preferred installation method. The project documents include bid items to install 8-inch, 10-inch and 18-inch HDPE sanitary sewers (reference the Estimated Project Quantities Table on Sheet C.01 and the List of Sanitary Sewer Pipe to Replace by Pipe Bursting table on Sheet C.03 of the plans) via pipe bursting. These bid items utilize pipe bursting and HDPE pipe in lieu of open cut installation of AWWA C900 pipe as specified for the remainder of the project. HDPE is the pipe material commonly used for pipe bursting sewer installations.
5. The City of Cedar Rapids has had numerous DNR construction permits issued over the last five years. A detailed list of these permits is currently unavailable, however one such recent variance request was approved for the Cedar Rapids 15th Avenue SW (North of) Between 4th Street and 6th Street, Sanitary Sewer Replacement project on April 5th, 2013.
6. The City of Cedar Rapids has installed other HDPE sanitary sewer within the City limits via pipe bursting previously.

7. At this time we are unaware of other public agency or political subdivisions of the state or federal government that also regulate the activity in questions, or might be affected by the granting of the variance being requested.
8. At this time we are unaware of any person or entity that would be adversely affected by the granting of the petition.
9. The following individuals have knowledge of relevant facts concerning the variance being requested:
 - Mr. Scott Sovers, P.E., Project Engineer, Public Works Dept., City of Cedar Rapids, IA, 1201 6th St. SW, Cedar Rapids, IA 52404, Office: 319.286.5547
 - Mr. Patrick Schwickerath, P.E., Project Engineer, Snyder & Associates, 5005 Bowling St. SW, Suite A, Cedar Rapids, IA 52404, Office: 319.362.9394
10. The following individuals from the City of Cedar Rapids and Snyder & Associates have approved this variance request:


Scott Sovers

10/18/13
Date

	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> <u>10/18/13</u> Patrick D. Schwickerath, P.E. Date License Number 18652 My License Renewal Date is December 31, 2013 Pages or sheets covered by this seal: <u>1-2</u></p>

Notification: We are not aware of any additional persons that need to be notified of this variance request. This paragraph is to serve as our written statement to the Department attesting that no additional notice is required.