VARIANCE REQUEST
Iowa Department of Natural Resources

1.	Date:	7/17/14	14a.	Decision:	Approved
2.	Reviewer/Engr.:	Jim Oppelt		Date:	7-18-14
				Expiration Date	
3.	Date Received:	7/16/14	14b.	(if any):	Permanent
4.	Facility Name:	Gilbertville WWTF			
5.	Facility Number:	6-07-33-0-01			
6.	County Number:	7	15.	Appealed:	
7.	Program Area:	CP (Wastewater Construction)		Date:	
8.	Facility Type:	C04 (Physical Treatment)			
9.	Subject Area:	369 (Bypass Channel Screen)			
10.	Rule Reference:	567-64.2(9)a			
11.	Design Std. Ref.:	15.2.4.2.4			
12.	Consulting Engr.:	SEH			
13.	Variance Rule:	567-64.2(9)c			

16. Description of Variance Request:
A single channel with no bypass is proposed. IA Standard 15.2.4.2.4 states that "Bypass channels shall be provided and equipped with the necessary gates to isolate flow from any single mechanical screening unit. Provisions shall also be made to faciltate dewatering each mechanical unit."

17. Applicant's/Consulting Engineer's Justification:
The mechanical screen provided does not require the isolation of flow because the unit's mechanical rake can be removed from the wetwell for maintenance and cleaning purposes without taking the screen out of service.

18. Department's Justification:
Recommend Variance Approval:
The proposed arrangement provides equivalent effectiveness for isolation of the mechanical screen. IA 15.2.4.2.4 allows single channels with mannually cleaned screens that are removable without dewatering for "small installations". The design AWW30 flow for Gilbertville is 0.200 mgd.

19. Precedents Used:
Dyersville (5/22/01) and Long Grove (10/1/07). Cities of Fayette and Mt. Vernon have similar arrangements (screen that can be removed with no bypass channel) although no formal variance requests / approvals were found.

20. Staff Reviewer:		Date: 7-17-14
21. Supervisor:	Satya Chennupati	Date: 7-18-14.
22. Authorized by:	Kelli Lapp	Date: 7-18-14

Fields of Opportunities

STATE OF IOWA

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

DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

July 17, 2014

Brian Delagardelle, Public Works Director
City Hall
1321 5th Street
Gilbertville, IA 50634-0107

RE: Wastewater Treatment Improvements
City of Gilbertville
DNR Project No. S2009-0110
CWSRF No. CS1920548 01

Subject: Variance Request from 567 IAC 64.2(9a) and Design Standards Section 15.2.4.2.4.

Brian:

After careful and thorough consideration, the Department has ***approved*** your July 16, 2014 request for a variance from Iowa Administrative Code Subrule 567 IAC 64.2(9a) and Chapter 15.2.4.2.4 of the Iowa Wastewater Facilities Design Standards. The rule requires bypass channels with the necessary gates to isolate flow from any single mechanical screening unit and to facilitate dewatering each mechanical unit.

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 mechanical screen bypass channels. 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 call James Oppelt at 515-281-8868 or email me at james.oppelt@dnr.iowa.gov if you have any further questions.

Sincerely,

Shelli Grapp
Water Quality Bureau Chief

C: Steve Robinson. P.E. / Short Elliott Hendrickson, Inc.
DNR Field Office 1
DNR Sewage File 6-07-33-0-01
SRF File CS1920548 01
DNR Legal Services

S2009-0110

July 16, 2014

James Oppelt, P.E.
Environmental Engineer Senior
Iowa Department of Natural Resources
502 E. 9th Street
Des Moines, IA 50319

Re: Gilbertville WWTP Improvements Project – Wastewater Construction Permit Variance Request

Dear Mr. Oppelt:

Per 561 Iowa Administrative Code (IAC) Chapter 10, the City of Gilbertville is requesting a variance to the Iowa Department of Natural Resources (IDNR) Wastewater Facilities Design Standards for the above reference project and issuance of the related Construction Permit.

1. Name, address, and telephone number of entity requesting the variance:
    a. City of Gilbertville Wastewater Treatment Plant
    Representative: Brian Delagardelle
    6112 Gilbertville Road South
    Gilbertville, IA 50634
    Ph: 319-240-8065

2. Description and citation of specific rule from which a variance is requested:
    a. A variance is requested for the facilities requirements as cited in Chapter 15, Section 2.4.2.4 of the IDNR Wastewater Facilities Design Standards.

3. Specific variance requested, scope, and operative period which the variance will extend.
    a. The variance requested is for the use of a manually-cleaned influent bypass structure to isolate influent flow from the proposed mechanically cleaned bar screen instead of the use of a bypass channel as outlined in Chapter 15, Section 2.4.2.4.
    b. The scope of the variance is limited to the existing influent wet well.
    c. The variance will extend for the design life of the proposed mechanical screen.

4. Relevant facts justifying the variance:
    a. Site Constraints
        i. Gilbertville's WWTP influent flows into an existing 28-foot deep wetwell, where influent is currently screened by a manually cleaned bar screen.
        ii. The size of the wetwell precludes the installation of a manually cleaned bar screen as a backup.
        iii. The size of the wetwell precludes the installation of a traditional bypass channel.
        iv. Wastewater must be screened at the wetwell inlet to protect the wetwell pumps.

    b. Proposed Screen Installation
        i. The proposed screening installation includes a mechanically cleaned bar screen and a manually cleaned screening basket. The bypass structure includes a sluice gate that, when closed, diverts influent to the screening basket. The bar screen

structure is completely separable from the bypass structure such that the bar screen can be removed from the wetwell for service or repair while the bypass structure and screening basket remains in the wetwell. Both the bar screen structure and bypass screening basket structure are mounted to the concrete wetwell wall with separate frames.

ii. The bypass structure includes a weir with an elevation set such that influent cannot back up in the sewer past the closest manhole upstream of the treatment facility. Should the primary bar screen ever become completely clogged, influent would automatically flow to the screening basket prior to overflowing the bar screen.

5. Contact History with the Department
   a. No variances are known to have been requested by the Gilbertville WWTP in the past 5 years.

6. Known Department's treatment of similar cases:
   a. A similar variance request has been approved by IDNR for proposed screening installations in which a bypass channel was not utilized. (e.g., the Long Grove Variance Request from September of 2007).

7. Name, address, and telephone number of any public agency or political subdivision(s) that might be affected by granting the variance:
   a. None

8. Name, address, and telephone ,umber of any person or entity that might be affected by granting the variance:
   a. None

9. Identity of those having knowledge of relevant facts concerning the variance:
   a. Bayard Yang, P.E., SEH Inc.
   b. Steve Robinson, P.E., SEH Inc.
   c. Brian Delagardelle, City of Gilbertville

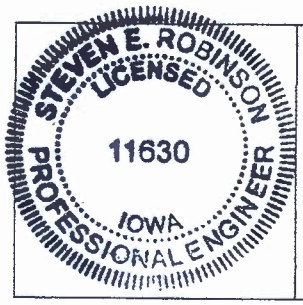
10. Signed Release:

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

Brian E. Delagardelle — 7-17-2014

Brian Delagardelle, City of Gilbertville Public Works Director — **Date**

I attest to the accuracy of the facts provided in the petition and the reasons as listed to justify issuance of the 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.

Steven Robinson — 7-16-14

STEVEN ROBINSON, P.E. — **DATE**

License No. **11630**

My renewal date is: 12-31-14

Pages of sheets covered by this seal:

Entire document

Should you have any questions or comments regarding this request, please do not hesitate to contact me at srobinson@sehinc.com, 507.376.5888.

Sincerely,

SHORT ELLIOTT HENDRICKSON INC.

Steve Robinson, P.E.

SEH

Building a Better World for All of Us®

MEMORANDUM

TO: James Oppelt, PE

FROM: David Hach

DATE: June 30, 2014

RE: Gilbertville Influent Screen
SEH No. 127274

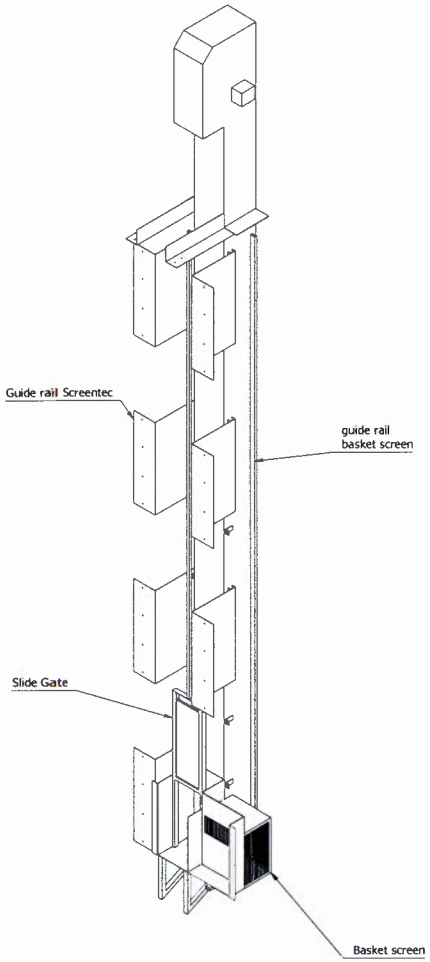
Dear Mr. Oppelt,

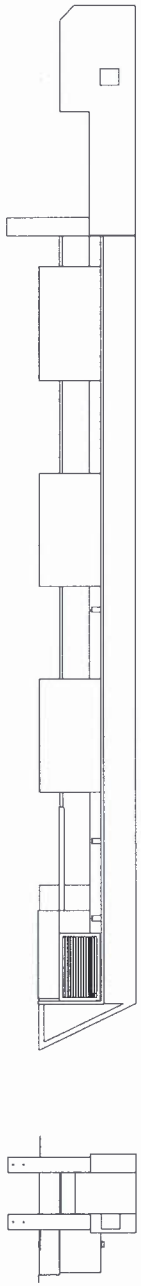
Attached are drawings of the screen solution proposed by Aqualitec to provide backup screening and flow isolation from the primary mechanically cleaned bar screen.

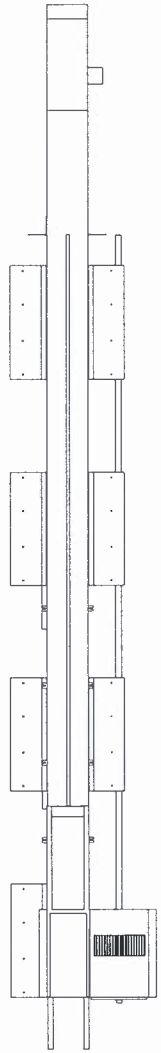
On sheet 2 you can see that the screen has been modified to be mounted on a guide rail. We have added a slide gate that will shut off flow to the primary screen and divert it to the bypass screening basket, which is mounted to a frame that is independent of the primary screen and cleaning mechanism. This allows for the screen to be removed while still providing screening. In addition, should the primary screen ever become clogged, the influent can only backup to the elevation of the bypass weir before it automatically begins to flow into the bypass screening basket. The primary screen is designed to pass 100% of PHWW flow even if it becomes 50% blinded.

The bypass screening basket is designed to be raised and lowered manually for cleaning.

If you have any questions on the design or function of this solution, please don't hesitate to contact me.

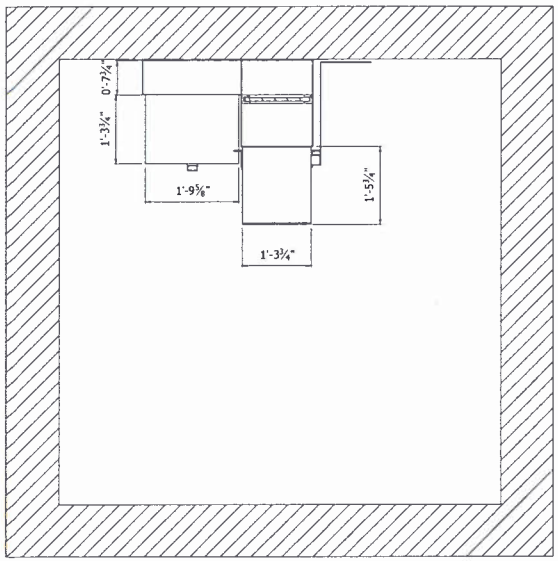




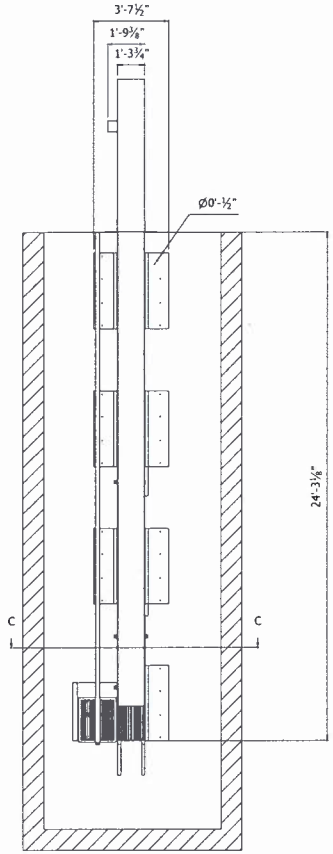


Code article: **14-04-0465-implantation**			Description: **Gilbertville Screentec**	
Aqualitec Screening Equipment		Matieral: Stainless steel	F	
			E	
		Weight:	D	
			C	
			B	
Projection :	Scale:	Sheet:2	Ind	Modification Name Date
Designer: Retailleau.J		Size:A2	Drawings are Aqualitec Corp. property, copy or communication submitted to authorization.	

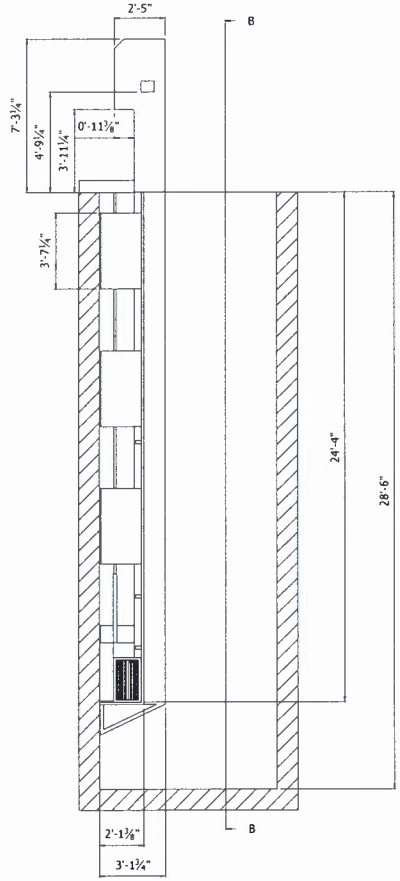
C-C (1:20)

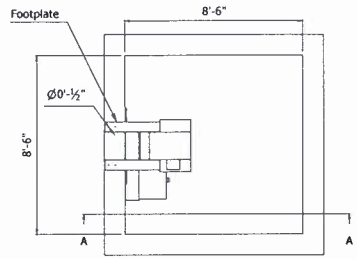


B-B (1:50)



A-A (1:50)





Code article: **14-04-0465-implantation**		Description: **Gilbertville Screentec**			
Aqualitec Screening Equipment	Matieral: Stainless steel	F			
		E			
	Weight:	D			
		C			
		B			
Projection :	Scale:	Sheet:1	Ind	Modification	Name Date
Designer: Retailleau.J		Size:A2	Drawings are Aqualitec Corp. property, copy or communication submitted to authorization.		