



May 10, 2016

CUST ID No. 260354

*ATTN: Plumbing Inspector*

EDWARD OLEYNICZAK  
RIVERSIDE ENGINEERING & DESIGN  
PO BOX 255  
SUAMICO WI 54173-0255

BUILDING INSPECTION  
TOWN OF EGG HARBOR  
W241 S4135 PINE HOLLOW CT  
WAUKESHA WI 53189

**CONDITIONAL APPROVAL**  
**PLAN APPROVAL EXPIRES: 05/10/2018**

**SITE:**

Birch Creek Music Performance Center  
3821 Hwy E  
Town of Egg Harbor, 54209  
Door County  
NW1/4, NE1/4, S28, T30N, R27E

**FOR:**

Facility: 1725 BIRCH CREEK MUSIC CENTER  
3821 HWY E

Revision; Plan Type: Addition-Alteration; 1 Interior Fixture(s)

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1588597  
Revision

Identification Numbers
<b>Transaction ID No. 2708605</b>
<b>Site ID No. 722515</b>
Please refer to both identification numbers, above, in all correspondence with the agency.

The submittal described above has been reviewed for conformance with applicable Wisconsin Administrative Codes and Wisconsin Statutes. The submittal has been **CONDITIONALLY APPROVED**. The owner, as defined in chapter 101.01(10), Wisconsin Statutes, is responsible for compliance with all code requirements.

**No person may engage in or work at plumbing in the state unless licensed to do so by the Department per s.145.06, stats.**

The following conditions shall be met during construction or installation and prior to occupancy or use:

- **This plan approval replaces and supersedes the plan approved under transaction ID 2673867. There are two primary changes:**
  1. **An additional UV device has been added for a total of four; and**
  2. **Copper water distribution piping is being replaced with CPVC piping.**
  
- The point-of-entry (POE) UV devices have undergone sufficient testing to document the ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.
  
- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 267-9787.

- If this approved device is modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.
- This installation consists of replacing existing UV devices and prefilters with new ones. The UV devices to be installed are four (4) Viqua UVMAX PRO30 models. The UV devices shall be installed in parallel. Each of the new UV units shall have:
  1. A narrow band UV intensity monitor.
  2. Manufacturer supplied solenoid valves
  3. No bypass piping. If bypass piping is strongly desired, then the bypass shall be of the locking type.
- Any insulating materials that are installed within a metallic water supply system being used as an electrical ground must be jumped using a properly sized electrical bonding jumper.
- Each individual UV device shall be fitted with a flow control that prevents flow rates > 30 gpm.
- An owner's manual, installation and maintenance instructions shall be provided to the system owner and remain onsite.
- Culligan of Door County, 920-743-6242, [culligandoorcounty@yahoo.com](mailto:culligandoorcounty@yahoo.com), is responsible for the ongoing maintenance of this system.
- This installation must undergo a final inspection prior to the device being put into service. The Plumbing Consultant having jurisdiction in this area is Phil Mnuk. Mr. Mnuk can be contacted via the following:

Phone: 262-354-5167

E-mail: [phil.mnuk@wisconsin.gov](mailto:phil.mnuk@wisconsin.gov)

When the final inspection has been completed, this department will notify the Wisconsin Department of Natural Resources (WDNR). The WDNR will then monitor the performance of the device(s) to its satisfaction. A suggested frequency and overall duration of monitoring is provided elsewhere in this letter, which the WDNR is free to accept or reject. The WDNR Field Staff person having jurisdiction in this area is Vickie Taddy. Ms. Taddy can be contacted via the following:

Phone: 920-746-2884

E-mail: [vickie.taddy@wisconsin.gov](mailto:vickie.taddy@wisconsin.gov)

- If these devices are installed and put in consumptive service prior to obtaining a final inspection by DSPS, then any pertinent approval for the site specific device is immediately rendered null and void and the device may be ordered removed.
- Influent Water quality must conform to section 1.3 of the PRO30 manual (602936\_Rev U). If the influent water quality does not meet the requirements displayed in the manual, then acceptable pretreatment shall be installed as required to meet the influent water quality requirements.
- The suggested monitoring interval for this installation is biannually, preferably in the spring and fall when the groundwater recharge rate is at or near the maximum. As a minimum, the following tests should be performed:
  1. Total coliform
  2. E. coli, if positive then
  4. Enterococci
  4. UV transmittance (UVT,  $\geq 75\%$ )

The samples should be collected at a time of day when the devices are at, or near, peak flow rate. Raw water samples should be collected from the well pressure tank tap (i.e. prior to any treatment devices). Treated water samples should be collected downstream of all water treatment devices.

- The UV devices being installed are approved under DSPS product file number 20120396. The complete approval letter can be viewed at:

<http://dsps.wi.gov/sb/docs/sb-ppalopp/wtd/20120396.pdf>

All stipulations displayed in the approval letter for product file number 20120396 shall be adhered to.

**HEALTH EFFECTING BIOLOGICAL CONTAMINANT REDUCTION CAPABILITIES  
PRODUCT FILE NUMBER 20120396  
TABLE 1 OF 1**

**Flow Rate:** Pro 30 = 113.6 lpm (30 gpm)

**Lamp Replacement Interval:** 12 months (max.)

Tested Contaminant	Influent Challenge (PFU/ml) <sup>2</sup>
MS2 Bacteriophage <sup>1</sup>	$\geq 5.0 \times 10^4$

Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 1 were verified by testing conducted in accordance with NSF *International* Standard 55. To qualify for Class A performance, the device must reduce the influent challenge concentrations by an amount  $\geq$  that achieved using an UV dosage of 40 mJ.

1 = ATCC 15597-B

2 = plaque forming units per milliliter

$\geq$  = greater than or equal to

These Class A systems conform to NSF Standard 55 for the disinfection of microbiologically contaminated water that meets all other public health standards. These systems are not intended for the treatment of water that has an obvious contamination source (i.e. raw sewage), nor are these systems intended to convert wastewater to microbiologically safe drinking water. These systems are intended for installation on optically clear water (not colored, cloudy, or turbid water). Where concerns over adenovirus exist, supplemental chlorination may be required.

- All piping shall be labeled in accordance with Table 382.40-1a.
- The installation shall be performed by a properly licensed Wisconsin plumber.
- Any wall hydrant that is not served by the UV treatment devices shall have at least one, or more, of the following:
  1. The handles of the hydrant shall be removed;
  2. The hydrant shall be capped and sealed using solder; or
  3. Signage shall be posted immediately above the hydrant indicating the water is unfit for human consumption.
- Any chlorination of the water supply system using free chlorine shall be one of two types:
  - a. Calcium hypochlorite; or
  - b. Sodium hypochlorite.

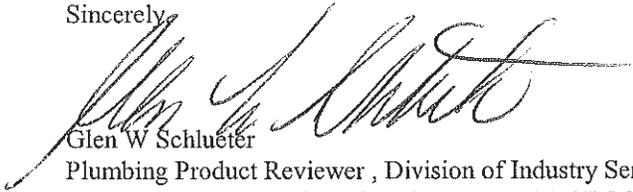
**Adulterated forms (e.g. trichlor) shall not be used.**

A full size copy of the approved plans, specifications and this letter shall be on-site during construction and open to inspection by authorized representatives of the Department, which may include local inspectors. If plan index sheets were submitted in lieu of additional full plan sets, a copy of this approval letter and index sheet shall be attached to plans that correspond with the copy on file with the Department. If these plans were submitted in an electronic form, the designer is responsible to download, print, and bind the full size set of plans along with our approval letter. A department electronic stamp and signature shall be on the plans which are used at the job site for construction. All permits required by the state or the local municipality shall be obtained prior to commencement of construction/installation/operation.

In granting this approval the Division of Industry Services reserves the right to require changes or additions should conditions arise making them necessary for code compliance. As per state stats 101.12(2), nothing in this review shall relieve the designer of the responsibility for designing a safe building, structure, or component.

Inquiries concerning this correspondence may be made to me at the telephone number listed below, or at the address on this letterhead.

Sincerely,



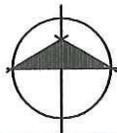
Glen W Schlueter  
Plumbing Product Reviewer , Division of Industry Services  
(608)267-1401 , Monday-Thursday 7:00AM-3:45PM  
Friday 7:00AM-12:00PM  
glen.schlueter@wisconsin.gov

Fee Required \$	85.00
Fee Received \$	85.00
Balance Due \$	0.00

WiSMART code: 7657

cc: Philip Lawson Mruk, Plumbing Consultant, (262) 354-5167 , M-t 7:00AM-4:15PM -FRI-7:00AM -12:00AM  
Riverside Engineering & Design  
Birch Creek Music Performance Center

**Note: Effective January 1, 2012,** all codes under the jurisdiction of the Division of Industry Services (formerly Safety & Buildings) will be modified. Code references with prefixes starting with "Comm" have been replaced with "SPS" to recognize the relocation of the Division of Industry Services from the former Department of Commerce to the Department of Safety & Professional Services. Additionally, all IS (formerly S&B) codes have been renumbered and addressed in a "300" series. For future reference, the Wisconsin Commercial Building Code will be addressed by SPS Chapters 360-366.



# SITE MAP

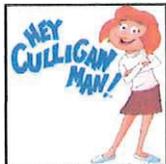
NO SCALE

**Culligan.**

better water. pure and simple!

**CULLIGAN OF DOOR COUNTY**

63 EAST OAK STREET  
STURGEON BAY, WI 54235  
(920) 743-6242

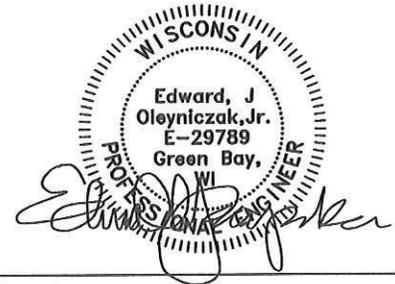


## PLAN LEGEND

- P1 TITLE SHEET/SITE LOCATION
- P2 SCOPE OF WORK
- P3 WATER CALCULATIONS
- P4 FIXTURE COUNT PER BLDG
- P5 WATER CALCULATIONS
- P6 WATER PIPING SCHEMATIC
- P7 WATER CALCULATION WORK SHEET
- P8 UV DATA SHEET
- P9 CARTRIDGE VESSEL DATA SHEET

**RIVERSIDE**  
ENGINEERING & DESIGN, INC.

1786 RIVERSIDE DRIVE  
P.O. BOX 288  
QUAPIO, WI 54119  
(920) 454-2891 riversideustate@gmail.com



UV STATE SUBMITTAL

REVISED 4/27/16

JAN 4, 2016

**BIRCH CREEK MUSIC CENTER, INC.**

PO BOX 230 3801 CTY RD E  
EGG HARBOR, WI 54209

**RIVERSIDE**  
JOB NUMBER

15-226 16-100

SHEET

P1



**SITE PLAN**  
NO SCALE

**BIRCH CREEK MUSIC CENTER, INC.**  
PO BOX 230 3807 CTY RD E  
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**SHEET**  
P2

## SCOPE OF WORK

EXISTING UV EQUIPMENT HAS  
REACHED THE END OF IT'S LIFE

SCOPE OF THIS PROJECT  
IS EQUIPMENT REPLACEMENT ONLY

## SOLUTION

INSTALL A NEW STANDARD 55 CLASS "A" UV SYSTEM WITH FILTER.

## EQUIPMENT SPECIFICATIONS

INSTALL A NEW UV SYSTEM AND FILTER

(1) TWO multi-cartridge, band clamp filter housing including 7-7" ROUND X 30" LONG 5 micron sediment pre-filters

Cartridges quoted exceed NSF/ANSI 42 tested for potable water.

(4) FOUR Pro-30 Ultraviolet light water treatment systems with narrow band U.V. monitor

NSF approved, meets standard 55 class A

WITH automatic solenoid valve kits

## WATER PIPING

ALL WATER PIPING SHALL BE TYPE "M" COPPER PIPING

ALL WORK SHALL BE INSTALLED BE WISCONSIN CODE

## MAINTENANCE SCHEDULE

A) FILTER BANK

1) FILTER GAUGES SHALL BE CHECKED WEEKLY

2) CLEAN/REPLACE FILTER CARTRIDGES IF PRESSURE DROP EXCEEDS 8 PSI

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P3

# BUILDING FIXTURE COUNT

## Farmhouse

- 1 Bathroom Group - Shwr
- 1 Lav
- 1 Wc
- 1 Kitchen Sink

## Grainery

- 1 Kitchen Sink

## TA Housing East

- 6 Bathroom Group - Shwr
- 6 Bar Sink
- 1 Sillcock

## The Ridges

- 4 Bathroom Group - Shwr

## Admin Bldg

- 1 Lav
- 1 Wc FT
- 1 Kitchen Sink
- 1 Bathroom Group - Shwr
- 2 Sillcocks

## Juniper Hall

- 2 Drinking Fountains
- 1 Kitchen Sink
- 1 Dish Washer - Residential
- 1 Toilet FT Public
- 1 Lav Public
- 2 Mop Basins
- 1 Sillcock

## Juniper Mens

- 3 Urinal
- 3 Lav Public
- 2 Toilet FT Public

## Juniper Womens

- 4 Lav Public
- 9 Toilet FT Public

## Kress Dorm Mens

- 2 Urinal
- 3 Lav Public
- 2 Toilets FT Public
- 3 Showers

## Kress Dorm Womens

- 4 Lav Public
- 4 Toilets Ft Public
- 3 Showers

## Kitchen - Commercial

- 1 Hand Sink
- 1 Mop Sink
- 1 Commercial Sink Prewash
- 1 Commercial Sink Wash
- 1 Rinse Sink - No Disposal
- 1 Commercial Dishwasher CMA AH-2 SN187525

## Public Mens

- 6 Lav
- 3 Urinal
- 2 Toilet FT
- 1 Toilet FV
- 4 Showers
- 2 Sillcocks

## Public Womens

- 6 Lav
- 5 Toilet FT
- 1 Toilet FV
- 4 Showers

## Maintenance Shop - Public

- 1 Laundry Sink
- 1 Toilet FT
- 1 Lav

## Woody's Woodshed - Public

- 1 Sillcock

## Faculty Lounge

- 1 Kitchen Sink Residential
- 1 Ice Maker Residential
- 1 Laundry Sink

## Faculty Housing

- 20 Bathroom Group - Shwr
- 2 Sillcock

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 P4

**PLUMBING CALCULATIONS**

**STATE OF WISCONSIN**

QTY. FIXTURE TYPE	WATER			TOTAL WATER		LOAD
	CW VALUE	HW VALUE	FIXT. TOTAL	CW VALUE	HW VALUE	FIXT. TOTAL
0 TANK WATER CLOSET	2	0	2	0	0	0
6 BAR SINKS	0.5	0.5	1	3	3	6
32 BATHROOM GROUP-SHOWER	3	1.5	3.5	96	48	112
1 LAUNDREY TRAY - RESIDENTIAL	1	1	1.5	1	1	1.5
1 REFRIGERATOR	0.5	0	0.5	0.5	0	0.5
3 KITCHEN SINKS	1	1	1.5	3	3	4.5
2 DRINKING FOUNTAINS	0.25	0	0.25	0.5	0	0.5
2 FLUSH VALVE W. CLOSET	6.5	0	6.5	13	0	13
28 TANK WATER CLOSET	3	0	3	84	0	84
8 URINALS	2	0	2	16	0	16
30 LAVATORY/ BAR SINK	0.5	0.5	1	15	15	30
1 RESIDENTIAL DISHWASHER	0	1	1	0	1	1
1 POT SINK	4	4	6	4	4	6
1 PRE-RINSE SINK	2	2	3	2	2	3
2 KITCHEN SINK PUBLIC	2	2	3	4	4	6
1 PREPSINK	2	2	3	2	2	3
1 HAND SINK	0.5	0.5	1	0.5	0.5	1
1 LG COMMERCIAL DISHWASHER	0	10	10	0	10	10
14 SHOWER/BATHTUB	2	2	3	28	28	42
1 LAUNDRY TRAY	2	2	3	2	2	3
3 MOP BASIN 3"	2	2	3	6	6	9
8 HOSE BIBBS 1/2"	3	0	3	24	0	24
<b>147</b>	<b>TOTAL WATER LOAD</b>			<b>304.5</b>	<b>129.5</b>	<b>376</b> <b>98 GPM</b>

BASED ON :  
3  
PSI/100FT.

	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
SCH 80 CPVC (WFU)	-	9	17.5	37	66	185	385	755
SCH 80 CPVC (GPM)	-	7	12.5	23	34	62	102	170

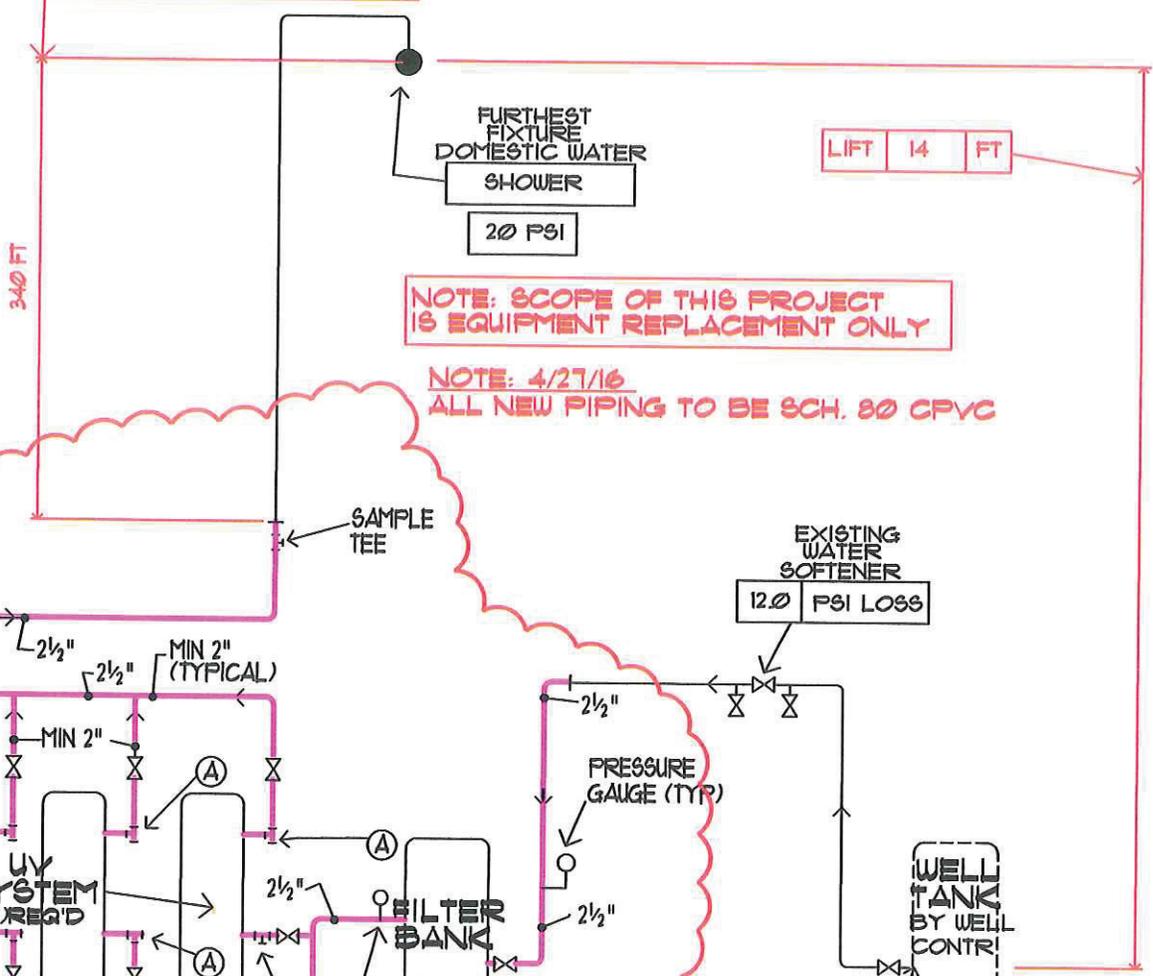
**REVISED**  
**05-02-16**

**BIRCH CREEK MUSIC CENTER, INC.**  
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15-226 16-100

**SHEET**  
P5

DEVELOPED LENGTH FROM BLDG CONTROL VALVE TO CONTROLLING FIXTURE IN FT



NOTE: SCOPE OF THIS PROJECT IS EQUIPMENT REPLACEMENT ONLY

NOTE: 4/27/16  
ALL NEW PIPING TO BE SCH. 80 CPVC

PLAN NOTES:  
 (A) TEE  
 BOILER DRAIN

## WATER PIPING SCHEMATIC

NO SCALE:

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**SHEET**  
 P6







## Multi-Cartridge Band-Clamp Liquid Vessels GTCHB Series

### Features

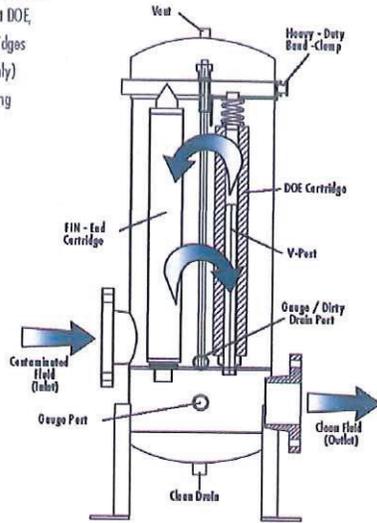
- Heavy-duty welded mounting/support legs
- Easy-access heavy-duty band-clamp closure
- Single o-ring design (Buna-N standard)
- Universal seal cups and compression plates allow vessels to accept DOE, 222/FLAT, or 222/FIN cartridges
- Poly-coat finish (exterior only)
- 316 stainless steel cap/spring assemblies and v-post
- 150 PSI pressure rating

### Options

- Sanitary Porting
- Alternate Seal Materials

### Vessel Data Sheet

GTCHB Series Multi Cartridge Vessels are designed for industrial and commercial applications. Vessels are constructed of 304 or 316 stainless steel and accept DOE, 222/FLAT, and 222/FIN end cartridges in 10, 20, 30 & 40 inch lengths.



### Ordering Information

GTCHB	# of Cartridge	Length	Inlet/Outlet Size	Inlet/Outlet	Outlet	Material	Pressure Rating	Surface Finish
			2 = 2"	N = FNPT	2 = Opposite Outlet	4 = 304SS	15 = 150 PSI @ 250F	PC = Poly-Coat
	7 = 7	3 = 30"						

Finally, an end-to-end solution from a single source.



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Pg  
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