



June 03, 2015

CUST ID No. 260354

ATTN: Plumbing Inspector

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

BUILDING INSPECTION
VILLAGE OF EPHRAIM
W241 S4135 PINE HOLLOW CT
WAUKESHA WI 53189

CONDITIONAL APPROVAL
PLAN APPROVAL EXPIRES: 06/03/2017

SITE:

Waterbury Inn
10325 Water St
Village of Ephraim, 54211
Door County

FOR:

Facility: 751064 WATERBURY INN
10325 WATER ST
EPHRAIM 54211
Plan Type: Addition-Alteration; 1 Interior Fixture(s)

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1538851

Identification Numbers
Transaction ID No. 2552383 Site ID No. 813293
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:

- 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. Solenoid valves
 3. No bypass piping. If bypass piping is strongly desired, then the bypass shall be of the locking type.
- Each individual UV device shall be fitted with a flow control that prevents flow rates that exceed 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, 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

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 Laurel Braatz. Ms. Braatz can be contacted via the following:

Phone: 920-746-2872

E-mail: laurel.braatz@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) ²
MS2 Bacteriophage ¹	$\geq 5.0 \times 10^4$

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.

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,



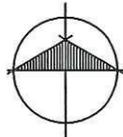
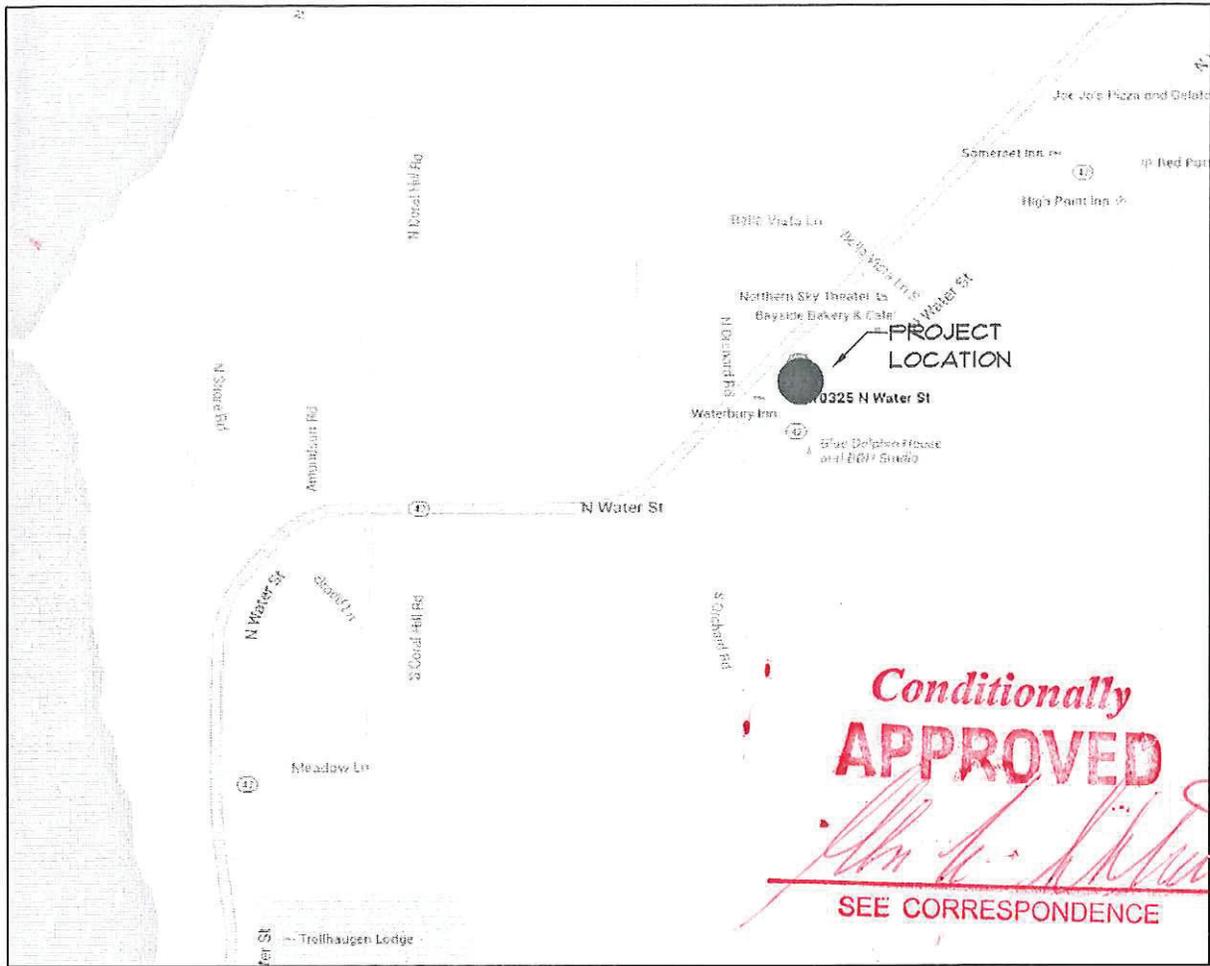
Glen W Schlueter
Plumbing Product Reviewer
Division of Industry Services
(608)267-1401
Monday-Thursday 6:30AM-3:30PM, Friday 6:30AM-10:30AM
glen.schlueter@wisconsin.gov

Fee Required \$ 160.00

This Amount Will Be Invoiced.
When You Receive That Invoice,
Please Include a Copy With Your
Payment Submittal.
WiSMART code: 7657

cc: Philip Lawson Mnuk, Plumbing Consultant, (262) 354-5167 , M-t 6:00AM-3:30PM -FRI-6:00AM -10:00AM
Nathan Hasland, Culligan Service
Waterbury Inn

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

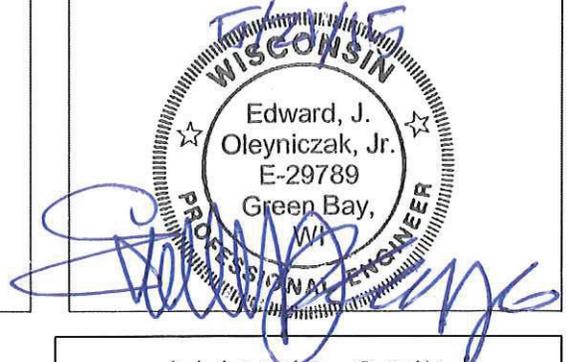
63 E Oak St
Sturgeon Bay, WI 54235
Phone number (920) 743-6242



PLAN LEGEND

- P1 TITLE SHEET/SITE LOCATION
- P2 SCOPE OF WORK
- P3 WATER CALCULATIONS
- P4 EMAIL FROM LAUREL BRAATZ
- P5 FLOOR PLAN
- P6 WATER PIPING SCHEMATIC
- P7 WATER CALCS
- P8 UV DATA SHEET
- P9 CARTRIDGE VESSEL DATA SHEET

RIVERSIDE
ENGINEERING & DESIGN, INC.
P.O. 255
SUAMICO, WI. 54173
(920) 434-9031
riversidesuamico@gmail.com



UV STATE SUBMITTAL

MAY 18, 2015

WATERBURY INN

41516684 DSPS TREATMENT APPLICATION
10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE
JOB NUMBER

15-070

SHEET

P1

SCOPE OF WORK

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

SCOPE OF THIS PROJECT
IS EQUIPMENT REPLACEMENT ONLY

WATER SAMPLES

WATER SAMPLES DETECTED COLIFORM YES

WATER SAMPLES DETECTED E-COLI NO

SOLUTION

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

EQUIPMENT SPECIFICATIONS

INSTALL A NEW UV SYSTEM AND FILTER

(2) TWO multi-cartridge, band clamp filter housing including 5-5 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 CPVC, OR 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

WATERBURY INN

41516684 DSGPS TREATMENT APPLICATION
10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE

JOB NUMBER

15-070

SHEET

P2

PLUMBING CALCULATIONS

STATE OF WISCONSIN

QTY. FIXTURE TYPE	WATER			TOTAL WATER		LOAD
	CW VALUE	HW VALUE	FIXT. TOTAL	CW VALUE	HW VALUE	FIXT. TOTAL

WATERBURY

RESIDENTIAL

50	BATHROOM GROUP-TUB	3.5	2	4	175	100	200
50	KITCHEN SINKS	1	1	15	50	50	75
50	DISHWASHER	0	1	1	0	50	50

COMMERCIAL

2	TANK WATER CLOSET	3	0	3	6	0	6
2	LAVATORY	0.5	0.5	1	1	1	2
2		0.5	0	0.5	1	0	1
1	ICE MAKERS	0.5	0	0.5	0.5	0	0.5
1	SHOWER	2	2	3	2	2	3
2	LOUNGE SINKS	1.5	1.5	2	3	3	4
1	MOP BASIN 3'	2	2	3	2	2	3
4	SMALL CLOTHES WASHER	2	2	3	8	8	12

0	HOSE BIBBS 1/2"	TAKEN OFF BEFORE TREATMENT SYSTEM			0	0	0
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TOTAL WATER LOAD						356.5
						95 GPM

WATERBURY INN

41516684 D9PS TREATMENT APPLICATION
10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE

JOB NUMBER

15-070

SHEET

P3

EMAIL :

From: Braatz, Laurel A - DNR
Sent: Tuesday, April 21, 2015 10:35 AM
To: Schlueter, Glen W - DSPS; Treatment Culligan
Door County (culligandoorcounty@yahoo.com)
Subject: WATERBURY INN 41516684 DSPS Treatment application

Hello

This note was sent so we had the same information for the proposed treatment system.

Waterbury Inn staff will be working with Culligan staff to replace an approved UV system that has aged past its prime. The original approval was issued by Bob Schaefer, DNR, May 1, 1996. Changes will be made to the filters and upgraded Trojan UV Max Pro 30 lights are planned as part of the new treatment system design.

1. Culligan will submit a treatment application to DSPS for review for the proposed 2015 treatment design.
2. DNR will allow ANSI/NSF Std 55 Class A approved UVs for this water system based on prior approval and sampling history. (Waterbury Inn has only had two raw water samples that contained coliform since installation of the UV in 1996. Upgrades have also been made to area Ephraim septic and Ephraim Village sewers since 1996. E.coli has not been confirmed in raw water samples.)

Glenn

Please notify me when the new treatment approval is issued.

Nathan

DSPS approval of the new design is required prior to installation of the new treatment equipment.

Please notify me when the new water treatment system has been installed at Waterbury Inn.

If either of you have questions that I may help with let me know.

Thanks for your work on this treatment system. Have a great day.

Laurel

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Laurel Braatz
Drinking Water & Groundwater Specialist, Bureau of Drinking Water & Groundwater
Wisconsin Department of Natural Resources

110 S. Neenah Avenue, Sturgeon Bay, WI 54235
Phone: (920) 746-2872

Fax: (920) 746-2863

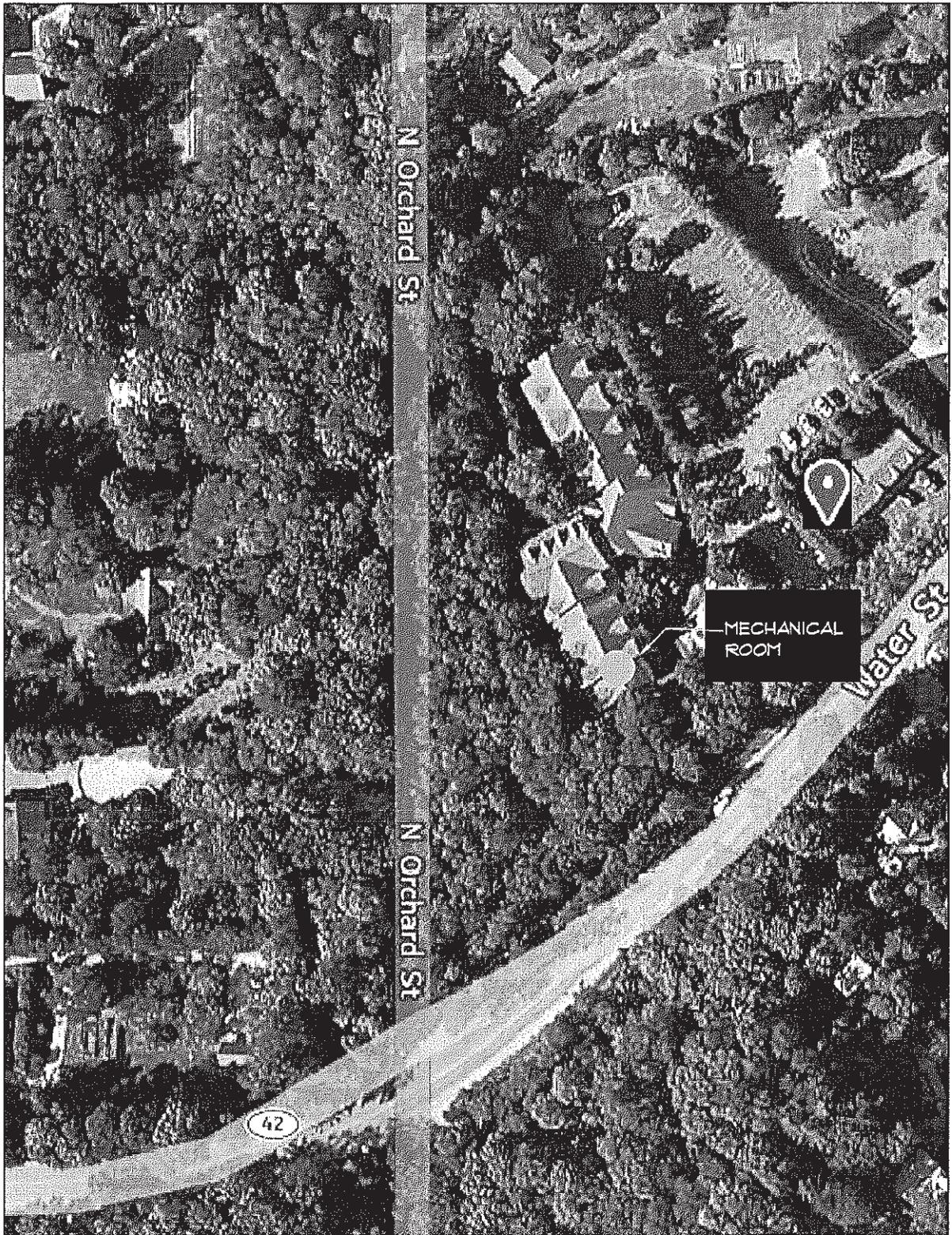
Cell Phone: (920) 559-2393

Email: Laurel.Braatz@wisconsin.gov

WATERBURY INN
41516684 DSPS TREATMENT APPLICATION
10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE
JOB NUMBER
15-070

SHEET
P4



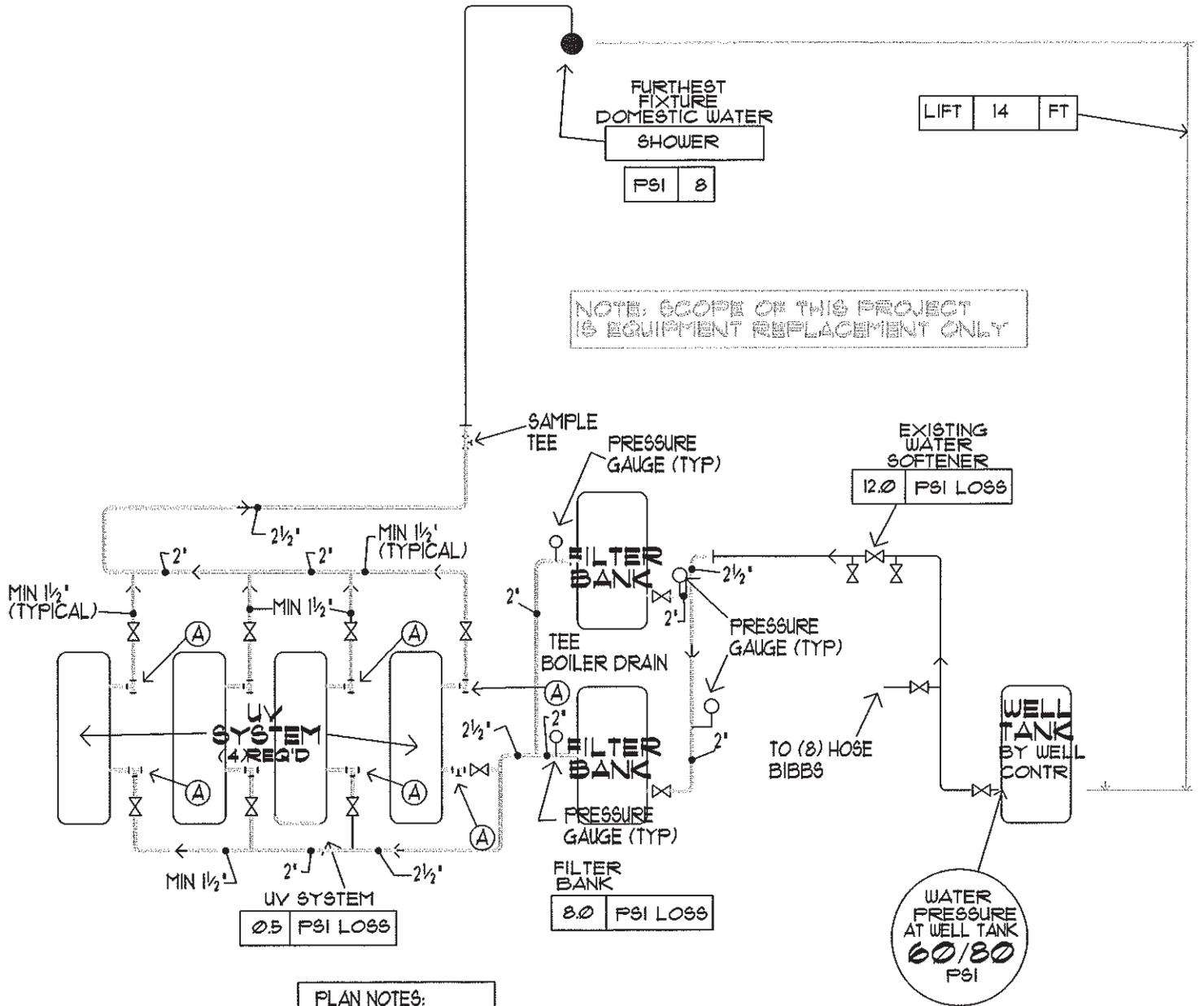
BUILDING PLAN

NO SCALE

WATERBURY INN
41516684 DSPS TREATMENT APPLICATION
10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE
JOB NUMBER
15-070

SHEET
P5



NOTE: SCOPE OF THIS PROJECT IS EQUIPMENT REPLACEMENT ONLY

PLAN NOTES:
 (A) TEE BOILER DRAIN

WATER PIPING SCHEMATIC
 NO SCALE:

MAX
 95
 GPM

WATERBURY INN
 41516684 DOPS TREATMENT APPLICATION
 10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE
 JOB NUMBER
 15-070

SHEET
 P6

WATER CALCULATION WORK SHEET

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

1	DEMAND OF BLDG IN GALS PER MINUTE	356.5	MAX	95	GPM
2	DIFFERENCE IN ELEVATION FROM MAIN TO METER (OR WELL TANK)	0			FT
3	WATER METER SIZE	NO METER		0	
4	LENGTH FROM MAIN TO BLDG CONTROL VALVE (OR WELL TANK)	0			FT
5	LOW PRESSURE AT MAIN IN ST (OR AT WELL TANK)		PRESS. TANK	50	PSI

CALCULATE WATER SERVICE PRESSURE LOSS

6	LOW PRESSURE AT MAIN IN STREET (OR WELL TANK) SEE ITEM #5 ABOVE	600		600	PSI
7	WATER SERVICE DIAMETER IS: WELL	0	PSI X	0	FT
	PRESS. LOSS PER 100FT =	0		0	PSI
8	DETERMINE PRESSURE GAIN OR LOSS DUE TO ELEVATION (MULTIPLY VALUE #2 ABOVE BY 0.434)	0.0			PSI
9	AVAILABLE PRESSURE AFTER BLDG CONTROL VALVE	600			PSI

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF 'A')

B	AVAILABLE PRESSURE AFTER BLDG CONTROL VALVE (FROM #9 ABOVE)	600		600	PSI
C	PRESSURE LOSS OF WATER METER	0.0			PSI
D	PRESSURE AT CONTROLLING FIXTURE CONTROLLING FIXTURE IS	200			PSI
		SHOWER			
E	DIFFERENCE IN ELEV BETWEEN BLDG CONTROL VALVE AND CONTROLLING FIXTURE IN FEET	14	X 0.434 =	6.1	PSI
F	PRESSURE LOSS DUE TO WATER TREATMENT DEVICE WATER TREATMENT DEVICE IS:		BASED ON 20 GPM		
	EXISTING WATER SOFTENER	12.0			PSI
	FILTER	8.0			PSI
	UV SYSTEM	0.5			PSI
	TOTAL TREATMENT LOSS	20.5			PSI
G	DEVELOPED LENGTH FROM BLDG CONTROL VALVE TO CONTROLLING FIXTURE IN FT	102	X 1.5 =	153	FT
A	PRESSURE AVAILABLE FOR UNIFORM LOSS		'A' =	9	PSI/100FT

WATERBURY INN
 41516684 D9PS TREATMENT APPLICATION
 10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE
 JOB NUMBER
 15-070

SHEET
 P1

PROVIDE & INSTALL (4)
PRO30

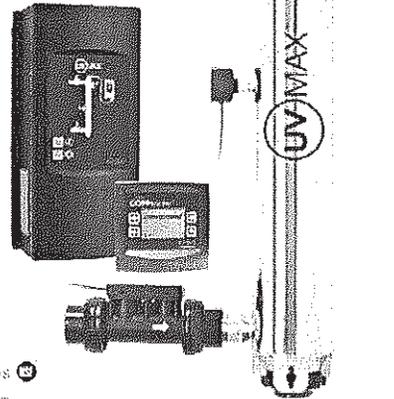
(4) UNITS x 30 GPM = 120 GPM MAX

MAX
30 GPM
OK

Model	Flow	Power	Height
PRO30	30 GPM	120W	48" H
PRO45	45 GPM	180W	48" H
PRO60	60 GPM	240W	48" H
PRO75	75 GPM	300W	48" H
PRO90	90 GPM	360W	48" H
PRO120	120 GPM	480W	48" H



Engineered to Higher Standards



Pro Series
www.uvmax.com

Engineered to Higher Standards



For over 25 years we have engineered and manufactured products that have set the standards in the industry. Our attention to detail and sound science ensures the best solutions to meet your drinking water disinfection needs long into the future.

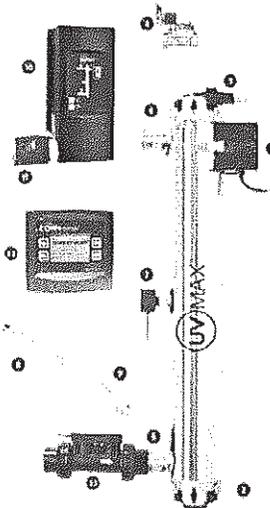
Professional grade equipment that re-defines reliability with rock-solid performance under all environmental conditions.

The new UVMAX Pro Series uses a unique combination of materials and design to hold the age-old adage of "It's not what you put in, it's what you get out" to a new level of reliability and performance.

All UVMAX units are designed and tested to meet the highest standards for safety and reliability. This means you can feel comfortable knowing your water is safe and clean, and that your investment in a UVMAX unit is a long-term investment.



1. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
2. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
3. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
4. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
5. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
6. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
7. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
8. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
9. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.
10. UVMAX Pro Series units are designed to meet the highest standards for safety and reliability.



MODEL	PRO 30	PRO 45	PRO 60
Flow Rate	30 GPM	45 GPM	60 GPM
Power	120W	180W	240W
Height	48" H	48" H	48" H

WARRANTY: Please refer to the manual for the complete warranty details for all UVMAX products.

WATERBURY INN
4156684 D&F'S TREATMENT APPLICATION
10325 WATER STREET - EPHRAIM, WI 54211

RIVERSIDE
JOB NUMBER
15-070

SHEET
P8



Multi-Cartridge Band-Clamp Liquid Vessels GTCHB Series

Features

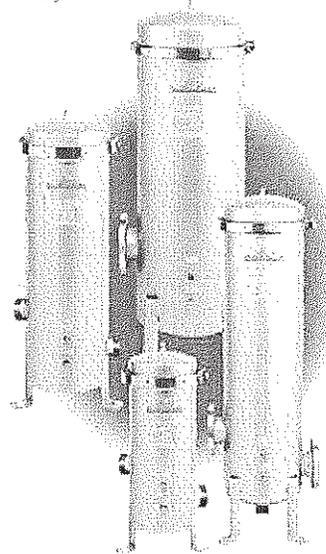
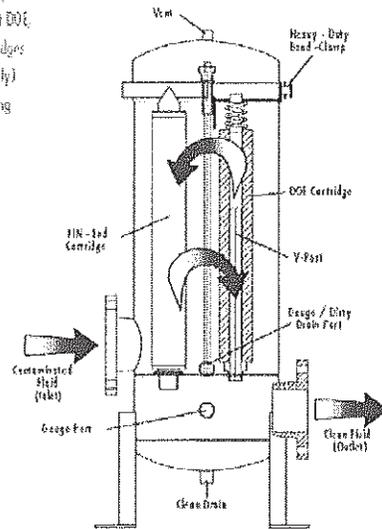
- Heavy-duty welded mounting/support legs
- Easy-access heavy-duty band-clamp closure
- Single o-ring design (Buna-N standard)
- Universal seal cups and compression plates allow vessels to accept DOE, 222/TL61, or 222/TLH cartridges
- Poly-rout finish (optional only)
- 316 stainless steel coil/spring assemblies and v-post
- 150 PSI pressure rating

Options

- Sanitary Fasting
- Alternative 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/TL61, and 222/TLH end cartridges in 10, 20, 30 & 40 inch lengths.



Ordering Information

GTCHB	# of Cartridges	Length	Inlet/Outlet Size	Inlet/Outlet	Outlet	Material	Pressure Rating	Surface Finish
	4 = 4	1 = 10"	2 = 2"	H = HHP1	2 = Opposite Outlet	4 = 304 SS	15 = 150 PSI @ 250°F	PK = Poly-Coat
	5 = 5	2 = 20"	3 = 3"	F = RT Flange		6 = 316 SS		
	7 = 7	3 = 30"	4 = 4"	T = TC Sanitary				
	12 = 12	4 = 40"						
	22 = 22							

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



Place your commercial and industrial water treatment needs in the hands of a global leader.

For over 75 years, Culligan has made better water. Our global network, comprised of 800+ dealers and international licensors in over 90 countries, is dedicated to addressing your water-related problems. As a worldwide leader in water treatment, our sales representatives and service technicians are familiar with the local water conditions in your area. Being global and local position us to deliver customized solutions to commercial and industrial water issues that affect your business and your bottom line.

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