

Operations Update

Plant Operations – Plant operations and treatment were good for the month of June. There was one wet weather event to report that happened on June 18th when the plant had diverted 382,000 gallons of treated water around secondary treatment to blend with fully treated effluent. For your viewing I have included the mass balance calculations sheet for that day showing the plants effluent quality.

ACTI-FLO and DAFT Polymer Trials – Hydrite has completed their bench testing of polymer. We've received the polymers recommended and will be testing them in the near future.

Maintenance Update

Turbine Pump #2 – Received word from LW Allen that Fairbanks was to receive the drive shaft for the pump the last week of June. After assembly of the pump and the performance test being accomplished, the pump should be arriving back around the week of the 23rd.

Laser Flow system meter – Mulcahy Shaw has provided some flow data from the laser flow meter that was placed in meter station #5. I have included that data and the data from the existing ultrasonic flow meter for comparison. Also attached is a quote from Mulcahy Shaw-this quote includes the laser flow meter and a surcharge kit that would replace the failing flow velocity meters.

Annual Interceptor Manhole Inspections – Recently the plant completed the annual land accessible manhole inspections on the interceptor. There were a total of four manholes that needed repair; mostly resetting of the lid/ring. There was one that needed a new lid/ring due to it being damaged.

HOV Agricultural Land Grass Buffers – The Outagamie Highway Department is currently working on ZZ where the District owns property. The drainage along the road flows to the west side of road into parcel 30006300. Much of the water from a rainfall stays in drainage ditches along the highway but when the road construction is complete I anticipate the field will be receiving most of the water.

I'm working with the Highway Department and the County Land Conservation Department to repair or redo the grass buffer zone thats going west from the highway to maintain good drainage. It currently has tree stumps and the cattails that have been growing in it keep spreading and covering a larger area which will continue to get worse with the better drainage along the highway.

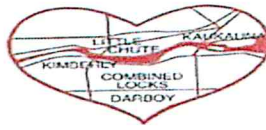
In the two parcels on the west side of ZZ, we've inquired about installing rock equipment crossings in the grass buffer zones. These grass buffer zones can be very wet in the fall when the farmer is taking his crops off the field which causes quite a bit of damage to the grass buffer zones. Outagamie County Land Conservation is looking at both the North and South sides of the field as to the best place to install the rock equipment crossings.

I should have more information for the August commission meeting. The grass buffer zone with the cattails and tree stumps is my main concern right now. The rock equipment crossings could wait until next year and be budgeted for.

Kevin Skogman
Director of Operations & Maintenance

DISTRICT DIRECTOR:*Brian Helming***SERVING :**

Combined Locks
Kaukauna
Kimberly
Little Chute
Darboy S.D.



Heart of the Valley
 METROPOLITAN SEWERAGE DISTRICT
 801 Thilmany Rd
 Kaukauna WI 54130
 (920)766-5731 FAX (920)766-5733

COMMISSIONERS:

David J. Casper, President
Bruce Siebers, Vice-Pres
Patrick Hennessey, Secretary
Kevin P. Coffey
John Sundelius

DATE OF EVENT: Monday, June 18, 2018

Mass Balance Calculations:

Mass Balance Formula: $(Q\text{-Fully Treated Effluent.})(C\text{-Fully Treated Effluent}) + (Q\text{-Diversion Effl.})(C\text{-Diversion Effl.}) / (Q\text{-Total Eff.})$

FLOW VOLUMES:

| | MGD | MGD |
|--|-------------------|---------------|
| Total Plant Flows: | 13,728,000 | 13.728 |
| Blended Channel Effluent Volume: | 382,000 | 0.382 |
| Plant Fully Treatment Effluent Volume: | 13,346,000 | 13.346 |
| Fox Energy Pumping Volume | 2,400,000 | 2.400 |
| Net Full Treatment Effluent Volume: | 10,946,000 | 10.946 |
| Blended Channel Effluent Volume: | 382,000 | 0.382 |
| Total Plant Effluent Flow Volume: | 11,328,000 | 11.328 |

Laboratory Analysis Results

| | Final Eff Sample Analysis Results | Blended Effl. Sampler Analysis Results | Calculation | Mass Balance Calculated Water Quality Based Results |
|----------------|-----------------------------------|--|-------------|---|
| cBOD | 6.19 | 39.4 | 97.66 | 8.6 |
| TSS | 16.4 | 43.0 | 235.30 | 20.8 |
| Total P | 0.334 | 0.776 | 4.75 | 0.420 |
| NH3-N | 0.389 | 4.9 | 7.06 | 0.62 |



Quotation

Date: 6/27/2018

Company: Heart of the Valley MSD
800 Thilmany Dr.
Kaukauna, WI

ATTN: Kevin Skogman

Email: Kevin.Skogman@hvmsd.org

Phone: 920-766-5731

Mulcahy Shaw Water
N57 W6316 Center Street
Cedarburg, WI 53012

Quoted By: Mark Duerr

Phone: (262) 241-1199
Fax: (262) 241-4997
Email: info@mulcahyshaw.com

Quote #: 12150
Terms: Net 30 Days
Shipping: FOB Factory
Freight: Not Included
Valid for: 30 Days
Delivery: 3-4 weeks

| Part Number | Qty | Description | Each | EXTENDED |
|-------------|-----|--|--------------|--------------------|
| 68-4360-060 | 1 | Permanent Signature LaserFlow system. The system uses a non-contact TIENet laser Doppler sensor to measure liquid velocity. This sensor has an integral non-contact ultrasonic level sensor to measure liquid level. Flow rate and total flow data is then calculated from the measured liquid level and velocity which is then stored in flash memory. The 360 laserflow sensor will have a 33 foot long cable. | \$11,650.00 | \$11,650.00 |
| 60-4354-017 | 1 | TIENet 350 area velocity surcharge kit for second LaserFlow sensor | \$1,840.00 | \$1,840.00 |
| 60-4307-074 | 1 | CDMA Cellular Modem with magnetic mount antenna for Signature meter. Serial-Over-Internet-protocol (SOIP) technology eliminates need for computer telephone modems. Requires Verizon service. | \$914.00 | \$914.00 |
| 60-4364-003 | 1 | Permanent wall mount for TIENet 360 Laserflow sensor | \$606.00 | \$606.00 |
| 60-4304-044 | 1 | 8 foot power cable | \$26.00 | \$26.00 |
| | | | Total | \$15,036.00 |
| | 1 | Start up services and initial programming and training | \$300.00 | \$300.00 |
| | 1 | Freight | \$233.00 | \$233.00 |

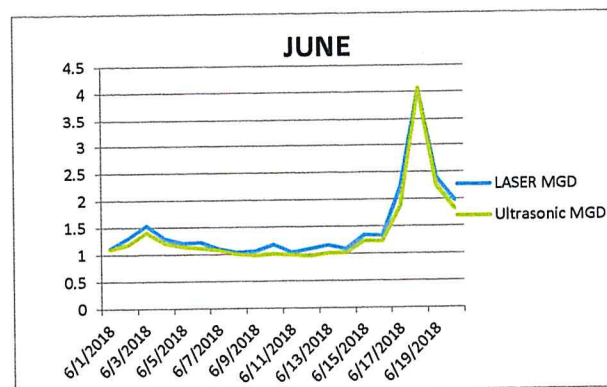
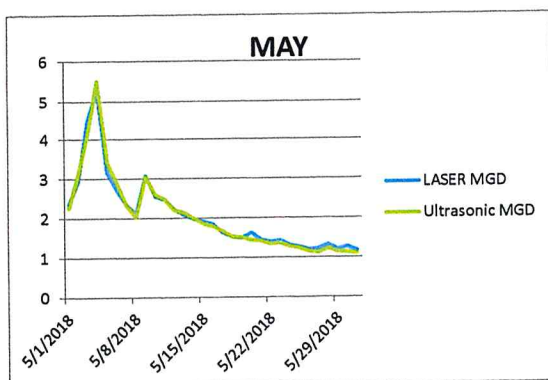
Plus tax if applicable/ Tax Exempt Required

Please note the following:

1) Please make out Purchase Order to Mulcahy Shaw Water Inc. N57 W6316 Center Street Cedarburg, WI 53012
Approved for purchase by:

HOV Demo Laser vs Ultrasonic Meter

| LASER MGD | | Ultrasonic MGD | LASER MGD | | Ultrasonic MGD | | |
|--------------|--------|-------------------|--|--------|-------------------|--|--|
| 5/1/2018 | 2.336 | 2.269 | 6/1/2018 | 1.118 | 1.104 | | |
| 5/2/2018 | 2.951 | 3.090 | 6/2/2018 | 1.314 | 1.19 | | |
| 5/3/2018 | 4.479 | 4.171 | 6/3/2018 | 1.538 | 1.413 | | |
| 5/4/2018 | 5.309 | 5.511 | 6/4/2018 | 1.299 | 1.211 | | |
| 5/5/2018 | 3.151 | 3.412 | 6/5/2018 | 1.21 | 1.143 | | |
| 5/6/2018 | 2.711 | 2.896 | 6/6/2018 | 1.22 | 1.117 | | |
| 5/7/2018 | 2.344 | 2.333 | 6/7/2018 | 1.099 | 1.079 | | |
| 5/8/2018 | 2.102 | 2.033 | 6/8/2018 | 1.031 | 1.001 | | |
| 5/9/2018 | 3.074 | 3.057 | 6/9/2018 | 1.059 | 0.98 | | |
| 5/10/2018 | 2.54 | 2.580 | 6/10/2018 | 1.178 | 1.002 | | |
| 5/11/2018 | 2.473 | 2.477 | 6/11/2018 | 1.025 | 0.989 | | |
| 5/12/2018 | 2.221 | 2.205 | 6/12/2018 | 1.091 | 0.96 | | |
| 5/13/2018 | 2.082 | 2.140 | 6/13/2018 | 1.158 | 1.011 | | |
| 5/14/2018 | 1.978 | 1.995 | 6/14/2018 | 1.086 | 1.014 | | |
| 5/15/2018 | 1.917 | 1.861 | 6/15/2018 | 1.34 | 1.233 | | |
| 5/16/2018 | 1.849 | 1.800 | 6/16/2018 | 1.331 | 1.226 | | |
| 5/17/2018 | 1.629 | 1.666 | 6/17/2018 | 2.221 | 1.881 | | |
| 5/18/2018 | 1.521 | 1.532 | 6/18/2018 | 4.061 | 4.064 | | |
| 5/19/2018 | 1.491 | 1.510 | 6/19/2018 | 2.395 | 2.252 | | |
| 5/20/2018 | 1.627 | 1.443 | 6/20/2018 | 1.973 | 1.82 | | |
| 5/21/2018 | 1.446 | 1.416 | TOTAL | 29.747 | 27.690 | | |
| 5/22/2018 | 1.398 | 1.346 | | | | | |
| 5/23/2018 | 1.428 | 1.362 | DIFF | | | | |
| 5/24/2018 | 1.306 | 1.280 | 2.057 | | | | |
| 5/25/2018 | 1.263 | 1.239 | 1.06% | | | | |
| 5/26/2018 | 1.197 | 1.150 | NOTE: Laser readings were taken at 8:00 am | | | | |
| 5/27/2018 | 1.228 | 1.118 | | | | | |
| 5/28/2018 | 1.322 | 1.222 | Ultrasonic readings taken around 6:45 AM | | | | |
| 5/29/2018 | 1.212 | 1.147 | | | | | |
| 5/30/2018 | 1.264 | 1.127 | | | | | |
| 5/31/2018 | 1.167 | 1.102 | | | | | |
| TOTAL | 64.016 | 63.490 | DIFF 526,000 gal 1.01% | | | | |



1 in = 300 ft

Heart of the Valley
Metro Sewerage District (HVMSD)
T21N - R19E, Section 17

