

February 13th, 2017

East Stroudsburg Area School District  
257 Timberwolf Court  
Dingmans Ferry, PA 18328

PROPOSAL - ML-072017-3000.1

We are pleased to provide a proposal for geophysical services to be performed for the Lehman Intermediate School / North High School project in Dingmans Ferry, PA.

SCOPE OF WORK

Project Location: 279 Timberwolf Drive, Dingmans Ferry, PA

The purpose of this CCTV investigation is to continue the existing conditions assessment of the plastic corrugated pipe approximately 24 inches in diameter throughout the campus.

Expected runs from structure to structure will be approx. 200 ft. on average.

ESTIMATED TIME TO COMPLETE FIELDWORK

3 days

An increase or decrease in the final scope of work provided may change the estimated time provided in this proposal.

We are committed to accommodating your scheduling needs. To help us meet your needs, while achieving the highest level of quality and service, we respectfully request one week's notice prior to mobilizing.

ADDITIONAL SERVICES AVAILABLE UPON REQUEST

Concrete Imaging | Utility Locating/GPR | Vacuum Excavation (Air-Knife/Hydro) | Leak Detection | 24 Hr Service

DELIVERABLES

The following deliverables are included in the pricing provided below:

- Mark out
- Video Log & Copy

ML's standard deliverable for any project is a mark-out. Our technicians will mark-out all locate-able utilities with paint and flags in accordance with standard APWA utility color codes. We are very sensitive to the properties of our customers and our customers' clients and will provide mark-outs which are professional and suitable for your site. We will accommodate any special marking requirements that are communicated at the time the service is requested.

Our technicians can also provide field sketches (not to scale) showing the approximate locations of all utilities field delineated. This must be requested from our technicians on-site.

Customized and detailed reporting options, including, but not limited to; GPS coordinates, CAD drawings, and GPR images are available upon request. If interested, please call your ML representative for a formal quotation. These additional services must be coordinated with our office prior to mobilization.



If video logging and reporting is requested, all video files will be logged and provided to the client electronically in "avi." format.

PRICING

Service Name	Quantity	Unit Price	Total Price
CCTV Crawler Crew - Daily Rate	3	\$1,800.00	\$5,400.00
Video Log & Copy	3	\$200.00	\$600.00

Estimated:	\$6,000.00
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The above quoted pricing is based on information provided at time of quotation and includes all equipment, travel, and labor for work performed during normal business hours. Pricing is valid for 30 days. All work will be prorated and invoiced in accordance with following procedures:

STANDARD INVOICING PROCEDURES

Unless stated otherwise, the per diem rate is \$200 per day per person for overnight lodging and meals. A 25% expedite fee will apply to any service requested within 48 hours of call and provided during normal business hours of 7am – 3:30pm, Monday through Friday. A 50% overtime fee will apply to work requested before 7am or after 3:30pm on weekdays and anytime on Saturday, Sunday, and Holidays.

CANCELLATION PROCEDURES

We understand that schedules can change for any number of reasons. We respectfully request at least 24 hours advance notice for cancellations. However, a cancellation fee of \$250 will be assessed for any cancellation that occurs after we mobilize a technician to your project site.

PROCEDURES AND CONDITIONS – CCTV INSPECTION SERVICES

Master Locators provides video pipe inspection services on any accessible pipes, manholes, vaults, or other underground structures. For any video pipe inspection services requested, client must provide adequate access to the pipe or structure. The length of the inspection will be determined by the ability to push a camera through the pipe without obstruction. Master Locators is not responsible for any limitations of inspection caused by debris or obstructions.

All day rates for this service assume the pipe or structure can be accessed and inspected without obstruction unless otherwise noted. When an obstruction is encountered, Master Locators will make an attempt to continue the inspection from the first accessible point opposite the obstruction. The client understands that this may require additional time.

Master Locators can provide pipe cleaning and jetting services to clear pipe obstructions, but these services are not included with inspection day rates unless explicitly quoted as such.

All pipe inspection services will be performed from the ground surface. When the inspection service requires manhole or entry, confined space crews and equipment can be provided for an additional fee.

Inclinometers can be provided to determine slopes of pipes. Slope can only be determined structure to structure from one access point to another. Slope of pipes 6" - 8" in diameter can only be provided for straight runs. Slopes of pipes less than 6" in diameter cannot be provided.

Deliverables will include a copy of the inspection if specified by the client at the time of scheduling or requested on-site. Copies of the inspection may not be available after the work is performed.

Master Locators can track the camera head above ground and also mark out the horizontal location of the pipe on the ground with paint if requested by the client. This is also useful to horizontally designate observations made during the inspection such as unknown tie-in locations, blockages, etc. This requires the work of a 2-man crew and must be requested at the time of scheduling.

Any underground utility plans or sketches provided by Master Locators are intended to be used as an aid in design and construction. Master Locators is not responsible for any damages to a utility as a result of the use of any plans or sketches during excavation or construction regardless of any errors associated with the plans or sketches. Any excavation or construction areas must be scanned and physically marked-out by Master Locators prior to the start of work.

#### CONDITIONS

ML will always stand behind its work and seeks to achieve quality through the uniformity and predictability of the services we provide. In the event that damage occurs or there is an issue with our mark-out, ML requests notification within 24 hours. We will send a representative to the site within 24 hours of notice to review the damage and investigate root cause. ML does not take responsibility for damage to utilities that are not locate-able using geophysical methods or which are the result of the limiting factors as described above.

Thank you for the opportunity to quote this project. We look forward to working with you.

Sincerely,

Kevin Sareyka  
Business Development Manager

Contracted By: East Stroudsburg Area School District

We accept these conditions and operating procedures as stated in this letter. Any PO or contracts issued to ML, Inc. for the performance of services constitutes acceptance of these procedures and conditions. Penalty if payment is not made within 30 days is 2% for each month or portion of month overdue.

Company Name: \_\_\_\_\_

Print Name/Title: \_\_\_\_\_

Sign: \_\_\_\_\_

Date: \_\_\_\_\_ Client Purchase Order Number: \_\_\_\_\_

# ATTACHMENT VI, B, 1

Jill M Wiedman  
G And J Masonry, LLC

Telephone: 610-216-2595  
Email: [gandjmasonry2017@gmail.com](mailto:gandjmasonry2017@gmail.com)

85 Chippawa Circle  
Mount Bethel, PA 18013

Scott Ihle  
151 E Broad Street  
East Stroudsburg, PA 18301

Telephone: 570-656-4283  
Email: [scottihle@esasd.net](mailto:scottihle@esasd.net)

Contractor agrees to perform for the Business certain alterations and improvements outside the business of JM HILL ELEMENTARY School located at 151 E Broad Street, East Stroudsburg PA 18301

In accordance only with the specifications set forth below:

Scope of Work: Remove Sidewalks And Curbs And Replace as per walk through on February 6, 2018 with Scott Ihle

## PRICE INCLUDES

1. 4, 10 yard dumpsters
2. Removal Of Concrete Sidewalks And Curbs
3. Form Lumber, And Wire Mesh
4. 40 Yards 4,000 psi concrete W/Air
5. Strip all forms ,clean up ,install top soil seed and hay where needed.
6. Replace Trim on base of two columns at entrance
7. All equipment and labor

Total job: \$51,500.00

At the signing of the contract we will require 1/3 deposit which is \$17,166.67

When the job is 50% completed we will require another 1/3 payment of \$17,166.67

Final payment due when job is 100% complete of \$17,166.67

Thank you for the opportunity for bidding on this job if you have any questions please do not hesitate to call me at the above number.

Sincerely, Jill M. Wiedman



Jill M Wiedman  
G And J Masonry, LLC

Telephone: 610-216-2595  
Email: [gandjmasonry2017@gmail.com](mailto:gandjmasonry2017@gmail.com)

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Email: [scott.ihle@esasd.net](mailto:scott.ihle@esasd.net)

Contractor agrees to perform for the Business certain alterations and improvements outside the business of JM HILL ELEMENTARY School located at 151 E Broad Street, East Stroudsburg PA 18301

In accordance only with the specifications set forth below:

**Scope of Work:** Removing existing stairs and replacing with new footings walls and stairs as per walk through on February 6, 2018 with Scott Ihle

**PRICE INCLUDES**

1. 1-10 yard concrete dumpster
2. New footings with rebar
3. New 8 inch concrete walls
4. New stairs with 9 risers and tread imbeds
5. All equipment and labor

Total Job: \$19,200.00

Attached is a set of proposed new stair drawings.

Thank you for the opportunity for bidding on this job if you have any questions please do not hesitate to call me at the above number.

Sincerely, Jill M. Wiedman



**Northeast Masonry**  
 316 Warner Road  
 Tannersville, PA 18372  
 (570) 420 -1580 Phone  
 (570) 420 - 0903 Fax

CONTRACT AGREEMENT  
 Date: February 1, 2018

PROPOSAL SUBMITTED TO:  
 c/o Curtis Beam  
 East Stroudsburg School District  
 (570)-424-8500 Ext. 10422  
[Curtis-Beam@esasd.net](mailto:Curtis-Beam@esasd.net)  
[Scott-IHLE@esasd.net](mailto:Scott-IHLE@esasd.net)

WORK TO BE PERFORMED AT:  
 J M Hill Elementary School  
 151 East Broad Street  
 East Stroudsburg, PA 18301

\* Prevailing wage rate

**SIDEWALK AND CURBING**

Demo and remove debris from site for 2500 SF of concrete and 90 LF of curbing. \$ 8,980.00

Place 2B stone where necessary.  
 Pour 2500 SF of concrete with wire mesh for sidewalks. Broom finish.  
 Pour 90 LF of concrete curbing. Broom finish. Patch holes in (5) areas. \$ 21,250.00

**STAIR OPTIONS**

Patch (1) step and install supplied railing with ADA ends \$ 7,250.00  
 Or

Remove (demo/hauling debris cost included) and replace stairs.  
 Install supplied railing with ADA ends. \$ 10,500.00

Payment schedule: Progress payments as work is completed

Any alteration or deviation from above specifications involving extra costs, will be executed only upon written orders, and will become an extra charge over and above the estimate. No winter concrete or additives included. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance on above work. Workmen's Compensation and Public Liability Insurance on above work to be taken out by Contractor. Price is good for (30) thirty days.

\_\_\_\_\_  
 Owner

\_\_\_\_\_  
 Contractor



# GILROY NORTHEAST INC.

PA CONTRACTOR#001832

To: Mr. Scott Ihle  
Facilities Director  
East Stroudsburg School District  
FOR JM HILL ELEMENTARY SCHOOL

Fr: John Gilroy  
Gilroy Northeast Inc.  
(570) 629-4600-OFFICE  
(570) 629-4622-FAX  
[www.gilroynortheastinc.com](http://www.gilroynortheastinc.com)

PAGE 1 OF 3

## CONTRACT PROPOSAL

DATE

Job Site: JM HILL ELEMENTARY

FEBRUARY 15<sup>th</sup>, 2018

### SCOPE OF WORK: CONCRETE INSTALL – FLAT WORK & CURB WORK:

Client understands the following by signing this contract:

- #1). Lower Area marked in Yellow 10 Feet X 20 Feet 6 Inches. Remove and Replace.  
TOTAL: \$6,560.00
- #2). Side of Building – (State Street) – Remove Curb and Replace. Remove 9 Slabs and Replace the 9 Slabs- Size 5 Feet X 5 Feet.  
TOTAL: \$11,000.00
- #3). Hole Fill And Patch. (Included in #2)
- #4). Walkway Side of Building – (State Street) Remove 2 Slabs and Replace with 2 Slabs 5 Feet X 6 Feet.  
TOTAL: \$960.00
- #5). Walkway on State Street – 4 Slabs to be Removed and Replaced that are 5 Feet X 6 Feet.  
TOTAL: \$3,840.00
- #6). Curb at State Street and East Broad- Remove and Replace 10 Feet by 8 Inches X 5 Inches  
TOTAL: \$1,000.00
- #7). Front of School – Remove and Replace Same Design as Existing- 10 Feet X 60 Feet – Also the 2 Corner Sections. TOTAL: \$19,200.00
- #8). Remove and Replace Curb 10 Feet X 8 Inches X 6 Inches  
TOTAL: \$1,000.00
- #9). Remove and Replace 4 Feet X 8 Inches X 7 Feet 4 Inches  
TOTAL: \$1,094.40



# GILROY NORTHEAST INC.

PA CONTRACTOR#001832

PAGE 2 OF 3

JM HILL ELEMENTARY

FEBRUARY 15<sup>th</sup>, 2018

## GILROY NORTHEAST INC. – CONTINUED

- #10). Remove and Replace 5 Feet X 6 Feet Slab.  
TOTAL: \$960.00
- #11). Walkway going to Side Door Remove and Replace 3 Slabs which  
are 5 Feet 3 Inches X 5 Feet 8 Inches TOTAL: \$952.00
- #12). Curb Side of Building – Remove and Replace 20 Feet X 8 Inches X  
5 Inches TOTAL: \$2,000.00
- #13). Side of Building by Utility Pole. Remove and Replace 4 Feet 10 Inches  
by 6 Feet 4 Inches TOTAL: \$960.00
- #14). Walkway Side of Building- Remove Slab In Front of Door 5 Feet 10 Inches  
x 12 Feet and Replace. Also Remove and Replace Walkway 6 Feet X 50 Feet.  
Remove and Replace Ramp 4 Feet X 6 Feet. TOTAL: \$12,608.00
- #15). Side of Building walkway to be Removed and Replaced 3 Slabs 5 Feet by 3 Inches  
x 6 Feet 8 Inches. TOTAL: \$1,120.00
- #16). Side of Building to Door. Remove and Replace 8 Feet 8 Inches x 24 Feet.  
TOTAL: \$6,656.00  
**TOTAL: \$69,910.00**

SPECIAL NOTES: Includes Excavation and Haul Away of Concrete And Dispose. All Concrete saw cutting, form work, base work. Concrete is 4,000 PSI with Fiber Reinforcing Expansion joints. Refurbish any disturbed grass areas using existing material but no lawn installations. All Labor. Includes all material deliveries and supplies listed above. Client understands that Gilroy Northeast Inc. is not responsible for the earth movement over years with wear and tear and harsh winter weather and sunlight exposure, movement of the Earth, due to Mother Nature and vegetation growth. Client understands they are responsible for all permit fees/as/if needed. Client is responsible for all maintenance upon installation. Client understands concrete can crack and weather over the years with harsh Winter weather and may need to be replaced from time to time at a cost to client through the years. Gilroy Northeast office Construction Coordinator will handle expediting permits as/if needed. Client understands they are responsible for any change orders/as if needed by township, including blueprints as/if needed. Gilroy Northeast is not working near Septic and Client understands this. No other Concrete in above listed contract other than what is specifically listed. No Top Soil Installation. Any additional work is change order. All Sales are Final.



# GILROY NORTHEAST INC.

PA CONTRACTOR#001832


GILROY NORTHEAST INC. – CONTINUED

PAGE 3 OF 3  
JM HILL ELEMENTARY  
FEBRUARY 15th, 2018

**PAYMENT SCHEDULE:** A DEPOSIT IS DUE UPON SIGNING THIS CONTRACT in the amount of \$100.00 (ONE HUNDRED DOLLARS) to begin the permit process. A MOBILIZATION PAYMENT is due one week prior to begin the Concrete Installation in the amount of \$30,000.00 (THIRTY THOUSAND DOLLARS). A MID-COMPLETION PAYMENT is due on time MID-COMPLETION in the amount of \$30,000.00 (THIRTY THOUSAND DOLLARS) to continue the construction process in a timely manner. A FINAL PAYMENT is due day of Completion in the amount of \$9,810.00 (NINE THOUSAND EIGHT HUNDRED TEN DOLLARS). The Client understands by signing this contract all payments are due on time payable to Gilroy Northeast Inc. as listed above per contract. All sales are final.

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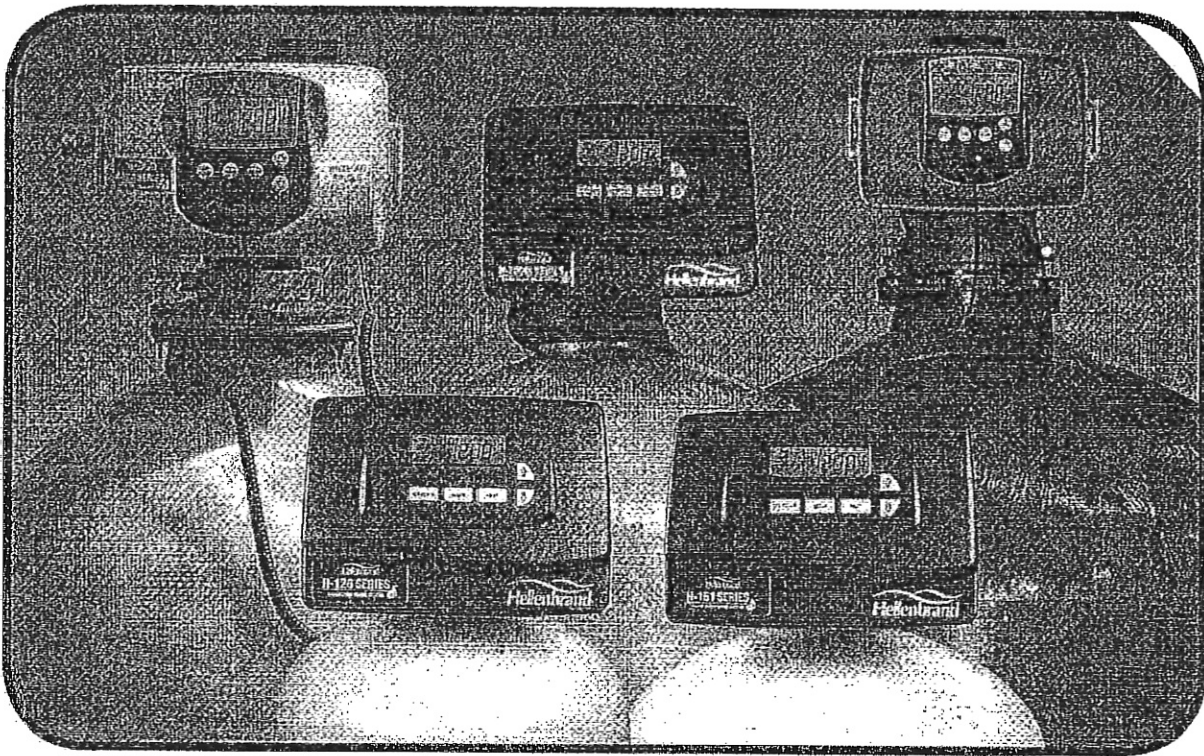
Mr. Scott Ihle  
East Stroudsburg School District



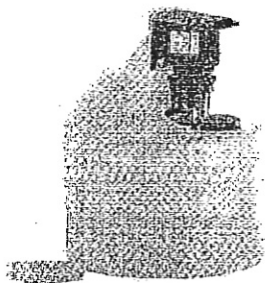
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John Gilroy  
Gilroy Northeast Inc.

# H125/H151/H200M/H200/H300 Series Greensand Plus™ Filter Systems



The H-Series Family H125, H151, H200, H200M, H300



Optional Chemical  
Feed System

### GreensandPlus™ Filtration Systems

GreensandPlus™ is an efficient and economical media for the reductions of dissolved iron, hydrogen sulfide and manganese compounds. GreensandPlus™ offers a long material life. The system is regenerated with either chlorine or potassium permanganate solutions and requires periodic backwashing.

**Hellenbrand**



# H125/H151/H200M/H200/H300 GreensandPlus™ Filter Systems

MODEL	PIPE SIZE	CF MEDIA	TANK SIZE	WATER QUALITY			BACK WASH FLOW RATE**	DIMENSIONS¹					EST. SHIP WT. LBS.	CAPACITY ppm Fe Equivalent***	
				Superior	High	Utility		TOTAL H	INLET I	OUTLET O	DRAIN D	WIDTH W		CR	IR
				H125-GSP10-1.5	1.25	1.5		10x54v	2	2	3	7		61	46
H125-GSP10-2.6	1.25	2.5	10x54v	2	2	3	7	63	57	57	58	11	350	13,800	12,500
H125-GSP14-3	1.25	3	14x65v	4	4	5	13	74	68	68	69	15	430	21,300	15,000
H125-GSP18-5	1.25	5	18x65	6	7	9	20	76	68	71	69	19	740	35,300	25,000
H151-GSP16-4	1.5	4	16x65	5	6	7	17	74	68	69	70	17	560	27,900	20,000
H151-GSP18-5	1.5	5	18x65	6	7	9	20	76	69	70	71	19	750	35,300	25,000
H151-GSP21-7	1.5	7	21x62	8	10	12	30	72	65	67	67	22	1260	48,000	40,000
H200M-GSP14-3	2	3	14x65	4	4	5	13	78	69	69	78	15	440	21,300	15,000
H200M-GSP16-4	2	4	16x65	5	5	6	17	78	69	69	78	17	570	27,900	20,000
H200M-GSP18-5	2	5	18x65	6	7	9	20	80	71	71	80	19	760	35,300	25,000
H200M-GSP21-7	2	7	21x62	8	10	12	30	80	71	71	80	22	1400	48,000	40,000
H200M-GSP24-10	2	10	24x72	11	13	16	40	88	79	79	88	25	1650	62,800	60,000
H200-GSP30-15	2	15	30x72	17	20	25	60	99	88	88	99	31	2300	98,400	80,000
H200-GSP24-10	2	10	24x72	11	13	16	40	89	83	87	85	25	1690	62,800	60,000
H200-GSP30-15	2	15	30x72	17	20	25	60	96	85	84	92	31	2350	93,100	80,000
H200-GSP36-20	2	20	36x72	25	28	35	85	87	81	85	83	37	3140	141,300	110,000
H300-GSP36-20	3	20	36x72	25	28	35	85	104	76	96	100	37	3210	141,300	110,000
H300-GSP42-30	3	30	42x72	34	38	48	115	109	102	102	105	43	4890	192,300	170,000
H300-GSP48-40	3	40	48x72	44	50	63	150	109	102	102	105	43	5240	251,200	230,000

- \*The flow rate parameters on the chart are suggested starting points.
- \*\*For critical applications a pilot study should be performed to validate water quality/production
- \*\*Based on 55°F. Temperatures under 55°F or over 60°F may need DLFC adjustments.
- \*\*\*Fe Equivalent – CR – Continuous Regeneration = (1.0 x Fe) + (2.0 Mg) + (0.5 x H2S)
- \*\*\*Fe Equivalent – IR – Intermittent Regeneration = (1.0 x Fe) (2.0 x Mg) + (5.0 x H2S)

- ¹All dimensions are ± 1"
- ²Allow additional 12" for media loading
- ³Available in top-mount or side-mount
- Service and backwash flow rates are based on 55°F incoming water temperature.
- Pressure range: 40-100 PSI
- Temperature range: 40-100°F
- pH range: 6.2-8.5, Ideal is 6.5 or greater

These systems require Chlorine or Potassium Permanganate for regeneration. Regenerate may be fed in proportionally for continuous regeneration or intermittently during backwashing/rinsing regeneration

**Operating Parameters** - As a general rule, lower flow rates produce higher quality water and large volume of treated water between backwashing. The application parameters on this sheet are suggestions. For critical applications a pilot study should be performed to validate water quality/production.

### Superior

- High Contaminate Levels
- Quality-Critical Applications
- Low Pressure Loss

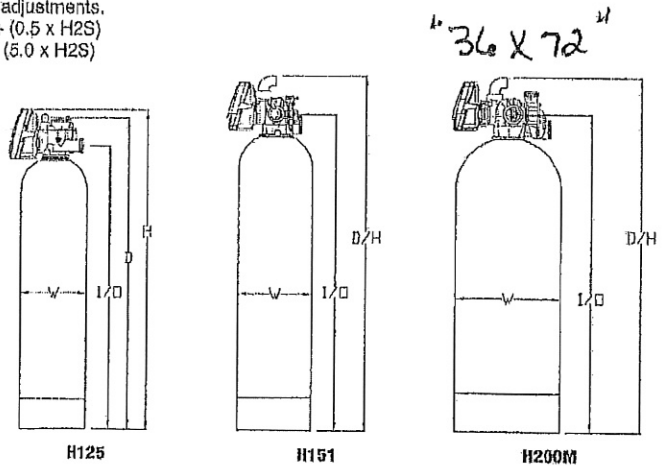
### High

- Medium Contaminate Levels
- Non-Critical Applications

### Utility

- Low Contaminate Levels
- Non-Critical Applications
- High Pressure Loss

Media: Anthracite, GreensandPlus, Support Bed



Consult Hellenbrand's technical support department for proper sizing, regeneration procedures, additional sizes, modifications or special application assistance.

# Hellenbrand

1-800-626-1417

www.hellenbrand.com

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©2013

# Hellenbrand

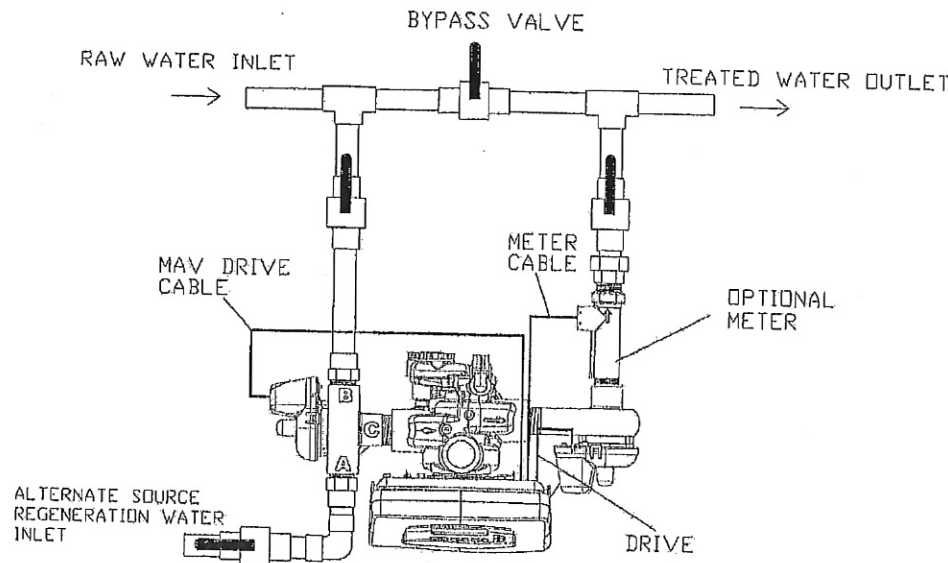
## Alternate Source with No Raw Water Bypass using Motorized Alternating Valve (MAV) & Super HP Electronics For H151 / H200M Series Control Valves New MAV piston configuration as of July 24, 2008

### System Operation:

The Three-Way MAV, controlled by the Super-HP electronics, provides alternate source regeneration water and the two-way MAV prevents raw water going to distribution during regeneration. During regeneration, the tan piston is not visible in the clear viewing dome on either MAV. **NOTE:** Treated Water Regeneration on Multiple Tank System Design by Installing MAV on Inlet Can only be done on H151, CANNOT be done on H200M.

### MAV Installation:

1. Plumb the Motorized Alternating Valve (MAV) according to Figure 1.

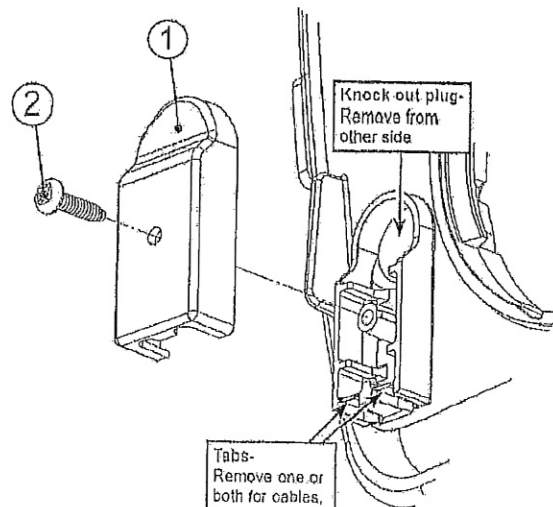


**Note:** When installing the MAVs, allow a minimum of 4" of clearance above or in front of the motor drive for service.

Figure 1

### Strain Relief Cover Kit Instructions

1. Remove valve cover and drive bracket assembly.
2. From the valve cover side, use a punch and hammer to remove the knock out plug.
3. Smooth the edge of the hole if needed.
4. Use pliers to remove one or both tabs as needed.
5. Run cable(s) through the strain relief feature on the back plate.
6. Reinstall the drive bracket assembly and connect the cables. Adjust cable length if necessary. Do not let the cables come in contact with the drive gear assembly.
7. Install strain relief cover and secure using screw.



ITEM NO.	ORDER NO.	DESCRIPTION	QTY.
1	V3722	Strain Relief Cover Backplate	1
2	V3804	Screw 6x 1/2 PHPN T-25 SS	1



## Standard Wiring Diagram

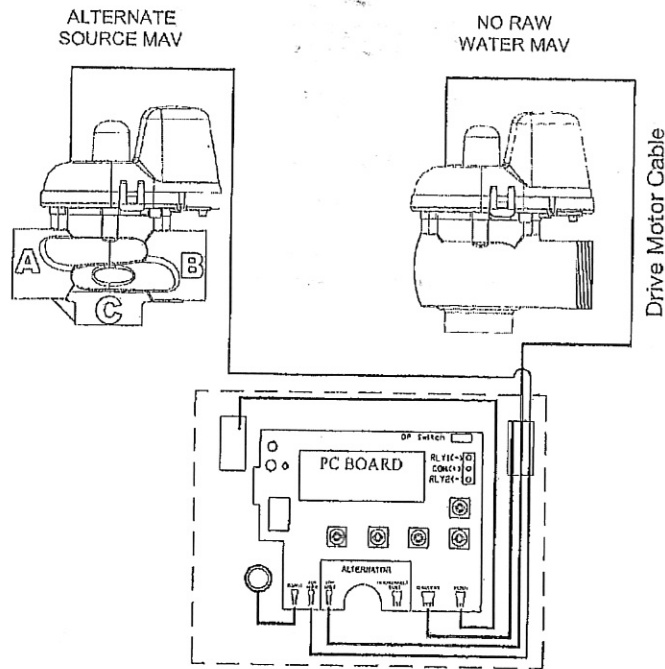


Figure 2

### Standard Wiring:

1. Route the MAV drive cable through the right side of back plate and weave through the strain relief knockout. Route MAV drive cable to right side of drive bracket. Allow about 1 foot of cable to push through back plate to connect to PC board. After cable is pushed snugly into retaining guide, snap drive bracket into place.
2. The no raw water MAV drive cable must be connected to the two-pin connector labeled "Alternator MAV DRIVE" on valve PC board, and the alternate source MAV must be connected to the two pin connector labeled 'AUX DRIVE'.
3. If a meter is provided, connect meter cable to the three-pin connectors on the PC board labeled METER.
4. Before connecting the 12V transformer cable to the four-pin connection marked 12VACPWR on PC board, make sure all other wire connections have been made correctly to the corresponding connection on the PC board. Plug 12V transformer into a properly-grounded outlet that cannot be switched off. If the control valve is in error state, the MAV will remain closed until the error is corrected and reset.

### MAV Alternate Source With No-Raw-Water-Bypass Programming:

Press ▲ and ▼ arrows to select desired option. Press NEXT to go to next step (Press REGEN to go to previous step).

Press NEXT & ▼ for 3 seconds or until TYPE is displayed on screen. Release and then press NEXT & ▼ again until screen changes to "VALVE TYPE"

ALTERNATE SOURCE PROGRAM SETTINGS	
VALVE TYPE	BASED ON VALVE
METER SIZE*	ONLY IF 2.0 IS SELECTED ABOVE
ALTERNATOR MAV	NO HARD WATER BYPASS ENABLED
AUX MAV	SEP SOURCE TRIGGER
SET CYCLES 1 THRU END	SET CYCLE SEQUENCES AS DESIRED
ALT FILL TRIGGER	OFF OR 1-99*
ALT FILL AMOUNT*	ONLY IF A NUMBER IS SELECTED ABOVE

Use ▼ ▲ arrows to select

See following pages for cycling sequencing protocol.

**\*IMPORTANT – PLEASE REVIEW BEFORE INSTALLING\***

Below is the **STANDARD WIRING and PROGRAM SEQUENCE** used for the Super HP alternate source option with potential water flow issues. Alternate options are on next page.

\*No-Raw-Water 2-Way MAV installed on outlet & plugged into ALTERNATOR terminal. ALT MAV programmed to "NO-HARD-BYPASS ENABLED."

\*Alternate Source 3-Way MAV installed on inlet & plugged into AUX DRIVE terminal. AUX MAV programmed to "SEP-SOURCE SET TRIGGER."

**Softening – Brine Refill First**

**Cycle Sequencing**

- 1 – ALT SOURCE MAV transfers to alternate source water supply
- 2 – Softener goes into FILL cycle
- 3 – Softener goes into SOFTENING cycle
- 4 – NRWBP MAV transfers to shut off position with 1 minute left in softening cycle
- 5 – Softener goes through regeneration cycles then back to service
- 6 – ALT SOURCE MAV transfers back to raw water supply
- 7 – NRWBP MAV opens back up

***Possible Issues***

- A – Treated Alternate Source water is used for brine fill
- B – Treated Alternate Source water is used for product during the SOFTENING cycle

**Softening – Brine Refill Last**

**Cycle Sequencing**

- 1 – NRWBP MAV transfers to shut off position
- 2 – ALT SOURCE MAV transfers to alternate source water supply
- 3 – Softener goes through regeneration cycles
- 4 – NRWBP MAV opens back up at beginning of FILL cycle
- 5 – FILL cycle finishes and softener goes back into SERVICE
- 6 – ALT SOURCE MAV transfers back to raw water supply

***Possible Issues***

- A – Treated Alternate Source water is used for brine FILL.
- B – Treated Alternate Source water is used for product during FILL cycle  
(A relay for a lockout would needed to prevent this)

**Filtering – No Regenerate Refill**

**Cycle Sequencing**

- 1 – NRWBP MAV transfers to shut off position
- 2 – ALT SOURCE MAV transfers to alternate source water supply
- 3 – Filter goes through regeneration cycles
- 4 – ALT SOURCE MAV transfers back to raw water supply
- 5 – NRWBP MAV opens back up

***Possible Issues***

- A – None

SEE NEXT PAGE FOR ALTERNATE WIRING AND PROGRAM SEQUENCE

**\*IMPORTANT – PLEASE REVIEW BEFORE INSTALLING\***

Below is an **ALTERNATE WIRING and PROGRAM SEQUENCE** that can be used for the Super HP alternate source if the standard options are not appropriate for the application. PLEASE NOTE that the ALT SOURCE and NRWBP designations will mean just the opposite when programming.

\*Alternate Source 3-Way MAV installed on inlet & plugged into ALTERNATOR terminal. ALT MAV programmed to "NO-HARD-BYPASS ENABLED."

\*No-Raw-Water 2-Way MAV installed on outlet & plugged into AUX DRIVE terminal. AUX MAV programmed to "SEP-SOURCE SET TRIGGER."

**Softening – Brine Refill First**

**Cycle Sequencing**

- 1 – NRWBP MAV transfers to shut off position
- 2 – Softener goes into FILL cycle
- 3 – Softener goes into SOFTENING cycle
- 4 – ALT SOURCE MAV transfers to alternate source water supply w/1 min. left in softening cycle
- 5 – Softener goes through regeneration cycles then back to service
- 6 – NRWBP MAV opens back up
- 7 – ALT SOURCE MAV transfers back to raw water supply

***Possible Issues***

- A – Treated Raw water is used for brine fill
- B – Treated Raw water is used for product during the SOFTENING cycle
- C – Treated Alternate Source water to Product during 2nd MAV transfer

**Softening – Brine Refill Last**

**Cycle Sequencing**

- 1 – ALT SOURCE MAV transfers to alternate source water supply
- 2 – NRWBP MAV transfers to shut off position
- 3 – Softener goes through regeneration cycles
- 4 – ALT SOURCE MAV transfers back to raw water supply at beginning of FILL cycle
- 5 – FILL cycle finishes and softener goes back into SERVICE
- 6 – NRWBP MAV opens back up

***Possible Issues***

- A – Treated Raw water is used for brine FILL.
- B – Treated Alternate Source water to Product during 1st MAV transfers

**Filtering – No Regenerate Refill**

**Cycle Sequencing**

- 1 – ALT SOURCE MAV transfers to alternate source water supply
- 2 – NRWBP MAV transfers to shut off position
- 3 – Filter goes through regeneration cycles
- 4 – NRWBP MAV opens back up
- 5 – ALT SOURCE MAV transfers back to raw water supply

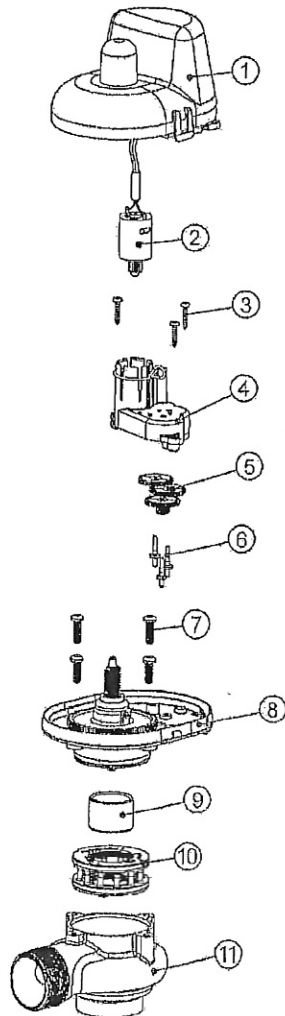
***Possible Issues***

- A – Treated Alternate Source water to Product during both MAV transfers

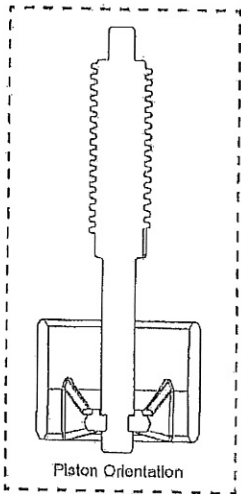
CONTACT HELLENBRAND TECHNICAL SUPPORT FOR ADDITIONAL OPTIONS

**1.5" 2-Way MAV - (part # 109650)**  
**Exploded Parts View**

Drawing No.	Order No.	Description	Quantity	
			V3097	V3097BSPT
1	101471	MAV/NO HWBY COVER ASY	1	1
2	102095	WS MOTOR ASY 8 FT	1	1
3	106139	SCREW #8-3/4 PHPN T-25 SS	3	3
4	106133	WS1.5&2ALT/2BY REDUCGEAR CVR ASY	1	1
5	101746	WS1 DRIVE REDUCING GEAR 12X36	3	3
6	106134	WS2 BYPASS REDUCTION GEAR AXLE	3	3
7	106140	SCREW 1/4-20 X 3/4 BHSCS SS (5/32" HEX ALLEN WRENCH REQUIRED)	4	4
8	106141	MAV/NOHWBY 1/125/15 DRIVE ASY	1	1
9	106142	MAV/NOHRD 1/125/15 PISTON	1	1
10	109764	WS15 NHWBY STACK ASY	1	1
11	109765	WS15 NHWBY BODY M X F NPT	1	N/A
	V3832BSPT-01	WS15 NHWBY BODY M X F BSPT	N/A	1
Not Shown	V3805	STRAIN RELIEF COVER KIT	1	1

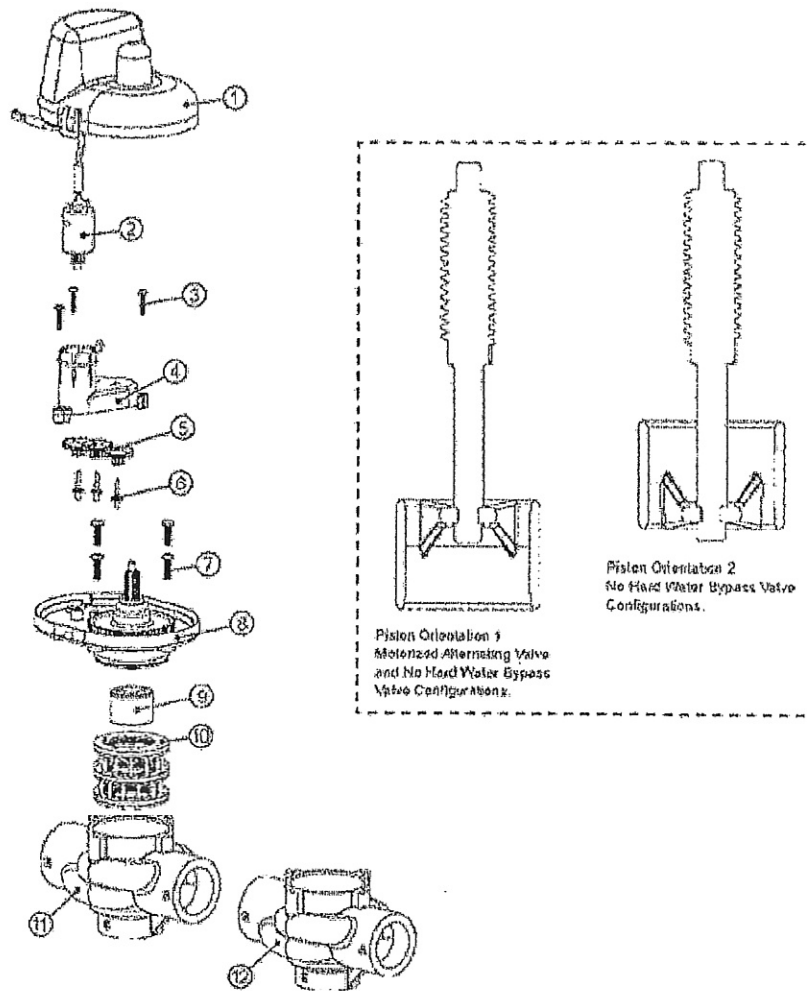


•Operating Pressures:  
 20 PSI Minimum / 125 PSI Maximum  
 •Operating Temperatures:  
 40°F Minimum / 110°F Maximum



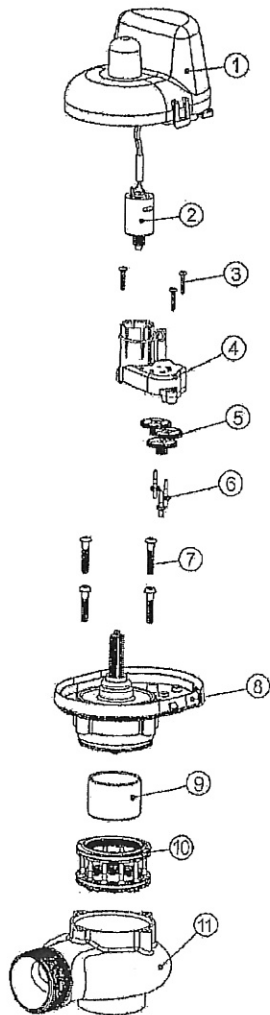
### Exploded Parts View 1-1/2" 3-Way MAV (part # 105988)

Drawing No.	Order No.	Description	105988	15-V3071BSPT
1	101471	MAV / NOHWBY COVER ASSY	1	1
2	102095	WS MOTOR ASY 8 FT	1	1
3	106139	SCREW #8-3/4 PHPN T-25 SS	3	3
4	106133	WS1.5&2ALT/2BY REDUCGEARCVRAS	1	1
5	101746	WS1 DRIVE REDUCING GEAR 12X36	3	3
6	106134	WS2 BYPASS REDUCTION GEAR AXLE	3	3
7	106140	SCREW 1/4-20 X 3/4 BHSCS SS	4	4
8	106141	MAV/NOHWBY 1/125/15 DRIVE ASSY	1	1
9	106142	MAV/NOHRD 1/125/15 PISTON	1	1
10	106143	MAV/NOHWBY 1/125/15 STACK ASSY	1	1
11	106144	MAV BODY 1.5 NPT	1	N/A
12	V3525BSPT-01	MAV BODY 1.5 BSPT	N/A	1
Not Shown	106137	WS ALT CONNECT CORD 8FT BLK	1	1

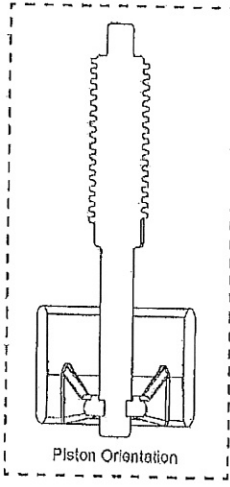


**2" 2-Way MAV - (Part # 109651)**  
**Exploded Parts View**

Drawing No.	Order No.	Description	Quantity	
			V3097	V3097BSPT
1	101471	MAV/NO HWBY COVER ASY	1	1
2	102095	WS MOTOR ASY 8 FT	1	1
3	106139	SCREW #8-3/4 PHPN T-25 SS	3	3
4	106133	WS1.5&2ALT/2BY REDUCGEAR CVR ASY	1	1
5	101746	WS1 DRIVE REDUCING GEAR 12X36	3	3
6	106134	WS2 BYPASS REDUCTION GEAR AXLE	3	3
7	106140	SCREW 1/4-20 X 3/4 BHSCS SS (5/32" HEX ALLEN WRENCH REQUIRED)	4	4
8	107608	MAV/NO HWBY 2DRIVE ASY	1	1
9	107609	MAV/NO HWBY 2 PISTON	1	1
10	109762	WS2 NHWBY STACK ASY	1	1
11	109763	WS2 NHWBY BODY M X F NPT	1	N/A
	V3832BSPT-01	WS2 NHWBY BODY M X F BSPT	N/A	1
Not Shown	V3805	STRAIN RELIEF COVER KIT	1	1

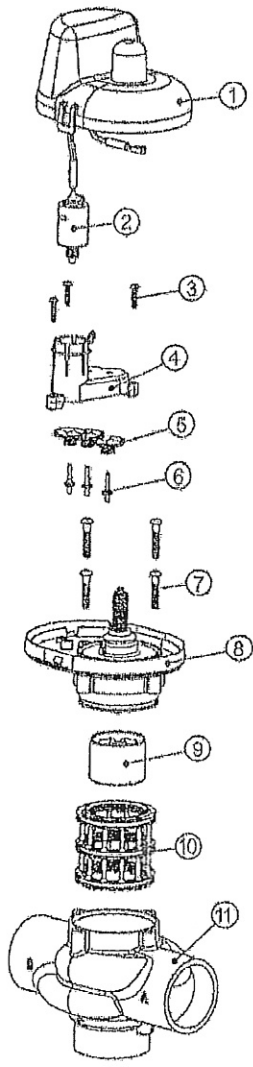


•Operating Pressures:  
 20 PSI Minimum / 125 PSI Maximum  
 •Operating Temperatures:  
 40°F Minimum / 110°F Maximum

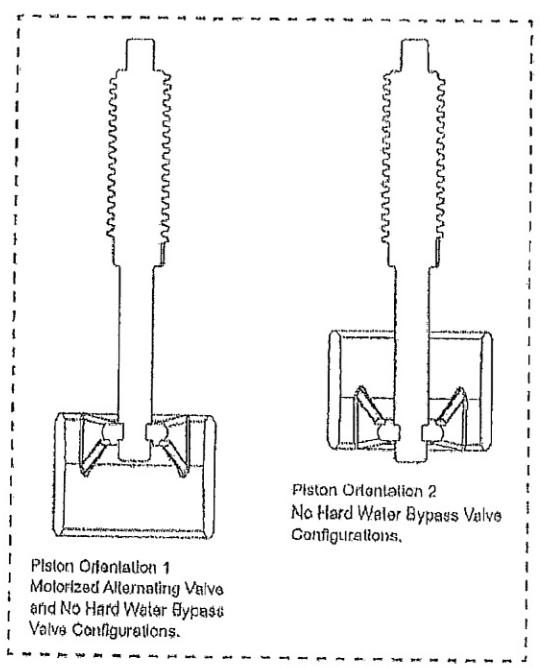


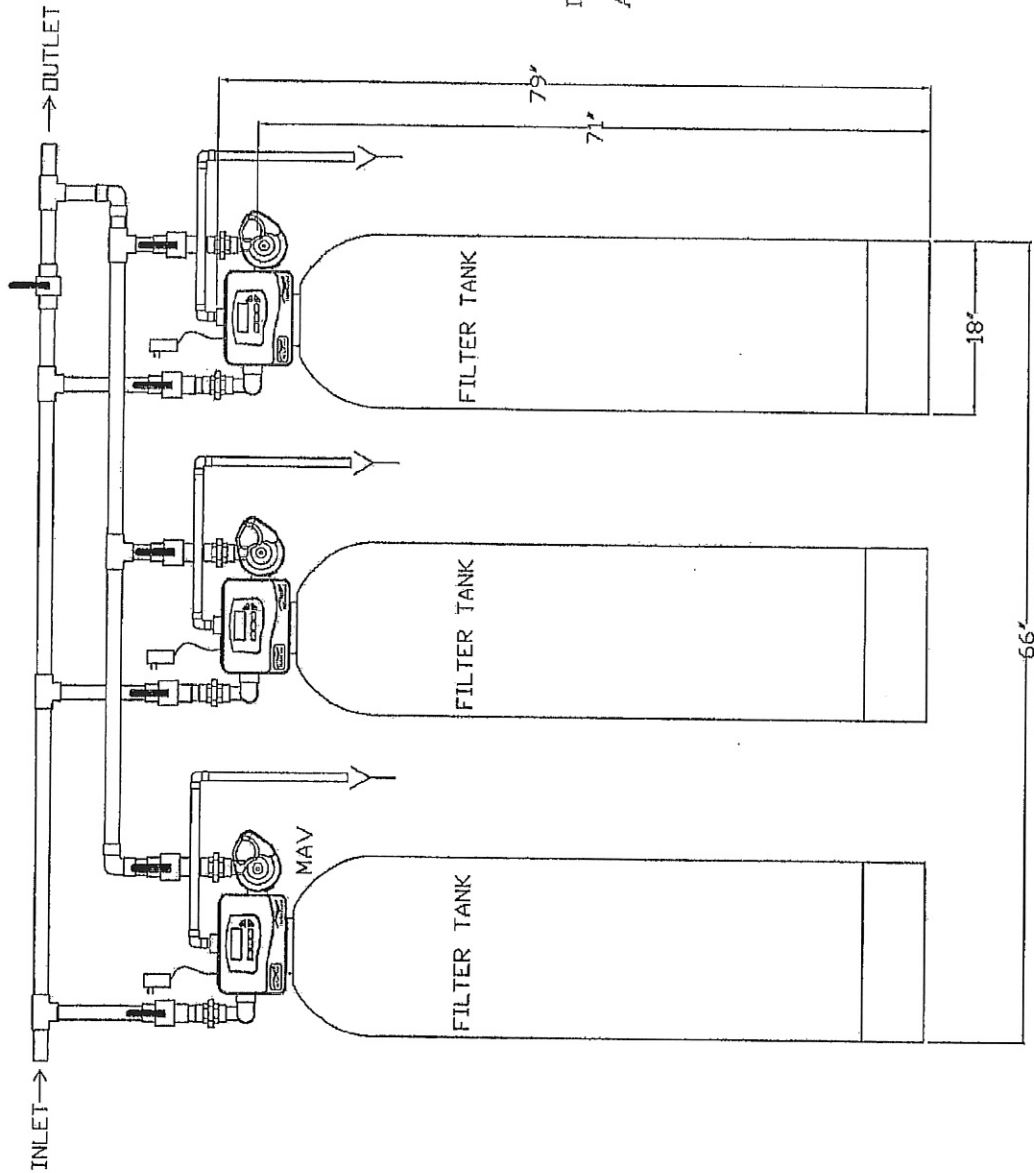
### Exploded Parts View 2" 3-Way MAV (part # 106993)

Drawing No.	Order No.	Description	15-V3076	15-V3076BSPT
1	101471	MAV / NOHWBY COVER ASSY	1	1
2	102095	WS MOTOR ASY 8 FT	1	1
3	106139	SCREW #8-3/4 PHPN T-25 SS	3	3
4	106133	WS1.5&2ALT/2BY REDUCGEARCVRAS	1	1
5	101746	WS1 DRIVE REDUCING GEAR 12X36	3	3
6	106134	WS2 BYPASS REDUCTION GEAR AXLE	3	3
7	106140	SCREW 1/4-20 X 3/4 BHSCS SS	4	4
8	107608	DRIVE, ASSY 2" MAV	1	1
9	107609	PISTON, 2" MAV	1	1
10	107610	STACK, ASSY 2" MAV	1	1
11	107611	BODY, 2" MAV	1	N/A
	V3633-01BSPT	WS2 MAV BODY BSPT	N/A	1
Not Shown	106137	WS ALT CONNECT CORD 8FT BLK	1	1

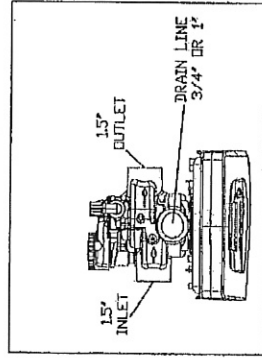


•Operating Pressures:  
20 PSI Minimum / 125 PSI Maximum  
•Operating Temperatures:  
40°F Minimum / 110°F Maximum





TOP VIEW



INTERCONNECT PIPING PROVIDED BY INSTALLER  
 ALL DIMENSIONS +/- .2"

H151-18 TRIPLEX FILTER

DWG #

73-H151-FILTR-TRI-3B

5-17-12

dwg by:

J.W.AACK

Approved by  
 Engineer



Wauwatosa, WI 53597  
 (608)849-3050



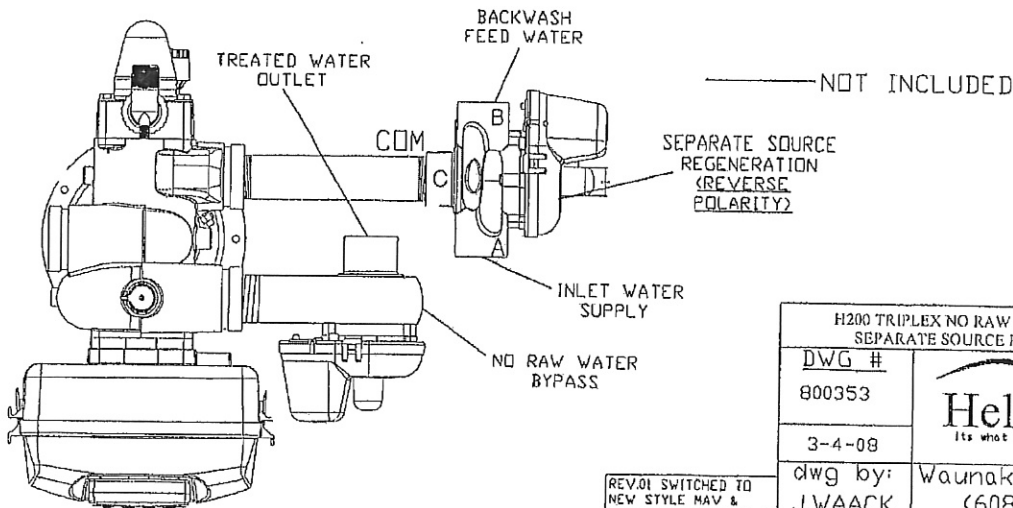
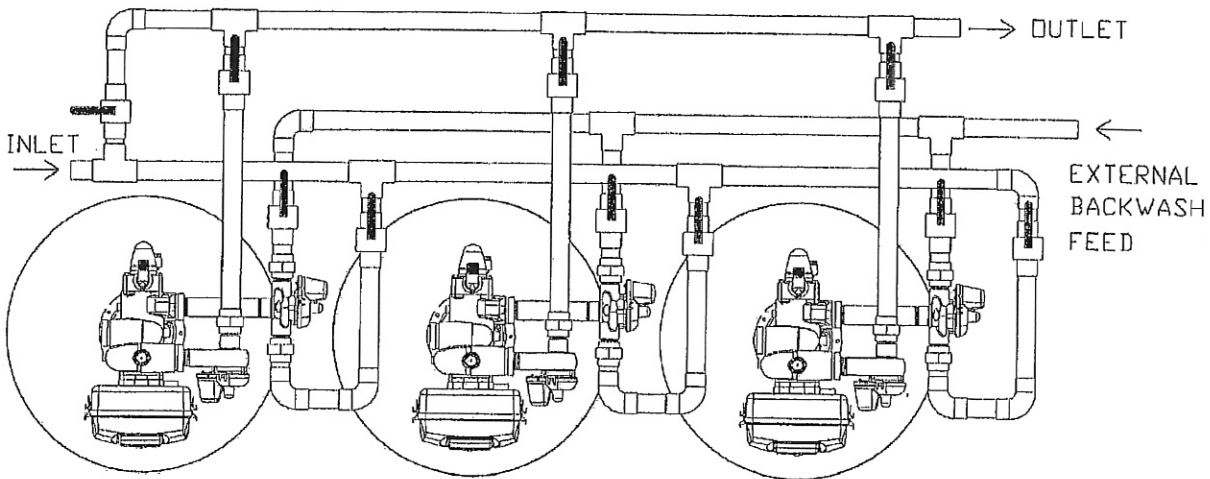
# 1.5" / 2" MAV VALVE WIRING / PORTING

Wiring of MAV - Standard Polarity				
With wire connection plugged onto board, Black wire on left, White wire on right				
Cycle	MAV Ports			Piston Position
	COM	A	B	
Service	To Vlv	CLOSED	OPEN	UP
Regeneration	To Vlv	OPEN	CLOSED	DOWN


Wiring of MAV - Reverse Polarity				
With wire connection plugged onto board, White wire on left, Black wire on right				
Cycle	MAV Ports			Piston Position
	COM	A	B	
Service	To Vlv	OPEN	CLOSED	DOWN
Regeneration	To Vlv	CLOSED	OPEN	UP

NHBP MAV Valve	
MAV PORTS	
COM	To Filter valve outlet
A	Plugged
B	Treated water outlet
Wiring Polarity	Standard

Sep Source MAV Valve	
MAV PORTS	
COM	To Filter Valve Inlet
A	Inlet Water Supply
B	Backwash Water
Wiring Polarity	Reverse



REV.01 SWITCHED TO NEW STYLE MAV & SYSPRO #'S 3/26/10 JW  
 REV.02 SWITCHED TO 2-WAY MAV 4/2/12 JW

H200 TRIPLEX NO RAW WATER BYPASS & SEPARATE SOURCE REGENERATION	
DWG #	800353
 Hellenbrand <i>It's what you don't see that counts</i>	
3-4-08	
dwg by:	Waunakee, WI 53597
J.WAACK	(608)849-3050
Approved by	E.T.M.
Engineer:	

5 YR CAPITAL PLAN UPDATED 02/22/2018

CAPITAL PROJECT	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	TOTAL
HSN/LIS Roofing	\$4,000,000	\$4,000,000				\$8,000,000
ATC Replacement HSN/LIS		\$1,437,500	\$1,437,500			\$2,875,000
Lehman Entrance #9 Door Replacement #	\$21,350					\$21,350
(Telecenter U) P.A. System Upgrades	\$35,000 (JTL)	\$25,000 (MSE)	\$25,000 (BES)	\$25,000 (RES)		\$110,000
HSS Roof Repairs		\$25,000	\$25,000	\$25,000		\$100,000
JTL Stage Floor Replacement	\$45,432					\$45,432
Resica Shingle Roof Replacement & Flat Rubber Roof			\$1,000,000			\$1,000,000
Resica Gutters & Downspouts			\$30,000			\$30,000
MSE Roof Repairs	\$24,000					\$24,000
JM Hill Sidewalk Replacement		\$48,000				\$48,000
Camera System Upgrades		\$224,000 (HSN/LEH)	\$160,000 (HSS)			\$384,000
Resica Paving Mill/Overlay Repairs				\$192,500		\$385,000
JTL Auditorium		\$225,000				\$225,000
HS Field House Repairs/Upgrades			\$1,853,495			\$1,853,495
HSS Stage Floor Replacement		\$58,680				\$58,680
JTL Replace Exterior Dust Collector			\$39,000			\$39,000
JM Hill Lighting Upgrade		\$140,000				\$140,000
North Campus Paving		\$839,701	\$839,701	\$839,701		\$3,358,804
JTL New Scoreboards (2) Football/Baseball	\$40,000					\$40,000
JTL Re-Grade Entrance to T.L.C. Building Due To Ponding Water	\$15,600					\$15,600
JTL New Cinder Track & Curb			\$78,000			\$78,000
Bushkill HVAC Upgrades-Pneumatics/Boilers/Chiller				\$1,000,000		\$1,000,000
JM Hill Playground					\$30,000	\$30,000
HSS Gymnasium Lighting Upgrades					\$68,250	\$68,250
JTL Classroom Partition Wall Repairs			\$20,000			\$20,000
Smithfield Lighting Upgrades						
Cafeteria/Gym/Auditorium/Lobby/Library					\$93,200	\$93,200
MSE Lighting Upgrades Lobby/Gym					\$50,000	\$50,000
HSS Re-Grout Ceramic Tile Pool Shell		\$39,000				\$39,000

HSS Interior Lighting Upgrades, Classrooms, Hallways, Library, Cafe									\$500,665
JM Hill Replace Gym Fiberboard Ceiling								\$25,000	\$25,000
North/Lehman Lighting Upgrades								\$120,900	\$120,900
JTL/LIS Masonry Repairs*	\$1,548,000							\$1,548,000	\$1,548,000
<b>Total By Year</b>	\$5,729,382	\$7,061,881	\$5,507,696	\$2,082,201	\$1,945,216				\$22,326,376

Original 5 Yr Allocation \$11,321,000

Projects To Be Completed \$ 11, 770,134

Available Capital Reserve \$11,163,109

Balance **-\$607,025**

# -Board Approved

\*-In Progress

**Priority 1**

**Priority 2**

**Priority 3**

**Priority 4**

**Priority 5**