



Layne Christensen Company
721 W. Illinois Avenue
Aurora, IL 60506

630/887-6941
graniteconstruction.com

April 12, 2024

Mr. Joseph Munder
City of Aurora
44 E. Downer Place
Aurora, IL 60507

Re: River Intake, RI4

Mr. Munder:

The Aurora River Intake Booster Pump #4 has been removed, disassembled, cleaned and inspected. Please find the Aurora RI 4 Pump Inspection Report (PIR) attached.

Based upon the recommendations of the PIR, estimated project cost is as follows:

| | |
|---|-----------|
| 1. Labor and equipment to date (including PSA labor discount) | \$ 10,100 |
| 2. New bowl, column, and tension assemblies | \$ 30,378 |
| 3. Assemble and epoxy coat pump, estimate | \$ 9,500 |
| 4. Install Pump, estimate | \$ 6,000 |
| 5. PSA Labor Discount, estimate | \$ (775) |

Total Project Estimate \$ 55,203

Manufacturer's stated lead time on the new pump components is six weeks.

If you have any questions or comments, please do not hesitate to contact me.

Layne Christensen Company

William Balluff, P.E.
WRD Account Manager III



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CITY OF AURORA RIVER INTAKE BOOSTER #4 INSPECTION REPORT

| | | | | | | |
|----------|---------------------|-----------------|---------------------------------|---|------|-----------|
| JOB NAME | AURORA RIVER INTAKE | | BOOSTER | 4 | DATE | 4/11/2024 |
| JOB NO. | 1402524 | INSPECTED BY | J. KOPP | | | |
| | | BOWL ASSEMBLY | BYRON JACKSON 1 STAGE 18KXL | | | |
| | | COLUMN ASSEMBLY | 17' OF 12 X 3 X 1 11/16 FALNGED | | | |
| | | MOTOR | US 100 HP, 460V VSS | | | |

MOTOR

Motor Observations

The VSS motor was left on ste for City's rehab discretion.

Motor Recommendations

Have motor inspected by qualified shop.

BOWL ASSEMBLY



RI 4 booster on Layne's blast rack



Heavy encrustation on bowl OD



Pin holes in intermediate casting



Castings after disassembly



Heavy cavitation erosion in suction bell



Pin holes in casting



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 BOOSTER #4 INSPECTION REPORT



Impeller and impeller shaft

Heavy pitting on impeller shaft

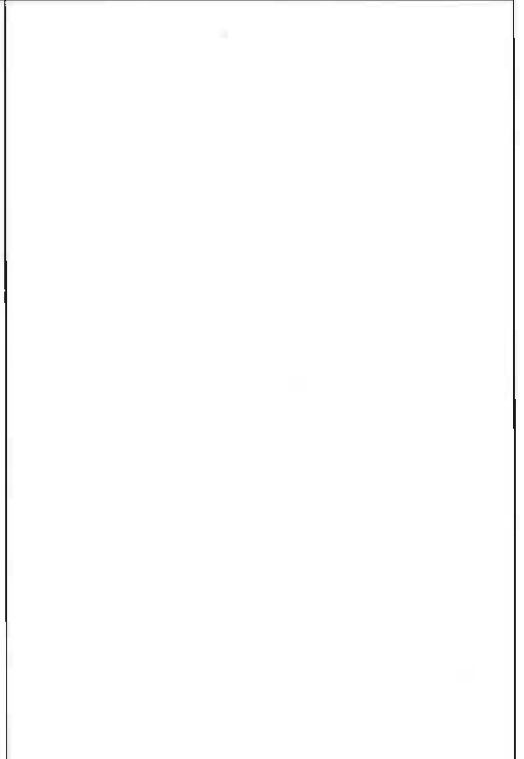
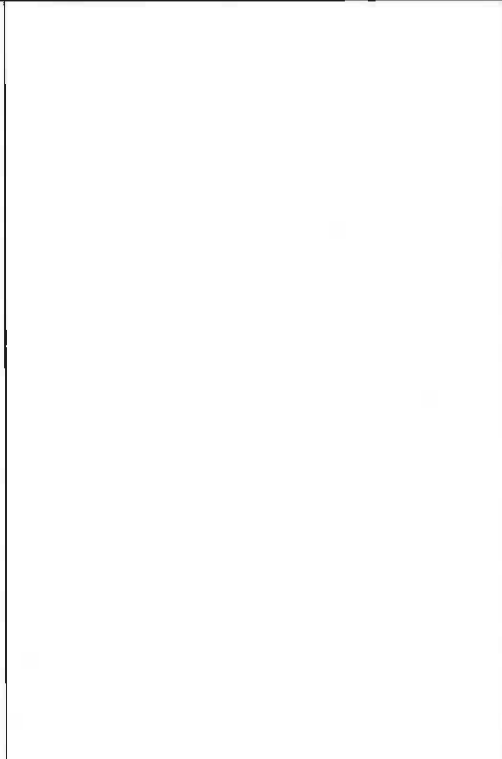
Basket suction strainer

Bowl Assembly Observations

Holes and major cavitation to suction bell. Pitting throughout impeller shaft. Nicks on impeller flutes. Suction screen is stainless and in good condition.

Bowl Assembly Recommendations

Replace bowl assembly.





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COLUMN ASSEMBLY



12" flanged column

Heavy pitting to OD of column (typ.)

Heavy encrustation on ID of column (typ.)



3" tubing

Heavy pitting to OD of tubing (typ.)

Heavy wear at bushing locations on 1 11/16" shaft (typ.)

Column Assembly Observations

The column assembly components are in poor condition.



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Column Assembly Recommendations

Replace column assembly.

DISCHARGE HEAD



Fabricated 12" discharge head

Same

Discharge Head Observations

Overall, the discharge head is in good condition. The mechanical seal and tension assembly are damaged.

Discharge Head Recommendations

Replace mechanical seal and tension assembly. Epoxy coat.