City of Stevenson

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From: Cody Rosander
To: Mayor, City Council
RE: Emergency Repairs for Rock Creek Intake
Date: 3/2/2026

Rock creek Intakes (RCI) ability to intake water is reducing further than anticipated. A permanent failure of rock creeks manifold is likely impending. The systems ability to supply water to the treatment plant are getting dangerously close to not producing enough water to keep up with demand. It also indicates that there is a bigger problem, which will likely to permanent shut down of the facility. With long-term water supply (LTWS) final product being a minimum of 4-5 years out. The time has come to make emergency repairs to the intake to maintain a safe supply of drinking water for the foreseeable future.

I would like to provide a brief history on the RCI and the LTWS projects. Given that this project started prior to me being in this role, the update was written by Grayling Engineering. They have been with the project since the beginning and have a wealth of knowledge of the intricate water system.

<u>Original Rock Creek Intake Investigation</u>

This project was scoped to investigate the cause of lost capacity at RC and provide recommendations for treatment at Hegewald. At the time, RC was estimated to still have a capacity of 250-300 gpm. Following the first site visit to RC, it was clear that rehab of RC would likely require a full or partial replacement of the infiltration gallery. The scope was then modified to bring Aspect Consulting on board to perform a pumping test and aquifer analysis at Hegewald Well to ensure that the Well could be used to meet demands while RC was offline for repairs/replacement. At the time, the City could still meet demands of the system, so getting Hegewald up and running was considered the priority. The City was able to get a regional DOH grant to complete the pumping test and associated analysis for Hegewald. The scope started evolving as the question arose of whether it was worthwhile to put money into the rehab of RC if there were better alternatives. That is where the LTWS project was conceived - the City wanted an alternatives analysis completed to decide whether surface water as a whole was the best way to meet demands considering the cost to rehab RC and keep the WTP running.

<u>LTWS</u>

The LTWS project was scoped while the Hegewald pumping test and report were still in progress. The intent was to go through all three phases of the LTWS project while the three surface water sources still supplied water to the City, with Hegewald as a supplementary source. Unfortunately, we did not anticipate that the capacity of RC would more than halve in less than three years.

From my understanding speaking with the engineering team, completing these repairs to RCI were not possible until the Hegewald testing was completed, and new equipment was installed for better chemical control and monitoring.

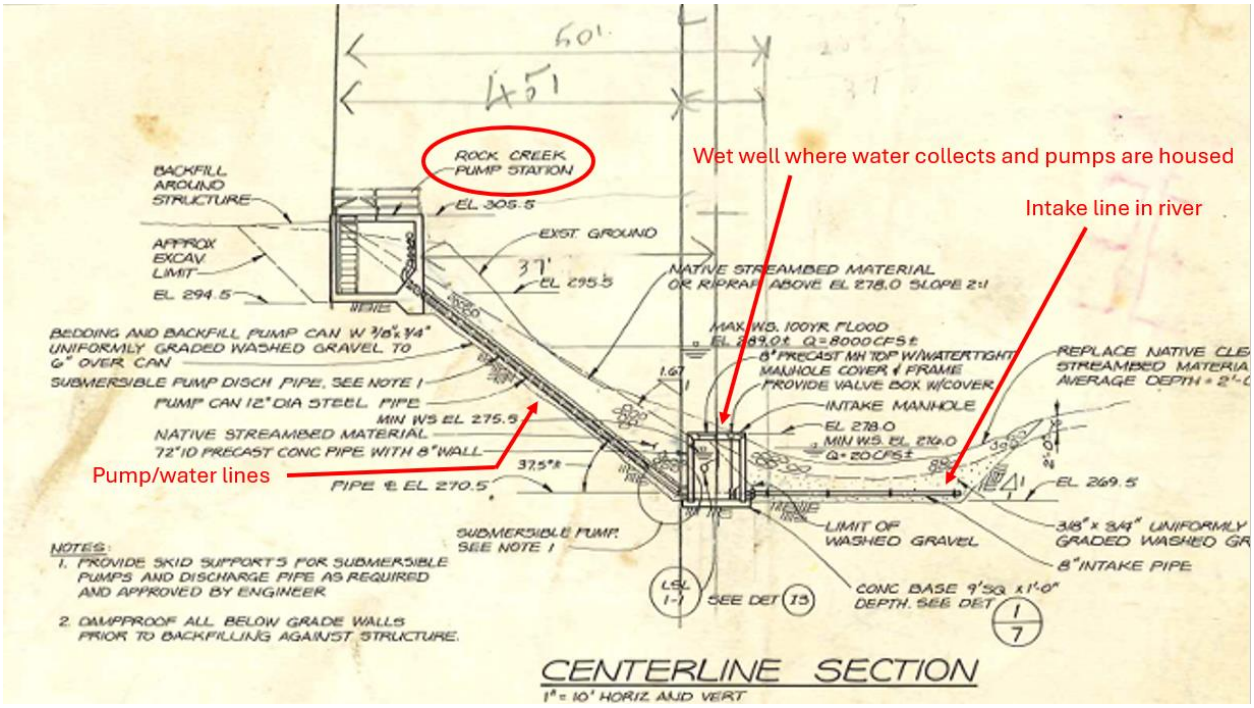
The next steps for RCI. We have had open discussion with permitting specialists to get the ball rolling on that front. Prior to fully committing to the project, however, we will be sending divers to inspect the actual intake lines. They will be able to run underwater cameras into the systems manifolds, and we hope to see the extent of what exactly is going on. If the lines remain intact, and just full of sedimentation, we will attempt to blow the lines out using very high pressure water. We will then test flows in hopes they improved enough to maintain through the summer. If we find the manifold to be damaged or blowing out the sediment in the lines does not work, we will need to move forward with the project.

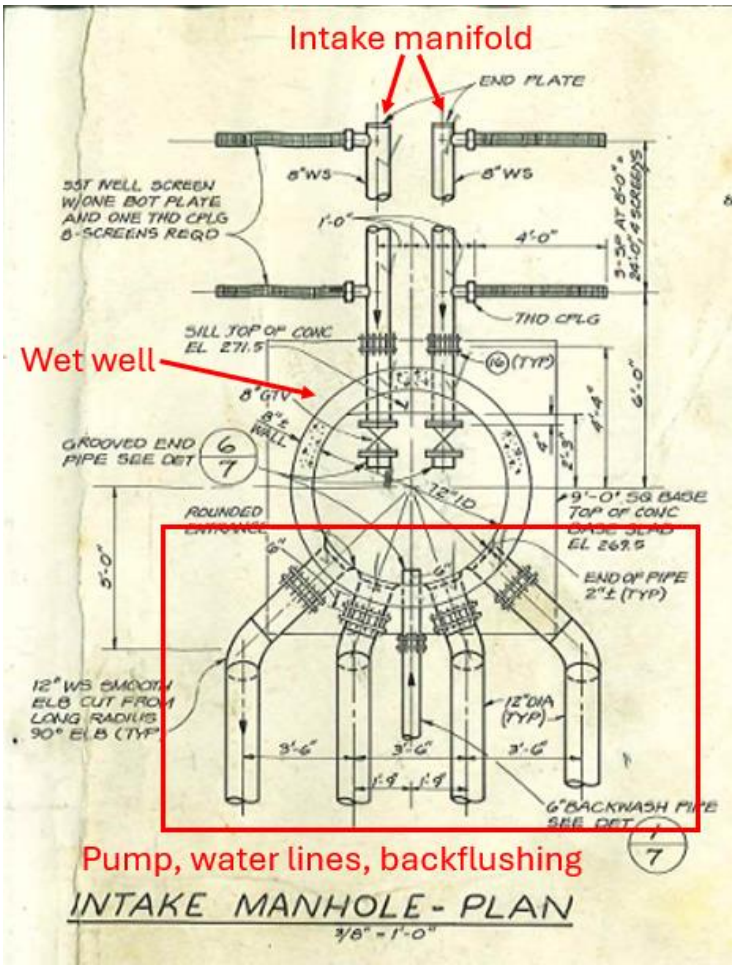
I have been in conversation with many grant agencies and have not been able to find one that will meet our needs or that is currently properly funded. If we move forward with the project, it is likely we will need to fund it internally. The project has a very rough estimated cost of $500,000, which the City has in bonds that can be pulled quite quickly. I will continue to pursue grants, but it seems unlikely and I want to make sure the Council is informed on the likelihood of tapping into reserves.

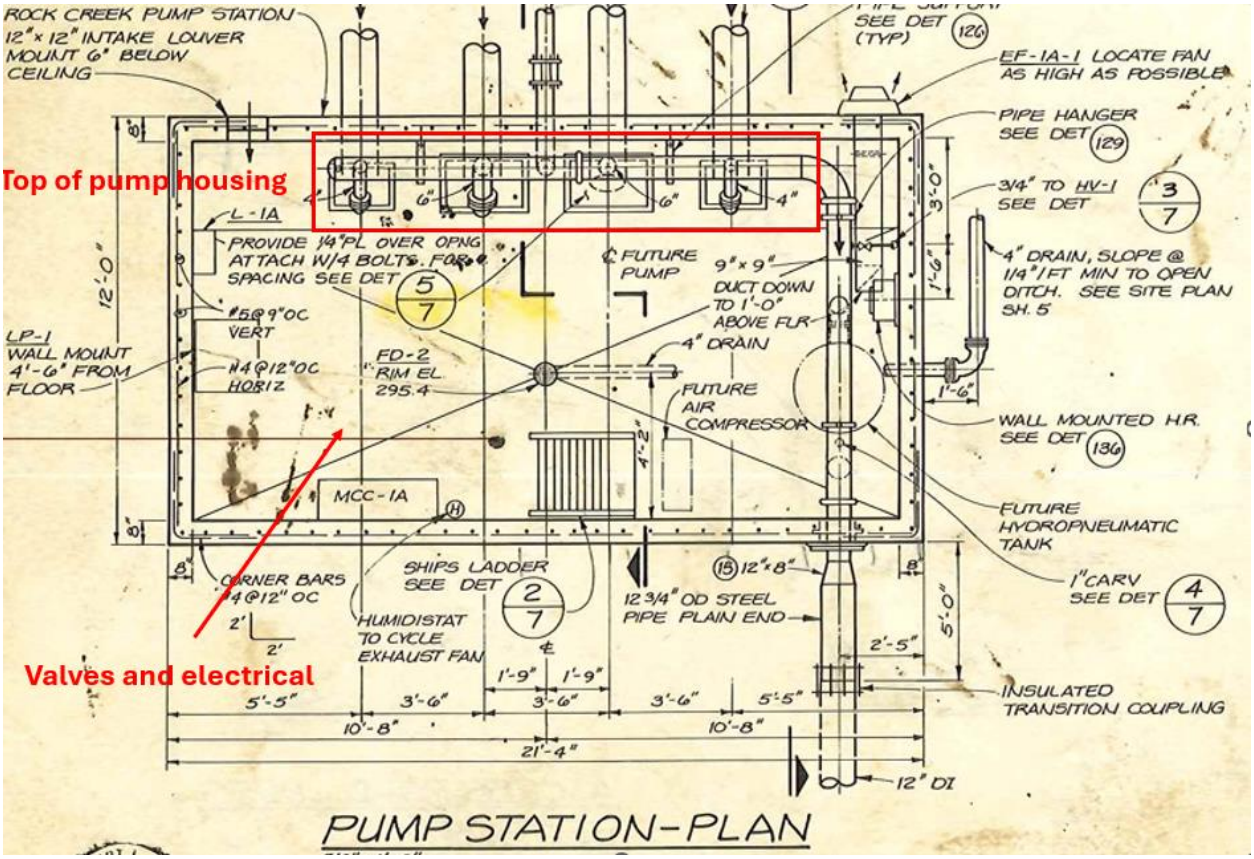
Below you find some images from the original 1979 design, I added a few comments to help better understand what and how everything fits together. Essentially, the manifold sits out in the river and water infiltrates through the pipe and into the wet well. In between the actual pump station and the wet well are a multitude of pipes. Some of these pipes house the submersible pumps that are lowered from the pump station into the wet well, and others supply water out of the wet well to the Water Treatment Plant.

I look forward to discussing this with you more, please don't hesitate to reach out if you have questions.

Cody


Wet well where water collects and pumps are housed
Intake line in river
Pump/water lines
ROCK CREEK PUMP STATION
BACKFILL AROUND STRUCTURE
EL 305.5
EXIST. GROUND
APPROX EXCAV. LIMIT
EL 294.5
EL 295.5
NATIVE STREAMBED MATERIAL OR RIPRAP ABOVE EL 278.0 SLOPE 2:1
BEDDING AND BACKFILL PUMP CAN W 3/8"x1/4" UNIFORMLY GRADED WASHED GRAVEL TO 6" OVER CAN
SUBMERSIBLE PUMP DISCH PIPE, SEE NOTE 1
PUMP CAN 12" DIA STEEL PIPE
MIN WS EL 275.5
NATIVE STREAMBED MATERIAL
72" ID PRECAST CONC PIPE WITH 8" WALL
PIPE @ EL 270.5
MAX WS. 100YR FLOOD
EL 289.0± Q=8000 CFS±
8" PRECAST MH TOP W/WATERTIGHT MANHOLE COVER & FRAME
PROVIDE VALVE BOX W/COVER
INTAKE MANHOLE
EL 278.0
MIN WS EL 276.0
Q=20 CFS±
EL 269.5
SUBMERSIBLE PUMP SEE NOTE 1
LIMIT OF WASHED GRAVEL
8" INTAKE PIPE
CONC BASE 9'SQ x 1'-0" DEPTH. SEE DET 1/7
SEE DET 15
NOTES:
1. PROVIDE SKID SUPPORTS FOR SUBMERSIBLE PUMPS AND DISCHARGE PIPE AS REQUIRED AND APPROVED BY ENGINEER
2. DAMPPROOF ALL BELOW GRADE WALLS PRIOR TO BACKFILLING AGAINST STRUCTURE.
CENTERLINE SECTION
1" = 10' HORIZ AND VERT


Intake manifold
Wet well
Pump, water lines, backflushing
END PLATE
8"WS
55T WELL SCREEN W/ONE BOT PLATE AND ONE THD CPLG 8-SCREENS REQD
1'-0"
4'-0"
3-3@ AT 6'-0" c 24'-0" OF SCREENS
THD CPLG
SILL TOP OF CONC EL 271.5
(16) (TYP)
8"GTV
8" WALL
GROOVED END PIPE SEE DET 6/7
72" ID
ROUNDED ENTRANCE
9'-0" SQ BASE TOP OF CONC BASE SLAB EL 269.5
END OF PIPE 2"± (TYP)
5'-0"
12" WS SMOOTH ELB CUT FROM LONG RADIUS 90° ELB (TYP)
12" DIA (TYP)
3'-6"
1'-9"
6" BACKWASH PIPE SEE DET 1/7
INTAKE MANHOLE - PLAN
3/8" = 1'-0"


ROCK CREEK PUMP STATION
12"x12" INTAKE LOUVER MOUNT 6" BELOW CEILING
Top of pump housing
L-1A
PROVIDE 1/4"PL OVER OPNG ATTACH W/4 BOLTS. FOR SPACING SEE DET 5/7
#5@9"OC VERT
#4@12"OC HORIZ
LP-1 WALL MOUNT 4'-6" FROM FLOOR
FD-2 RIM EL 295.4
MCC-1A
CORNER BARS #4@12" OC
2'
2'
Valves and electrical
SHIPS LADDER SEE DET 2/7
HUMIDISTAT TO CYCLE EXHAUST FAN
℄ FUTURE PUMP
9"x9" DUCT DOWN TO 1'-0" ABOVE FLR
4" DRAIN
FUTURE AIR COMPRESSOR
(15) 12"x8" 12 3/4" OD STEEL PIPE PLAIN END
SEE DET (126) (TYP)
EF-1A-1 LOCATE FAN AS HIGH AS POSSIBLE
PIPE HANGER SEE DET (129)
3/4" TO HV-1 SEE DET 3/7
4" DRAIN, SLOPE @ 1/4"/FT MIN TO OPEN DITCH. SEE SITE PLAN SH. 5
WALL MOUNTED H.R. SEE DET (136)
FUTURE HYDROPNEUMATIC TANK
1" CARV SEE DET 4/7
INSULATED TRANSITION COUPLING
12" DI
5'-5"
3'-6"
1'-9"
1'-9"
3'-6"
3'-6"
5'-5"
10'-8"
10'-8"
21'-4"
PUMP STATION-PLAN