

## CITY OF YANKTON SD WADER INSPECTION

The wader is designed to drain to the pool surge tank and then the water is mixed with pool water, drawn up from the surge tank by the pool pumps, filtered and then returned back to a 8" cast iron line going to the pool. There is a 2" copper line on the 8" cast iron return to the pool that allows some filtered water to flow to the wader sprays (two pedestals). This water is chemically treated with the main pool system. The state does not allow this form of filtration on new installations anymore. A new wader or a renovation to a wader has to have its own filter and water treatment plant

The wader lost all of its water when it was first filled up this spring indicating a major leak. The wader was filled up again and kept full and now only loses 1/4" per day from the most recent test. Debris may have plugged the leak so now it is less.

7/17/2007

Return and supply valves were turned off by Jim the night before we arrived.

Water level of wader had gone down approx. 1/4" overnight approx 12hrs.

7/18/2007

MCR pressure tested the 3" bottom plumbing in the main drain sump in the center of the wader

This tested negative as it would not hold any pressure. There was water flow coming into the main drain sump from the 5" side outlet. This was plugged and we still could not hold pressure. This means this line leaks or there is a possibility that the two lines are teed together and one of them leaks.

This could mean the two pipes are teed together or that they both are broken and when water pressure was introduced the water leaking out of one pipe leaked back into the other pipe.

MCR pressure tested the 5" side outlet in the main drain sump in the center of the wader and we had flow coming back into the bottom 3" plumbing.

The city personnel opened a valve just outside of the sewer manhole and water from the wader started flowing out of the pipe and into the sewer manhole. When this was opened sludge came out and it appeared as if the valve had not been opened for some time. We believe this was meant to be the drain valve for the wader and also meant to be left open so the rain water could drain out of the wader and flow to this sewer. The skimmers on the wader are possibly also teed into this line

The only means to drain the wader is to turn off the return line in the basement and allow the water to drain to the pool surge pit.

The only means of filling the wader is from a garden hose or from the return line for the sprays. Jim Schnook says it take the better part of a day to drain and fill the wader.

We did not drain the wader all the way down.

Since the wader did not lose a considerable amount of water as expected, we did not drain the wader all the way down.

MCR dye tested the wader tank and found one small spot that may have taken dye. The rest of the wader concrete appears to be good.

Option 1: Demolish the existing wader and install a zero depth entry water recreational pool. Install toys, slides, sprays, bubblers etc. to attract more people to the park.  
This pool would have its own filtration and water treatment plant and would be separate from the main pool  
Estimated pricing: \$300,000-350,000

Option 2: Keep existing wader and replace all plumbing to the wader with new SCH 40 PVC.  
install new skimmers, main drain, returns. Install a new separate filtration and water treatment plant  
install a couple of toys and a slide.  
Estimated pricing: \$50,000-70,000

Option 3: Install a bypass valve or a booster pump on the pool return to allow more flow to the wader sprays. This would allow for a faster fill and a higher turnover for cleaner water. Install a new main drain line into the basement to 6" wader plumbing. Install a new 4" - 6" drain line to the sewer manhole for a faster drain down and using this as a winterizing drain for rain water to flow through.  
Estimated Pricing: \$10,000-15,000