

A Water Cistern on South Fairfax Street

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In January 2006, a property owner on the 600 block of South Fairfax Street in Old Town Alexandria was renovating a house built about 1845 and came across a brick domed structure just behind the house. City archaeologists went out to investigate and oversaw the careful removal of dirt by a small backhoe to uncover this intact structure. This was a water cistern, probably for filtering water for use by the household in the 19th century. The structure was in the form of an underground cylinder measuring 10 feet in diameter, and probably about 10 feet deep, constructed by digging down into the clay subsoil and then plastering, or “parging,” the inside walls (no bricks were used). The cylinder was divided by a straight wall, a little off center, made of dry-laid stretcher bricks, extending to the ceiling of the dome. This dividing wall formed two chambers, one a little bit larger than the other. The dividing wall was parged on the side that was in the larger chamber, but this same wall was not parged on the smaller chamber side. A fairly sharply-arched brick and mortar domed cover was built on top of the circular outside wall. At the apex of the dome was an access hole formed by a short iron cylinder 1 ½ feet in diameter, set in the bricks, with a flat iron cover, similar to a man-hole cover. This hole opened into the larger chamber, the smaller chamber had no opening in the dome. Water entered and exited the chambers through two pipes. Water was diverted, probably from the roof of the house through down spouts to a 2 inch-diameter iron pipe that pierced the dome just to the side of the dividing wall leading into the larger chamber. On the other side of the

dividing wall, a lead pipe, 1 inch in diameter, extended from near the bottom of the smaller chamber, up through the dome to some form of faucet that is no longer extant.

In preparation for laying the footing for a stairway, the dome of the structure had to be removed, but the cylinder portion of the structure remained intact and was filled with portions of the brick dome and with gravel. There were three or four feet of standing water in the smaller chamber which was pumped out, revealing washed-in silty clay. Because this part of the structure was left in place, the interior of the cistern was not excavated. Excavation by backhoe would have caused damage to the center and side walls of the structure. But, as a result, the nature of the floor of the cistern remains unknown, although it presumably is made of mortared bricks covered with plaster. The larger chamber was filled nearly to the top of the dome with dirt. When the dome was removed, half of this dirt was excavated by City archaeologists to the depth required for construction of the stairway foundations. There were few artifacts found and these dated to the second half of the 19th century and the 20th century. This soil was dumped through the hole in the dome to fill up the cistern after it was no longer in use and it may be that this soil is not even from this property.

The structure is identified as a cistern, meaning that is a container for holding water, not a structure for drawing water, like a well, because all but one of the interior walls, as well as the underside of the dome, were parged. This plastering serves to seal the porous bricks and retain water. It is thought to be a filtration cistern because there are two chambers with a pipe in each. At the bottom of the dividing wall there would typically be two boxes, one on each side of the wall which would hold filtering materials such as sand, charcoal and river pebbles. As the water flowed by the force of gravity, from the larger chamber down through the filtration box, through holes in the dividing wall, and then back up through a second filtration box, it would be cleansed and made healthier to drink. Four other filtration cisterns have been investigated in Alexandria and each one is slightly different. This one on Fairfax Street is unusual and surprising both because the cylinder is not constructed of mortared bricks, the plaster being affixed directly to the clay, and also because the dividing wall is formed of apparently un-mortared bricks and is not plastered on the smaller chamber side. We are always impressed that family residences in 19th-century Alexandria would have such large structures to filter their water. It emphasizes how bad the well water must have become in this urban area.



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