



COMMONWEALTH of VIRGINIA
Lake Barcroft Watershed Improvement District

Operations Director's Report
(May 2013 – July 2013)

The July 24th, 2013 LBWID Quarterly Meeting was cancelled due to scheduling conflicts. Instead the LBWID Operations Director's Report dated May. 2013 – July. 2013 was emailed to the LBWID Associates, NVS&WCD, LBA, and posted on the LBWID website.

This document will substitute as the meeting minutes.

Engineering/Projects

Concrete Restoration for the Dam *(update)*

- On May 6, 2013 Contracting Specialist Inc. (CSI) started the restoration of the western training wall on the dam and as of this date they are roughly 75% complete.
 - This phase of the concrete restoration was added because during the restoration of the western abutment it was discovered that the condition of the western training wall had deteriorated more than originally thought.
- The basic plan for the restoration of the western training is as follows:
 - Remove all of the loose existing concrete.
 - Drill into the current wall and install a steel reinforcing cage.
 - Install concrete forms and then pour a new 8 inch layer of concrete to encapsulate the existing wall.
- The cost for CSI to restore the western training wall is \$164,558.76
 - The engineering cost for restoring the western training wall is approximately \$20,000.00.
- It is currently expected that the restoration of the western training wall will be completed by late August.
- The last remaining phase of the original contract, which is to repair the small and large voids on the cyclopean face below the bascule gate, has been postponed until after the installation of the catwalk along the cyclopean face of the dam (see more info on this project below). Having the catwalk will allow for better access and the ability to do a better job.
 - The cost of the small and large void repair is approximately \$15,000.00.

- As it currently stands the cost of the total concrete restoration project is projected to come in at about \$1,080,732.18.
 - This includes the original contract with CSI, all LBWID approved change orders completed by CSI, and the restoration of the western training wall. It also includes all WR&A design engineering services and construction phase services.
 - The total amount that was budgeted for the project was \$1,083.394.00
 - If the project cost closes out as projected there will be a remanding balance of \$2,661.82 in the project budget.

Catwalk for the face of the dam *(update)*

- LBWID is currently working with WR&A, CSI, and K2 Fabricating Services to finalize the plans for installing a catwalk along the face of the cyclopean section of the dam.
 - WR&A is the engineering firm.
 - CSI is the installation contractor.
 - K-2 Fabricating Services will be fabricating the various components.
- This new catwalk will be instrumental in regards to many of the remaining dam capital improvement projects, such as the following:
 - Grouting the voids in the cyclopean surface.
 - Replacing the hydraulic cylinders.
 - Painting the bascule gate.
 - Replacing the bolts that secure the bascule gate
 - Replacing the hydraulic pipe shields.
 - And all of the day to day maintenance that the dam needs.
- The new catwalk will also make a much safer means of access for the LBWID staff and contractors.
- The LBWID Board of Trustees has established a budget of \$200,000.00 for this project.
- At this time it is expected that the design work will be completed in September and then the fabrication of the components will take place during the fall and winter. The installation is tentatively planned for spring of 2014.

Revision of Dam O&M Manual *(update)*

- WR&A has completed the revision of the Operations and Maintenance Manuals for the dam.
 - All of the upgrades to the structure, hydraulic system, and computer control system have been incorporated into the manuals.

New lake level sensors *(new)*

- LBWID has ordered and will be installing two new lake level monitoring sensors for the dam's control system.

- The new sensors will have greater resolution and much stability to provide more consistent and accurate measurements.
- The cost of the two new lake level sensors is \$2,250.00
- The new sensors will be installed by mid-August.

New Human Machine Interface (HMI) computer for the dam (new)

- The dam's primary HMI failed in mid-May and the staff activated the backup unit.
- WID contracted with Applied Controls Engineering (ACE) to install a new one.
 - At the recommendation of the engineers at ACE the WID selected a HMI computer built by DELL and an industrial flat panel touch screen manufactured by Arista so that the newer system will have fewer proprietary components.
- The total cost of the HMI replacement was \$5,810.00 and it was installed in mid-July.

Operations

Community Garden Restoration (update)

- As of to date the following phases of the Community Garden Restoration project have been completed:
 - The restoration of the pond and waterfall has been completed.
 - The area around the pond has been re-graded and sod installed.
 - The plants and trees that frame the pond and waterfall have been planted.
 - The two new floating docks have been installed.
 - Filling in and the last half of the old moat from the previous pond configuration.
- The remaining phases of the of the projects are as follow:
 - Installing the new pathway from the foot bridge to Dearborn Dr.
 - Planting the new trees along the pathway.
 - Installing bio-logs along the lakeside shore.
 - Installing a rain garden to assist with filtering storm water runoff. (not part of the original plan)
- Due to the incredible amount of rain that we had experienced during the winter, spring, and summer the project is not as far along as WID had hoped, regardless the WID is working hard to get the project mostly completed by late summer or early fall.
- To eliminate the algae bloom that developed in the pond after it was completed the WID has contracted with Virginia Water Gardens to provide and plant the appropriate aquatic plants that will absorb the nutrient energy that the algae depends on.
- The project is on budget.

Spot Dredging (new)

- At the request of several waterfront residents the WID staff has been dredging along their dock and seawall to clear the buildup of organic material that has accumulated over the years.

- Most of this organic material falls from the trees along the shoreline during the fall and winter months.

Tree Removal (new)

- So far this year WID staff has removed 5 very large oak trees that had fallen into the lake from private water front properties. A few of them were as much as 3 feet in diameter.
 - LBWID has also removed 4 medium size trees that had fallen into the lake.
- Depending on water depth the staff will either use underwater recovery air bags or the dredging equipment to remove the trees.
 - One of the trees took four staff members a total of 3 days remove from the lake.
- Most of the tress looked to be healthy and may have fallen because of all of the rain that we have had loosened the soil around the tree's roots.

Debris Removal (new)

- In addition to the rain affecting other WID projects, the WID has removed a tremendous amount of storm debris from the lake this spring and summer.
 - In one 6 week span from June 1 to July 15 the WID removed as much storm debris as all of last year (2012).
 - On multiple occasions staff worked late and on Saturdays to ensure that the lake stays as clean as possible and be as safe as possible.

Respectfully,
Davis Grant
LBWID Operations Director