

work on the fountain. Document the work performed by the City and include that information in the permanent file.

Recommended Personnel and Hours for Maintenance:

Personnel	Hours
Daily, local City, 1 man	1 man hour
Weekly, local City, 2 men, 4 hours	8 man hours
Winter shut down or Spring start up, local City, 2 men, 8 hours	16 man hours

(8) DISCUSSION LONG TERM TREATMENT NEEDS FOR SAKE OF CAPITAL IMPROVEMENT PLAN, BUDGETING AND FUNDRAISING NEEDS

The Birge Fountain can continue to exist with maintenance for a finite number of years, but inevitably it will need to be completely disassembled, stabilized and fully restored. Replacement of the original zinc Maid of the Mist and the Cherubs with cast bronze copies has solved the problem of losing them entirely.

The cast iron central element and pool walls are not painted on the inside. The cast iron is corroding from the inside out. The process is slower than with other ferrous metals such as mild steel but it is a major concern for the life of the fountain.

Repairing, restoring and stabilizing the cast iron elements will require complete disassembly of the fountain into its component parts, repair and restoration of all components and application of paint coatings inside and out that will slow or eliminate the corrosion of the cast iron components.

Images are attached (Images 14-18) of the restoration of the Kearny Park Fountain located in Muskegon, Michigan to illustrate the type of work that replacement of the pool wall entails.

Simple is always better and in the case of the Birge Fountain the simple submersible pump, simple valves and flexible hose supply lines are readily maintained and replaceable when worn out.

One item that is recommended is an overflow drain (PEM 62202, PEM Fountain Co. LTD). This is a removable standpipe, the top of which is the height from the pool floor of the desired water level. When draining the pool is desired the standpipe is lifted from its socket in the pool floor and the pool water drains out. This type of standpipe eliminates flooding of the fountain from rain and makes washing down dirt and debris much easier than pumping out the water.

Estimated Life Expectancies, Water, Electric, Cherubs, Maid of Mist, Cast Iron Basin:

Water System:

The water system as installed can continue as it is. Regular maintenance as parts wear out and are replaced is normal. Replacing the low flow sump pump when it wears out with a better quality pump made specifically for a fountain is advisable (PFU71, Powerflo Pumps and Systems, Inc.).

Electrical:

The electric as installed appears to be working well. It should have 20amp circuit to operate the fountain pump (PFU71) specified in the Water System. It is advisable to remove the submersible pool lighting and to illuminate the fountain from exterior poles.

Cherubs:

The cherubs should be air/water/abrasive cleaned (JOS system utilizing micro abrasive). The cleaned bronze should be patinated a statuary brown color and coated with a protective coating of lacquer (Permalac 2K, Peacock Laboratories, Inc.).

Maid of the Mist:

Treat the same as the Cherubs

Cast Iron Central Element:

The central element can continue for 10 years with typical cleaning and touchup of current paint coatings as funds are raised to perform complete disassembly, corrosion removal, repainting and reassembly of the element.

Cast Iron Pool:

The cast iron pool can continue for 10 years as noted above for the Central Element as funds are raised. The pool should be completely disassembled and all cast iron elements treated as noted above for the central element.

Concrete Pool:

The concrete part of the pool should be completely made anew at the 10 year mark (2027). This would entail demolishing the pool, pouring a new slab with integral central footer to support the central element and installing integral PVC chases for electric supply to the pump. The restored cast iron walls would then be mounted to the new slab and the interior of the cast iron walls would be lined with polyethelene drain mat to relieve freeze/thaw pressures. The interior of the cast iron walls would be lined with a dry-pack concrete mixture to create the interior concrete wall of the fountain (Images 14-18 typical, Muskegon Michigan, Kearny Park Fountain).

Recommended Contractors and Material Costs:

Conservation professionals familiar with this type of work should perform the work along with local concrete contractors, electricians and plumbers as necessary.

Costs are estimated to be between \$100,000.00-125,000.00.