

Appendix Three. Arts and Eco Lakes.

The following report lays out two approaches to resolving issues of leaks or low water levels caused by plant life.

Dear Mr Sammut,

Following our recent site visit with yourself, please find the following report and technical advice.

Overview

During our visit, three areas were viewed; The Art Building; The Eco Building and The Staircase Cascade. You advised that all three areas are leaking as you are continually topping up the two main lakes from a borehole and there is evidence of water escaping through the concrete work on the Cascade. Despite what can be described as significant water loss, there is no evidence of leakage around the lakes i.e., wet or boggy areas around the outside of the lakes or inside the buildings (although not investigated during our visit). As such, the actual points of water loss cannot be determined.

Excepting the Cascade Area and especially in the Eco Lake, there appears to have been very little maintenance. Once open areas of water are choked with reeds and other water plants, sizable self-seeded willows and other trees have also been unchecked, giving the whole lake a somewhat neglected, overgrown look.

The existing liner system, you advise, was installed in the mid to late 1990's and has only appeared to lose water over the past two years or so. Inspection of the small areas of exposed liner and termination bar where the liner has been sealed against concrete surfaces, revealed a good quality liner – probably 1mm Polyethylene and a standard 35mm wide Polypropylene termination bar with stainless steel fixings. Both looked to be in excellent condition, with no sign of degradation, despite long term UV exposure. On a technical note, liners of this quality do not simply start to leak. In our opinion, the liners have either been punctured through vandalism or, more likely, failure of the concrete work the liner is fixed to/around. The amount of water the vegetation is 'drinking', certainly on the Eco Pond, must also be considered. A simple google search revealing a single willow can drink over 100 gallons of water per day!

Rectification Options

We believe there are two ways forward:-

1. Simply rip out all existing vegetation and the liner system. Fix or replace any concrete work, check pipework for integrity. Re-grade the formation and install a new liner system, soil cover and re-plant. Unfortunately, all easier said than done. The scale of the works, access issues, muck away logistics, smell, disruption to the area and

local residents and above all cost, would be significant, making this a logistically difficult and costly option.

2. A more methodical approach. Removing the water, vegetation, de-silting to expose the liner and locate the cause of the water loss – obviously a slower process – but, one that has potentially less impact and disruption to the area and if the leak can be identified quickly, by targeting areas where leakage was most likely i.e., fixing to concrete work or around pipe penetrations etc., costs would be a fraction of option 1). On the negative side, there is always the chance with this approach, nothing conclusive could be found and the net result would be the need to revert to Option 1).

Whichever option is favoured, Tower Hamlets would have to secure the services of a specialist contractor who has the staff knowhow and resources to undertake all aspects of such a large project, both on the de and re-construction phases. We would recommend the services of Maylim Ltd to undertake this work as they have all the in-house experience and expertise appropriate to every aspect of the works from concrete work to soft landscaping. Contact Mr Gerard Purcell on 020 7785 6996.

Pricing Advice

Concerning the replacement of the lining system, without a full understanding of the scope of work, ground conditions, length of termination bar etc., we can only offer what we would describe as indicative budget pricing for the supply and installation of a similar system to that already installed. On this basis, our price would be in the order of £20 to £30/m², equating to a figure in the order of £200,000 + VAT for the three areas. To be clear, this pricing is relative only to the replacement lining and makes no allowance for any preparation OR reconstruction works that would be undertaken by others, which would likely multiply our figure several-fold.

Lastly, we attach an image taken from a Google search for 'Mile End Park Construction' images, which shows what we think is the liner system against the Art Building detached from a fixing point (termination bar). As mentioned, it is areas such as these that may be the cause of the water loss, rather than any failure of the liner material itself.

We hope you will find the above sufficient for your present purposes and assure you of our best attention at all times.

Kind regards

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