(Continued from over page) Currently we are in the process of replacing the existing reservoir linings, as some are up to 30 years old and are susceptible to tearing and leaks. The linings are replaced with the same brand of lining as the original, namely Butyl, because they have proven to be durable and long lasting. The Scotts Mill Reservoir lining was the first to be replaced at a cost of almost a hundred thousand Pounds.

Scotts Mill

Whilst this work is in progress, we will also take the opportunity to enlarge the Harpers 3 Reservoir to approximately 2½ times its current capacity. The planned enlargement of the Harpers 3 Reservoir will significantly increase our water storage security in the most heavily populated area of the island. Unfortunately due to site restrictions, the Harpers 1 and Scotts Mill Reservoirs cannot be enlarged.

Harpers 3

We have started site exploration and survey work for the development of a new reservoir near St Mathew's Church in Hutts Gate, which will increase the raw water storage and security in supplying the Hutt's Gate Water Treatment Works. On top of that we are shortly to carry out feasibility studies into the development of a further four new reservoirs or earth dams across the island.

Currently the island's only earth dam, namely the Harpers 2 Dam, is situated near Francis Plain. It's a typical earth dam with an embankment and a concrete lined spillway, which was built directly onto a natural stream. An on-stream reservoir - constructed in the streambed, means that siltation is more of a problem than with a manmade reservoir. Reservoirs act as a natural silt trap because the water is stationary for long periods, causing the silt to settle at the bottom of the reservoir.

Harpers 2

The discolouration in the water from the Redhill Treatment Works last year was a result of large amounts of silt collecting in the earth dam, which was disturbed when water was drawn from the dam's outlet. As a temporary measure we draw water from the top of the reservoir. But a long term solution is needed. In order to minimise the future build-up of silt, we are to construct two silt traps upstream of the toe of the dam to reduce the amount of suspended solid material entering the dam.

However there is a large amount of silt already in the dam that needs to be removed in order to increase both storage capacity and water quality. This presents quite a problem, which will require a careful and long-term process to remove the silt from the dam. It is envisaged for the silt to be removed from the dam through a dredging process, from where it will initially be pumped to a drying bed (much like how sand is mined from the ocean at West Rock). The silt will have to naturally dry before it can be removed and disposed of.

Water storage is of course only one part of the water collection and supply cycle, but in terms of future planning and prioritising, it's the most important. Plans to extensively increase the water storage and subsequent water security on island clearly involve substantial financial investment and everything cannot be achieved at once. Our development strategy is aimed at utilising available funding and resources optimally to effect real progress, which will benefit the island and its people in the long-term.

31 July 2015