

TECHNICAL NOTE

Job Name: Whiteknights Reservoir
Job No: 27560/4003
Note No: TN010 Rev A
Date: 22/01/16
Prepared By: RMW
Subject: Additional information to support Planning Application

Item	Subject
1.	Introduction This note has been prepared to provide additional information to Reading Borough Council's (RBC) Planning Department regarding Whiteknights Reservoir planning application. This application was validated on 22nd December 2015 and carries the application number 152205.
2.	Reservoir Works Justification Whiteknights Reservoir is located within the University of Reading campus and next to Whiteknights Road, which forms the dam for the reservoir. The reservoir holds a maximum volume of water of approximately 70,000m³ and as more than 25,000m³ is stored above natural ground level the reservoir falls under the requirements of the Reservoirs Act 1975. A requirement of the Act is for the reservoir to be inspected periodically by an independent qualified civil engineer, known as "the inspecting engineer". During one of these inspections, the inspecting engineer recommended works in the interests of safety of the reservoir, namely that the allotment side of the dam be protected to withstand a very extreme flood event known as the probable maximum flood (PMF). This recommendation is to ensure that the dam remains intact during an extreme flood event to eliminate the potential for a sudden and catastrophic release of water and loss of life. The proposed works will stabilise the dam above the allotments and allow water over-topping the dam in an extreme flood event to be directed towards the existing spillway in the grounds of the Lakeside Care Home, where the face of the dam is protected to resist high flows. The proposals constitute a significant reduction in flood risk because they reduce the chance of the dam failing in a flood event. If this work is not carried out the integrity of the dam will remain at risk with the associated danger to life that this risk brings.
3.	Landscaping A number of mature trees on the dam need to be felled as part of this work. The tree works are required for a number of reasons: 1. In order to stabilise the dam above the allotments a line of sheet piles are being installed along the crest. The trees and root system would inhibit this operation.

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	2. Further, the piles would damage the tree root system, threatening the long term health of the trees; 3. Allowing trees to establish on a dam is not good practice. The roots can create seepage paths through the dam, which could lead to fine sediment being washed out of the embankment and causing settlement in the long term; 4. If the tree is uprooted either in high winds or due to deterioration in the health of the tree a significant proportion of the dam may be uprooted with the tree, subsequently threatening the integrity of the dam. To compensate for the tree loss, the following landscaping is proposed as part of the works: 1. Hydro-seed the downstream face of the embankment with a grass and wildflower mix. The hydro-seed method of application will help the vegetation to establish quickly on the embankment. The wild flowers will help to provide biodiversity. This grass and wild flower mix will need regular maintenance through the year to ensure that the dam can be inspected thoroughly. 2. A new hedge will be planted to the rear of the wall, at its eastern end, where access is possible for maintenance. This hedge will comprise native planting such as holly (evergreen), hornbeam (semi-evergreen) and hawthorn (defensive). 3. A fastigate silver birch tree is proposed at the eastern end of the allotments, adjacent to Whiteknights Road, close to the location of the new pedestrian access to the allotments. 4. Further off-site planting is proposed, such as street trees in the wide pavement in front of the Wokingham Road shops. This is to be secured through a S106 agreement. Details of the landscape proposals are included on Drawing No 27560/4003/900.
4.	Security of the Allotments The height of the flood wall along Whiteknights Road has been determined based on: 1. Achieving a height greater than the PMF level of 59.135m AOD, which includes an allowance for freeboard; and 2. The provision of a minimum height of 1.0m for a N1 rigid reinforced concrete vehicle restraint in accordance with BS6779: Part 2. Railings, to match those along the Care Home boundary wall, will be installed on top of the flood wall for its entire length, approximately 72m, as shown on planning drawing 27560/4001/104. The wall reduces in height from west to east, as the ground level rises towards the eastern end, away from the Care Home. The flood wall is approximately 1.15m in height for 58m (from the Care Home moving eastwards). For the final 14m the wall steps down to 0.5m in height and decreases further to 0.2m in height at its eastern end. The railings mounted on top of the wall will give a minimum overall height of 1.9m for the entire length of the new wall providing security to the allotments. The flood wall and railings will be supplemented with a hedge planted behind it over the final 32m (approximately) of the flood wall at its eastern end, where the embankment is less steep and access will be possible to maintain the hedge.

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DOCUMENT ISSUE RECORD

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