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**REPORT 5**  
(1215/52/IM)

## **APPROVAL TO LOCATE PROPOSED RESERVOIR ON TOWN BELT (PRINCE OF WALES PARK)**

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### **1. Purpose of Report**

To seek the Committee's approval, in its role as holding the Town Belt in Trust for the people of Wellington, for locating a reservoir to serve the Wellington Regional Hospital and CBD at Prince of Wales Park, Town Belt.

### **2. Executive Summary**

Wellington City Council are proposing to build a 35 mega-litre (ML) reservoir to provide for recent and future growth as well as to provide 30 days emergency storage for the Wellington Regional Hospital. The preferred site is on Prince of Wales Park, Wellington Town Belt.

This will be the largest reservoir within Wellington City, the next largest being the reservoir at Macalister Park (also on Town Belt) at 20 ML.

Due to the significant impacts of the construction of a reservoir at this site before progressing, approval is required by the Committee in their capacity as Trustees of Wellington Town Belt.

The Town Belt Management Plan states that utilities will be allowed on the Town Belt only where they are essential, and all other practicable alternatives have been exhausted. In this case, given the elevation required, all options are on the Town Belt. Four different locations on Town Belt have been assessed and the preferred option is Prince of Wales Park.

### **3. Recommendations**

Officers recommend that the Committee:

- 1. Receive the information.*
- 2. Agree to the location of the proposed reservoir at Prince of Wales Park at 92 m above sea level contour, subject to Council's conditions being met and resource consent being granted.*

3. *Note that paper will be presented on 18 August 2011 to Strategy and Policy Committee regarding the funding for the reservoir.*

## **4. Background**

Investigations for a new CBD reservoir extend back to 1974 when the recommended approach then was to provide 30 ML water storage by either 3-4 separate reservoirs. In 1988 an option assessment report was carried out to provide one or more reservoirs of 20 ML capacity. Further to these investigations WCC constructed a 20 ML reservoir at Macalister Park (Town Belt) in 1992 and 6.5 ML and 3.5 ML reservoirs have been constructed at Aramoana and Mt Albert (Town Belt) respectively.

In 2002 population increases, identification of the need for emergency storage for the Wellington Regional Hospital in Newtown, and Greater Wellington Regional Council's (GWRC) desire for additional buffer storage lead to further investigation of sites for a 35 ML reservoir. Technical investigations in 2002 were initially focused on four sites on the Town Belt including above Government House, Chest Hospital, Alexandra Park and the existing Bell Road reservoir.

GWRC have since confirmed that they no longer require additional storage for operational reasons. Previous reports were used to identify potential sites by MWH in March 2011<sup>1</sup>. All potential sites are located on Wellington Town Belt due to the requirement of the new reservoir to have a top water level of 92 metres above sea level to allow for appropriate water pressure. The Town Belt Management Plan states that utilities will be allowed on the Town Belt only where they are essential, and all other practicable alternatives have been exhausted. All sites require temporary realignment of walking tracks and space for temporary construction works. Access to all sites would require significant construction traffic movement through residential areas.

## **5. Discussion**

### **5.1 Need for a Reservoir**

A 35 ML reservoir is required to meet current and future population growth through to the 2060 planning horizon for Wellington's CBD, as well as provide 30 days storage for Wellington Regional Hospital in the event of an earthquake.

The need for 30 days emergency storage was identified in 2002 following detailed consideration of the seismic resilience of the Wellington regional bulk water supply. Restoration of the Te Marua to Karori bulk main following a major seismic event along the Wellington Fault is expected to take between 40 and 55 days and would only provide a partial supply. Restoration of the Petone to Thorndon main may take significantly longer depending on the earthquake characteristics. The reservoir is to be built to modern seismic standards.

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<sup>1</sup> MWH (2011) Wellington City Council Proposed CBD Reservoir Options Assessment, Prepared for Capacity Infrastructure Services Ltd.

## **5.2 Town Belt Management Plan**

The use of the Town Belt for a reservoir is considered in the context of the Wellington Town Belt Management Plan which states that all new utilities will be allowed on Town Belt only where they are essential, all other practicable alternatives have been exhausted and the Council's specific conditions have been met. The 1873 Deed made provision for the Town Belt to be used for 'purposes of public utility to the City of Wellington and the inhabitants thereof'..

The conditions, in accordance with the Town Belt Management Plan, for the proposed Prince of Wales Park site will include:

- The impact of the proposed reservoir on Town Belt land shall be minimised.
- The proposed reservoir shall be placed underground, fully buried, with the existing land form matched as closely as practicable.
- It shall be sited to minimise interference with existing features, facilities and plants.
- On completion, the proposed reservoir will not affect or change the recreational use of the area.
- Any disturbance of the existing site during installation of the proposed reservoir shall be made good immediately after completion.

Additional conditions will be developed and required as part of the resource consent process.

It should also be noted that during the development of this proposed reservoir, there will be significant disruption to the upper and possibly the lower sportsfields of Prince of Wales Park. The upper field is likely to be used as a 'lay-down' area during construction, as well as have pipes laid underneath. Improvement options for these sportsfields are being investigated, where excavated material may be used to improve the fields by reshaping and/or additional drainage, and stream protection alongside the lower field.

## **5.3 Assessment of Options for placement of reservoir**

The new reservoir is required to have a top water level of 92 metres above sea level meaning that the available sites are all located in or around the Town Belt. All of the sites would require some temporary realignment of walking tracks and temporary construction works, and access to all the sites would require significant construction traffic movement through residential areas.

A formal options assessment report was completed in 2011; *MWH report: Proposed CBD Reservoir Options Assessment*. A long list of ten sites as identified (see Appendix 1) and investigated in previous studies was short listed to the following four sites for detailed assessment:

- *Prince of Wales*. This site is located on a ridge coming down from Dorking Road towards the Upper Prince of Wales playing field located at the end of Rolleston Street.

- *Torquay*. This site is located in the Macalister Park area on the east side of a ridge between Finnimore Terrace and Torquay Terrace, to the north-east of the existing Macalister Park reservoir.
- *Carmichael*. This site is located on the ridge running south from the existing Carmichael reservoir, between Crawford Road and Owen Street.
- *Government House*. This site is located to the east of a saddle between Wellington College and Ewart Hospital in Newtown, on the east side of the Government House boundary.

A multi-criteria assessment has been undertaken to rank the respective site options taking into account economic, environmental, social and cultural factors along with proximity to the Hospital, Central Business District CBD and the water supply network. The preferred site was the Prince of Wales Park site, the second favourable site was Torquay, the third Government House and the fourth Carmichael. A geotechnical study to confirm the foundation conditions is being undertaken.

The preferred Prince of Wales site has reasonable construction access, working area and is not immediately adjacent to residential properties. It is located centrally with regard to the CBD and hospital (see Appendix 2 for location and photo), is close to the trunk supply mains and is the preferred site from a network flexibility and hydraulic point of view. The construction area would be clearly visible from the CBD. The location is zoned Open Space C and no significant planning, environmental or cultural issues have been identified at this stage. This site has the lowest excavation volume requirements of 50,000 m<sup>3</sup>. The construction cost estimate for the reservoir is \$13.4M and pipeline costs to enable connection of the reservoir to the CBD network and a secure supply to the hospital are \$4.8M giving a total capital cost of \$18.2M.

Access to the second ranked site, Torquay could be from Adelaide Road or alternatively either Finnimore Terrace or from Hanson Street / Stoke Street. An area of regenerating vegetation would need to be cleared for the reservoir. The site is more difficult to work on than the Prince of Wales site. The location is Open Space C and no significant planning, environmental or cultural issues have been identified at this stage. The calculated excavation volume of 60,000m<sup>3</sup> is about 20% higher than the Prince of Wales site. This site is very close to the existing Macalister Park reservoir, so would only require short connections to the inlet and outlet pipelines from that reservoir but would require a longer upgrade to reticulation on Tasman Street to function effectively. The cost estimate for this site is marginally higher than the Prince of Wales site, with a reservoir cost of \$14.3M and associated pipe work costs of \$4.0M giving a total capital cost of \$18.3M.

The third ranked site, Government House, requires an excavation of about 84,000m<sup>3</sup> to cut a suitable platform into the ridgeline that increases the capital cost substantially. The site is located further from existing trunk mains so has more expensive pipeline requirements to integrate effectively with the reticulation. The location is Open Space B and is identified as a prominent ridgeline so would require special landscaping consideration. There are no significant environmental issues identified specific to this site however the site is in the Te Ranga a Hiwi Precinct so additional consultation would be required

with iwi. This site is relatively expensive to develop, with a reservoir cost of \$16.1M and associated pipe work costs of \$11.8M giving a total capital cost of \$27.9M.

The fourth ranked site is accessed from an existing winding track from the south end of Owen Street. The site is close to residential properties and requires a similar volume excavation to the Government House site as the existing ground level is quite high relative to the required top water level. There is very limited construction working area. The location is Open Space C and is identified as a prominent ridgeline so would require special landscaping consideration and may require additional burying rather than the 0.5m cover assumed in the preliminary engineering profile. No significant environmental or cultural issues have been identified at this stage. Although this site is very close to the existing Carmichael reservoir major new inlet and outlet pipelines would be required. It is the most expensive of the sites, with a reservoir cost of \$16.4M and associated pipe work costs of \$15.1M giving a total capital cost of \$31.3M.

#### **5.4 Consultation**

The Port Nicholson Block Settlement Trust has been invited to provide initial comment on the proposed sites. They have prepared a report reviewing all four short-listed sites, noting that a more detailed investigation of the chosen site would be done in a Cultural Impact Report as part of the resource consent process. The Prince of Wales site is preferred as it is unlikely to disturb any areas of cultural significance and the reservoir can be effectively buried into the landscape. The Trust notes that the area is well used by local residents along with the students from Massey University and Wellington High School. The Trust comments that this development should not adversely affect the recreational use of the area including the use of the playing fields.

The Friends of the Town Belt have also been formally approached and have expressed the wish to ensure that the reservoir is totally underground and fits as closely as possible to the existing landform.

Wider public consultation will be required as part of the resource consent process.

#### **5.5 Process**

Following Trustee approval in principle, the design of the reservoir will be finalised and resource consent applied for. This will be a notified consent and public consultation will occur as a result of this.

As part of this process the Parks and Gardens Business Unit will develop conditions, which will be applied through the resource consent, in relation to the open space land. This is likely to relate to reinstatement including complete burial and ensuring the final landform is as close to the original as practicable and that the access and recreation values of the site are retained.

No lease is required, nor will rental be applied as it is Council's project.

## **6. Conclusion**

Council Officer's have reviewed a number of options and sites in relation to meeting the need for a reservoir to serve Wellington's CBD and provide emergency water supply for Wellington Regional Hospital. The preferred option is Prince of Wales Park which provides the best balance of cost, cultural and environmental effects, and open space protection through reinstatement.

Contact Officer: *Amber Bill, Manager Community Engagement & Reserves, Parks & Gardens*

## **Supporting Information**

### **1) Strategic Fit / Strategic Outcome**

*The proposal sits with strategic goals to build earthquake resilience into critical infrastructure and provide for the efficient delivery of water services. (Environment / Urban Development)*

### **2) LTCCP/Annual Plan reference and long term financial impact**

*A paper will be presented on 18 August to Strategy and Policy Committee regarding the funding for the reservoir.*

### **3) Treaty of Waitangi considerations**

*The proposal is to be located on a site that Mana Whenua regard as important (the Town Belt). The Port Nicholson Block Settlement Trust has been approached and prepared an initial response to the site options. They agree that the Prince of Wales Park location is the preferred option.*

### **4) Decision-Making**

*The report sets out a number of options and reflects the views and preferences of those with an interest in this matter who have been consulted with.*

### **5) Consultation**

#### **a) General Consultation**

*Key stakeholders with regard to locating the reservoir on the Town Belt have been consulted (Port Nicholson Block Settlement Trust and the Friends of Wellington Town Belt). Wider consultation on the reservoir will be carried out as part of the resource consent process.*

#### **b) Consultation with Maori**

*Mana whenua have been provided with the Options Assessment for the proposed reservoir. Their feedback has been noted in section 5.4 of the report.*

### **6) Legal Implications**

*No legal implications have been identified at this point.*

### **7) Consistency with existing policy**

*The application has been assessed against the Town Belt Management Plan and with the inclusion of relevant conditions is consistent with this Management Plan.*





## APPENDIX 1

### 'Long-list' of potential sites

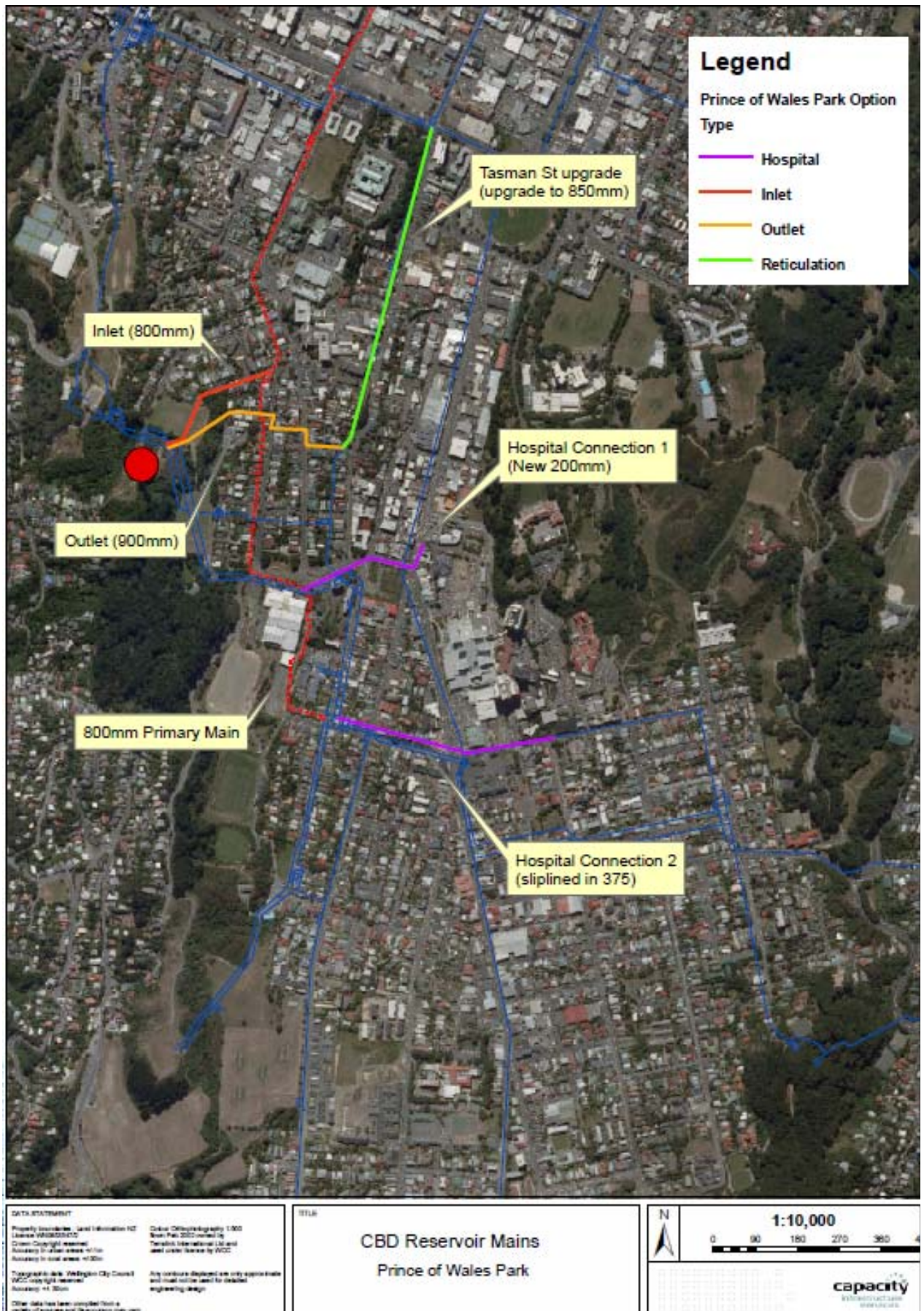






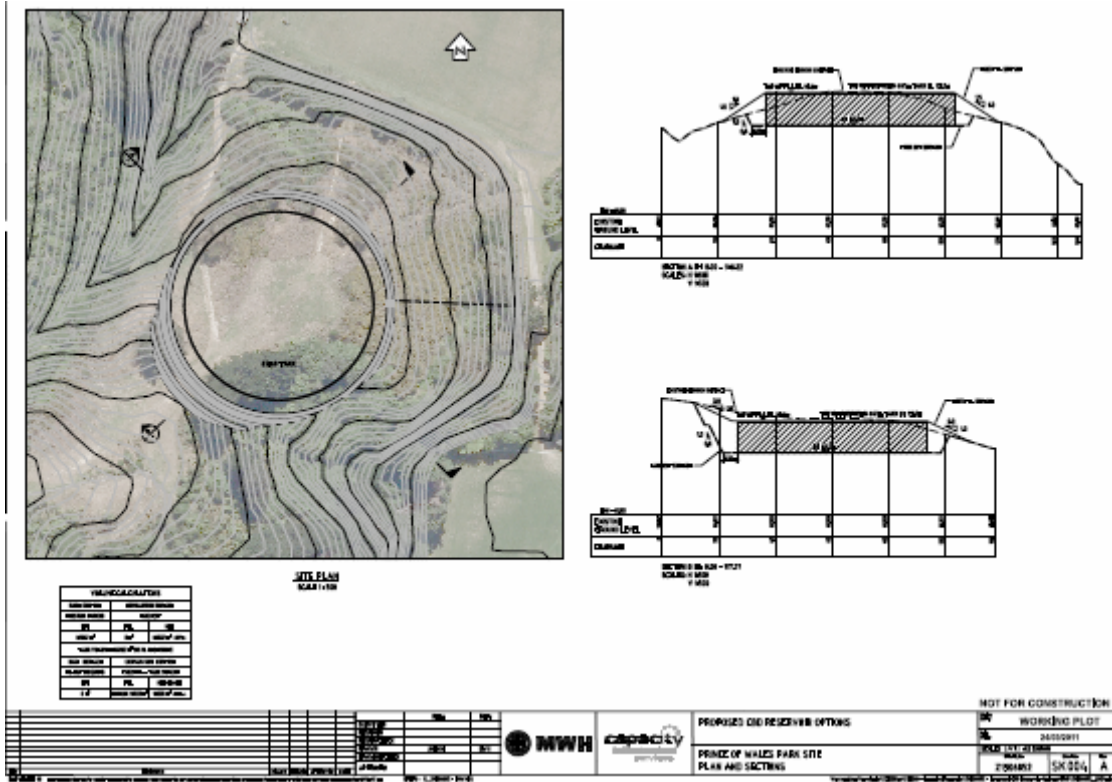
## Appendix 2

### Proposed Prince of Wales Park location





# Prince of Wales Park site excavation profile



# View of Prince of Wales Park site from east

