

Annexure 11

Wellington Water Assessment

Ye Mon Oo

Note: 3 Waters Resource Consent Conditions

Date: 30 June 2022

SR 514663 1 Molesworth Street, Pipitea (Land Use Consent)

Planner: Matthew Brajkovich

Notes to the Planner

1. This consent application is to obtain land use resource consent for future accommodation strategy of the New Zealand Parliament. The development involves the construction of three building and associated precinct areas:
 - Demolition and reconstruction of the Press Gallery at the back of the Executive Wing – the Ministerial Building,
 - Construction of a new office building to house Member of Parliament (MP's) – the Museum Street Building,
 - Construction of a new secure deliveries and services building – the Ballantrae Place Building,
 - Construction of new pedestrian/traffic routes (overbridge and tunnels) between existing and proposed facilities, and,
 - Development of the space between the proposed buildings into a dedicated precinct space to serve the future needs of the site, whilst preserving current movements through the site.

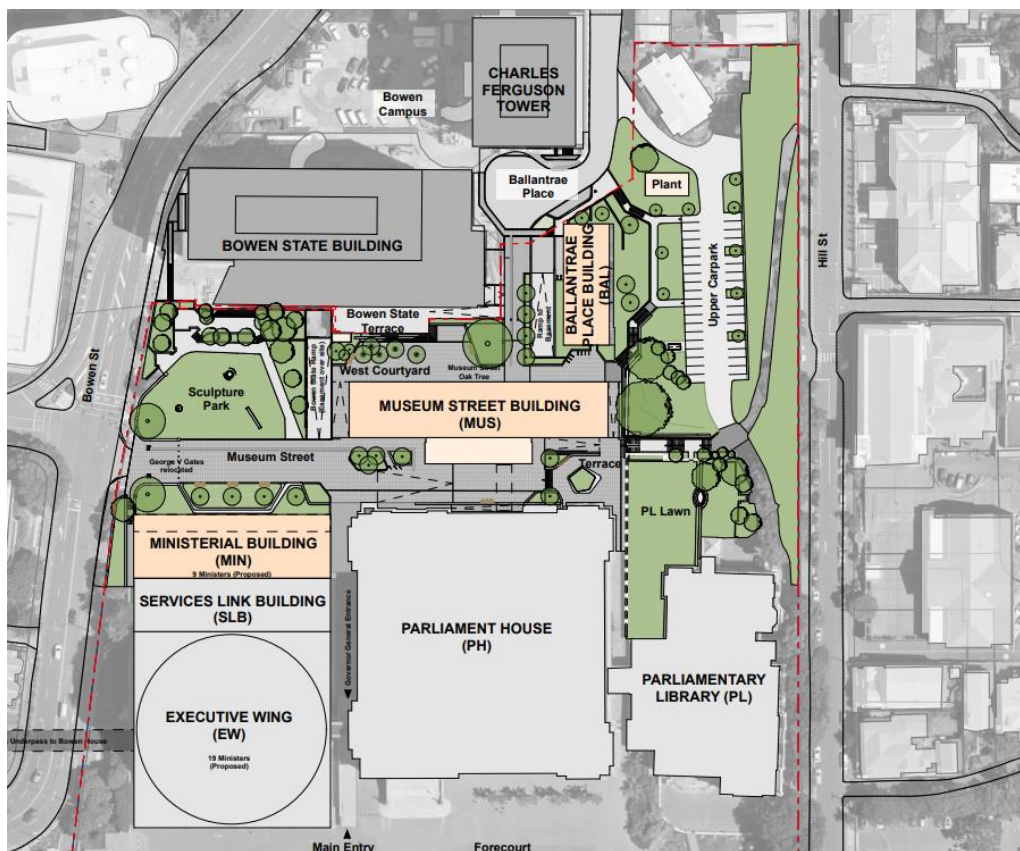


Figure 1 Proposed Site Plan

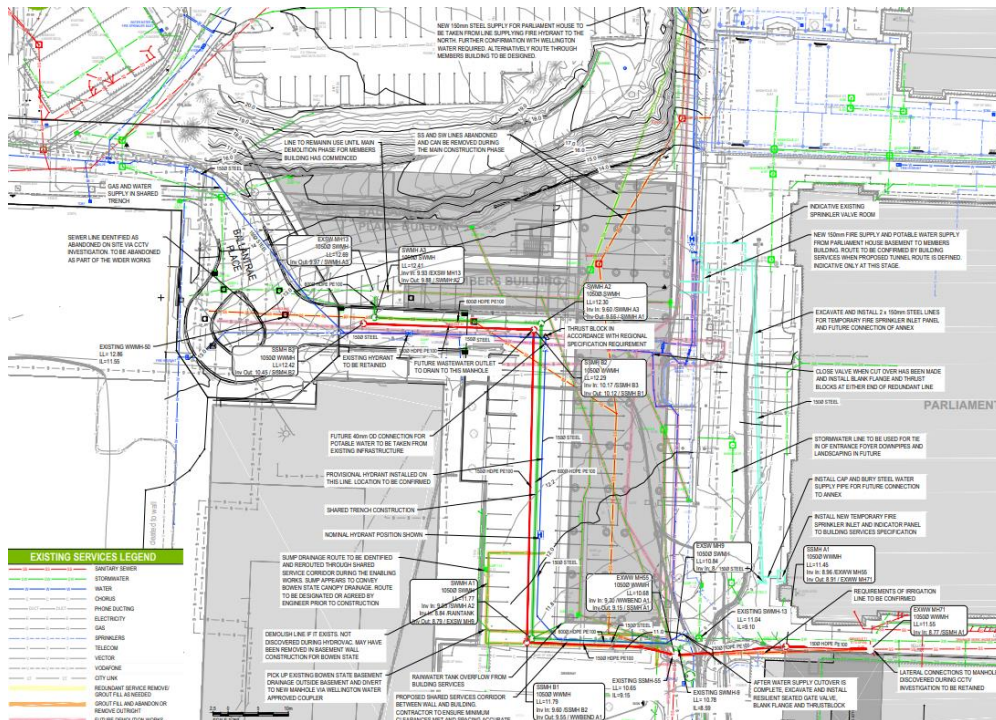


Figure 2 Proposed Water Services

2. Public Services

The existing public water, wastewater and stormwater mains will need to be relaid clear of the proposed new building platforms. This work will be required to be completed under a Public Drainage Permit approved by the Wellington Water Land Development Team.

3. Private Services

It appears that the works will require the modification / amendment of the existing private stormwater servicing for the adjacent Bowen State Building. Permission of the adjacent landowner is required to amend their existing private stormwater drainage arrangement.

4. Water Supply Existing Plan

There are two supply lines from Council, one is a 150mm supply, the other a 100mm, both steel lines. There are several hydrants located in and around the site, as indicated in the Figure below.

Wellington Water have a modelled water supply pressure of 70 – 75m pressure in their Museum St main, this was expected to offer flows which are compliant with the NZ Fire Code for sprinklered structures. This needed to be verified via pressure logging and flow testing, which has now occurred.

Available flow rates are less than Fire Engineering New Zealand (FENZ) requirements and mitigation actions are required.

Proposed Plan

It is proposed that the three new buildings will all harvest stormwater for treatment and use as potable water within the buildings which will reduce the draw on the WCC

system. Further no proposed landscaping irrigation across the new development area is proposed.

New water supply connections and water main upgrades will be provided as below:

- It is proposed to divert the existing water supply pipe at the top of Museum Street around the proposed building via a shared service corridor at the south and west of the Museum Street building (MUS).
- It is proposed to retain the existing sprinkler valve room, however the existing supply route clashes with the new Museum Street Building and proposed tunnel routes. Therefore, it is proposed to supply the sprinkler room from the existing 150mm uPVC line to the north.
- To allow for the construction of the new Museum Street Building, the existing fire hydrant outlets connected to Parliament House's internal fire protection system require to be temporarily relocated. It is proposed to construct a temporary fire panel and fire supply inlet (FSI) at the southwestern corner of Parliament House. A 150mm steel line will be installed from the sprinkler valve room south to supply the new temporary FSI and indicator panel.
- A connection for this will be taken from the upgraded Ballantrae Place main. It is proposed to connect to a new 150mm ID line in Ballantrae Place to supply the fire panel and potable water connection (which will be capped and buried as part of the enabling works).

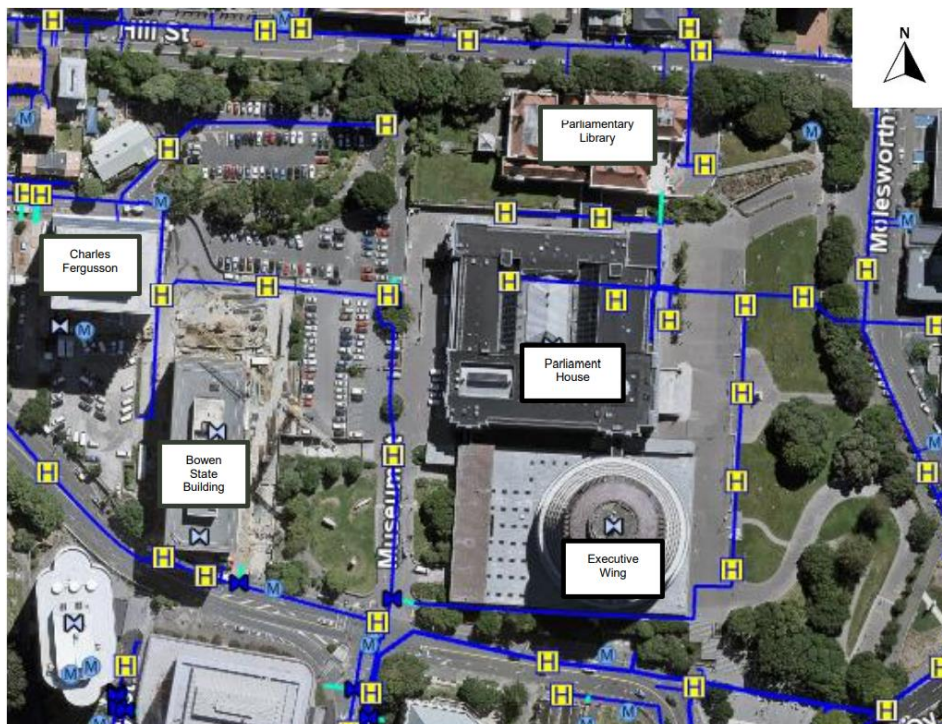


Figure 3 Water Supply Map

5. Wastewater

WWL GIS indicates that the Parliament House sewer currently discharges at the southern boundary of the building into a private lateral, which then flows east before connecting to the Council system in Museum Street.

The Executive Wing, at the back of the Beehive has a sewer connection discharge at the southwestern corner of site to the Museum Street wastewater network. The Museum Street line is a 225mm earthenware line with cement mortar joints.

Wellington Water Modelling indicates that the wider Bowen Street wastewater network has upwards of 30 l/s spare design capacity. This has adequate capacity to support the development – which will have a peak design wet weather flow of around 9 l/s based on the Wellington Water Regional Standard for Water Services (May 2019).

As part of the site sustainability design, the Museum Street and Ministerial Building buildings propose to harvest and recycle grey water, which will reduce the flows into the wastewater system.

New wastewater connections and wastewater main upgrades will be provided as below:

- It is proposed to install a new 225mm HDPE wastewater line connecting into the existing gravity sewer at the top of Museum Street. This line is to run through a shared service corridor at the south of the Museum Street Building. The line shall then run parallel with the building, with manholes installed to allow for future connections from both the Museum Street and Ballantrae Place buildings.
- It is proposed to construct a new HDPE 225mm wastewater lateral outlet from Museum Street, bury and cap at the boundary of the new Annexe extension for a future connection.

6. **Stormwater**

There is an existing council stormwater main that runs from the northern raised carpark through the site from north to south. The line drains through Ballantrae Place before flowing through the Parliament carpark to Bowen Street via Museum Street. The line is recorded as a mixture of reinforced concrete and earthenware construction, with a maximum diameter of 450mm. This line drains surface water runoff from the wider carpark area and landscaped bank to the north. Some of Ballantrae Place also drains to this line, while the rest of Ballantrae drains west to a stormwater main to the west of Charles Fergusson. Hill Street to the north has its own kerb and channel stormwater system that drains east to Molesworth Street.

7. **Overland Flow Path and Flood Issues**

The site is considered within flood prone area. WWL GIS mapping indicates there are overland flow paths and minor flooding within the site in the event of an extreme flood event (1:100 + climate change). These can be managed by maintaining overland flow paths from Hill Street through the site and setting appropriate FFLs for the extreme flood risk.

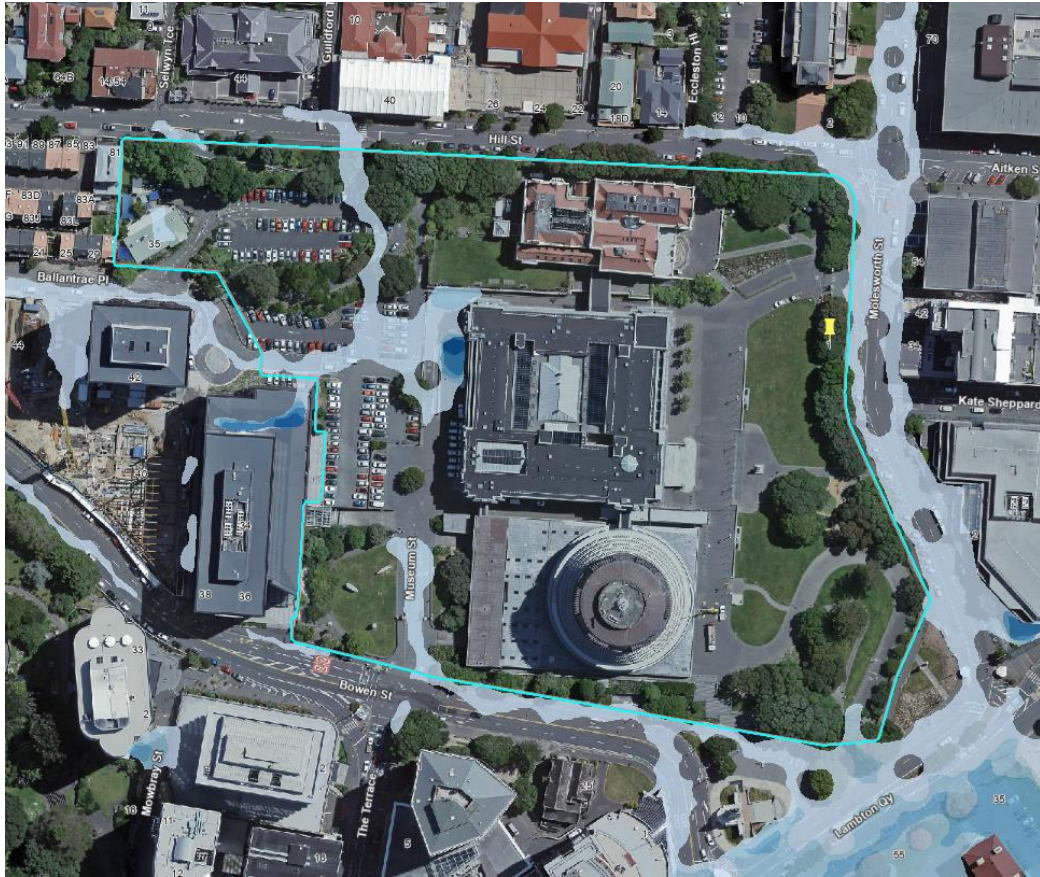


Figure 4 Flood Map

8. Stormwater neutrality will be required for this development.
9. Earthworks are required to facilitate the development. Site earthworks are predominately associated with excavation for building basements and tunnel connections. Finished surface levels elsewhere on the site will be largely minor. It is intended to reuse clean fill on site where possible, with excess material disposed off-site at appropriate location based on the material classification.
10. The proposed development area is in excess of 3,000 m² and stormwater treatment will be required. The applicant is proposing stormwater retention (stormwater reuse within the new buildings) to provide water treatment through removing stormwater volume from the receiving environment. New car parking / road areas will need to be appropriately treated for contaminant loading through the use of rain gardens or similar.
11. A condition has been provided limiting the use of bare galvanised, zinc alum, or unpainted metal (including copper) that may result in contamination of stormwater runoff upon corrosion of surfaces shall not be used for exterior construction of any new dwelling or extension/alteration to the existing dwellings on the property, including but not limited to roofing, cladding, gutters and downpipes

Recommendations

I assessed the subject application and I recommend the following conditions and advice notes.

Land Use Conditions

Location of secondary overland flow path

1. A suitably qualified Engineer must demonstrate that any overland stormwater flow paths which may flow through the development site are redirected away from any new / existing building.

Minimum Floor Levels

2. Any building constructed on the site must have a minimum floor level of 30.7m RL (Wellington 1953 Datum).

Easements

3. An easement in gross in favour of the Wellington City Council over the public water, wastewater and stormwater mains must be duly granted or reserved.

Land Use Advice Notes

Engineering Standards

4. The consent holder will be required to comply with the requirements of the Wellington City Council Code of Practice for Land Development, unless otherwise modified by condition(s) of the consent or agreed in writing by the Wellington Water Land Development Team. These are the engineering standards for mitigating adverse effects on the environment from earthworks, traffic (roading and vehicle access), wastewater and stormwater drainage, water supply and utility structures,
5. No construction shall start prior to the following engineering plans in relation to water supply, stormwater or wastewater drainage, being accepted in writing by the Wellington Water Land Development Team:
 - i. engineering plans
 - ii. specifications
6. The Design and Construction documentation needs to include a copy of the Safety in Design documentation generated in response to the legal requirements under the Health and Safety at Work Act (2015) section 39.
7. Scheme and other indicative layout plans that were submitted as part of the application will be used by Council for information purposes only. These plans will not be used for granting approval under the condition above. Approvals will only be given on detailed engineering plans.
8. Engineering development for drainage require permits in addition to this resource consent, such as drainage permit/building consent for private drains and public drainage permit for public drains. The consent holder shall ensure any redundant water supply, stormwater and wastewater laterals are disconnected and capped at the main. The location of capping will need to be included on the final as-built plan.

9. Application for approval of the new water, stormwater and wastewater connections shall be made to Wellington City Council prior to commencing the works.

Water Supply Connection

Domestic supply:

10. The consent holder will need to provide each building with an appropriately sized metered water supply connection to the public main for domestic supply. An engraved plastic tag reading "WATER SUPPLY MANIFOLD FOR (Street No)" will need to be secured to the manifold clearly showing which property is served by the manifold. An RPZ-type backflow preventer is required if the connection is greater than 20mm DI.
11. Where the manifold is located that can be identified as clearly serving a specific lot, an engraved plastic tag may not be required.

Fire supply:

12. The consent holder will need to provide for fire-fighting requirements in accordance with the NZ Fire Service Code of Practice for Firefighting Water Supplies NZS PAS 4509:2008 and the Code of Practice for Land Development. Calculations will need to be provided by a suitably qualified engineer to certify that there is sufficient pressure and flow for the development to meet the Code of Practice for Land Development requirements. Calculations will need to be based on pressure logging (seven-day log) and flow readings taken from the nearest hydrant.
 - i. If a separate fire connection is required, a separate application for the fire connection will need to be submitted. Applications for fire service connections will need to provide a copy of a flow test and pressure log (seven-day log) along with supporting calculations conducted by a suitably qualified engineer as well as a detail layout plan showing the proposed connection. The design of the fire service connection and sprinkler system will need to allow for any head loss incurred by the required backflow prevention containment device.
 - ii. The consent holder will need to provide all fire connections/sprinkler connections with a double check detector check backflow prevention containment device.
13. Upgrading of the existing water infrastructure may be required if the Code's requirements cannot be achieved or if the proposal will have a detrimental effect on existing users.
14. A backflow device of a commercial or industrial site is required to be added to the building warrant of fitness (BWOF) compliance schedule for the property.
15. Please note that permission is required prior to using or testing hydrants.

Relaying Public Mains Clear of Buildings

16. The development of this site will require the public drainage network to be extended/altered to serve the proposed lots. The existing public gravity

water/ stormwater/ wastewater mains within the proposed building site will need to be re-laid to achieve a minimum 1.5m distance from the building platforms (including fencing and retaining walls) and any associated foundations.

17. Any alteration or addition to the existing public drainage network is required to be carried out under a Public Drainage Permit (as distinct from a Building Consent) issued by the Wellington Water Land Development Team.
18. All Public Drainage work is required to be carried out by a suitably experienced Registered Drainlayer, who is employed by a contractor who has an approved Health and Safety Plan and Public Liability Insurance
19. All newly constructed stormwater mains to be vested in Council will need to be approved by Wellington Water Land Development Team based on a [video or] closed circuit television (CCTV) inspection carried out by the consent holder in accordance with the New Zealand Pipe Inspection Manual. A pan tilt camera will need to be used, and lateral connections shall be inspected from inside the main.

Stormwater and Wastewater Connections

20. This development will need to be provided with a separate and direct connection to a public wastewater and stormwater networks, in accordance with the Wellington City Council Code of Practice for Land Development. Alternatively for stormwater, a separate connection may be to an approved stormwater outfall at a location accepted in writing by the Wellington Water Land Development Team.

Stormwater Neutrality and Treatment

21. To avoid impact on the receiving environment stormwater treatment will be required for all new roading / car parking surfaces.
22. To avoid impact on downstream properties stormwater treatment and neutrality is required for any stormwater drained to the public drainage system and the site will need to be provided with a stormwater retention system. The stormwater retention design will need to be approved by the Wellington Water Land Development Team and the following aspects will need to be met:
 - i. The owner(s) of this development will need to construct an approved stormwater retention system in accordance with plans approved under the Building Consent and agreed with the Land Development Team; and a compliant as – built plan provided.
 - ii. The stormwater retention system(s) will need to be designed so that the total stormwater discharge post development from the proposed development for all events up to the 1% AEP event will need to be less than or equal to the stormwater runoff flows prior to development.
 - iii. The stormwater retention system will need to facilitate water re-use within the buildings.
 - iv. The owner(s) of this development will need to ensure that all connections to the system are trapped to minimise debris entering the system.

- v. The owner(s) of this development cannot increase stormwater discharge, through an increase in non-permeable areas, without Council approval as an increase in stormwater discharge may result in failure of the stormwater detention systems.
23. Prior to completion of the construction works, the consent holder will be required to prepare a draft Operation and Maintenance Manual for all stormwater device(s) setting out the principles of the general operation and maintenance for the stormwater system(s) and associated management devices. The draft Operations and Maintenance Manual shall be submitted to the Wellington Water Land Development Team for approval and is to include, but not be limited to:
- (i) a detailed technical data sheet
 - (ii) a programme for regular maintenance and inspection of the stormwater system
 - (iii) a programme for the collection and disposal of debris and sediment collected by the stormwater management device or practices
 - (iv) a programme for post storm maintenance
 - (v) a programme for inspection and maintenance of outfall erosion
 - (vi) general inspection checklists for all aspects of the stormwater system, including visual check of sumps
 - (vii) a programme for inspection and maintenance of any vegetation associated with the stormwater devices.
24. Bare galvanised, zinc alum or unpainted metal (including copper) may result in contamination of stormwater runoff upon corrosion of surfaces and therefore shall not be used for the exterior construction, including but not limited to roofing, cladding, gutters and downpipes of any future development.

As-built Plans

25. At the conclusion of the engineering works, the consent holder will need to submit as-built drawings that meet the requirements of Wellington Water Regional As-built Specification for Water Services for water supply, wastewater and stormwater drainage.
26. Once an as-built plan has been submitted and within one month of completion of the drainage works and/or before vesting of assets, the Consent holder will need to arrange for a final inspection with the Wellington Water Senior Drainage Inspector.
27. Where possible, all as-built plans are to be submitted in both hard copy (PDF) and electronically. Electronic copies are to be submitted in CAD format (.DWG file) drawn in the NZGD 2000 New Zealand Transverse Mercator' coordinate system.
28. Wellington Water Ltd are updating to the New Zealand Vertical Datum 2016 (NZVD2016) on 1 July 2022. Hence Engineering Plans and As-Built plans will be required to be in terms of the NZVD2016 from 1 July 2022. Prior to this date either Wellington Vertical Datum 1953 or NZVD2016 will be accepted.

Prepared by: Ye Mon Oo
Wellington Water Land Development

Date: 30 June 2022

Approved by: Zeean Brydon
Wellington Water Land Development

Date: 6 July 2022

	Person / comment	Time
Initial review and background	Ye Mon	3hr
Prepare and check conditions	Ye Mon	3hrs
Peer Review	Zeean	1hrs
Final changes, email planner including WWL time & close project		1 hr
	TOTAL	8 hrs