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Utilities Assessment
Report

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The Golden Mile – Utility Assessment

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1 Introduction

1.1 Scope

A high-level utility assessment of the four short listed options for the Golden Mile SSBC project has been undertaken at the concept design stage of the project. The assessment results will be fed into the Multi Criteria Assessment (MCA) processes to help identify the preferred design and will be used as a guide during the development of the preferred option. This report summaries the following key areas undertaken and the results of the assessment.

- Investigation into the existing utilities along the Golden Mile
- Consultation with the utility providers to identify future planned upgrades, operational and maintenance requirements
- A high-level utility assessment for each option

1.2 Design Options

The four short listed options are summarised in table 1 below:

Table 1 – Options summary

Option	Overview
Option 1-Reduced Traffic	<ul style="list-style-type: none"> • Retains private motor vehicle access on Lambton Quay, Courtenay Place and Willis Street with some restrictions • Bus efficiency improvements through consolidated bus stops • Some localised pedestrian improvements • Closure of Mercer Street, Cuba Street, Allen Street, Blair Street
Option 2 -Bus Emphasis	<ul style="list-style-type: none"> • Private vehicle access removed on Lambton Quay, Courtenay Place and Willis Street • Bus efficiency improvements provided (3/4 bus lanes on GM and consolidation of bus stops) • Some localized pedestrian improvements (more than Option 1) • Closure of Ballance Street, Stout Street, Waring Taylor Street, Johnston Street, Brandon Street, Panama Street, Mercer Street, Lower Cuba Street, Allen Street, Blair Street • Car parking/loading/taxi bays relocated to side streets
Option 3 – Bus + Cyclist + Pedestrian Emphasis	<ul style="list-style-type: none"> • Private vehicle access removed on Lambton Quay, Courtenay Place and Willis Street • Bus efficiency improvements provided through two dedicated bus lanes along the Golden Mile, consolidation of bus stops • Some localized pedestrian improvements (more than Option 2) • Closure of Ballance Street, Stout Street, Waring Taylor Street, Johnston Street, Brandon Street, Panama Street, Mercer Street, Cuba Street, Tory Street (both approaches), Allen Street, Blair Street • Car parking/loading/taxi bays relocated to side streets • Provision of on-road cycle lanes on Lambton Quay and Courtenay Place.
Option 4 – Reduced Traffic + Bus Emphasis	<ul style="list-style-type: none"> • Private vehicle access removed on Lambton Quay, Courtenay Place and Willis Street except loading vehicles, Taxis • Bus efficiency improvements provided (3/4 bus lanes on GM and consolidation of bus stops) • Provision of Loading/taxi bays on GM • Some localized pedestrian improvements (similar to Option 2) • Closure of Ballance Street, Stout Street, Waring Taylor Street, Johnston Street, Brandon Street, Panama Street, Mercer Street, Cuba Street, Allen Street, Blair Street • Option to provide for Wellington City Council (WCC) Strategic Cycle Network on Courtenay Place.

The assessment has been based on the Concept Design drawings for the four options which were completed on 10 September 2020.

1.3 Methodology

The existing utilities have been investigated in accordance with the following methodology.

- Identify all affected utility providers within the project area and request plans from the BeforeUdig service.
- Collect both hard and electronic copies of the services plans and prepare the existing services drawings for each option
- Identify key utility contact personnel and initiate discussions
- Consult with utility providers regarding planned utility upgrades and operational and maintenance requirements
- Identify existing services which would be affected by the design options

2 Utility Data Collection

2.1 BeforeUdig

Services plans for the area of interest were requested via BeforeUdig. The BeforeUdig service listed the following service providers within the project area.

- Powerco Ltd (Gas)
- Nova Gas
- Wellington Electricity
- Chorus Ltd
- Vital Ltd (CityLink Ltd)
- Vector Communications Ltd
- Vodafone NZ Ltd
- Wellington Water Limited

The services identified in this report and the services drawing are based on the services plans obtained through BeforeUdig. The services drawings are found in Appendix A. Unmarked or private services in the project area have not been identified.

2.2 Key contacts

Key contacts of the utility providers within the project area were identified through the Wellington City Council website and consultation was carried out with the providers via e-mail. They were provided with a summary of the project and were requested to provide information about future upgrade works and operational and maintenance requirements to their assets.

Table 2 – Utilities contacts

Organisation	Contact details
Powerco Ltd (Gas)	0800 769 372 ProjectOffice.Gas@powerco.nz
Nova Gas (Wellington)	Bruce McNaught 04 232 3795 027 837 6920 plans@novaenergy.co.nz
Wellington Electricity (power cables & poles)	Paul Stent 04 915 6124 pstent@welectiricity.co.nz
Chorus Ltd	Waata Hipango 021 501 639 Waata.hipango@chorus.co.nz
Vital Ltd (CityLink Ltd)	Graeme Norton 09 978 8279 Vectorcomms.co.nz/contact-us
Vodafone NZ Ltd	Christian White 0508 662 662 accessnetworkengineers@vodafone.com
Wellington Water Ltd	Tony Jaegers 04 912 4568 021 306 094 Tony.jaegers@wellingtonwater.co.nz

3 Existing Utility Services

The services drawings were prepared based on the data provided by the utility companies. These are collated on drawings 310203714-01-001-G111 to 310203714-04-001-G713 and have been provided in Appendix A.

3.1 Water supply

3.1.1 Lambton Quay

Three watermains run underneath the Lambton Quay carriageway. Two of these watermains are located on the western side of the road. One of the watermains is located along the building frontage. The two watermains underneath the carriageway are located further away from the kerb and footpath for most of the corridor, however the pipes run very close to the footpath at the two locations listed below. The depth of the watermains are not recorded on the plans provided and will need to be verified during the design phase.

- Northern kerb of Lambton Quay between Mansons Lane and 120 Lambton Quay;
- Southern kerb of Johnston Street at its intersection with Lambton Quay.

3.1.2 Wills Street

Two watermains are present on Wills Street. Both watermains run along the kerb with pipe connections between watermains and properties. The watermains are mainly located underneath the kerbside lanes on both sides of the road. The depths of the pipes have not been provided by the service provider and will need to be verified during the design phase.

3.1.3 Manners Street

Two watermains run underneath the Manners Street carriageway. One runs along the northern kerb of Manners Street and goes beneath the footpath at the two locations listed below, while the other is located underneath the traffic lanes. There are existing water supply pipes beneath the footpaths on both sides of the road to connect the watermains to properties. The depth of the watermains are not recorded on the plans and will need to be verified during the design phase.

- Northern kerb of Manners Street at Victoria Street / Manners Street intersection
- Northern kerb of Manners Street outside 55 Manners Street

3.1.4 Courtenay Place

Two watermains present on Courtenay Place. One runs along the northern kerb on Courtenay Place and goes under the footpath from 34 Courtenay Place to the eastern end of the road. The other pipe runs along the southern kerb on Courtenay Place and runs beneath the walkway from 77 Courtenay Place to the western end of the road. The depths of the watermains are not recorded on the plans provided and will need to be verified during the design phase.

3.2 Wastewater

3.2.1 Lambton Quay

Wastewater pipes are underneath the northern kerb of Lambton Quay as shown on the plan, and they connect to the manholes installed at the kerbside.

3.2.2 Wills Street

Wastewater pipes are shown underneath the northern kerb of Wills Street and in the middle of the carriageway and provide connections between manholes.

3.2.3 Manners Street

Wastewater pipes run underneath the southern kerb of Manners Street.

3.2.4 Courtenay Place

Wastewater pipes runs underneath the northern footpath of Courtenay Place and they are shown to be some distance from the kerb.

3.3 Stormwater

3.3.1 Lambton Quay

There is a stormwater pipe present on Lambton Quay which runs beneath the southern footpath. The pipe is shown running close to the kerb at some locations. Wastewater pipes are also located under both the carriageway and walkway to connect the stormwater mains with the existing manholes on Lambton Quay. Depths of the existing stormwater pipes are unknown.

3.3.2 Wills Street

There are two stormwater mains shown on Wills Street, one under each side of the footpaths between Willeston Street and Mercer Street. For the section of Wills Street between Mercer Street and Victoria Street, the stormwater pipes run underneath the carriageway close to the kerbs. No information about the pipe depths are provided.

3.3.3 Manners Street

There is one stormwater main pipe present on Manners Street which runs along and, in a position, very close to the southern kerb. Stormwater pipes are also present to provide connection between the stormwater main and existing manholes. Depths of the pipes need to be verified during the design phase.

3.3.4 Courtenay palce

As per the stormwater plans provided, two stormwater pipes are located on Courtenay Place. One runs under the carriageway in a close position to the kerb on the northern side of the road, whilst the other runs under the footpath between the western end of the road and 77 Courtenay Place, continuing beneath the carriageway in a close position to the southern kerb. No information about the pipe depths are provided.

3.4 Gas

There are two providers of Gas: Powerco Ltd and Nova Gas. Locations of the existing gas service pipes were collected from both providers and are shown in the service drawings. No information relating to the depth of the services has been provided.

3.4.1 Lambton Quay

There are three existing gas mains owned by Powerco Ltd on Lambton Quay. Two of them run underneath the property boundaries on both sides of the road, whilst the other one runs along the northern kerb of Lambton Quay, very close to the kerb.

3.4.2 Wills Street

There are existing gas pipes owned by Powerco Ltd under the footpaths on both sides of Wills Street, which run along the property boundaries. Gas main pipes owned by Nova Energy run along the northern kerbside lane at some locations on Wills Street. The service plans show that all the gas pipes are located at some distance from the kerb.

3.4.3 Manners Street

As per the underground service plans, there are three gas main pipes that run underneath the footpaths on both sides of Manners Street. Two of them are owned by Powerco Ltd, and the other one is owned by Nova Energy. The service plans show that all the gas main pipes are located further away from the kerb, except for a few locations where the pipes intersect with the southern kerb and go beneath the carriageway.

3.4.4 Courtenay palce

The service plans show two gas main pipes installed underneath the footpaths on both sides of Courtenay place. The service plans indicate that the pipes are located further away from the kerb, except at the section between Tory Street and outside 35 Courtenay Place.

3.5 Power

Service plans provided by Vector include the following types of cables and substations along the Golden Mile. No cable depth information has been provided by the service providers.

- 33,000 Volt cables (33kV)
- 11,000 Volt cables (11kV)
- Streetlight cables

3.5.1 Lambton Quay

The service plans provided do not indicate any 33 kV power cables on Lambton Quay. Most of the power service cables shown in the plan run underneath the footpath along the property boundaries on both sides of the road, except at the locations of parallel on-street parking areas on Lambton Quay. The power cables at the parking areas runs close to the northern/southern kerbs. Existing lamp posts are shown close to the kerbs on both sides of Lambton Quay.

3.5.2 Wills Street

Power cables are generally shown underneath existing footpaths on Wills Street, except at the section between Willeston Street and 15 Wills Street where the 11kV power cable runs closely along the northern kerb of the road.. Existing lamp posts are located on the southern footpath close to the kerb.

3.5.3 Manners Street

No 33kV power cables are shown on Manners Street as per the service plans. From the information provided, existing power cables on the northern side of the road run underneath the footpath along the property boundaries, whilst the cables on the southern side run along the carriageway of the kerbside lane. None of them are shown to be close to the kerbs. There are streetlight posts installed near the kerbs on both sides of the road.

3.5.4 Courtenay Place

Service plans provided do not show any 33kV power cables on Courtenay Place. There are however other power cables installed underneath both the footpaths and carriageways. The cables are shown to be running close to the kerbs.

3.6 Telecommunications

There are four telecommunication providers in the Golden Mile project area. They are Chorus, Vodafone, Vector Communications, and Vital (previously called Citylink). Service plans were obtained from all four providers. No information about the depth of the cables were received, so will need to be verified during the design phase.

3.6.1 Lambton Quay

As per the underground telecommunication service plans, telecommunication cables run underneath both the footpath and carriageway on Lambton Quay. Most of the cables run further away from the kerb, except for the section of Lambton Quay between Brandon Street to 201 Lambton Quay, where the fibre cables of Vodafone run close to the eastern kerb.

3.6.2 Wills Street

The service plans indicate that there are telecommunication cables underneath both the footpaths and carriageway on Wills Street. Based on the service plans, Vodafone cables were shown to run closely along the southern kerb, whilst the telecommunication cables owned by Chorus and Vital run closely along the northern kerb. Other telecommunication cables either run underground in the middle of the carriageway or underneath the footpaths along the property boundaries.

3.6.3 Manners Street

Telecommunication cables were indicated under both the carriageway and footpaths. The utility plans show that most of the cables are away from the kerb, except for the fibre cables owned by Vodafone, which run closely along the northern kerb of Manners Street.

3.6.4 Courtenay Place

Utility plans shows telecommunication cables underneath both the footpaths and carriageway on Courtenay Place. The fibre cables owned by Vodafone and Vector are shown close to the northern kerb, whilst the cables owned by Chorus are shown close to the southern kerb.

4 Assessment of options

4.1 Impact of options on utilities

The assessment looked at the impact of the design options on existing utilities on each corridor. Table 3 below summarises the potential services affected on each corridor for each option.

Table 3 – Affected services

Option 1	
Lambton Quay	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 2 catchpits outside 85 Lambton Quay ○ 25 catchpits along the northern kerb on Lambton Quay between 96 Lambton Road and Lambton Quay / Panama St intersection ○ 12 catchpits along the southern kerb on Lambton Quay between the Lambton Quay / Balance Street intersection and the Lambton Quay / Panama Street intersection • The service plans show an existing water supply pipe, a main gas pipe owned by Powerco, stormwater pipes, power cables, and fibre cables owned by Vector on Balance Street at its intersection with Lambton Quay. Watermains, gas pipes, stormwater pipes and power cables are generally located at depths unlikely to be affected by kerb realignment, unless they clash with locations of new manholes and their connecting pipes. However, the fibre cables are likely to be affected by the footpath extension as they are usually laid at shallower depths. • Foul sewer pipes, main gas pipes owned by Powerco Ltd, and wastewater pipes run closely along the northern kerb of Lambton Quay. These pipes are generally located at a deeper location and the likelihood of the pipes being affected by the kerb build outs is low. • The service plans show a stormwater pipe and the fibre cables owned by Vital close to the parallel on-street parking area on the northern side of Lambton Quay. Fibre cables are usually laid at shallower depths, so are more likely to be affected by the footpath extension. • The service plans show an existing water supply pipe, power cables, fibre cables owned by Vodafone and Chorus, and a gas services pipe on Stout Street at its intersection with Lambton Quay. The Vodafone and Chorus fibre cables will be impacted by the proposed construction of the new footpath. The water pipe and power cables are unlikely to be affected unless they conflicts with the locations of new manholes and stormwater pipes. • There is an existing water supply pipe located close to the western kerb of Johnston Street at its intersection with Lambton Quay. However, it is unlikely to be affected by the proposed improvements unless it clashes with locations of new manholes and their connecting pipes • The service plans show existing power cables, a stormwater pipe, and fibre cables owned by Vodafone located close to the northern kerb of Brandon Street at its intersection with Lambton Quay. The fibre cables are very likely to be affected by the footpath extensions. The stormwater pipes and power cables will not be affected unless they clash with the locations of new manholes and their connecting pipes.
Wills Street	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ Two catchpits by the northern kerb of Wills St between 16 to 20 Wills Street • There is an existing water supply pipe, gas service pipe owned by Powerco, power cables, fibres cables owned by Vector, Chorus, Vodafone and Vital, and foul sewer pipes on Mercer Street at its intersection with Wills Street. The Watermains, gas pipes, stormwater pipes, sewer pipes, foul sewer pipes and power cables are generally located at deeper locations. They would not be affected by kerb alignment unless they clash with the locations of new manholes and new stormwater pipes. The fibre cables are likely to be affected by footpath extension as they are usually laid at shallower depths.
Manners Street	<ul style="list-style-type: none"> • The service plans shows stormwater pipes, gas service pipes, fibres cables owned by Vital, Chorus and Vector, water supply pipes and foul sewer pipes located between 58 Cuba Street and Cuba Street / Manners Street intersection. The stormwater pipes Water mains, gas pipes, foul sewer pipes and power cables are generally located at depths unlikely to be affected by kerb realignment. They would not be affected by kerb alignment unless they conflict with locations of new manholes and their connection pipes. The fibre cables are likely to be affected by the footpath extension. • There is an existing gas services pipe owned by Powerco and foul sewer pipes located underneath the loading zone outside 104 Manners Street. The gas and sewer pipes are

	<p>unlikely to be affected by the kerb extensions unless they clash with locations of new manholes and their connecting pipes. .</p>
Courtenay Place	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 10 catchpits along the southern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection ○ 7 catchpits along the northern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection • Utility plans indicates existing fibre cables owned by Chorus beneath the southern kerb of Courtenay Place and they would be impacted by the kerb build outs. • There are stormwater pipes and water supply pipes beneath the northern kerb of Courtenay Place, and they are unlikely to be impacted by the footpath extension unless they clash with locations of new manholes and stormwater pipes. • The service plans show existing fibre cables owned by Vodafone, water supply pipes, foul sewer pipes and power cables located underneath the angled on-street parking spaces outside 14 Courtenay Place. Vodafone fibre lines are very likely to be affected by footpath extensions. The watermains, sewer pipes and power lines would not be affected unless they clash with the locations of new manholes and connecting stormwater pipes. • There is an existing stormwater pipe, water supply pipe, gas services pipes, foul sewer pipes and fibres owned by Vector beneath Blair Street at its intersection with Courtenay Place. Watermains, gas pipes, stormwater pipes, sewer pipes, foul sewer pipes and power cables at above locations would not be affected by kerb realignments unless they conflict with the locations of new manholes and the connecting pipes. However, the fibre cables would likely to be affected by the proposed improvements.
Option 2	
Lambton Quay	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 2 catchpits outside 85 Lambton Quay ○ 25 catchpits along the northern kerb on Lambton Quay between 96 Lambton Road and Lambton Quay / Panama St intersection ○ 12 catchpits along the southern kerb on Lambton Quay between the Lambton Quay / Balance Street intersection and the Lambton Quay / Panama Street intersection • The utility plans indicate an existing water supply pipe, main gas pipe owned by Powerco, a stormwater pipe, existing power cable and fibre cable owned by Vector on Balance Street at its intersection with Lambton Quay. •The watermain, gas pipes, stormwater pipes and power cables are unlikely to be affected by the footpath extensions unless they clash with the locations of new manholes and stormwater connection pipes. The Vector fibre cables are likely to be affected by the footpath extension as they are usually laid at shallower depths • There is a foul sewer pipe, a main gas pipe owned by Powerco Ltd and wastewater pipes beneath the northern kerb of Lambton Quay. These services are unlikely to be affected by the kerb realignments unless they conflict with the locations of new manholes and stormwater connection pipes. • Stormwater pipe and fibre cables owned by Vital laid underneath the parallel on-street parking area on the northern side of Lambton Quay. The fibre cables are very likely to be affected by footpath extensions. The, stormwater pipe is unlikely to be affected by the footpath extensions unless it clashes with locations of new manholes and stormwater pipes. • There is an existing water supply pipe, power cables, fibre cables owned by Vodafone and chorus and gas services pipe on Stout Street at its intersection with Lambton Quay. The watermain, gas pipes, power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The Vector and Chorus fibre cables are likely to be affected by the footpath extension. • There is an existing water supply pipe, gas services pipe, existing power cables, fibre owned by Vodafone, chorus and Vital underneath Johnston Street at its intersection with Lambton Quay. Watermains, gas pipes, power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The fibre cables would be affected by the footpath extension. • The utility plans show power cables, a stormwater pipe and fibre cables owned by Vodafone and power cables underneath Brandon Street at its intersection with Lambton Quay. Stormwater pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater

	<p>connection pipes. The Vodafone fibre cables are very likely to be affected by footpath extensions.</p> <ul style="list-style-type: none"> • There are existing water supply pipes, power cables, gas services pipes, foul sewer pipes and 11kv power cables under Panama Street at its intersection with Lambton Quay. These services are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes.
Wills Street	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ Two catchpits by the northern kerb of Wills St between 16 to 20 Wills Street ○ Two catchpits by the northern kerb of Boulcott Street at its intersection with Manners Street and Wills Street • The utility plans shows an existing water supply pipe, gas service pipe owned by Powerco, existing power cables, fibre cables owned by Vector, Chorus, Vodafone, Vital and foul sewer pipes on Mercer Street at its intersection with Wills Street.. Watermains, gas pipes, power cables are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater connection pipes. However, the fibre cables are very likely to be affected by footpath extensions.
Manners Street	<ul style="list-style-type: none"> • The service plans indicate existing stormwater pipes, gas service pipes, fibres owned by Vital, Chorus, Vector, water supply pipes and foul sewer pipes located between 58 Cuba Street and Cuba Street / Manners Street intersection. Stormwater pipes and, gas pipes are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater connection pipes. The fibre cables are very likely to be affected by the footpath extensions. • There are existing gas services pipe owned by Powerco and foul sewer pipes located underneath loading zone outside 104 Manners Street. The Powerco gas pipes and foul sewer pipes are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and the connecting stormwater pipes. The fibre cables are very likely to be affected by the footpath extensions.
Courtenay Place	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 10 catchpits along the southern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection ○ 7 catchpits along the northern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection • Existing fibre cables owned by Chorus underneath the southern kerb of Courtenay Place are very likely to be impacted by the kerb build outs. • Stormwater pipes and water supply pipes beneath the northern kerb of Courtenay Place are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. • There are existing fibre cables owned by Vodafone, water supply pipes, foul sewer pipes and power cables located underneath the angled on-street parking spaces outside 14 Courtenay Place .The watermains, foul sewer pipes and, power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The fibre cables are very likely to be affected by the footpath extensions. • The service plans indicates an existing stormwater pipe, water supply pipe, gas services pipes, foul sewer pipes and fibres owned by Vector beneath Blair Street at its intersection with Courtenay Place The stormwater pipes, watermains, foul sewer pipes and, gas pipes are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater connection pipes. • Existing power cables lies underneath the eastern kerb of Tory Street and gas services pipes runs beneath the western kerb of Tory Street. These underground services are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes.
Option 3	
Lambton Quay	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 2 catchpits outside 85 Lambton Quay ○ 25 catchpits along the northern kerb on Lambton Quay between 96 Lambton Road and Lambton Quay / Panama St intersection ○ 12 catchpits along the southern kerb on Lambton Quay between the Lambton Quay / Balance Street intersection and the Lambton Quay / Panama Street intersection

	<ul style="list-style-type: none"> ○ 2 catchpits along the southern kerb on Lambton Quay between the Lambton Quay / Panama Street intersection and the Lambton Quay / Featherston Street intersection ● There is an existing water supply pipe, main gas pipe owned by Powerco, a stormwater pipe, power cables and Vector fibre cables on Balance Street at its intersection with Lambton Quay. Watermain, stormwater pipes, power cables and gas pipes are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater connection pipes. The Vector fibre cables are very likely to be affected by the footpath extensions. ● Foul sewer pipe, the main gas pipe supplied by Powerco Ltd and the wastewater pipes run beneath the northern kerb of Lambton Quay. These services are unlikely to be affected by the kerb build outs unless they clash with the locations of new manholes and stormwater connection pipes. ● There are existing fibre cables owned by Chorus underneath the northern edge of the solid median outside 85 Lambton Quay and they are very likely to be affected by the proposed work. ● The service plans shows a stormwater pipe and fibre cables owned by Vital beneath the parallel on-street parking area on the northern side of Lambton Quay. The stormwater pipes are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The fibre cables are very likely to be affected by the footpath extensions. ● An existing water supply pipe, existing power cables, fibre cables owned by Vodafone and chorus and gas services pipe on Stout Street at its intersection with Lambton Quay are shown in the utility plans. The watermains and power cables are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater connection pipes. However, the fibre cables are very likely to be affected by the footpath extensions. ● There is an existing water supply pipe, gas services pipe, power cables, fibre cables owned by Vodafone, chorus and Vital underneath Johnston Street at its intersection with Lambton Quay. The watermains, gas mains and power cables are unlikely to be affected by the proposed footpath extensions unless they clash with the locations of new manholes and stormwater connection pipes. The fibre cables would be affected by the kerb build outs. ● Existing power cables, stormwater pipe and fibre cables owned by Vodafone and power cables are shown underneath Brandon Street at its intersection with Lambton Quay. The stormwater pipes, and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The Vector fibre cables are very likely to be affected by the intersection upgrade work. ● Existing water supply pipes, foul sewer pipes, power cables, gas services pipes and 11kV power cables are shown beneath either side of the kerb on Panama Street. The watermains, foul sewer pipes, power cables and gas pipes are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. ● There are existing fibre cables owned by Vodafone beneath the southern kerb of Lambton Quay, water supply pipes, foul sewer pipes and fibres owned by Vector underneath the southern kerbside lane on Lambton Quay between Lambton Quay / Panama Street intersection and Lambton Quay / Featherston Street intersection. The fibre cables at these locations are very likely to be affected by the footpath extensions. The watermains and foul sewer pipes unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes
Wills Street	<ul style="list-style-type: none"> ● Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 5 catchpits by the northern kerb of Wills Street between the Wills Street / Willeston Street intersection and Wills Street / Boulcott Street intersection. ○ 2 catchpits by the northern kerb of Boulcott Street at its intersection with Manners Street and Wills Street ● Utility plans shows an existing water supply pipe, gas service pipe owned by Powerco, existing power cables, fibres owned by Vector, Chorus, Vodafone, Vital and foul sewer pipes on Mercer Street at its intersection with Wills Street. The watermains, gas pipes, sewer pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. All the fibre cables are very likely to be affected by the proposed improvements. ● Existing fibre cables owned by Vital and Chorus and foul sewer pipes are shown beneath the northern kerb of Wills Street between the Wills Street / Willeston Street intersection and

	<p>Wills Street / Boulcott Street intersection. The fibre cables are very likely to be affected by the kerb build outs. The foul sewer pipes are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes.</p> <ul style="list-style-type: none"> • Fibre lines shown underneath the southern kerb of Wills Street between the Wills Street / Willeston Street intersection and Wills Street / Boulcott Street , intersection and they are very likely to be impacted by the new footpath extension
Manners Street	<ul style="list-style-type: none"> • There are existing stormwater pipes, gas service pipes, fibres owned by Vital, Chorus, Vector, water supply pipes and foul sewer pipes located between 58 Cuba Street and Cuba Street / Manners Street intersection The stormwater pipes, gas pipes and foul sewer pipes are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The fibre cables are very likely to be affected by the proposed work. • The service plans show existing gas services pipe owned by Powerco and the foul sewer pipes located underneath the loading zone outside 104 Manners Street. The gas pipes and foul sewer pipes are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes
Courtenay Place	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 10 catchpits along the southern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection ○ 2 catchpits by the southern kerb of Courtenay Place outside 99 Courtenay Place ○ 7 catchpits along the northern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection • Existing fibre cables owned by Chorus lies beneath the southern kerb of Courtenay Place and will potentially be impacted by the kerb build out. • There are stormwater pipes, water supply pipes and a wastewater pipe underneath the northern kerb of Courtenay Place and storm water pipes, power cables and fibre cables owned by Vector underneath the northern lane. The watermains, Stormwater pipes, sewer pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes; The Vector fibre cables are very likely to be affected by the footpath extensions. • There are fibre cables owned by Vodafone, water supply pipes, foul sewer pipes and power cables located underneath the angled on-street parking area outside 14 Courtenay Place. The watermains, foul, sewer pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater connection pipes The fibre cables are very likely to be affected by the kerb build outs. • The utility plans indicate an existing stormwater pipe, water supply pipe, gas services pipes, foul sewer pipes and fibres owned by Vector beneath Blair Street at its intersection with Courtenay Place. The stormwater pipes, watermains, foul, sewer pipes and gas mains are unlikely to be affected by the proposed footpath widening unless they clash with locations of new manholes and stormwater connection pipes The fibre cables are very likely to be affected by the kerb build outs • Fibre cables owned by Chorus and Vodafone, a water supply pipe, gas services pipes, power cables and stormwater pipes are shown underneath the Tory Street carriageway at its intersections with Courtenay Place. Fibre cables are very likely to be affected by the proposed work. The watermains, gas pipes, stormwater pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes • Existing telecom cables owned by Vital are shown underneath the southern kerbside lane on Courtenay Place they would potentially be affected.
Option 4	
Lambton Quay	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 2 catchpits outside 85 Lambton Quay ○ 25 catchpits along the northern kerb on Lambton Quay between 96 Lambton Road and Lambton Quay / Panama St intersection ○ 12 catchpits along the southern kerb on Lambton Quay between the Lambton Quay / Balance Street intersection and the Lambton Quay / Panama Street intersection • The service plans shows an existing water supply pipe, a main gas pipe owned by Powerco, a stormwater pipe, power cables and fibre cables provided by Vector on Balance Street at its intersection with Lambton Quay. The watermain, gas pipe, stormwater pipes and power cables are unlikely to be affected by the proposed footpath widening unless

	<p>they clash with the locations of new manholes and stormwater connection pipes. The fibre cables are very likely to be affected by the intersection upgrade work.</p> <ul style="list-style-type: none"> • A foul sewer pipe, a gas main owned by Powerco Ltd and wastewater pipes runs underneath the northern kerb of Lambton Quay are unlikely to be affected by the proposed work unless they clash with locations of new manholes and stormwater connection pipes • A stormwater pipe and fibre cables owned by Vital runs underneath the parallel on-street parking area on the northern side of Lambton Quay. The stormwater pipes is unlikely to be affected by the footpath extension unless it clashes with locations of new manholes and stormwater connection pipes The fibre cables are very likely to be affected by the kerb build outs • There is an existing water supply pipe, existing power cables, fibre cables owned by Vodafone and chorus and gas services pipe on Stout Street at its intersection with Lambton. The watermain, gas pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The Vodafone fibre cables are very likely to be affected by the new footpaths. • A water supply pipe, gas services pipe, power cables, fibre cables owned by Vodafone, chorus and Vital are shown underneath Johnston Street at its intersection with Lambton Quay. The watermain, gas pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and stormwater connection pipes. The fibre cables are very likely to be affected during construction of wider footpaths. • Power cables, stormwater pipe and fibre cables owned by Vodafone and power cables are shown underneath Brandon Street at its intersection with Lambton Quay. The fibre cables would potentially be impacted by the proposed upgrade. Other services at the intersection are unlikely to be affected unless they clash with the locations of new manholes and their connecting pipes. • The utility plans show an existing water supply pipes, power cables, gas services pipes, foul sewer pipes and 11kv power cables under Panama Street at its intersection with Lambton Quay. Water supply pipes, gas pipes and power cables, foul sewer pipes are unlikely to be affected by the proposed upgrade unless they clash with the locations of new manholes and stormwater connection pipes.
<p style="text-align: center;">Wills Street</p>	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ Two catchpits by the northern kerb of Boulcott Street at its intersection with Manners Street and Wills Street • There is an existing water supply pipe, gas service pipe owned by Powerco, power cables, fibre cables owned by Vector, Chorus, Vodafone, Vital and foul sewer pipes on Mercer Street at its intersection with Wills Street.. The watermain, gas pipes and power cables are unlikely to be affected by the proposed improvements unless they clash with locations of new manholes and stormwater connection pipes. The fibre cables are very likely to be affected during construction of wider footpaths
<p style="text-align: center;">Manners Street</p>	<ul style="list-style-type: none"> • The utility plans indicate existing stormwater pipes, gas service pipes, fibres owned by Vital, Chorus, Vector, water supply pipes and foul sewer pipes located between 58 Cuba Street and Cuba Street / Manners Street intersection. The stormwater pipes, water supply pipes, foul sewer pipes, gas pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and their connecting pipes. However, the fibre cables are very likely to be affected by the widening of footpaths. • Existing storm water pipe located beneath the kerb of the loading zone outside 104 Manners Street is unlikely to be affected by the kerb extensions unless it clashes with locations of new manholes and their connecting pipes.
<p style="text-align: center;">Courtenay Place</p>	<ul style="list-style-type: none"> • Potential relocations of catchpits at the following locations due to the proposed kerb extension: <ul style="list-style-type: none"> ○ 7 catchpits along the northern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection ○ 5 catchpits along the northern kerb of Courtenay Place between Taranaki Street / Courtenay Place intersection and the Cambridge Terrace / Courtenay Place intersection • Existing fibre cables owned by Chorus beneath the southern kerb of Courtenay Place will potentially be impacted by the kerb build outs. • There are stormwater pipes, water supply pipes and a wastewater pipe underneath the northern kerb of Courtenay Place and storm water pipes, power cables and fibre owned by Vector underneath the northern kerbside lane. The stormwater pipes, water supply pipes,

	<p>wastewater pipes, and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and their connecting pipes. The fibre cables are very likely to be affected by proposed improvements</p> <ul style="list-style-type: none"> • Utility plans shows existing fibre cables owned by Vodafone, water supply pipes, foul sewer pipes and power cables located underneath the angled on-street parking area outside 14 Courtenay Place. The fibre cables are very likely to be affected by the footpath extension. The water supply pipes, foul sewer pipes and power cables are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and their connecting pipes. • A stormwater pipe, water supply pipe, gas services pipes, foul sewer pipes and fibre cables owned by Vector beneath Blair Street are located at its intersection with Courtenay Place. The stormwater pipes, water supply pipes, gas pipes, and foul sewer pipes are unlikely to be affected by the proposed footpath widening unless they clash with the locations of new manholes and their connecting pipes. The Vector fibre cable are likely to be affected by the proposed work. • The utility plans show power cables and gas services pipes located beneath either side of the northern section of Tory Street at its intersection with Courtenay Place. These services are unlikely to be affected by the footpath extension unless they clash with locations of new manholes and their connecting pipes. • There are existing gas service pipes and fibre cables owned by Chorus underneath the western kerb of the southern section of Tory Street at its intersection with Courtenay Place. The gas pipes are unlikely be affected by the proposed new footpath unless they clash with new manholes. However, the fibre cables are likely to be affected as they are usually laid in a shallower depth. • The service plans show water supply pipes, foul sewer pipes, fibres owned by vodafone and vector underneath Allen Street at its intersection with Courtenay Place. The water mains and foul sewer pipes are unlikely be affected by the proposed new footpath unless they clash with locations of new manholes and the connecting pipes. Fibre cables are very likely to be affected by the upgrade. • Existing telecom cables owned by Vital underneath the southern kerbside lane on Courtenay Place would potentially be affected by the footpath extension.
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Depths of the above mentioned underground services will need to be verified during the design phase. In general water mains, sewer mains, power lines, stormwater pipes and the gas pipes are located at a depth unlikely to be affected by the footpath extensions and kerb realignments. The likelihood of those services being affected by the proposed design options is low unless they will be impacted by the locations of new manholes and their connecting pipes. Telecom cables are generally installed at a shallower depth, and as a result, are more likely to be impacted by the proposed improvements.

4.2 Utility assessment

A common scoring system has been used to compare the four options. The scoring system considers both positive and negative benefits by positive and negative scoring for High, Medium Low benefits as summarised in Table 4 below:

Table 4 – Scoring system

Scoring	Description
3	High Positive Benefits
2	Medium Positive Benefits
1	Low Positive Benefits
0	No Change in Benefits
-1	Low Negative Benefits
-2	Medium Negative Benefits
-3	High Negative Benefits

The assessment considers the impact of proposed options on utilities against the following criteria:

- Amount and extent of affected services
- Likely costs for service relocation, diversion, and protection
- Impact on constructability
- Ease of consenting, approvals from service providers

Each option has been assessed against the identified criteria above on a corridor by corridor basis using the scoring system described in Table 4 and the scoring summary is given in table 5.

Table 5 – Utility assessment scoring results

Corridor	Option 1	Option 2	Option 3	Option 4
Lambton Quay	-2	-2	-3	-2
Wills Street	-1	-2	-2	-1
Manners Street	-1	-1	-1	-1
Courtenay Place	-2	-2	-3	-3
Total	-6	-7	-8	-7

4.3 Assumptions and exclusions

- Service plans and the assessments are based on the utility plans provided by the service providers and WCC GIS data. The information may not be accurate and up to date.
- The depths of underground services are unknown. It has therefore been assumed that all underground services in the extent of footpath extensions would be affected by the work
- Proposed options require the relocation of streetlight poles and signal poles. Impact to these above ground services has not been assessed as part of the utility assessment.
- Each option requires the relocation of catchpits at footpath widening areas. No Stormwater assessment has been undertaken to identify potential impact to stormwater system.

4.4 Conclusion

All four options propose wider footpaths on Lambton Quay, Willis Street and Courtney Place. A number of side roads are proposed to be closed off and the intersection areas are proposed to be raised. These improvements will result in negative impacts on various utilities.

Option 3 proposes the widest footpaths and therefore has the highest negative benefits on the utilities. Option 2 and 3 appear to have similar negative impacts on the utilities and option 1 proposes slightly less negative impacts on existing utilities than option 2 and 3.

Other than the utilities listed in Table 3, there are manhole and various utility chamber lids and covers affected by all four options. These utility covers and lids are required to be identified for restoring to the adjacent footpath levels at the preliminary and detailed design stages of the project.

5 Future programmed utility works

During consultation with the utility providers, the following programmed utility upgrade works were identified within the project area. These works need to be coordinated between the LGWM and the utility companies.

5.1 Vital (Citylink)

Vital has an underground and overhead network along Golden Mile. There is an ongoing project to underground the existing overhead network that is attached to the old trolley bus stays. This project is due for completion in mid-2021 and Vital does not have any other major projects planned beyond mid-2021.

5.2 Wellington Water

There is a planned wastewater project in Lambton Quay from 193 Lambton Quay to Brandon Street and across to 226 Lambton Quay. Construction is planned for March to May 2022. Also, a wastewater project in Taranaki Street crossing the Manners Street / Courtenay intersection was planned for construction between February to September 2022. Potential trenching work might be carried out to repair/replace the old earthenware stormwater and wastewater pipes along the southern footpath-slip lane on Courtenay place from Kent Terrace to Allen Street.

6 Operational and maintenance requirements

In response to operational and maintenance requirements, the following comments have been received from the utility providers

6.1 Powerco

Powerco has gas infrastructure located along the Golden Mile and wider CBD and they will need to access existing services and to construct new services along the Golden Mile. The design will need to ensure that it does not affect the ongoing operation, maintenance and upgrading of the gas network, or restrict access to its network.

6.2 Vital (Citylink)

Citylink requires ongoing access to their network through the existing pits and manholes. These must remain uncovered and accessible for maintenance purposes.

6.3 Wellington Water

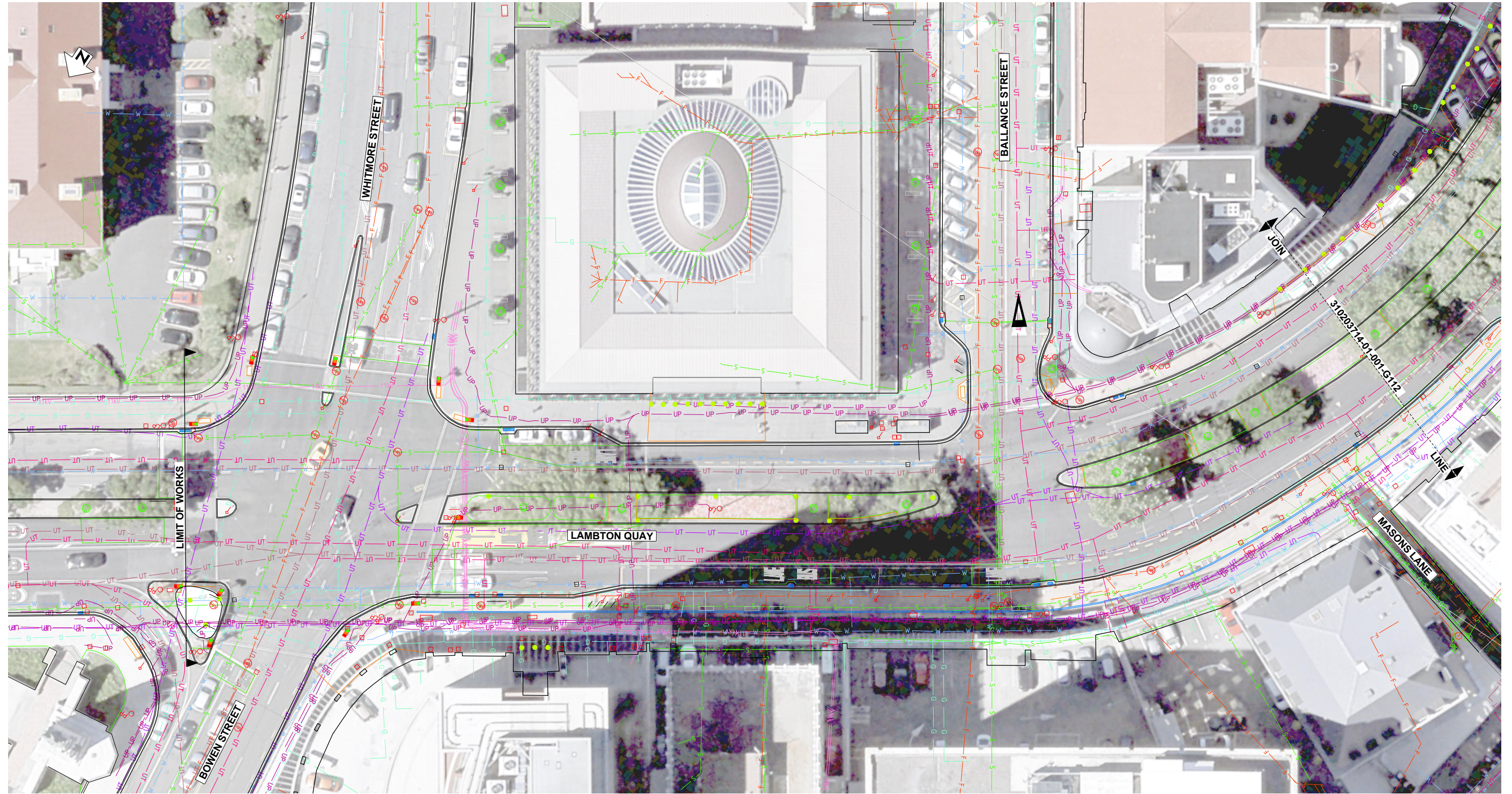
The main ongoing operational and maintenance requirements for Wellington Water are to maintain suitable access to operate, repair and renew the drinking water, stormwater and waste water assets such as pipes, manholes, lamphole, hole cleaning eyes, fire hydrants, and valves.

7 Recommendations and Next steps

It is recommended that the following be carried out once the preferred design option is confirmed:

- Discussions with utility providers to continue as design is progressed. Once more design information is available, hold workshops to better understand the impacts and requirements of the utility providers.
- Coordination with utility providers to ensure planned utility upgrades are undertaken co-ordinated with the Golden Mile and wider LGWM programme.
- Undertake a stormwater assessment to ensure potential fatal flaws are addressed early and are mitigated.
- At high risk locations, such as those where multiple services are likely to be affected, arrange for investigations to be carried out to accurately locate the apparatus.
- Obtain cost estimates from service providers for relocation, diversion and protection works.

Appendix A: Golden Mile - Existing Services Drawings



ORIGINAL SIZE **A1** DO NOT SCALE - IF IN DOUBT, ASK



LEGEND

S	EXISTING STORMWATER PIPE	33kV	EXISTING POWER 33KV
W	EXISTING WATER SUPPLY PIPE	11kV	EXISTING POWER 11KV
F	EXISTING FOUL SEWER PIPE	UP	EXISTING POWER OTHER
UT	EXISTING COMMS CHORUS/SPARK	MH	EXISTING MANHOLE
SP	EXISTING COMMS VODAFONE	CP	EXISTING CATCHPIT
VO	EXISTING COMMS VODAFONE	FH	EXISTING FIRE HYDRANT
VE	EXISTING COMMS VECTOR	LP	EXISTING LAMP POST
CL	EXISTING CITYLINK CABLING	PP	EXISTING POWER POLE
NOVA	EXISTING GAS MAIN NOVA ENERGY	TS	EXISTING TRAFFIC SIGNAL
POWERC	EXISTING GAS SERVICE PIPE NOVA ENERGY	B	EXISTING BOLLARD
G	EXISTING GAS MAIN POWERCO	T	EXISTING TREE
G	EXISTING GAS SERVICE PIPE POWERCO		

UTILITIES NOTE

PIPES, CABLES AND OTHER UTILITIES, FOUNDATIONS, LEVELS, REFERENCE MARKS AND OTHER OBSTRUCTIONS INDICATED ON THIS DRAWING ARE BASED ONLY ON READILY AVAILABLE RECORD PLANS AND OTHER INFORMATION. THIS INFORMATION MAY NOT BE COMPLETE, ACCURATE NOR UP TO DATE. PRIOR TO CARRYING OUT ANY EXCAVATION OR OTHER PHYSICAL WORK, CONTRACTORS SHALL OBTAIN THE LATEST INFORMATION FROM UTILITY PROVIDERS AND CARRY OUT DETAILED EXPLORATORY WORK, TRACING, LOCATING, PROTECTION, ISOLATION AND ALTERATIONS AS ARE REQUIRED UNDER NZS 3910 CLAUSE 5.13.

NOT FOR CONSTRUCTION

Last modified: Dec 2, 2020 By: Kerry Ware

SURVEYED	WSP	09/2020
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DRAWN	charles maaka	02.12.20
CAD REVIEW		
DESIGN CHECK		
DESIGN REVIEW		
APPROVED		
PROF REGISTRATION:		



**GOLDEN MILE IMPROVEMENTS
LAMBTON QUAY
EXISTING SERVICES PLAN
SHEET 1 OF 6**

Status Stamp	FOR INFORMATION ONLY	
Date Stamp	01.12.20	
Scales	AS SHOWN	
Drawing No.	310203714-01-001-G111	Rev. A