Site 10 Redevelopment Limited Partnership / City Shaper

North Kumototo Precinct: Site 10 and Open Space Development

Transportation Assessment Report

September 2014

TDG Ref: 12834 140929 site 10 final rep.docx

Site 10 Redevelopment Limited Partnership / City Shaper

North Kumototo Precinct: Site 10 and Open Space Development

Transportation Assessment Report

Quality Assurance Statement

Prepared by:

Eliza Sutton

Principal Transportation Engineer

Reviewed by:

Dave Petrie

Senior Associate

Approved for Issue by:

Dave Petrie

Senior Associate

Status: Final report

Date: 29 September 2014

PO Box 30-721, Lower Hutt 5040
New Zealand

P: +64 4 569 8497

www.tdg.co.nz

Table of Contents

1.Introduction

TDG has been commissioned by Site 10 Redevelopment Limited Partnership to consider the transportation effects of the redevelopment of the North Kumototo Precinct; namely:

- Open Space development; and
- Site 10 Commercial building development within the same Precinct.

With respect to traffic matters, these developments are intrinsically linked, and accordingly this assessment has been developed to consider the combined effects of both elements. Where a particular assessment matter relates directly to just one of the elements, that has been particularly identified.

Briefly, the existing North Kumototo Precinct supports a large amount of surface-level carparking, with pedestrian and cycle connections poorly provided for. The existing Whitmore Street gates configuration, in particular, does not cater well for the high pedestrian patterns observed to travel between the CBD area, railway station and the wider waterfront.

The purpose of these developments is to:

a) improve the open space area, through the establishment of more formalised pedestrian and vehicle routes as well as improvements to the Whitmore Street intersection, and

b) enable the development of a 13,300m^2 GFA commercial building (with a supporting 66 space basement carpark) within the area known as 'Site 10'.

A particular feature, in transportation terms, of the combined developments is that they provide for a reduction in surface level carparking from some 211 spaces to around 97 spaces within the North Kumototo Precinct. A further reduction in carparking from the adjoining CentrePort land is anticipated, but that is beyond the scope of this application.

The parking, access and servicing demands for the developments have been considered for each of the various transport modes, from which it is concluded from a transportation perspective, that the proposed developments are able to be supported.

2.Existing Environment

2.1 Site Location

Figure 1 is an aerial photograph, showing the location of the site within the existing environment. As can be seen, to the immediate west of the proposed building footprint lies the north-south route of Customhouse Quay, with its intersection with Whitmore Street to the immediate south. The site is located within Wellington Waterfront controlled land, with established building in the vicinity including Shed 21 (residential and commercial), Sheds 11 and 13 (Commercial) and the Meridian building. Established port facilities are also present including wharves and the previous Eastbourne ferry building. Much of the port facilities are managed under the control of CentrePort.

2.1 Local Road Network

Waterloo Quay and Customhouse Quay, in the vicinity of the development are classified as Arterial Roads within the Wellington City District Plan, where vehicle access along the frontage is restricted. Both Whitmore Street and Featherston Street are classified as Principal Roads, reflecting their relative importance within this area of the roading network. Bunny Street, by comparison, is classified as a Local Road.

The site location, within the context of the adjoining roading hierarchy, is shown within the detail of **Figure 2.**

2.2 Existing Sites

The sites (8, 9 and 10) under consideration are located within the area managed by Wellington City Council 'City Shaper' (previously Wellington Waterfront Ltd). These sites are largely undeveloped, and currently used for surface level carparking and a campervan park. To the north is the Shed 21 residential and commercial building and CentrePort land. To the south is the partially developed Kumototo Precinct, comprising of established commercial buildings and a high-quality open space environment.

These sites have been subject to the considerations of Plan Change 48, for which the Environment Court decision was issued on 24 April 2012. This decision informs much of what can be achieved on these sites with respect to development.

Friday, 26 September 2014

0 20mm

REVISION	DATE	DESCRIPTION
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----

Kumototo Precinct: Site 10 and Open Space Development

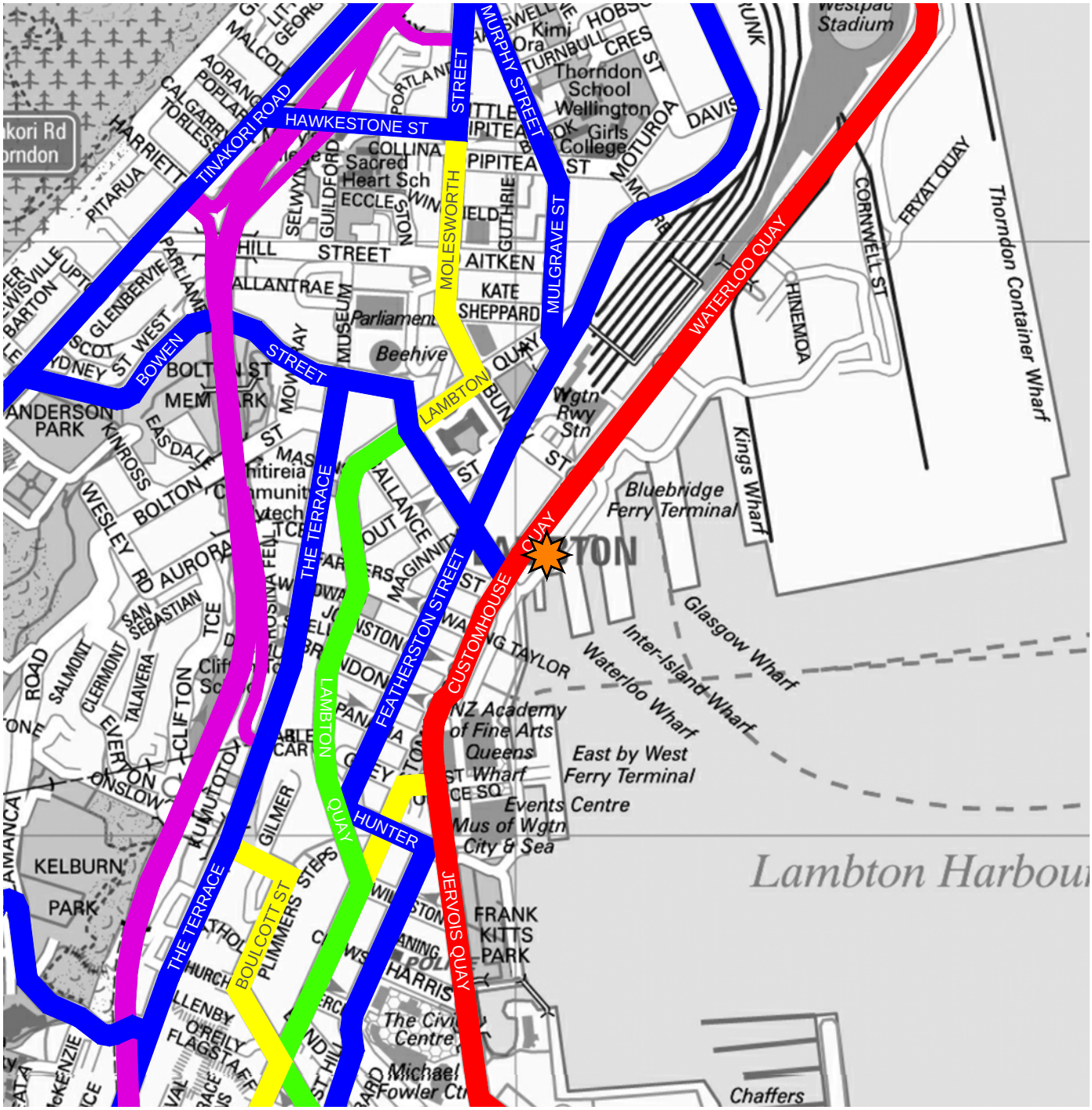
Existing Layout

DRAWN: Quentin O'S
DATE: 16/09/2014
SCALE: 1:1500 @ A3
DWG NO:12531W1A

TDG

1

C:\12531\12531w1a.dwg



- Motorway
- Arterial Street
- Principal Street
- Golden Mile
- Collector
- Site Location

Friday, 19 September 2014

Kumototo Precinct: Site 10 and Open Space Development

Site Location in Road Network

Traffic Design Group

2

SCALE: 1:20,000

C:\12531\12531w1a.dwg

2.3 Public Transport

The site is located in close proximity (250m) to the front door of Wellington Railway Station which provides inter and intra-regional connections as follows:

- Kapiti Line (Wellington – Waikanae) (Tranz Metro): Services run between approximately 6am and midnight, approximately every half hour during the day, hourly in evenings, and with increased frequency during peak periods, 7 days/week. Some services are truncated at Plimmerton and Porirua;
- Johnsonville Line (Wellington – Johnsonville) (Tranz Metro): Services run between 6am and midnight, at approximately half hourly intervals during the day, hourly in the evenings, and with increased frequency during peak periods, 7 days/week;
- Hutt Valley (Wellington – Upper Hutt) (Tranz Metro): Services run between approximately 6am and midnight, running approximately every half hourly during the day, hourly in evenings, 7 days/week. Increased frequency of services occurs during peak periods. Some express services operate a peak times, and some services are truncated at Taita;
- Melling Line (Wellington – Melling) (Tranz Metro): Services run approximately 6am – 6.30pm Monday – Friday. During peak periods, services run approximately every 20-30minutes, and otherwise hourly throughout the day;
- Wairarapa Line (Wellington – Masterton) (Tranz Metro): On weekdays there are 5 services daily (3 in each peak direction), with 2 services in each direction on weekends;
- Wairarapa Connection: commuter services (2 daily) between Wellington and Masterton Monday – Friday;
- Capital Connection commuter services (2 daily) between Wellington and Palmerston North, Monday – Friday;
- Northern Explorer): Between Wellington and Auckland 3x weekly;
- Coastal Connection (including the Ferry service): between Wellington and Christchurch daily.

In addition to the rail services, the regional commuter bus service (Metlink) has a major bus interchange to the immediate west of the train station, with some 17 different services connecting through this interchange. Although the Wellington commuter bus service is currently undergoing a significant review, this location is expected to remain a key strategic node for bus transfers throughout the wider region.

The Wellington Flyer is one of the routes which uses the bus terminal, and provides a connecting service with Wellington International Airport.

In addition, the national bus routes operated by all the major operators (including InterCity, Newmans and Naked Bus) operate a terminus at (or immediately adjacent to) the Wellington train service. A shuttle connection to the nearby Interisland ferry terminal is also operated from the area, and the Blue Bridge ferry terminal is located to the immediate north of Shed 21.

Sites 8, 9 and 10 are therefore strategically very well located with respect to local, regional, national and international public transport connections.

2.4 Walking & Cycling

The roading network adjoining the site supports a series of established footpaths and controlled crossing points across the Quays. In addition, the waterfront route itself provides shared pedestrian and cycle routes which are separate from heavily trafficked Quay routes.

The waterfront area as a whole is well utilised by pedestrians and cyclists during the weekday commuter peak periods, as well as by recreational users during the middle period of the day on weekdays and during the weekends. In addition to providing connectivity to the wider city, the waterfront is a major destination in itself, with established restaurants and the Events Centre in the immediate vicinity, as well as open space areas used for informal lunches and the like.

The proposed development sites are therefore well connected to the already developed sections of the waterfront, to the adjoining central business area and to the wider city, for commuter and recreational pedestrians and cyclists. These sites also have the potential to become a destination in their own right, similar to the already developed adjoining areas.

3.Existing Travel Patterns

3.1 Daily Traffic Patterns

The Annual Average Daily Traffic (AADT) traffic pattern in the area surrounding the development site has been obtained from the NZTA 'Crash Analysis System' (CAS) database, and may be summarised as follows:

Location	AADT (vpd)
Customhouse Quay (north of Whitmore St)	33,316
Customhouse Quay (south of Whitmore St)	38,160
Bunny Street	8,394
Whitmore Street	11,274
Balance Street	1,294
Waring Taylor Street	1,381
Johnston Street	2,187
Brandon Street	2,385

Table 1: Annual Average Daily Traffic Patterns

These vehicle traffic volumes are reflective of the strategic importance of Customhouse Quay within this area of the Wellington roading network. Whitmore Street is an important east-west connection to the north-south route of the Quays, and Bunny Street enables direct access to the Wellington Rail station. As such, this area has important inter and intra-regional connections for a wide variety of road users.

3.2 Peak Period Traffic Patterns

Traffic count information has been provided by Council, for a typical one week period in June 2014. The data has been obtained from the SCATS signal operation for both the Whitmore Street and Bunny Street intersections. Particular trends in these two-way hourly and daily patterns along the Quays at these locations include:

Time Period	Whitmore Street Intersection	Bunny Street Intersection
AM Peak	8:00am : 3,641vph	8:00am : 3,449vph
PM Peak	5:00pm : 3,874vph	5:00pm : 3,625vph
Saturday Peak	1:00pm : 3,421vph	1:00pm : 2,985vph
5-day Ave	40,065vpd	37,276vpd
7-day Ave	38,931vpd	35,777vpd

Table 2: Intersection Traffic Patterns

These volumes are significant, and reflect the strategic importance of the Quays route.

The more detailed traffic patterns on each approach to each intersection during the identified peak hour periods are summarised below:

Intersection		AM Peak	PM Peak	Sat Peak
Whitmore St	Customhouse Quay (S)	1,582	1,978	1,649
	Whitmore St (W)	428	483	210
	Customhouse Quay (N)	1,589	1,292	1,525
	Kumototo (E)	42	121	37
Bunny Street	Customhouse Quay (S)	1,323	1,864	1,356
	Bunny St (W)	449	385	297
	Waterloo Quay (N)	1,648	1,328	1,312
	Shed 21 (E)	29	48	20

Table 3: Approach Volumes (Peak Hour)

These patterns reflect the somewhat tidal nature of the Quays during the typical weekday commuter peak periods, particularly in the evening peak, and the more balanced flows experienced on the weekends. Traffic volumes exiting the two Waterfront approaches remain comparatively low throughout.

3.3 Internal Traffic Distribution

In order to identify internal site patterns, a survey was undertaken of internal traffic origin and destination patterns through the North Kumototo area. The peak hour patterns were recorded as follows:

		AM Peak (8:00am – 9:00am)	PM Peak (5:00pm – 6:00pm)	Sat Peak (1:00pm – 2:00pm)
Site 8	Origin	0	4	2
	Destination	2	0	4
Site 9	Origin	0	12	9
	Destination	1	6	9
Site 10	Origin	0	14	4
	Destination	17	5	7
CentrePort / Shed 21	Origin	1	2	0
	Destination	0	0	0
Through	Northbound	52	63	30
	Southbound	104	89	69
TOTAL		177	195	134

Table 4: Internal Vehicle Patterns In vicinity of Whitmore Street gates during network peaks (vph)

As shown, the highest volume traffic movement through the area is the southbound traffic, travelling from Bunny Street towards Brandon Street, at around 1 -2 vehicles every minute.

The corresponding northbound movement is somewhat less, but is still higher than most other movements.

In considering the finer detail of the traffic surveys, it is apparent that the peak period of arrivals and departures to the commuter carparking areas does not coincide with the network peak periods. Rather, the highest hourly demand arriving at Site 10 in the morning peak period (32vph) occurred during the hour beginning from 7.15am. Similarly, the afternoon peak traffic leaving Site 10 (22vph) occurred during the hour from 4.30pm. A similar trend, however, is not seen with respect to the through traffic, which remains of a similar scale to that noted above.

3.4 Existing Parking

Sites 8, 9 and 10 within the Kumototo precinct currently support surface level carparking, and a campervan park. This parking is primarily used as commuter parking, with some short term spaces signed for that use in the Site 9 carpark. During periods of low demand, the campervan park is made available as a carpark.

With Sites 8, 9 and 10 being redeveloped as part of this application, it is noted that Site 10 currently supports up to 156 carparking spaces, and Site 8 supports 20-25 spaces (some of which are stacked). All of the surface level carparking will be removed from Site 8 and 10 as part of this development (with some basement level parking then provided in Site 10). The existing Site 9 carparking area will be reduced from 30 to 18 spaces, to enable better pedestrian connections between the Site 10 area and Kumototo Precinct to the south.

In addition, the adjacent CentrePort land supports a commuter carparking area, which is also accessed via the Whitmore Street and Bunny Street intersections. A portion of this carparking area is planned be leased by City Shaper to enable a campervan carpark to be established within this adjoining area. A total of 97 commuter spaces will be converted to some 30-32 campervan spaces, which will be used for commuter parking during periods of low demand. This change is beyond the scope of this application, but has been considered herein due to the precinct wide-implications of the combined developments.

3.5 Road Safety

A search of the reported traffic accidents along Waterloo Quay / Customhouse Quay between (and including the approaches) the intersections with Bunny Street and Whitmore street was undertaken for the full 5-year period to 2013 using the NZTA Crash Analysis System (CAS) database.

During this period, a total of 25 accidents were reported on the road network (including 8 minor and 17 damage only accidents), with a further 2 damage only accidents reported on adjoining private property.

For the purposes of this assessment, the accidents at each intersection (and its approaches) are considered separately to those accidents occurring on the road links and private property.

3.5.1 Waterloo Quay/Customhouse Quay/Whitmore Street

A total of seven accidents were reported at the Whitmore Street intersection, as follows:

- two minor injury accidents; and
- five damage only accidents.

Both of the injury accidents involved pedestrians. The first minor injury accident involved a collision between a southbound car and a teenage pedestrian, crossing heedless of traffic. The second minor injury accident (which resulted in two people sustaining minor injuries) occurred when a pedestrian attempted to cross the road (heedless of traffic) and was hit by a cyclist travelling too fast through this intersection.

Of the damage only accidents, two involved collisions with vehicles turning right, two involved vehicles manoeuvring and one involved a rear end collision.

Considering the size of the intersection, and the volume of traffic it carries, these records suggest the intersection performs well in terms of safety. However, the record highlights the vulnerability of pedestrians crossing the high traffic volumes using the Quays route.

3.5.2 Waterloo Quay / Bunny Street

A total of 11 accidents were reported at the Bunny Street intersection, including four minor injury accidents, and seven damage only accidents.

All four of the injury crashes at this intersection involved cyclists. Details of the minor injury accidents may be summarised as follows:

- a truck driver misjudged the speed of a vehicle and crowded an adult cyclist;
- a northbound car collided with an adult cyclist crossing on the pedestrian crossing;
- a southbound car collided with an adult cyclist turning right. Both the driver and cyclist were found to have not stopped at a steady red light; and
- a northbound car failed to stop at a steady red light and collided with an adult cyclist.

The damage only accidents included four rear end collisions (including one incident with a stolen vehicle), two overtaking and one 'swinging wide' type accident.

It is apparent that cyclists are experiencing some difficulties in travelling through this intersection. This trend should be reviewed by the controlling authority irrespective of this development, given the importance of the link between the train station and waterfront route for active transport modes.

3.5.3 Adjoining Road Links

Eight further accidents occurred on the roading network in the vicinity of the site, which were not directly attributable to the performance of the intersections.

Two of the accidents resulted in minor injuries being sustained, and the remaining five resulted in damage only.

Details of the minor injury accidents may be summarised as follows:

- a southbound car, 40m north of the Bunny Street intersection hit a pedestrian crossing heedless of traffic; and
- two people sustained minor injuries when the door of a parked car opened into the path of a cyclist.

Again, it is notable that all of the reported injury crashes involved vulnerable users, ie pedestrians or cyclists. Of the remaining damage only accidents, two involved vehicles turning into/out of the train station area.

3.5.4 Private Property

A total of two damage only accidents were reported on private land adjoining the intersection, one entering/leaving the service station and one at the Bluebridge terminal.

One accident occurred on the petrol station forecourt, when the driver of a car entering/leaving the petrol station failed to adequately look while manoeuvring and collided with another car.

The other accident occurred at the Bluebridge ferry terminal, when a truck's brakes were not fully applied and the vehicle 'ran away' and collided with a pole.

No accidents involved vehicles travelling along the Kumototo laneway (including the constructed laneway adjacent to Sheds 11 and 13).

3.5.5 Summary

The traffic accidents which have been reported in the vicinity of the development and that have resulted in minor injuries, have involved cyclists or pedestrians. All other accidents involving motor vehicles have not resulted in injury.

The trend which has emerged of cyclists being injured at the Bunny Street intersection should be reviewed irrespective of this development.

4.Proposed Development

Resource Consent for the areas generally identified as Sites 8, 9 and 10 (and adjoining open space/laneway areas), is being applied for to enable the Open Space area to be developed in conjunction with the establishment of a new commercial building. The area under consideration (including the surrounding area for context) is shown in **Figure 3.**

City Shaper is considering the Open Space development of the Precinct area, which generally includes the land under their control between Bunny Street (in the north) and Shed 13 (to the south). Particular traffic-related features of that application include:

- formalising the laneway connection between Bunny Street and Whitmore Street, so as to tie in with the completed laneway (and pedestrian facilities) in the area surrounding Sheds 11 and 13, and the Meridian Building;
- conversion of the Site 9 carparking area to enable better pedestrian connections;
- improvements to the Whitmore Street gates, through the removal of surplus exit lanes, improved alignment and better pedestrian facilities;
- removal of Site 8 surface level parking, to be converted to Open Space.

The design approach for this particular Application has focused on the development of a 'shared space' which better provides for the 'active modes' of transport (pedestrians and cyclists) travelling through the waterfront area. The laneway is not intended to provide through-access for vehicles, but rather will be to serve the needs of the occupiers of the buildings along its frontage. It is intended that the laneway will be established to support two-way traffic, acknowledging that a portion of the laneway is located on the adjacent CentrePort land. Access to this lane will be managed by way of a month-by-month lease agreement, and should that lease be terminated, access will be converted to one-way (southbound). The effects of both scenarios have been considered within this report.

Site 10 Redevelopment Limited Partnership is developing a commercial building within the area identified as Site 10 on the Waterfront. This building will provide some 13,300m^2 GFA of commercial area, with a creative business hub of small office suites at ground level and office space above. A basement level carpark is proposed, providing some 66 spaces, accessed via Wool Shed Plaza. A shared servicing area within the building is proposed, and is to be accessed via the laneway.

With respect to traffic and transportation matters, these two developments are intrinsically linked, and as such, this assessment has been developed to consider the effects of both developments.

Friday, 26 September 2014

0 20mm

REVISION	DATE	DESCRIPTION
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----

Kumototo Precinct: Site 10 and Open Space Development

Proposed Site Layout

DRAWN: Quentin O'S
DATE: 16/09/2014
SCALE: 1:1000 @ A3
DWG NO:12531W1A

TDG

3

C:\12531\12531w1a.dwg

5.Parking

5.1 Planning Requirements

5.1.1 District Plan

The site is zoned as Central Area within the provisions of the Wellington City District Plan, and is located in the Lambton Harbour area.

With respect to Parking, Rule 13.6.1.3 of the District Plan details the parking requirements as follows:

> ***13.6.1.3 - Vehicle parking servicing and site access (other than for the Wellington Regional Stadium site)***
>
> ***Vehicle parking***
>
> *13.6.1.3.1 – Activities in the Central Area are not required to provide on-site vehicle parking, but where parking is provided, it must not exceed a maximum of:*
>
> - *One space per 100m2 gross floor area*
>
> *13.6.1.3.2 – All parking shall be provided and maintained in accordance with sections 1, 2 and 5 of the joint Australian and New Zealand standard 2890.1 – 2004, Parking Facilities, Part 1: Off-Street Car Parking.*
>
> *13.6.1.3.3 – Open vehicle parking areas must not be situated at ground level at the front of sites to which standard 13.6.3.7.1 (display windows) applies.*

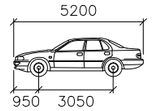
The building proposed for Site 10 has a footprint of 13,300m^2 GFA. A total of 66 spaces are proposed, which corresponds to 0.50 spaces per 100m^2 GFA in accordance with Rule 13.6.1.3.1.

The internal carparking layout has been developed to maximise the level of carparking within the building footprint, with the result that a number of spaces are non-compliant with the standard. In particular, a number of spaces are 'stacked' which would require management by the tenant. In addition, a number of spaces are suitable for use by 'small' cars only, and are also to be managed by the tenant.

Figure 4 illustrates the manner in which the basement carparking area will operate**.** In particular, the location of each carpark is shown, including those four spaces that are restricted to small cars (labelled 'B50' for 50 percentile length vehicles or shorter) and their associated manoeuvre paths.

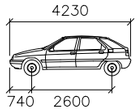
The external ground level car parking is provided as parallel parking spaces arranged in bays along the eastern side of the lane adjacent to the Shed 21 apartments and proposed Site 10 building. This external arrangement has been designed in full accordance with the Council's Standard.

The altered car park layout for Site 9 has been developed in full compliance with the Standard, the layout of which was shown previously in Figure 3. A new canopy is proposed to be established along the road frontage adjacent to Site 9 to provide protection for pedestrians travelling through this area.



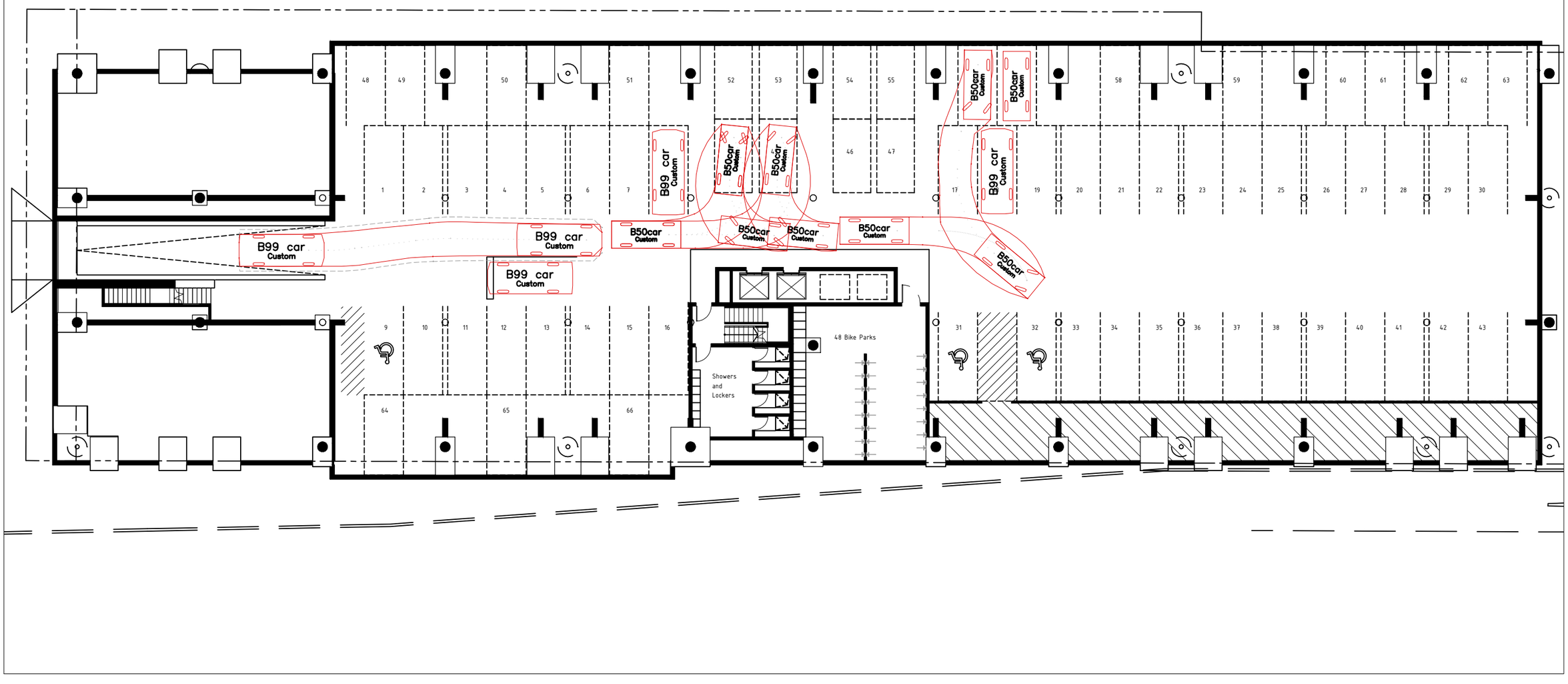
B99 car mm

Width : 1940
Track : 1840
Lock to Lock Time : 6.0
Steering Angle : 33.5
Dimensions Shown Not to Scale
Speed = 10km/h



B50car mm

Width : 1660
Track : 1450
Lock to Lock Time : 6.0
Steering Angle : 40.0
Dimensions Shown Not to Scale
Speed = 5km/h



Thursday, 25 September 2014 0 20mm

REVISION	DATE	DESCRIPTION
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----

Kumototo Precinct: Site 10 and Open Space Development

Basement Carpak

DRAWN: Quentin O'S
DATE: 16/09/2014
SCALE: 1:250 @ A3
DWG NO:12531W1A

TDG

4

C:\12531\12531w1a.dwg

5.1.2 Waterfront Framework

The Wellington Waterfront Framework (April 2001) is the over-arching design document which frames the context of development on the waterfront. The site is located within the 'North Queens Wharf' area of that framework, subject to the following design principles (with respect to parking):

Parking and vehicle access *A large underground car park that would service the individual buildings is the preferred option and could be connected into the existing car park under the former Retail Centre.*

It is recognised that this might not be practical or economically viable. An alternative that could be considered is above-ground parking in a building on Site 102, next to Shed 21.

Vehicle access needs to be provided to access parking areas, but the principle that pedestrians come first needs to be taken into account.

The design has been developed cognisant of these principles.

5.2 Parking Provision

As previously described, Site 10 currently supports up to 156 commuter carparking spaces (subject to the extent of use of the campervan park for that use), Site 9 provides 30 spaces and Site 8 supports 20-25 carparking spaces. This corresponds to a total provision of some 211 carparking spaces within the North Kumototo Precinct.

In addition, the adjacent CentrePort land supports a large commuter carparking area, accessed from the same connections to the adjoining roading network. Some 96 of these spaces are proposed to be converted to a campervan carparking area by City Shaper, to enable some 30-32 campervans spaces. During periods of low demand, this area may be used to support up to 60 commuter carparking spaces. This campervan development is beyond the scope of this Resource Consent application.

The proposal includes a provision of 66 basement level carparks (within Site 10), removal of all carparking spaces within Site 8, and a reduced level of carparking provision to 18 spaces at ground level in Site 9 in order that a central shared lane can be developed through this area. A total of 13 kerbside spaces will be installed along the lane adjacent to Site 10 and Shed 21.

The overall parking provision within the North Kumototo Precinct will reduce to around 97 spaces, representing a benefit in terms of an enhanced environment for pedestrians and cyclists and a reduction in vehicle traffic demands for the area as a whole. It is expected that the basement level carparking area will be limited to use by those in the building itself, while the Site 9 carparks and those within the laneway will remain available for use by the public or dedicated for use by the tenant of Shed 21. It is expected that the Site 9 surface level carparks will be available for a mix of commuter and short term uses.

In addition, and while beyond the scope of the application, it is again noted that the level of commuter parking in the adjoining area will be reduced, to enable the campervan park to be relocated. Depending on the level of use of the campervan park, this will result in the loss of 30 – 96 commuter spaces.

5.3 Parking Circulation / Layout (Commercial building)

Figure 4 shows the layout of the basement car and cycle park.

The basement carpark has been designed with access to and from the Wool Store Plaza via a one lane, two-way ramp. The ramp will be controlled through the establishment of a control gate (or similar) with signals to warn drivers of an opposing vehicle on the ramp.

The carparks themselves are accessed via a central driving aisle, with the lift-shaft access located approximately mid-way along the carpark length. A number of the spaces are accessible by small cars (B50) only, including those spaces immediately opposite the lift shaft. Stacked spaces are provided along each side; in order to maximise the use of the basement area, a number of these have a non-typical staggered stacked arrangement. Within that configuration, those stalls located adjacent to the walls will require one or two of the adjacent stall spaces to be vacated (depending on the size of the vehicle). A number of more typical stacked spaces are also provided, which will require one adjacent space to be vacated (in the usual manner for stacked spaces).

Given the users of the carpark will be limited to those working within the Site 10 building, these access requirements will be managed by the staff, and drivers will be well familiar with the carpark limitations.

Three accessible spaces will be provided.

5.4 Cycling (Commercial Building)

The basement car park will incorporate a secure cycle storage room with capacity for 48 cycles. Access to this will be via a dedicated cycle stairway running adjacent to, but delineated from, the vehicular access ramp. This comprises a series of steps with a narrow ramp within which cycles can be wheeled up or down safely. The location of the cycle facilities, including the access ramp, is also shown in the previous Figure 4.

6.Access

6.1 District Plan Considerations

The District Plan details the following requirement to be considered with respect to access for developments located within the Central Area zone:

> ***Site access for vehicles***
>
> *13.6.1.3.11 – Site access shall be provided and maintained in accordance with section 3 of the joint Australian and New Zealand Standard 2890.1 – 2004, Parking Facilities, Part I: Off-Street Car Parking.*
>
> *13.6.1.3.12 – No vehicle access is permitted to a site across any restricted road frontage identified on District Plan Map 34 provided that this shall not prevent the continuation or the undertaking of any Permitted Activity on a site involving the use of any lawfully established vehicle access.*
>
> *13.6.1.3.13 – There shall be a maximum of one vehicle access to any site except that sites with more than one frontage may have one access across each frontage.*
>
> *13.6.1.3.14 – Both the entry and exit of vehicles onto the carriageway of the most adjacent street shall be in a forward direction.*
>
> *13.6.1.3.15 – The width of any vehicle crossing to a site shall not exceed 6 metres.*
>
> *13.6.1.3.16 – Where vehicular access can be provided from a service lane, a right of-way registered in favour of the site or other private road, or private right-of-way, no vehicle access shall be from a street.*
>
> *13.6.1.3.17 – Subject to standard 13.6.1.3.12 no vehicular access shall be situated closer to an intersection than the following:*
>
> - *Arterial, principal and collector streets 20m*
> - *Other streets 15m*
>
> *In the Port Redevelopment Precinct this standard applies only to frontage with Waterloo Quay.*
>
> *13.6.1.3.18 – No access shall be provided to a primary street on a site that also has frontage to a secondary street.*

Access to the Site 10 building, revised Site 9 carpark and Shed 21 (as well as the CentrePort land) will continue to be accommodated by the Whitmore Street and Bunny Street intersections. There is no proposed alteration to the Bunny Street intersection, however the Whitmore Street intersection will be improved so as to provide a better alignment with Customhouse Quay, as well as improved pedestrian facilities. The number of exit lanes will be reduced to two lanes in contrast to the existing configuration that was initially installed to support the expansive surface level carparking historically located in this vicinity.

A number of developments (including the establishment of the Meridian Building and Steam Ship buildings, and the conversion of Sheds 11 and 13 to commercial facilities) have substantially reduced the level of parking (and associated traffic patterns) through the Kumototo Precinct.

This proposal will further reduce the level of carparking provided on the waterfront, for which the existing 4 lane exit provides a considerable surplus capacity. The proposed two lane exit arrangement will be better aligned and delineated, representing a more efficient layout that provides an improved amenity for all users in the area.

6.2 Vehicle Access (Open Space)

The existing laneway connection between the Bunny Street and Whitmore Street intersections will be more formally established, providing a clearly defined vehicle path through this area. A defined laneway will be established, with kerbside parking provided on its western side. The area will include contrasting materials and raised thresholds (rather than the more traditional asphalt, paint and markings utilised in solely vehicle trafficked areas). A portion of the shared laneway, approximately adjacent to Shed 21, will be established partially on City Shaper land and partially on CentrePort land. While this arrangement is expected to be enduring in practice, the laneway access over CentrePort land will be managed by way of a month-to-month lease. This will be discussed in detail within other supporting documents for the application. With respect to transport access, two scenarios have been considered: firstly, the preferred (and anticipated) two-lane, two-way access option, and the alternative one-way (southbound) access configuration.

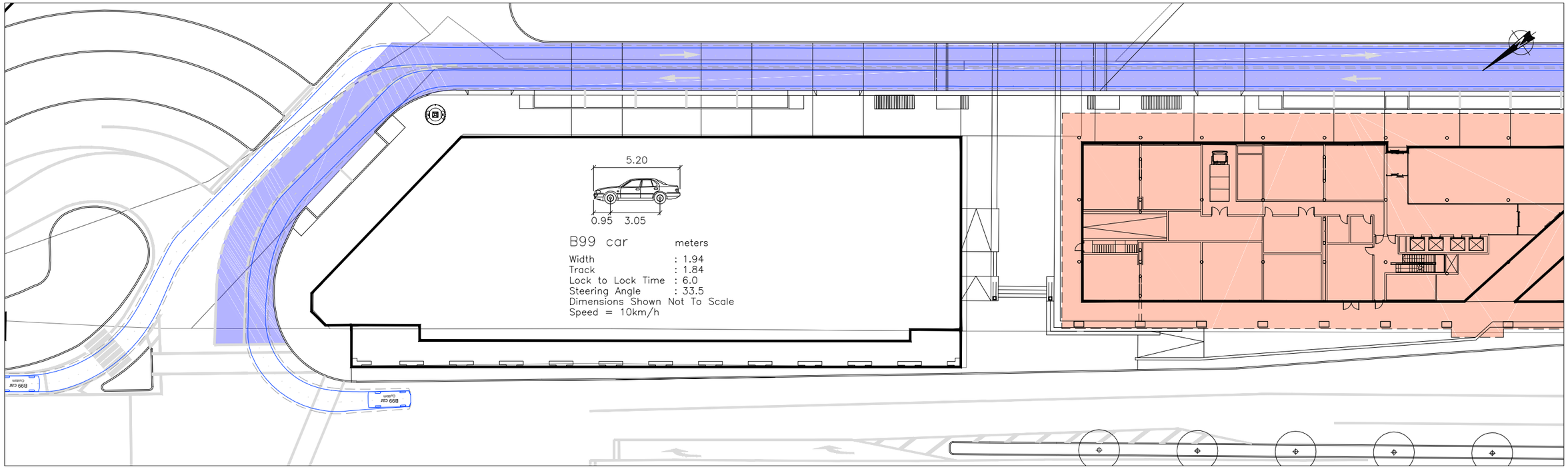
6.2.1 Two Way Lane

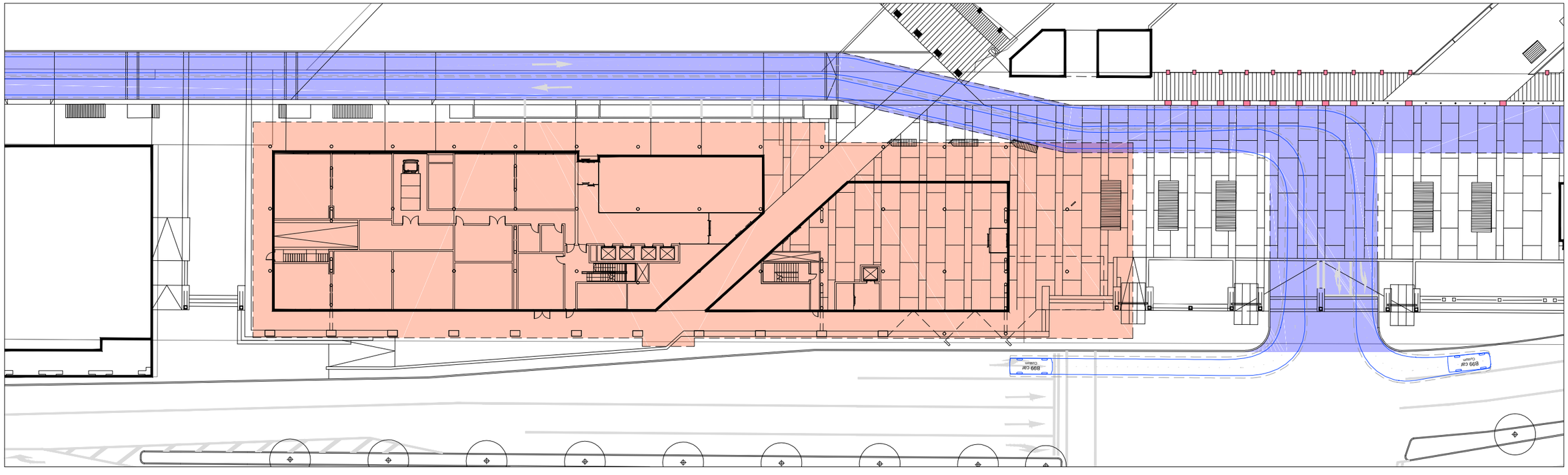
A two way access lane is proposed to be developed, extending the existing laneway which has been established in the vicinity of Sheds 11 and 13. The lane will enable on-going access to the existing, and proposed, developments within the Kumototo Precinct, but will be designed so as to discourage through traffic. In a manner similar to that established to the south, the lane will be delineated through the use of contrasting materials, raised thresholds and features such as bollards and street furniture. The purpose is to create a shared space zone, where pedestrians and cyclists can safely co-exist with vehicular traffic, similar to that already experienced in the vicinity of Sheds 11 and 13.

The two-way lane has the benefit of spreading the demands of vehicle traffic using the area across the existing intersections. The layout, and indicative vehicle access and circulation along the two-way lane, is illustrated in **Figure 5.**

As previously described, the level of commuter parking is expected to be reduced from around 211 spaces to 97 within the North Kumototo Precinct. Further reduction in the level of commuter carparking will be achieved through the establishment of the campervan park on the adjacent CentrePort lane. In addition, as part of this application, the Whitmore Street egress is proposed to be improved so as to provide a much simpler two lane exit, which is better aligned to provide a 90 degree approach to the Quays.

Intersection Analysis for Two-way Lane Option: A SIDRA analysis has been undertaken to determine the effect of the reduced lane capacity at the Whitmore Street approach. In order to be conservative in the analysis, no reduction in traffic entering the site has been assumed, irrespective of the reduced parking provision.





Wednesday, 24 September 2014 0 20mm

REVISION	DATE	DESCRIPTION
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----

Kumototo Precinct: Site 10 and Open Space Development

2 Way Lane

DRAWN: Quentin O'S
DATE: 16/09/2014
SCALE: 1:500 @ A3
DWG NO:12531W1A

TDG

5

C:\12531\12531w1a.dwg

The SIDRA analysis has been undertaken assuming no changes to the signal phasing (as provided by Council) will occur as a result of the physical changes. The results of this analysis may be summarised as follows:

Time Period	Intn. Performance criteria	Existing Configuration	Future Configuration
AM PEAK	Intersection V/C	0.889	0.889
	Intersection LOS	D	D
	Whitmore St 95%ile Queue	0.5 veh	1 veh
PM PEAK	Intersection V/C	0.866	0.866
	Intersection LOS	C	C
	Whitmore St 95%ile Queue	1.8 veh	2.9 veh
SAT PEAK	Intersection V/C	0.910	0.910
	Intersection LOS	D	D
	Whitmore St 95%ile Queue	0.9 veh	1.8 veh

Table 5: Performance of Whitmore Street Intersection (two way traffic laneway option)

As can be seen from this analysis, the reduction in lane capacity at the Whitmore Street gates results in no appreciable difference to the overall intersection performance. As would be expected, queue lengths on the Whitmore Street approach will increase, but will remain within the capacity of the two exit lanes as provided.

This approach is considered conservative, as the volume of traffic entering or exiting the Kumototo Precinct at this location will be less than currently observed due to a reduced overall parking provision.

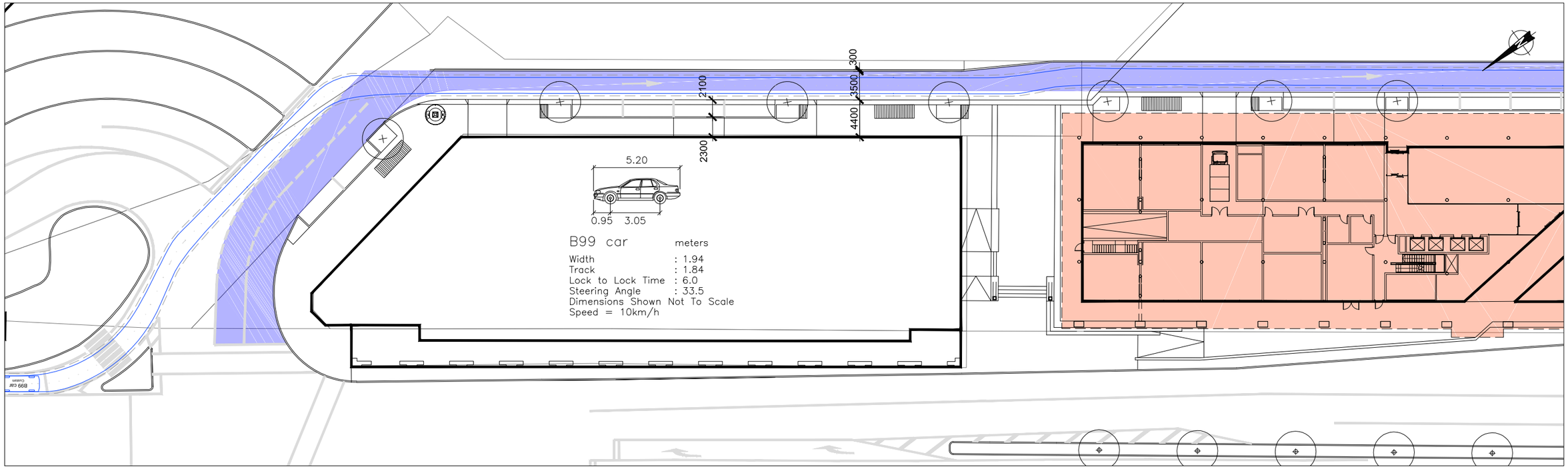
No SIDRA analysis has been considered necessary for the Bunny Street approach since no changes to the layout are proposed, and the expected volume of traffic accessing the area is expected to reduce as a result of this proposal. As such, the intersection will continue to perform to the same standard (or better) as currently occurs.

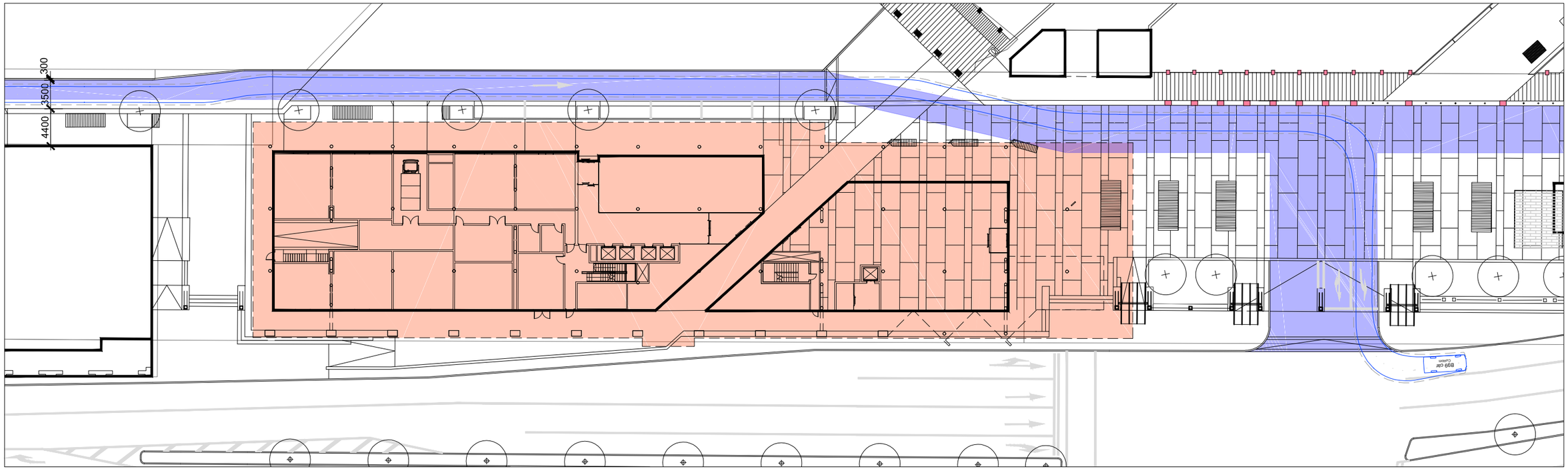
6.2.2 One Way Lane

Should the CentrePort leasing arrangement be terminated, access along the laneway will be converted to one way (southbound) between Bunny Street and Whitmore Street.

The logic for this direction stems from the existing access limitations whereby vehicle movements from all directions are permitted from the Bunny Street intersection, whereas right turns into the Kumototo Precinct are banned at the Whitmore Street intersection.

The layout, including vehicle circulation path for this one-way lane, is detailed in **Figure 6**.





Wednesday, 24 September 2014 0 20mm

REVISION	DATE	DESCRIPTION
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----

Kumototo Precinct: Site 10 and Open Space Development

1 Way Lane

DRAWN: Quentin O'S
DATE: 16/09/2014
SCALE: 1:500 @ A3
DWG NO:12531W1A

TDG

6

C:\12531\12531w1a.dwg

Intersection Analysis for One-way Lane Option: As the both the Bunny St and Whitmore Street intersections are proposed to remain open for 2-way traffic, the conversion of the lane from two-way to one-way will affect the following movements:

- Site 10 & CentrePort/Shed 21: Origin traffic will all exit via Whitmore Street;
- Site 10 & CentrePort/Shed 21: Destination traffic will all enter via Bunny St; and
- northbound through movement will not be permitted, assume 50% exit via Whitmore St Gates, and remaining traffic will exit via other accesses to the Quays.

The future traffic patterns through the intersections have been assessed in accordance with the existing internal demand volumes as surveyed, and changes to the turn patterns at each intersection have been assigned proportional to the existing traffic movement patterns.

Considering the revised traffic patterns within the site, the performance of the Whitmore Street intersection (with the reduced exit lane capacity to two lanes) can be compared to the existing performance, and can be summarised from the SIDRA analysis, as follows:

Time Period		Existing Configuration	Future Configuration
AM PEAK	Intersection V/C	0.889	0.866
	Intersection LOS	D	D
	Whitmore St 95% Queue	0.5 veh	0.8 veh
PM PEAK	Intersection V/C	0.866	0.866
	Intersection LOS	C	C
	Whitmore St 95% Queue	1.8 veh	2.5veh
SAT PEAK	Intersection V/C	0.910	0.910
	Intersection LOS	D	D
	Whitmore St 95% Queue	0.9 veh	1.1 veh

Table 6: Performance of Whitmore Street Intersection (one way traffic laneway option)

Again, the overall performance of this intersection will not change materially as a result of the proposed changes on site. Similarly, the queues on the Whitmore Street exit lanes will increase, but remain within the capacity of these lanes. Again, this analysis has not allowed for a reduced demand associated with the reduced parking level on site, and can therefore be considered conservative.

Changes to the demands at the Bunny Street intersection would, at most, be 17 additional inbound movements (during the AM peak). With no proposed changes to the intersection form, such patterns would likely be within the day-to-day variation of the intersection, with no appreciable change to the intersection operation anticipated as a result of these changes. In practice, with the reduced availability of parking, the number of inbound movements is expected to be less than 10vph.

This analysis highlights that even should the two-way lane be altered to one way (southbound), the resulting change in traffic patterns will be minimal and make no appreciable difference to the traffic performance, either internally or at the intersections with the Quays.

6.3 Vehicle Access (Commercial Building)

Vehicle access to the basement car park will be by way of a secure entrance on the building's northern façade which in turn will be accessed by the laneway running along the site's eastern frontage.

Access to the carpark will be controlled by a security gate, and managed through the provision of a signal system. Priority will be given to entering vehicles and an internal signal system within the car park will hold exiting vehicles at the limit line whilst another is entering. However, as the car park will be for the sole use of commercial tenants (i.e. employees), trips to and from the car park will be tidal and therefore there is a much reduced risk of entry / exit conflict than would be the case with a public car park.

Inter-visibility between pedestrians and exiting vehicles at the top of the ramp has been considered and the visibility envelope was shown previously in Figure 4. In order to provide further cues to drivers and pedestrians, the following measures will also be implemented:

- convex mirrors on each wall at the top of the vehicular ramp to increase visibility for drivers;
- warning signals for pedestrians which will be illuminated in the event a vehicle is exiting; and
- warning signs visible to both drivers and pedestrians.

In addition to the above, the operation of the roller shutter will provide both a visible and audible cue to pedestrians that a vehicle may be exiting the car park ramp.

6.4 Pedestrian and Cyclist Access (Open Space)

Pedestrian access through the area will be improved through the establishment of improved pedestrian routes throughout the area, including an internal pedestrian route through the ground floor of the new Site 10 building. Defined pedestrian boulevards will be established so as to align with the existing routes established in the vicinity of Sheds 11 and 13.

Cyclists will benefit from the improved delineation of the laneway through the area, and reduced traffic volumes stemming from the reduced carparking provision.

In addition, the existing signalised pedestrian crossing on Customhouse Quay will be re-aligned to 90^0 so as to reduce the crossing length for pedestrians, and consequently their 'exposure time' which is considered to provide an improved safety benefit for the users.

7.Servicing (Commercial Development)

7.1 District Plan Considerations

The Wellington City District Plan details the following matters for consideration for servicing within development in the Central Area:

Servicing

13.6.1.3.4 – On each site in the Central Area at least one loading area must be provided.

13.6.1.3.5 – Turning paths shall be based on the standard for a medium rigid truck as illustrated.

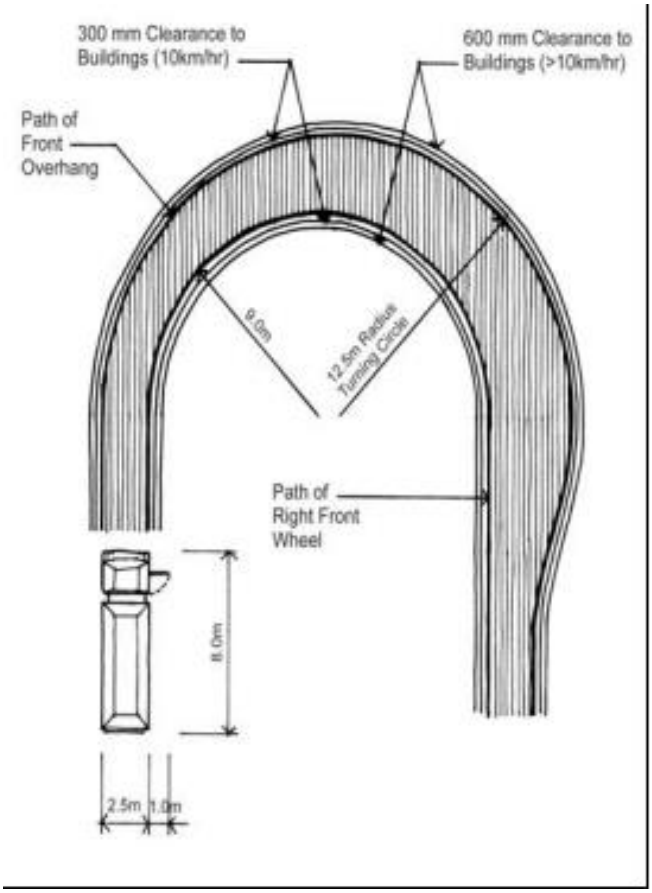
13.6.1.3.6 – For loading areas located outdoors, the minimum width shall be 3 metres and the minimum length 9 metres.

13.6.1.3.7 – For loading areas located within a building, the minimum width shall be 4 metres and the minimum length 9 metres.

13.6.1.3.8 – Where loading areas are located within a building, a minimum height clearance of 4.6 metres is required.

13.6.1.3.9 – For buildings serviced by lifts, all levels shall have access to a loading area by way of a lift.

13.6.1.3.10 – The loading area shall be located no further than 15 metres from a lift and there shall be level access between them.



One loading bay is proposed within the Site 10 building development, accessed from the laneway. Access by an 8m rigid truck is achieved in the manner described in **Figure 7.**

The loading dock has been designed at 4m x 8.5m, and a headroom clearance of 3.7m, and the loading dock is located some 25m from the lift shaft, representing non-compliance with Rules 13.6.1.7, 13.2.1.3.8, and 13.6.1.3.10.

7.2 Proposed Location

In this instance, the servicing dock has been developed so as to be conveniently located to all the ground floor Creative Business Hub. Servicing for all the units, including the upper level office space (which would use the lift access) will need to be managed by way of a Servicing Management Plan, similar to those adopted by similar mixed-used developments throughout the City Centre.

Servicing will be undertaken via dedicated loading bay on the building's eastern frontage and contained within the curtilage of the building itself. Access to the loading bay will be taken via the laneway running to the east of the site. Vehicles will be required to reverse into the bay.

As part of the laneway will be constructed over the wharf, a five-ton axle loading limit is in place in the vicinity of the Site 10 building. This limit will remain as part of the completed development.

Owing to the nature of the site, the proposed form of the laneway, and the loading limit it is expected that service vehicles up to 8m will be accommodated, although the majority are likely to be smaller.

7.3 Truck Manoeuvring

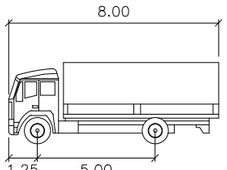
Figure 7 shows the manner in which a truck will be able to reverse into the loading bay and exit in a forward direction, to and from the adjacent laneway. The manoeuvre shown is for an 8m medium rigid truck with a 10m turning radius. As shown, for the two-way laneway option the truck would be expected to approach the service area along the laneway, reverse from this lane into the service dock, and exit.

Also shown on Figure 7 is the manner in which the servicing can be managed, should the one-lane option be established in the future. Due to the restricted laneway width, alterations to the adjacent landscaping and parking will be required to accommodate the change. The extent of the area which would be subject to alterations can be identified from the detail of the plan.

7.4 Servicing Management

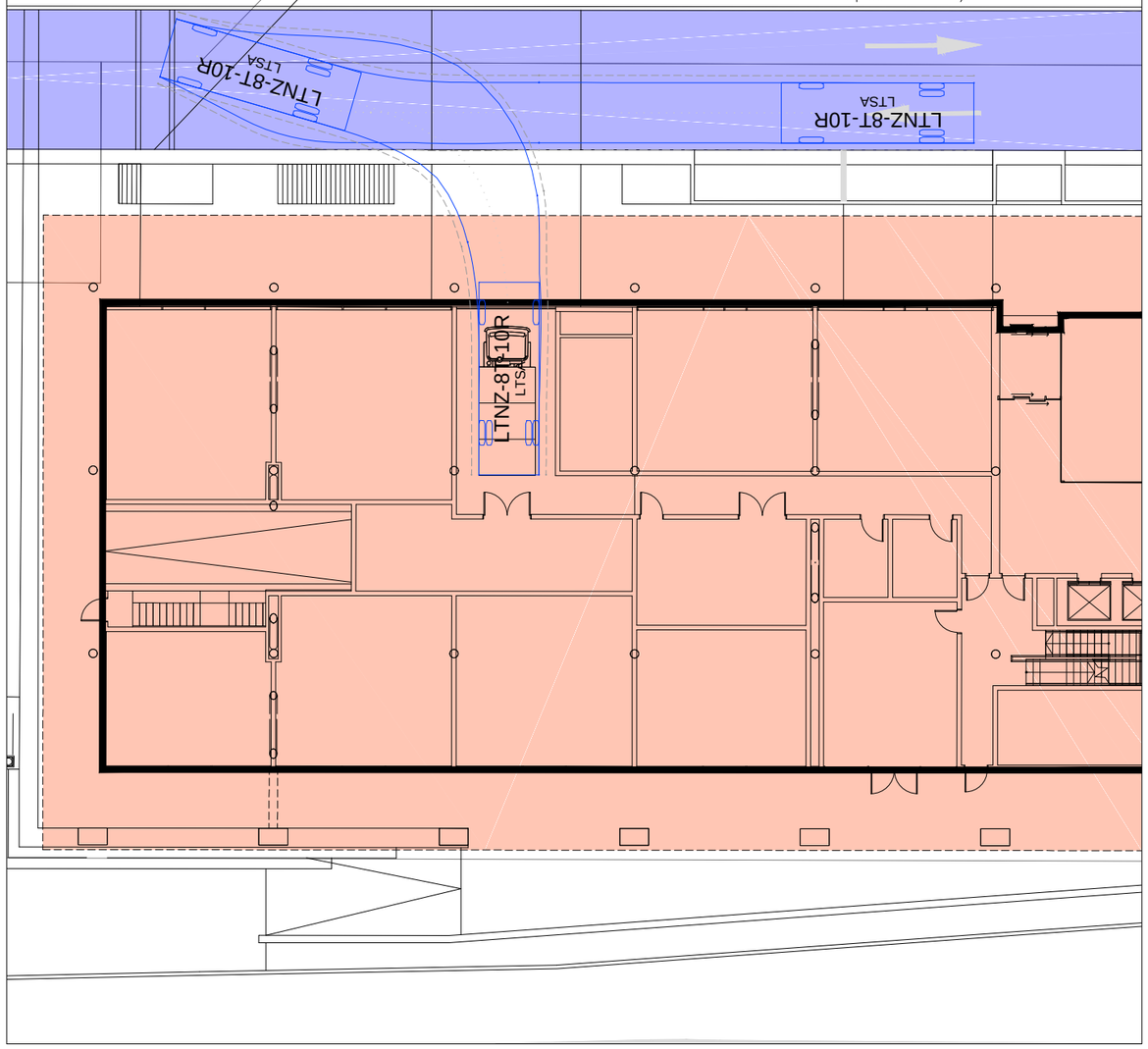
A shared servicing area is proposed to be established for all the tenants within the Site 10 Commercial development. This internal loading zone, accessed via the laneway connection, will provide internal connections to the ground floor retail areas, as well as connect with the lift shaft for the office space above.

Two Way Lane

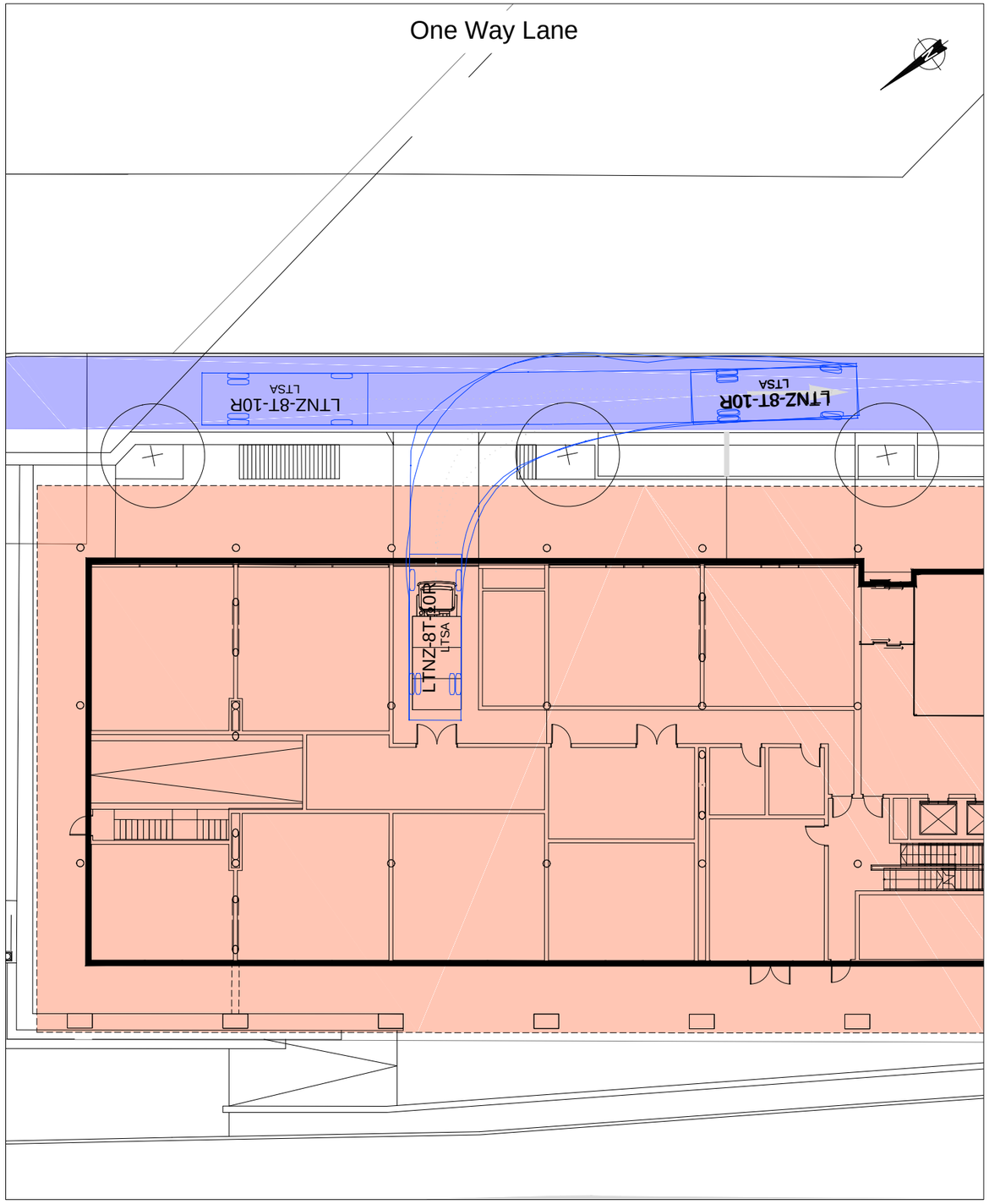


LTNZ–8T–10R
meters

Width : 2.50
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 37.3
Dimensions Shown Not To Scale
Speed = 10km/h



One Way Lane



0 20mm

Friday, 26 September 2014

REVISION	DATE	DESCRIPTION
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----
----	----	----

Kumototo Precinct: Site 10 and Open Space Development

Servicing

DRAWN: Quentin O'S
DATE: 16/09/2014
SCALE: 1:250 @ A3
DWG NO:12531W1A

TDG

7

C:\12531\12531w1a.dwg

In keeping with approaches adopted elsewhere in the city, a Servicing Management Plan will be developed prior to the opening of the building, to identify the manner in which servicing will be controlled. The detail of this Plan will be dependent on the eventual occupants of the commercial space (and will need to be re-considered with any change in tenancy), but is likely to include details covering:

- hours of operation (noting the building is adjacent to a residential building);
- frequency of deliveries;
- duration of deliveries;
- rubbish collection; and
- mitigation measures should a second service vehicle arrive while the dock is in use. This will be of particular importance should the one-way laneway be adopted in the future, as a waiting truck may block the laneway if the servicing is not properly managed.

It is considered that the need for a Servicing Management Plan is identified as a Condition of Consent, to be more appropriately developed once the future tenants are committed. It should be required from the outset, prior to any of the businesses beginning operation, and be a live document that is reviewed and approved as each new tenancy opens.

8.Conclusion

The effects of the following two developments have been considered with respect to traffic matters:

- Open Space development for the North Kumototo Precinct; and
- Site 10 Commercial building development within the same Precinct.

The Applications are the responsibility of Site 10 Redevelopment Limited Partnership, and are intrinsically linked with respect to traffic and transportation matters.

The existing site provides primarily for surface level parking (and a campervan park) that is poorly developed with respect to clear and safe connections for pedestrians and cyclists.

The open space application will result in the removal of surface level parking, and will enable an improved Open Space area to be established, providing the opportunity for the development of an attractive Shared Space for use by all modes of travel through the precinct.

A safer and more efficient intersection with the Quays at Whitmore Street will be developed, with the removal of unnecessary approach lanes, better alignment of the new lanes, less exposure of pedestrians to vehicle traffic when crossing at the intersection and enabling better vehicle delineation and pedestrian connections through the Kumototo Precinct.

The Site 10 commercial building will remove a large section of surface level carparking, as well as the campervan park. A basement level carpark will partially off-set the loss of commuter parking spaces, and will be provided for the exclusive use of the building tenants.

Overall, the combined developments result in a reduced level of commuter parking, in keeping with the guidelines within the Waterfront Framework. The internal laneway and intersection connections will continue to cater for the anticipated needs of the future users of the area. Servicing will be provided to the new building by way of an internal shared loading dock, to be managed in accordance with a Servicing Management Plan, similar to other mixed use CBD development in the City.

Traffic Design Group Ltd