Parramatta Aquatic Centre

Independent Transport Assessment

Prepared for:

City of Parramatta Council

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JMT Consulting

PROJECT INFORMATION

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1 Introduction

JMT Consulting has been engaged by the City of Parramatta Council ('Council') to undertake an independent transport assessment of the proposed Aquatic Leisure Centre Parramatta. The site is located at 7A Park Parade as indicated in Figure 1 below.

Figure 1 Indicative site location

A Development Application (DA 277/2020) was lodged in May 2020 for the main works component of the project which comprises of the following:

- 1 x 50m outdoor swimming pool;
- 1 x 25m indoor swimming pool;
- 1 x learn to swim pool;
- 1 x leisure pool, including kids' water playground
- Pedestrian pathways and bus drop-off area;
- Associated pool amenities, including café, health club and program rooms;
- Staff and visitor car parking spaces;
- Plant equipment rooms; and
- Associated landscaping.

2 Transport Assessment

2.1 Site access arrangements from Park Parade

The application initially proposed that vehicle access to the on-site car parking area would be obtained from Park Parade via a 'left in / left out' only arrangement. No vehicles would be permitted to turn right into or out of the site. The applicant noted that this arrangement was required due to the unconventional configuration along Park Parade with a central 'bus only' lane which would make it impractical and potentially unsafe to provide an access that permits all vehicle movements.

The Aquatic Leisure Centre Parramatta will be a significant public facility with a high level of visitation throughout the year, drawing people from a range of locations across Sydney. For public sites such as these it is highly preferable to provide access from all directions. By not providing for right turn access into the site, drivers arriving from the north and north-west will be required to undertake a detour via Hawkesbury Road and the Great Western Highway as shown in Figure 2 below – an increased trip length of approximately 2.5km. There is also the risk that drivers may use residential streets (e.g. Houison Street / Hassall Street) to access the site.

Figure 2 Detour required for those arriving from the north-west

It is acknowledged that the presence of the central (eastbound) bus lane presents challenges in providing right turns into and out the site. Any changes to the bus lane arrangements to facilitate right turns into and out of the site require the approval of Transport for NSW (TfNSW), given the Transitway (bus lane) section of Park Parade is classified as a State Road.

In September 2020 Council and JMT Consulting met with TfNSW to discuss options to permit vehicle access into and out of the site from all directions. An option was presented which relocates the existing Park Parade bus lane from the centre lane to the kerbside lane, which would then allow for right turns into and out of the site. This configuration is illustrated in Figure 3 below.

Figure 3 Proposed Park Parade bus lane reconfiguration

TfNSW have since provided in-principle support to the above arrangement subject to the following information being provided by the applicant:

- SIDRA traffic modelling to confirm that the shared through & right turn lane on Park Parade can accommodate forecast traffic demands (noting my preliminary traffic modelling indicates this should be acceptable)
- Appropriate sight distances are provided for traffic turning right into and out of the site
- Appropriate signage is provided for vehicles turning right into the site so they are aware of the access arrangements (reducing the likelihood of rear-end crashes)

These items are discussed in subsequent sections of this document.

2.2 Traffic impacts of the proposal

Traffic modelling has been undertaken by the applicant to verify that the proposal will not result in adverse impacts on the road network – particularly in light of the future access arrangement via Park Parade. SIDRA modelling was undertaken to assessment the performance of key intersections in the vicinity of the site, which was updated to include the Park Parade / site access intersection following consultation with TfNSW. As indicated in Figure 4 below, intersection performance is not forecast to be impacted by the proposal. The modelling indicates all intersections will operate at 'Level of Service C' or better which is within acceptable performance limits.

It should be noted that during the weekday AM peak hour (worst performing peak), the maximum queue length on Park Parade is a single car length which is not expected to result in impacts to through traffic.

Intersection	Control Type	Scenario	Period	Degree of Saturation	Intersection Delay	Level of Service
Park Parade / Pitt Street / Argyle Street	Signalised	Base	Weekday AM	0.821	38.8	C
		Base + Dev		0.845	40.7	C
		Base	Weekday PM	0.834	37.2	C
		Base + Dev		0.838	37.9	C
		Base	Weekend AM	0.691	33.1	C
		Base + Dev		0.698	33.1	C
Alexandra Avenue / Hawkesbury Road	Signalised	Base	Weekday AM	0.803	42.9	D
		Base + Dev		0.816	43.4	D
		Base	Weekday PM	0.647	41.2	C
		Base + Dev		0.670	41.9	C
		Base	Weekend AM	0.570	41.3	C
		Base + Dev		0.598	41.9	C
Park Parade and Proposed Access Driveway	Stop	Base + Dev	Weekday AM Peak	0.434	34.8	C
			Weekday PM Peak	0.182	12.9	A
			Weekend AM Peak	0.288	19.6	B

Figure 4 Traffic modelling results

Source: Traffix, 2020

Given the potential for the site to generate high levels of traffic on a weekend, JMT Consulting undertook a sensitivity assessment which contemplates up to 250 vehicles entering and exiting the site over a single hour during the Saturday morning peak. As a comparison, the assessment undertaken by the applicant considered less than 100 vehicle movements during this same time period. The sensitivity assessment concluded that, even with this increased traffic load accessing the site, the intersection would still operate at an acceptable level with no significant queues forming on Park Parade on entry to the site.

2.3 Vehicle sight distance

An assessment of the available sight distance at the driveway access point has been undertaken to confirm the suitability of the proposed vehicle access arrangements. Under Australian Standards AS2890.1 a sight distance of between 65m and 83m is required for vehicles exiting onto Park Parade given it's posted speed limit of 50km per hour. Based on the current road geometry there is approximately 90m of sight distance available to the west of the driveway and 150m of sight distance available to the east of the driveway. Therefore the proposed vehicle access point is considered suitable to accommodate the safe movement of traffic into and out of the site.

2.4 Signage and wayfinding

While many visitors to the site will be regular users attending classes or sessions, there will also be a high proportion of infrequent or first time users that will be unfamiliar with the site access arrangements. Particularly given the seasonal nature of aquatic centres, there may be a significant length of time between visits for many users which will increase the likelihood of them being unaware of the site access arrangements. The site is not akin to a commercial or residential development where people are closely familiar with access arrangements or the operation of the surrounding road network.

In the above context it is critical that appropriate signage is provided on the approach to the site to make drivers aware of the site access arrangements. With the provision of adequate signage drivers are more likely to gradually slow down on their approach to the site, reducing the likelihood of rear-end crashes.

Appropriate signage should be provided along Park Parade prior to the access driveway in accordance with Austroads Guidelines, in order to provide advanced warning to drivers of vehicles turning into the site and to reduce the possibility of rear end collisions.

2.5 Parking

2.5.1 Car parking

197 car parking spaces are proposed to be provided as part of the aquatic centre. As neither the Parramatta Council DCP nor the Roads and Maritime Services Guide to Traffic Generating Developments (2002) provide parking requirements for aquatic and leisure centres, the applicant undertook surveys in March 2020 at a comparable site (Ruth Everuss Aquatic Centre) to determine the suitability of the proposed parking provision. These surveys indicated that the aquatic centre may generate demand for up to 87 parking spaces.

A higher parking provision is proposed given the centre is likely to draw upon a larger catchment with associated higher attendance levels, as well as accommodate higher parking demands during the peak summer months. The higher parking provision also makes allowance for staff car parking given the site is located given the lack of on-street parking opportunities and distance (nearly 15 minute walk) to Parramatta Station.

As a comparison, the Des Renford Aquatic Centre in Maroubra and the refurbished Ashfield Aquatic Centre, which are of comparable sizes and contain similar characteristics to the proposed centre at Parramatta, contains approximately 165 and 150 on-site car parking spaces respectively.

The approach adopted by the applicant is therefore supported and the parking provision considered suitable to accommodate the needs of aquatic centre users, particularly as no adverse impacts for the efficient operations of the local road network were identified as demonstrated in Section 2.2.

2.5.2 Motorcycle parking

No formal motorcycle parking is proposed to be provided as part of the development. Motorcycle parking is however typically provided within new developments and it is recommended this be considered as part of planning during the detailed design phase of the project.

Section 4.3.3.5 of the Parramatta DCP notes that Motorcycle parking is to be provided for all developments with on-site parking of more than 50 car parking spaces, at a rate of 1 motorcycle parking space for every 50 car parking spaces or part thereof.

Therefore, in lines with the DCP controls, it is recommended that a minimum of four motorcycle parking spaces are provided within the car park. Motorcycle spaces should be 1.2 metres wide and 2.5 metres long when spaces are 90 degrees to the angle of parking.

2.5.3 Bicycle parking

49 bicycle parking spaces are proposed which comprises of 13 secured spaces for staff members and 36 bicycle racks for visitors and/or staff members. This provision is considered appropriate to meet the demands of users and is consistent with the recommended bicycle parking rates outlined in the Cycling Aspects of Austroads Guides 2017, noting there is no specific control for this type of facility within Parramatta DCP 2011.

2.5.4 Bus/Coach parking

A bus/coach parking area is included within the proposal which may accommodate up to two 14.5m buses/coaches. Entry will be restricted to left in – left out from Park Parade which is considered acceptable given coach drivers will be familiar with the site access arrangements.

It is noted that Transport for NSW as part of their correspondence to Council has recommended that a condition of consent be included (should the DA be approved) that requires the preparation of an Event Traffic and Transport Management Plan (ETTMP). The ETTMP would need to consider measures to manage pick-up/drop-off facilities for patrons using taxi, coaches, kiss and ride and rideshare services, ensuring minimal impacts to bus routes along Park Parade.

2.6 Drop off / pick up

The proposal initially included the provision of a shared area adjacent to Park Parade for the use of both buses/coaches as well as kiss and ride (drop off / pick up). This arrangement would have presented a risk in that vehicles waiting to pick up visitors from the site in this area would prevent buses and coaches from adequately manoeuvring into space to pick up passengers. Conversely when two coaches are parked in this area there will not be any space for general vehicles to drop off or pick up passengers. This would then create a risk of people being dropped off or picked up within the main circulation roadway or queueing back onto Park Parade and impacting the movement of general traffic and public transport.

From a functionality and management perspective it is desirable to have clear separation between these different user groups. This would lend itself towards providing for kiss and ride within the main car park and providing dedicated access for buses and coaches within the drop off area.

The updated car park design provides for this separation of uses by allowing for five drop off / pick up spaces in the south-eastern corner of the car park. These spaces (noted as spaces 161 – 165 in Figure 5) should be signposted as ‘5 minute parking’ to encourage a high turnover of spaces. Vehicles entering and leaving the car park within a certain period of time (for example 15 minutes) should not be subject to any parking fees so as to not discourage people from using these drop off / pick up spaces.

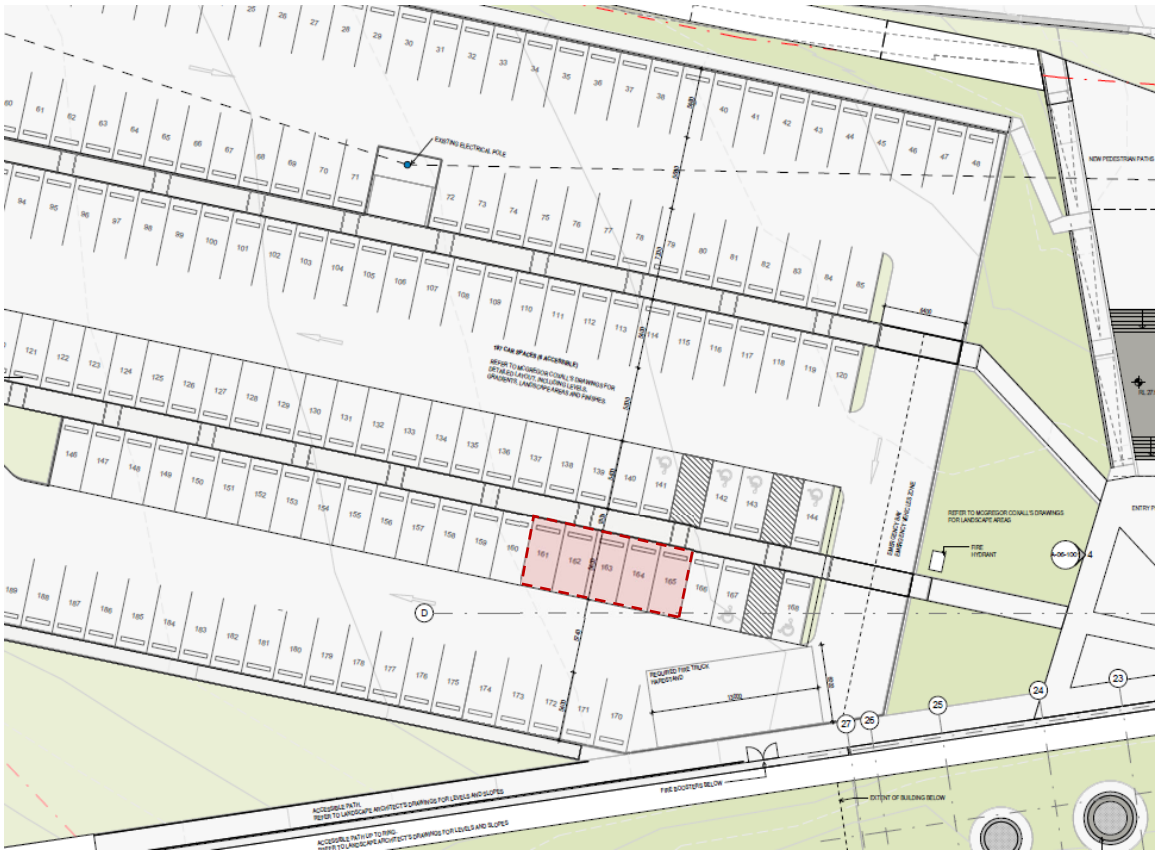

Figure 5 Recommended drop off / pick up bays

2.7 Car park design and access control

The on-site car park (including access driveway) has been designed in accordance with the requirements of Australian Standards for off-street car parking AS 2890.1 (user class 2). A Licence Plate Recognition (LPR) system with boom gates is proposed which provides minimal delays for entering vehicles, thus ensuring vehicles entering the site will not queue onto Park Parade. It is recommended that no entry boom gate be in place for vehicles entering the site (similar to that in place at many shopping centres) to increase the rate at which vehicles enter the car park and reduce the risk of vehicle queueing outside of the site. A boom gate is required on exit to ensure vehicles do not exit the car park without having first paid the required parking fees (if applicable).

2.8 Service vehicles

While no formal loading dock is included as part of the design, a servicing area has been provided within the site to accommodate one vehicle up to 12.5m in length (Heavy Rigid Vehicle). The intention is for a service vehicle to park on a hardstand area between the bus bay and the main pool building. While a loading dock is generally provided as part of all new developments, this proposed arrangement is considered acceptable given that:

- Trucks enter and exit the site from the external road network in a forwards direction
- The number of service vehicle movements associated with the proposal is not expected to be high
- The applicant has committed to preparing a loading management plan prior to the opening of the facility. The loading management plan should, at a minimum, contain the following information:
    - Details of all delivery and servicing activities to be carried out for all uses on-site;
    - Details of how waste services will be accommodated to meet service requirements;
    - Details of vehicle types required to conduct expected activities;
    - Details of frequency of vehicles accessing the loading area;
    - Details of the times of day vehicles will access the loading area, including measures to ensure these generally occur outside of peak periods for the aquatic centre;
    - Measures to manage service vehicle demand across the day and ensure the adjacent road network is not impacted; and
    - Measures to ensure service vehicles can enter and exit the site satisfactorily without impacting the coach drop-off area or pedestrian safety

2.9 Construction traffic

The applicant has developed a preliminary Construction Traffic Management Plan (CTMP) which details the indicative traffic impacts during the construction works. The preliminary CTMP indicates that at worse, the bulk excavation stage will have 100 truck arrivals (100 in, 100 out) per day and 12 truck arrivals (12 in, 12 out) during the peak hour periods. This level of vehicle activity is lower than that generated by the development once operational and would not have significant impacts on the operation of the road network.

Prior to the issue of a Construction Certificate for the site, a comprehensive Construction and Pedestrian Traffic Management Plan (CPTMP) should be prepared by the applicant and endorsed by Council and Transport for NSW. At a minimum the CPTMP should address the following items:

- Dedicated construction site entrances and exits, controlled by a certified traffic controller, to safely manage pedestrians and construction related vehicles in the frontage roadways,
- Turning areas within the site for construction and spoil removal vehicles, allowing a forward entry and egress for all construction vehicles on the site,
- The location of proposed Work Zones in the egress frontage roadways,

- Location of any proposed crane standing areas,
- A dedicated unloading and loading point within the site for all construction vehicles, plant and deliveries,
- Material, plant and spoil bin storage areas within the site, where all materials are to be dropped off and collected,
- The provisions of an on-site parking area for employees, tradeperson and construction vehicles as far as possible,
- A detailed description and route map of the proposed route for vehicles involved in spoil removal, material delivery and machine floatage and a copy of this route is to be made available to all contractors,
- A detailed description of locations that will be used for layover for trucks waiting to access the construction site,
- Proposed construction hours,
- Estimated number and type of construction vehicle movements including morning and afternoon peak and off peak movements,
- Construction program that references peak construction activities and proposed construction 'Staging',
- Any potential impact to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works,
- Cumulative construction impacts of projects in the Parramatta CBD. Should any impacts be identified, the duration of the impacts,
- Measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts should be clearly identified,
- The plan may be required to include restrictions on the number of trucks that can access the site in peak hours and a requirement for the developer to provide video footage of the frontage of the site on a weekly basis so that Council can enforce this requirement,
- Evidence of Roads and Maritime Services concurrence where construction access is provided directly or within 20 m of an Arterial Road if applicable, and,
- A schedule of site inductions on regular occasions and as determined necessary to ensure all new employees are aware of the construction management obligations,

3 Recommendations

This independent transport assessment of the proposed Aquatic Leisure Centre Parramatta has been prepared by JMT Consulting on behalf of City of Parramatta Council. The assessment provides a number of recommendations in relation to transport and access to the proposed facility, with these recommendations summarised in Table 1 below.

Table 1 Summary of study recommendations

Item	Recommendation
Vehicle site access	Vehicle access and egress should be provided from all directions by relocating the existing Park Parade bus lane from the centre lane to the kerbside lane, which would then allow for right turns into and out of the site. The final design of the reconfigured bus lane and vehicle site access should be endorsed by City of Parramatta Council and Transport for NSW prior to the works being undertaken.
Signage and wayfinding	Appropriate signage should be provided along Park Parade prior to the access driveway in accordance with Austroads Guidelines, in order to provide advanced warning to drivers of vehicles turning into the site and to reduce the possibility of rear end collisions. A signage plan should be submitted to City of Parramatta Council for endorsement prior to a construction certificate being issued.
Car parking	The development shall provide for a minimum of 197 car parking spaces, comprising of: • 6 accessible parking spaces (designed in accordance with AS2890.6) • 5 spaces reserved for pick up and drop off • 186 standard car parking spaces designed in accordance with AS2890.1, user Class 2
Motorcycle parking	A minimum of four motorcycle parking spaces should be provided within the car park. Motorcycle spaces should be 1.2 metres wide and 2.5 metres long when spaces are 90 degrees to the angle of parking

Item	Recommendation
Bicycle parking	49 bicycle parking spaces are to be provided including 13 secure spaces for staff members and 36 bicycle racks for visitors and/or staff members
Event traffic and transport management	Prior to an occupation certificate being issued, an Event Traffic and Transport Management Plan should be prepared that ensures the event traffic and transport for events held are safely and efficiently operated for the various event types, including any altered traffic arrangements. The plan shall be prepared in consultation with the Sydney Coordination Office TfNSW and City of Parramatta Council.
Drop off / pick up	A minimum of five parking spaces should be provided within the main car parking area to facilitate drop off and pick up activity. Parking spaces 161-165 inclusive as noted on the car park plans should be signposted as '5 minute parking'. Vehicles entering and leaving the car park within a certain period of time (for example 15 minutes) should not be subject to any parking fees so as to not discourage people from using these drop off / pick up spaces.
Car park entry control system	A Licence Plate Recognition (LPR) system should be used to manage vehicle entry and exits in the main car park. To increase the rate at which vehicles enter the car park and reduce the risk of vehicle queueing outside of the site, no entry boom gate be in place for vehicles entering the site should be provided

Item	Recommendation
Service vehicles	A loading dock management plan should be prepared and approved by Council prior to the opening of the site. The loading management plan should, at a minimum, contain the following information: • Details of all delivery and servicing activities to be carried out for all uses on-site; • Details of how waste services will be accommodated to meet service requirements; • Details of vehicle types required to conduct expected activities; • Details of frequency of vehicles accessing the loading area; • Details of the times of day vehicles will access the loading area, including measures to ensure these generally occur outside of peak periods for the aquatic centre; • Measures to manage service vehicle demand across the day and ensure the adjacent road network is not impacted; and • Measures to ensure service vehicles can enter and exit the site satisfactorily without impacting the coach drop-off area or pedestrian safety
Construction traffic management plan	Prior to the issue of a Construction Certificate for the site, a comprehensive Construction and Pedestrian Traffic Management Plan (CPTMP) should be prepared by the applicant and endorsed by Council and Transport for NSW.