

Mount Pleasant Affordable Housing Parking Assessment

Project #2000258

Prepared for:

The City of Calgary

By:



JCB Engineering

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Re: Parking Assessment – Mount Pleasant Affordable Housing
City of Calgary; Project #2000258

JCB Engineering Ltd. is pleased to present the City of Calgary our parking assessment for a proposed affordable housing development in the community of Mount Pleasant in the City of Calgary. This study is to determine if the addition of this development in the community will impact parking for others.

This document has been prepared by Justin Barrett, P. Eng., PTOE; if there are any questions regarding the findings or recommendations in this document, please contact:

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Mount Pleasant Affordable Housing Parking Assessment

The purpose of this study is to conduct a parking assessment of a proposed affordable housing development in the community of Mount Pleasant in the City of Calgary. This development is located at 2020 6 Street NW; the following figure shows the location of the development, the lots to the east at 629 and 615 20 Avenue NW will remain green space and are to be improved as part of this development.

Figure i-1: Proposed Development Location within the City of Calgary



(Image courtesy of Google Earth)

1. Development Information

The proposed development will consist of 16 residential units that will be classified as affordable housing. Calgary Housing plans to maximize parking on site to meet tenant needs; the current feasibility site plan provides at least one stall per unit. The location of this development is currently undeveloped and used as parking for the St. Joseph Catholic Church (location shown on the previous figure), previously this was the site of a school. The green space to the east of the affordable housing will be improved as part of this development and will remain for use by the community.

There have been concerns raised by St. Joseph Catholic Church that the development of the affordable housing will result in a parking shortfall for their visitors during events at the Church. This parking assessment will review the parking requirements for the affordable housing, the parking needs for the Church, and the availability of on-street parking in the vicinity of the proposed development. Any

information regarding the Church was gathered through observation and research by JCB without making contact with Church staff or parishioners.

2. Land Use Classification and Parking Requirements

The area where the proposed development is located is classified as a 'Residential – Contextual One / Two Dwelling' (R-C2) land use district, which is proposed to be redesignated to Multi-Residential – Contextual Low Profile (MC-1) to allow for multi-residential development. There is no unique land use for affordable housing, the general rules for multi-residential development must be used; the minimum parking requirements are from Part 6, Division 1, Sections 558 to 562 in the Land Use Bylaw.

- 1.0 vehicle parking stall per dwelling unit for residents
- 0.15 vehicle parking stall per dwelling unit for visitors
- No bicycle parking required as the number of dwelling units is below 20

There is a 10% reduction allowed for the vehicle parking requirements due to proximity to transit, which this development does not qualify for because it is not within 150 metres of a street with frequent bus service or 600 metres of a C-train platform (see **Section 3**). In addition to the parking requirements listed previously, the minimum loading stall requirements are from Part 3, Division 6, Section 123 (7) of the Land Use Bylaw. Loading stalls are not required if a multi-residential building has fewer than 20 dwelling units. Based on this information the following table was created summarizing the Land Use Bylaw parking requirements for the proposed development.

Table 2-1: Minimum Land Use Bylaw Parking Requirements

Land Uses and Sizes	Resident Stalls	Visitor Stalls	Bicycle Class 1	Bicycle Class 2	Loading
Affordable Housing – 16 Dwelling Units	16	3	0	0	0

Because there are 19 vehicle parking stalls proposed on site, there is no shortfall in parking for the development. However, as this is affordable housing it would be desirable to provide bicycle parking even though it is not required (see **Section 3**).

3. Existing and Proposed Transportation Network

This development is proposed in a well established residential community in the northwest of the City of Calgary. All of the roadways shown on **Figure i-1** are classified as 'local' roadways with the exception of 20 Avenue NW, which is a 'collector' roadway on the City of Calgary Roadway Classification Map. These roadways all have sidewalks on both sides and there is a signed, shared on-street bicycle lane along 19 Avenue NW from 2 Street NW to 9 Street NW. There is a special pedestrian crossing of 20 Avenue NW at the intersection with 6 Street NW, providing residents and visitors to the subject development with a convenient location to cross the collector roadway. This results in a safe and efficient network for walking and bicycling around the community in the vicinity of the subject development.

Mount Pleasant Park is located 250 metres (measured using the existing sidewalks) north of the subject development and contains a community hall, sportsplex and outdoor pool. There are commercial services located around the intersection of 23 Avenue and 4 Street NW, approximately 650 metres northeast of

the subject development and there are additional commercial services along 16 Avenue to the south. This puts recreational and commercial land uses within walking distance of the affordable housing.

The nearest transit stops to the subject site are listed in the following table along with the route numbers and the frequency of service. These stops are all connected to the subject site by existing sidewalks, the measurements in the following table are assuming the use of those connections.

Table 3-1: Typical Weekday Transit Service

Transit Route	Headway (Minutes)		Nearest Stop to Development (Using Existing Sidewalks)
	Peak	Non-Peak	
2	10	25	350 metres (north of 20 Avenue and 4 Street NW)
4	10	30	600 metres (north of 20 Avenue and 10 Street NW)
5	10	30	600 metres (south of 20 Avenue and 10 Street NW)
19	20	30	350 metres (east/west of 16 Avenue and 6 Street NW)
404	60	60	200 metres (north of 20 Avenue and 7 Street NW)
303 MO	10	25	650 metres (east/west of 16 Avenue and 4 Street NW)

The new Max Orange (MO) service along 16 Avenue NW is within 350 metres of the subject development site, but the nearest stop is outside of the 600 metre radius for a transit supported parking reduction. The nearest future Green Line C-Train station would be greater than 1,000 metres from the development. However, the combination of transit routes in the area can still provide an option for residents and visitors for trips, providing connections to major generators in the area such as North Hill Centre, Beacon Heights Shopping Centre, and the C-Train.

There is support for other trip modes that may reduce the need for residents and visitors to use vehicles, thus reducing the need for parking for the development. Providing bicycle parking on site would further support active transportation as an effective mode of travel for residents and visitors. There is a bicycle route approximately 50 metres south of the development, so bicycle travel may be seen as a convenient option for residents and visitors and should be supported by providing at minimum a class 2 bicycle parking rack at the building. Without a safe location to secure bicycles, visitors to the development will be deterred from using bicycling as a mode of travel. It would be desirable to include some type of class 1 bicycle parking within the building to encourage residents to use bicycling as a mode of travel as well.

4. Parking Survey

The schedule for St. Joseph Catholic Church mass services was reviewed to determine when the peak parking demand may occur. Since the immediate surrounding community is residential, as is the proposed development, the mass service times were compared to when residential parking demand may be high. The days and times highlighted in green in the table on the following page were chosen to conduct the parking surveys as this would provide a good cross section of scenarios to establish typical parking conditions during when the combined demand between the Church and residents is likely to be greatest.

Table 4-1: Church Parking Survey Schedule

Day	Time	Comment
Tuesday	7:00 PM	Typically when residential demand will be high as many people will be home from work
Wednesday	9:00 AM	Residential parking demand will be lower as many people will have already left for work
Friday	12:00 PM	Residential parking demand will be lower as many people will be at work
Saturday	5:00 PM	Residential parking demand may be high as people will likely be at home, but could also be out for entertainment
Sunday	9:00 AM	Traditionally when Church services have highest attendance; residential parking demand may be high as many people will likely be at home
	11:00 AM	
	5:00 PM	

It is possible that a special event could be held at the Church, such as a wedding or funeral, that could create a significant demand for additional parking. No such event was being advertised at St. Joseph Catholic Church during the time that the parking survey was being conducted, and so information on the parking demand during such an event could not be observed. However, these special events are unique and often for a short duration, it is best practice to base parking demand on typical events such as regular Church services. For the special events there may need to be additional parking provided, but the event organizers will need to resolve this issue as part of planning the event. Providing parking to accommodate a special event would likely result in parking that is under utilized for the majority of Church events.

The following figure illustrates the roadways that were surveyed and the parking restrictions that exist for on-street parking. The number of vehicles parked in the lot to the east of St. Joseph Catholic Church and on the subject development site were also counted.

Figure 4-1: Parking Survey Locations and Parking Restrictions



	No Restrictions		Solid = No Parking; Dashed = Loading Zone
	2 Hour Parking		Residential Permit Parking (F)
	2 Hour Parking (Mon-Fri; 8-17)		Residential Permit Parking (F; 8-22)
	Accessibility Parking Only		

There are few restrictions with regards to on-street parking in this area of Mount Pleasant, there are even limited parking restrictions from residential permit parking. St. Joseph Catholic Church has a 20 minute loading zone on 19 Avenue NW that is near the main entrance to the Church, this is in addition to their parking area on site. There is a short section of time restricted parking on 19 Avenue NW in front of the Church, but during the hours of the mass, with the exceptions of Wednesday and Friday, that restriction is not in effect.

The tables on the following pages summarize the parking survey results, each survey was started at the time shown and took approximately 20 minutes to complete. As mentioned, the days and times chosen for the surveys was based on mass times for St. Joseph Catholic Church, an additional survey on Sunday at 2:00 PM was conducted to compare the results on Sunday when there was no mass being celebrated. The additional survey on Tuesday at 9:00 PM after mass that evening was also conducted to compare with the survey earlier in the evening during mass. No license plate data was recorded, no information was collected on where the vehicle drivers walked to after parking, or for how long each vehicle was parked at a location. The survey information collected was to determine typically how much parking demand exists and where supply is available with regards to on-street parking.

The on-street parking capacity was determined by either counting the number of spaces available or by measuring the length of the curb where vehicles could legally park, then dividing by the typical space that a vehicle requires for parallel parking. Loading zones were not included in the on-street parking capacity and if vehicles were observed in those zones during the surveys then they were noted in the commentary following the tables.

The capacity of the Church parking area was determined by counting the number of parking stalls marked; it was noted that 4 stalls in the northwest corner of the lot were blocked on the west side by a garage. This resulted in those stalls being signed as 'no parking', but vehicles were observed parked in those stalls effectively making them tandem stalls. Vehicles were also observed parking in the east access lane of the Church parking area, these vehicles were illegally parked but were still counted in the survey. The tandem stalls were counted towards the capacity of the Church parking area, but vehicles parked in the access lane were not. The north 2 stalls in the parking area were filled with snow during the time the parking surveys were conducted, likely from clearing both the parking area and the rear lane of snow. The parking capacity was calculated assuming that all of the parking stalls were available for use regardless of snow clearing operations.

The parking capacity of the subject site was estimated based on having four columns of vehicles parked along a north-south axis. It was observed that some vehicles parallel parked in the rear lane between the Church and the subject site, these stalls were not added to the capacity of the subject site as this is illegal parking, but the vehicles were counted towards the number observed parked on the subject site.

Table 4-2: On-Street Parking Survey Results
Table 1 of 2

Time Period	Number of Parked Vehicles Observed											
	19 Avenue NW						20 Avenue NW					
	4 to 5 Street		5 to 6 Street		6 to 7 Street		4 to 5 Street		5 to 6 Street		6 to 7 Street	
	N	S	N	S	N	S	N	S	N	S	N	S
9-Dec 9:00 AM	13	13	18	17	11	12	7	10	3	0	7	2
9-Dec 11:00 AM	10	11	17*	19	12	12	7	3	2	0	6	8
9-Dec 2:00 PM	11	10	6	7	5	7	5	3	1	0	6	4
9-Dec 5:00 PM	16	11	18*	13	11	12	3	3	3	0	6	5
11-Dec 7:00 PM	6	12	16*	12	14	9	3	4	4	0	7	5
11-Dec 9:00 PM	13	11	9	8	8	13	5	5	5	0	8	4
Capacity	20	20	19	20	20	20	20	18	18	20	20	14
Average Available	12	12	14	13	11	11	5	5	3	0	7	5
Average Utilized	60%	60%	74%	65%	55%	55%	25%	28%	17%	0%	35%	36%
Maximum Utilized	80%	65%	95%	95%	70%	65%	35%	56%	28%	0%	40%	57%

* 1 vehicle was observed to be parked in the loading zone on 19 Avenue NW in front of the Church, this vehicle appeared to not be conducting loading operations but was parked illegally.

Table 4-2: On-Street Parking Survey Results
Table 2 of 2

Time Period	Number of Parked Vehicles Observed											
	5 Street NW						6 Street NW					
	18 to 19 Ave		19 to 20 Ave		20 to 21 Ave		18 to 19 Ave		19 to 20 Ave		20 to 21 Ave	
	W	E	W	E	W	E	W	E	W	E	W	E
9-Dec 9:00 AM	2	3	1	3	1	5	7	9	1	8	2	3
9-Dec 11:00 AM	2	2	2	2	4	3	7	7	0	8	1	5
9-Dec 2:00 PM	1	3	1	2	3	5	1	3	0	0	2	2
9-Dec 5:00 PM	3	3	1	3	1	3	6	5	0	9	2	1
11-Dec 7:00 PM	2	3	2	4	1	4	3	6	0	6	1	5
11-Dec 9:00 PM	3	2	2	4	1	5	2	3	0	0	1	2
Capacity	10	10	10	10	10	10	10	10	10	10	10	10
Average Available	3	3	2	3	2	5	5	6	1	6	2	3
Average Utilized	30%	30%	20%	30%	20%	50%	50%	60%	10%	60%	20%	30%
Maximum Utilized	30%	30%	20%	40%	40%	50%	70%	90%	10%	90%	20%	50%

Table 4-3: Parking Area Survey Results

Time Period	Number of Parked Vehicles Observed	
	Subject Site	Church Parking
Dec 9 9:00 AM	25; Including 2 vehicles parked in lane behind Church	24; Including 3 vehicles in tandem stalls
Dec 9 11:00 AM	34; Including 3 vehicles parked in lane behind Church	22; Including 1 vehicle parked in access lane, and 1 vehicle in tandem stalls
Dec 9 2:00 PM	1	1
Dec 9 5:00 PM	24; Including 1 vehicle parked in lane behind Church	26; Including 2 vehicles in tandem stalls
Dec 11 7:00 PM	3; Including 1 vehicle parked in lane behind Church	21; Including 1 vehicle in tandem stalls
Dec 11 9:00 PM	0	0
Capacity	48	28
Maximum Utilized	71%	93%

Even though there were illegally parked vehicles observed during the surveys, there was no need for people to park illegally, there were adequate on-street and parking area stalls for people to use. It is assumed that some people chose to park illegally for convenience instead of choosing a legal stall and then walking further to access the Church. This is also assumed to be the reason why in 3 surveys a vehicle was parked in the loading zone in front of the Church but did not appear to be there for loading operations.

The most significant changes of on-street parking use on between mass and no mass times on both Sunday and Tuesday were on 19 Avenue NW between 5 Street NW and 7 Street NW, and 6 Street NW from 18 Avenue NW to 20 Avenue NW. This was expected as these on-street parking locations are conveniently located to the Church and easy to access from the nearby major roadways of 16 Avenue NW and 4 Street NW. The Church parking area was not fully utilized likely due to some of the stalls being tandem layout and snow obscuring some stalls, as discussed previously.

The surveys conducted when no mass was being celebrated at the Church demonstrate that the subject development site is not being used for parking by the community, the vehicles observed there are only during mass. As many as 34 vehicles will need to be accommodated by on-street parking if the subject site is no longer available for Church visitors to use based on the maximum parking demand. The following figure summarises the available on-street parking available based on the maximum utilization data observed from the surveys. This is a worst case scenario for on-street parking as the maximum utilization for each roadway section was not observed during the same survey time period, but in the following figure that scenario is assumed.

Figure 4-2: Available On-Street Parking Based on Maximum Observed Utilization



(Image Courtesy of Google Earth)

The existing on-street parking has an adequate supply to accommodate these vehicles that are currently parked in the subject site. The following unrestricted on-street parking could be utilized for Church visitors:

- East side of 6 Street NW; 18 to 19 Avenue NW – 7 stalls
- East side of 6 Street NW; 19 to 20 Avenue NW – 6 stalls
- North and south sides of 19 Avenue NW; 6 to 7 Street NW – 2 stalls
- South side of 20 Avenue NW; 6 to 7 Street NW – 20 stalls

This is 35 on-street parking stalls, which could accommodate the maximum number of vehicles observed to be parked on the subject site. As illustrated on the previous figure there are numerous options of on-street parking for visitors to utilize; and there is still available permit parking for local residents. Visitors using this on-street parking instead of the subject site will have to walk further to the Church, this on-street parking is within a 300 metre distance using the existing sidewalks. The Church does have a loading zone that could be used to drop off and pick up some visitors if the distance to walk from on-street parking is too far.

5. Conclusions

Based on the City of Calgary Land Use Bylaw parking requirements there will be no shortfall of parking for the proposed affordable housing development provided that the 19 vehicle stalls that are calculated to be required are provided on site. It is not expected that the residents and visitors to the subject development will need to use on-street parking.

There is support for walking, bicycling and transit trips that may reduce the need for the residents and visitors to use vehicles, thus reducing the need for parking for the development. Providing bicycle parking on site would further support active transportation as an effective mode of travel for residents and visitors. A class 2 bicycle parking rack at the building would provide a safe location to secure bicycles for visitors to the development. It would be desirable to include some type of class 1 bicycle parking within the building to encourage residents to use bicycling as a mode of travel as well.

Based on surveys of on-street parking in the vicinity of the subject development, the St. Joseph Catholic Church parking area and the parking observed on the subject site, there is adequate on-street parking available to accommodate Church visitors if parking was no longer available on the subject site. It appears that only the Church visitors require the use of parking on the subject site as only during mass were there vehicles observed parked on the site. There are numerous options of on-street parking for visitors to utilize and there is still available permit parking for local residents. The Church does have a loading zone that could be used to drop off and pick up some visitors if the distance to walk from on-street parking is too far.

It was observed that the Church is not using its existing parking to its maximum utilization. During 3 surveys a vehicle was observed parked in the loading zone on 19 Avenue NW and this vehicle did not appear to be there for loading operations. The Church should try to enforce the use of this on-street parking zone only for the loading needs of the Church, such as the drop off and pick up of visitors. When snow is cleared this could be piled into the tandem stalls since these are under utilized anyways due to the difficulty of access. The Church should also review options to modify the stalls in the northwest corner of their parking area to remove the tandem stalls and improve the overall ease of access to parking on their site.