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TECHNICAL MEMO

To Richard Pucci	Prepared by	
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City of Prince Rupert	Reviewed by.	
Dr. Rob Buchan, FCIP, PhD iPlan Planning and Development Services Ltd.	Chris Houston, PEng Project Engineer, McElhanney Ltd.	
Re Curb Extensions on 11 th Ave E, Prince Rupert	Date September 14, 2021	

As requested, we have prepared this technical memorandum to describe the proposed design of the curb extensions on 11th Avenue East in Prince Rupert, BC, and explain the reasons for this recommendation.

1. Background

Lax Kw'alaams WAAP Housing Society (Lax Kw'alaams) and BC Housing are planning to construct a new apartment building on 11th Avenue East, opposite the Edward Street intersection, in Prince Rupert, BC (Figure 1). The building would have six stories, with a total of 70 dwelling units. This development is intended to address an existing housing shortage in the local First Nations community, whom will be given first priority for these apartments.

To evaluate the potential traffic and safety impacts caused by the new development, the City of Prince Rupert and Ministry of Transportation and Infrastructure (MoTI) requested a detailed Traffic Impact Study. As part of this study, a "virtual" open house was hosted online on Thursday, April 8, 2021 to invite the local residents to provide their questions and concerns on the proposed development. The following issues were raised at the open house:

- There is a lot of traffic on 11th Avenue East, including speeding vehicles and heavy trucks. Extra traffic from the apartments is expected to make the situation worse.
- Vehicles turning from Edward Street onto 11th Avenue experience congestion and delays.
- Sight lines looking north from Edward Street are limited, which causes safety issues.
- 11th Avenue East is a transit route, and the development will generate more pedestrian traffic.
- The site will increase the demand for more on-street parking.



Figure 1: Proposed Apartment Building, 11th Avenue East

The Traffic Impact Study evaluated these issues in the context of the technical analysis, which included detailed traffic analysis for the existing street traffic (based on recent traffic counts adjusted for the effects of COVID19) and the estimated site traffic. The study was delivered in May 2021 with the following findings:

- 1. The existing traffic volumes on 11th Avenue East (pre-pandemic) are in the order of 300 vehicles per hour. The proposed apartment building is estimated to add another ~40 vehicles (inbound and outbound) to the peak hours. This should not significantly affect the operation of 11th Avenue East and the intersection at Edward Street. According to the analysis, the average peak hour vehicle delays are estimated to be approximately 10 seconds, even after 15 years of city growth.
- 2. The existing sight lines looking north from Edward Street are limited by the presence of a concrete retaining wall in the northwest corner of the intersection. While this would not be affected by the new traffic from the proposed apartments, the situation could be improved with curb extensions. These curb extensions would also help reduce traffic speeds on 11th Avenue by traffic calming.
- 3. With a bus stop on the west side of 11th Avenue East and potential transit users in the new apartments, a crosswalk at the Edward Street intersection is recommended. If installed with the curb extensions discussed above, the pedestrians would have improved safety from the decreased crossing distance.
- 4. Pedestrians would also benefit from the construction of a sidewalk along the east side of 11th Avenue East, which would connect between the potential on-street parking and the proposed crosswalk at Edward Street.

2. Proposed Curb Extensions

In addition to the proposed new sidewalk along the property frontage on the east side of 11th Avenue East, curb extensions would significantly improve the safety at the Edward Street intersection (as described above). The curb extensions would simply be wider sidewalk bulbs on all four corners of the intersection, as shown in Figure 2.

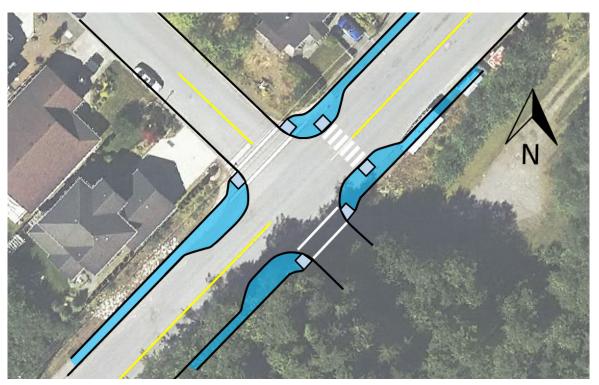


Figure 2: Conceptual Design for Curb Extensions on 11th Avenue East

The curb extensions would leave sufficient road width for two-way vehicle and bicycle traffic on 11th Avenue East, as well as all turning movements at the Edward Street intersection. However, the curb extensions would provide the following benefits:

- The narrowed road width would have a "calming" effect on traffic, thereby reducing speeds on 11th
 Avenue East.
- Sight lines would be improved looking north from Edward Street.
- 3. Pedestrian safety would be improved by increasing visibility and decreasing crossing distance.
- 4. The bulbs would keep on-street parking further back from the intersection.
- 5. The curb extensions provide space for ramps at the crosswalk to improve accessibility.

For these reasons, the curb extensions are recommended as part of the proposed development.



3. Closure

This Technical Memo for the 11th Avenue Curb Extensions has been prepared by McElhanney Ltd. (McElhanney) for the benefit of the Lax Kw'alaams First Nation and the City of Prince Rupert. The information and data contained herein represent McElhanney's best professional judgment in light of the knowledge and information available to McElhanney at the time of preparation.

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Yours truly,

McElhanney Ltd.

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