

January 7, 2020

BY EMAIL: kwatson@ashcrofthomes.ca**Reference:** 476778 - 01000Ashcroft Homes
18 Antares Drive
Ottawa, Ontario
K2E 1A9**Attention: Kieran Watson, Development Planner**

Dear Kieran:

**RE: Q West (378 Leighton Terrace)
Overview of Phases 2A/2B Site Access Options**

1. CONTEXT

The location of site driveway connections to the roads that bound the Q West development site has been a point of interest/concern since the first Site Plan Application in 2020 and has been addressed in one form or another in the initial April 2010 Community Transportation and Traffic Impact Study and in all subsequent transportation addendums prepared and submitted since then.

The initial overall Site Plan and Transportation Study showed/recommended a Phase 1 garage connection directly to the Richmond/Patricia signalized intersection and a Phase 2 site driveway connection directly to Byron at the Kensington intersection. Through traffic would be prohibited from using Kensington by aligning the driveway with Kensington and erecting signs in the northbound and southbound directions prohibiting the straight through north-south movement.

Following review of the initial Site Plan, the City determined that the overall development should have a right-in/right-out connection to Leighton Terrace and that the Phase 2 driveway connection should be to Shannon Street and not directly to Byron. Subsequently, Phase 1 along the Richmond Road frontage is fully built including the garage connection to signalized Richmond/Patricia intersection and the right-in/right-out connection to Leighton Terrace. A 3.0m wide north-south multi-use pathway has also been built along the east side of the site extending from the Byron Greenway Corridor north to Richmond Road.

Recently, Ashcroft is proceeding with a Phase 2A Site Plan Application for the middle portion of the site containing the Convent building and a 161 unit residential building. A garage will be built beneath the residential building with a driveway that connects to the right-in/right-out connection to Leighton Terrace. The intent is for Phase 2A traffic to always use this connection whereas when Phase 2B to the south is built, all its traffic would use a driveway connection to either Shannon or Byron (to be determined).

With regard to traffic generation, and the resultant driveway volume, Phase 2A traffic volumes are projected to be 35 veh/h and 75 veh/h two-way total during the weekday morning and afternoon peak hours respectively. These volumes would use the Leighton Terrace connection. Phase 2B, comprised of 62 residential units and 200 retirement units, is projected to generate approximately 30 veh/h and 40 veh/h two-way total during the morning and afternoon peak hours respectively, with these volumes using the future driveway connection to either Shannon or Byron.

With the imminent submission of the Phase 2A Site Plan, to be followed shortly by the Phase 2B Site Plan, there is a need for the City to confirm the vehicular access/egress solution for Phase 2B. Accordingly, we have been asked to assess the following three options; Phase 2B connecting to Shannon, Phase 2B connecting to Byron at Kensington, and Phase 2B connecting to the Leighton Terrace driveway connection with no linkage to the south (neither via

Shannon nor Byron). These options have been assessed at length in previous documents and the results of these assessments are summarized herein.

2. ASSESSMENT OF THE PHASE 2B DRIVEWAY CONNECTION OPTIONS

2.1 SHANNON CONNECTION

This option was evaluated extensively in the October 4 and 11, 2019 letter reports submitted to the City. Relevant excerpts follow. Attachment 1 includes a plan of existing Shannon Street, pictures highlighting the street’s narrow width and adjacent trees, and a plan of proposed road widening to the north so as to not impact the existing street lighting or the tree line along the Byron Greenway. Preliminary cost estimate of this widening option is approximately \$470,000.

If Phase 2B were connected to Shannon, the intent would be for it to be used as follows:

- By existing adjacent residents;
- Access/egress to the senior’s residence portion (200 units) of Phase 2B;
- Access/egress to the drop-off/pick-up loop located at the main entrance to the Senior’s Residence; and
- By the service vehicles exiting Phase 1 and entering/exiting Phase 2A and 2B.

The resultant two-way peak hour volumes on Shannon Street are projected to be approximately 35 to 40 veh/h, with the inbound/outbound directional splits being approximately equal.

While these volumes are low, the existing 3.5 m pavement width on Shannon is not sufficient (particularly during winter conditions) to safely accommodate two-way traffic. As such, road widening would be required. Possible widening options and related comments follows:

Option	Comments
1. Build to the City’s minimum 16.5 m residential street cross-section. This would include 8.5 m road surface and a 1.8 m wide sidewalk on one side as shown in Attachment 6.	As there is only approximately 10 m available between the rows of trees on the north and south side of, and parallel to, Shannon Street, this option would require shared-use pole relocation (±\$40,000 to \$60,000) and loss of, or detrimental impact on, both rows of trees. The total approximated design and construction costs are \$470,000
2. Widen the existing pavement to 6.0 m. This substandard width meets fire route requirements and could accommodate two 3.0 m wide lanes (no parking). No sidewalk as adjacent parallel MUP would suffice.	To keep joint use utility poles as is, would require tree and shrub removal all along the north side of the street. To keep all north side trees would require relocation of the 3 joint use poles (±\$40,000 to \$60,000), regrading on the south side and likely root damage for the tree line on the south side. Pole relocation could be problematic/impractical due to the proximity of the adjacent mature trees.
3. Leave road at 3.5 m wide but add lay-by lanes (2 m) between joint-use poles to allow two-way traffic to pass, when necessary.	Potential concerns about safety, snow clearing, and delay on Hilson for entering vehicles.

It is also noteworthy that widening Shannon and adding more traffic compounds existing safety concerns over the short length of Hilson between Shannon and Byron. There is only 25 m between these two intersections and the 3.0 m wide multi-use pathway is located parallel to and between these two streets. As Hilson is used by students walking to the local public school and as the City has recently provided a raised crosswalk on Byron at Hilson, there are current safety concerns that would be compounded by adding more turning traffic in this compressed location. Also,

given the short off-set (10m) and poor sight lines for vehicles turning out of Shannon and pedestrians/cyclists using the MUP, the potential for conflict is increased.

In summary of the foregoing, due to the necessary road widening requirements to accommodate a Phase 2B connection to Shannon, this option is very unattractive due to the combination of impacts on existing adjacent properties/homes, significant tree loss, safety concerns on Hilson and the high cost of design and construction. Anecdotally, we have also been advised that the older homes on Shannon Street may have existing or potential basement structural issues and the combination of road construction, moving the road closer to the homes, having more traffic vibration on Shannon Street and it being used by service vehicles could be extremely detrimental and/or costly.

2.2 BYRON CONNECTION

This option involves a 6.0 m wide driveway extending from the middle of Phase 2B directly south across the Byron Greenway and the MUP to connect to the Byron/Kensington intersection. A sketch of this option is included as Attachment 2. Its key characteristics/effects are:

- It crosses the MUP which will require STOP signs on both MUP approaches;
- At least 4 mature trees will need to be removed;
- STOP sign and No Through Traffic signs on the driveway approach to Byron;
- STOP sign and No Through Traffic signs on the Kensington approach to Byron;
- A sidewalk extension from the site to the MUP; and
- An estimated design and construction cost of approximately \$195,000.

This option introduces another vehicular crossing of the MUP, but at only 6 m wide, with low volume usage, and with STOP sign control on the MUP approach, this crossing will be safer than the multiple existing road crossings along the full length of the MUP.

With regard to the potential for neighbourhood and cut-through traffic, aligning the site driveway with Kensington provides the best opportunity to control and eliminate this potential on Kensington. The Shannon option does not have the option to control through traffic as any measures to do so would also directly affect existing residential traffic movements. It is noteworthy that this option would provide excellent and direct fire truck and emergency vehicle access to the front of the retirement residence, which is a key consideration.

In summary of the Byron Connection option, it is a good solution due to the combination of; no adverse impact on adjacent homes, no or limited cut-through traffic potential, safe operations, excellent fire truck and emergency vehicle access to the Senior's Residence, and affordability.

2.3 LEIGHTON TERRACE ONLY CONNECTION

This option entails no new site driveway connections for Phase 2 (A +B), therefore all Phase 2 traffic would use the site's existing right-in/right-out only connection to Leighton Terrace. As such, all of the Phase 2 (A+B) traffic would use this connection as well as fire trucks and emergency vehicles trying to access the Phase 2B senior's residence and condo buildings.

With regard to traffic operations, all projected Phase 2 (A+B) traffic would use the site's Leighton Terrace connection and then the unsignalized Richmond/Leighton Terrace intersection. These volumes total 65 veh/h and 115 veh/h two-way total during the weekday morning and afternoon peak hours respectively. As analyzed in previous correspondence, this additional traffic can be accommodated at an acceptable, but reduced level of service in the LoS B to C range and while the delay for vehicles waiting to exit onto Richmond is considered acceptable, it would increase to be in the 15 to 20 second range.

With regard to emergency vehicle access to Phase 2B, it would be somewhat convoluted and not ideal, particularly when compared to the Byron Connection option. To get to the rear of the Phase 2 buildings, fire trucks and emergency vehicles would have to use the unsignalized Richmond/Leighton terrace intersection, the right-in/right-out connection to Leighton Terrace, then drive halfway through the site along a curvilinear driveway. Even with this, they would not be at the front entrance of the retirement residence building.

In summary of having only the Leighton Terrace driveway connection to accommodate Phase 2 (A+B) development, it is low cost, has limited cut-through traffic potential and the Richmond/Leighton Terrace intersection will operate at an acceptable, but reduced, level of service. Its adverse characteristics include increased delay for left-turning traffic from Leighton Terrace onto Richmond which could increase vehicle collision potential, all Phase 2 traffic driving at-grade through the middle of the site and conflicting with pedestrian and cyclists using the on-site MUP, and poor fire and emergency vehicle access to Phase 2B buildings and in particular the proposed Seniors Residence which has the greatest need for these services.

4. OPTIONS SUMMARY

Table 1 summarizes the characteristics/implications of the three Phase 2B vehicular access options assessed herein.

Table 1: Summary of Phase 2B Driveway Connection Options

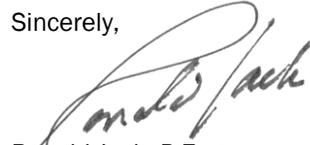
	Shannon Connection	Byron Connection	Leighton Terrace Connection
Immediate Home/Neighbourhood Impact	Significant due to tree loss and front yard loss	None	None
Cut-Through Traffic	Limited but not controllable	Limited but controllable	Limited but controllable
Traffic Operations	Some concern due to close proximity of Shannon to the MUP and Byron	None	Increased delay for turning vehicles from Leighton Terrace onto Richmond
Safety Considerations	Increase conflict potential with school children on Hilson, and poor sight lines between MUP users and traffic turning left from Shannon to head southbound on Hilson.	Minimal	Increased volume turning from Leighton Terrace onto Richmond increases collision potential.
Fire and Emergency Access	Ok for all Phases	Best for all Phases as most direct, particularly to the Senior Residence.	Not good for Phase 2 Senior's Residence and Condo
Cost	High at \$470,000	Moderate at \$195,000	None

PARSONS

In review of Table 1, it appears that the Byron Connection is the best option for the Phase 2B driveway connection due to a combination of minimal community impact, efficient traffic operations, safety, on-site functionality, and versatility in site operations.

Please call if you have any questions of the foregoing.

Sincerely,

A handwritten signature in black ink that reads "Ronald Jack". The signature is written in a cursive, flowing style.

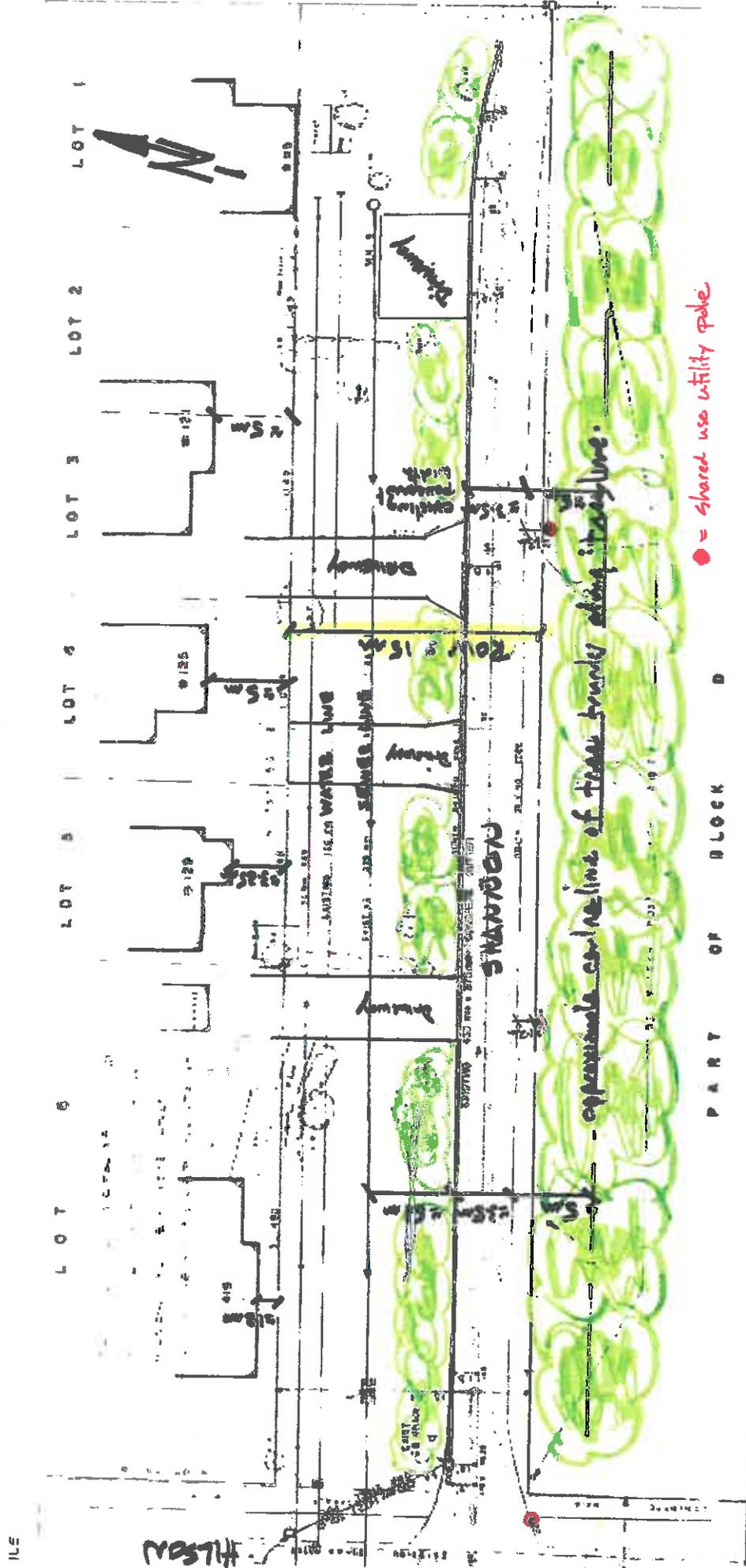
Ronald Jack, P.Eng.
Senior Transportation Engineer

Attachments

Attachment 1:

Existing Plan of Shannon Street, Shannon Street Photos on Possible ROW Widening Plan

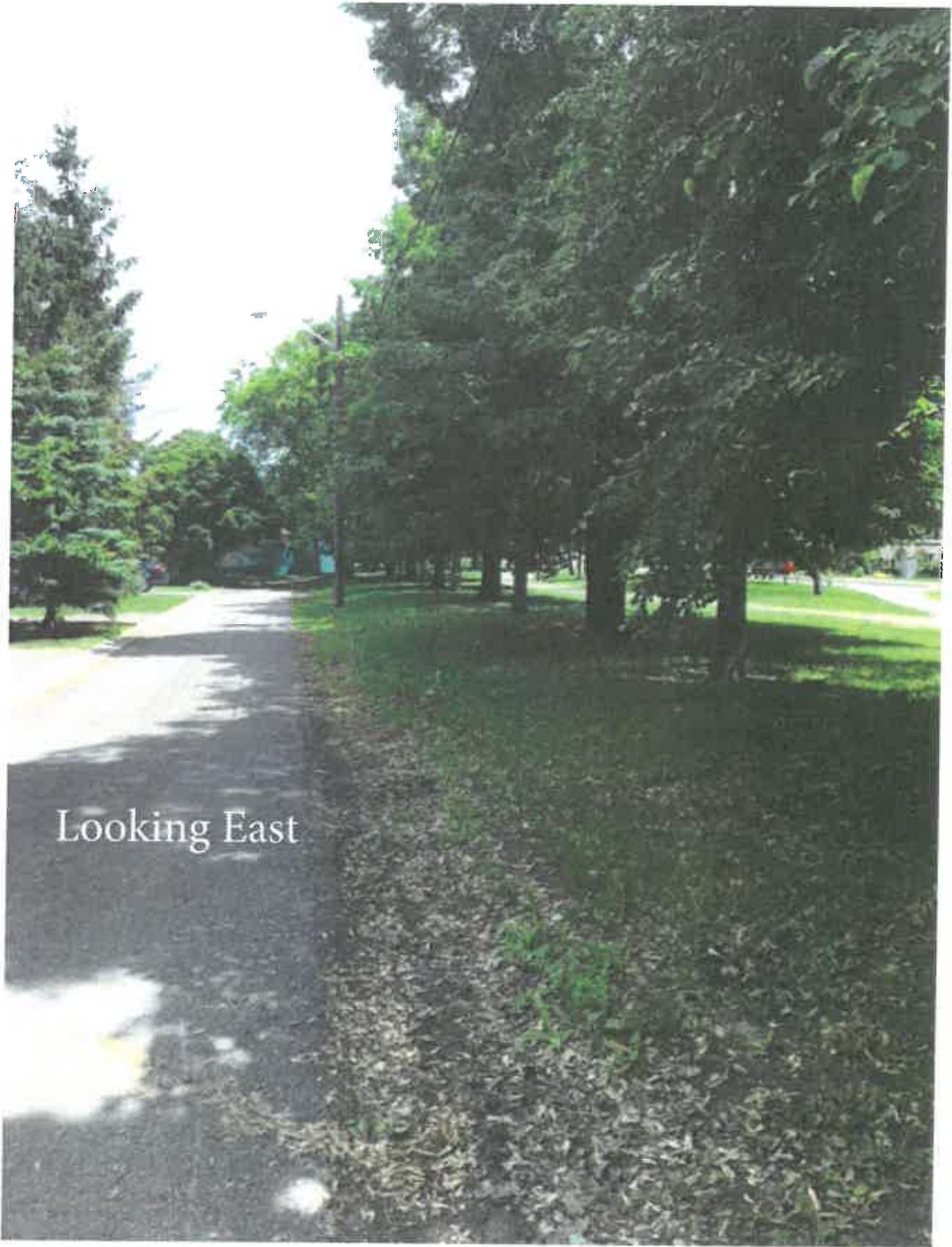
SHANNON STREET
 - Existing Conditions -



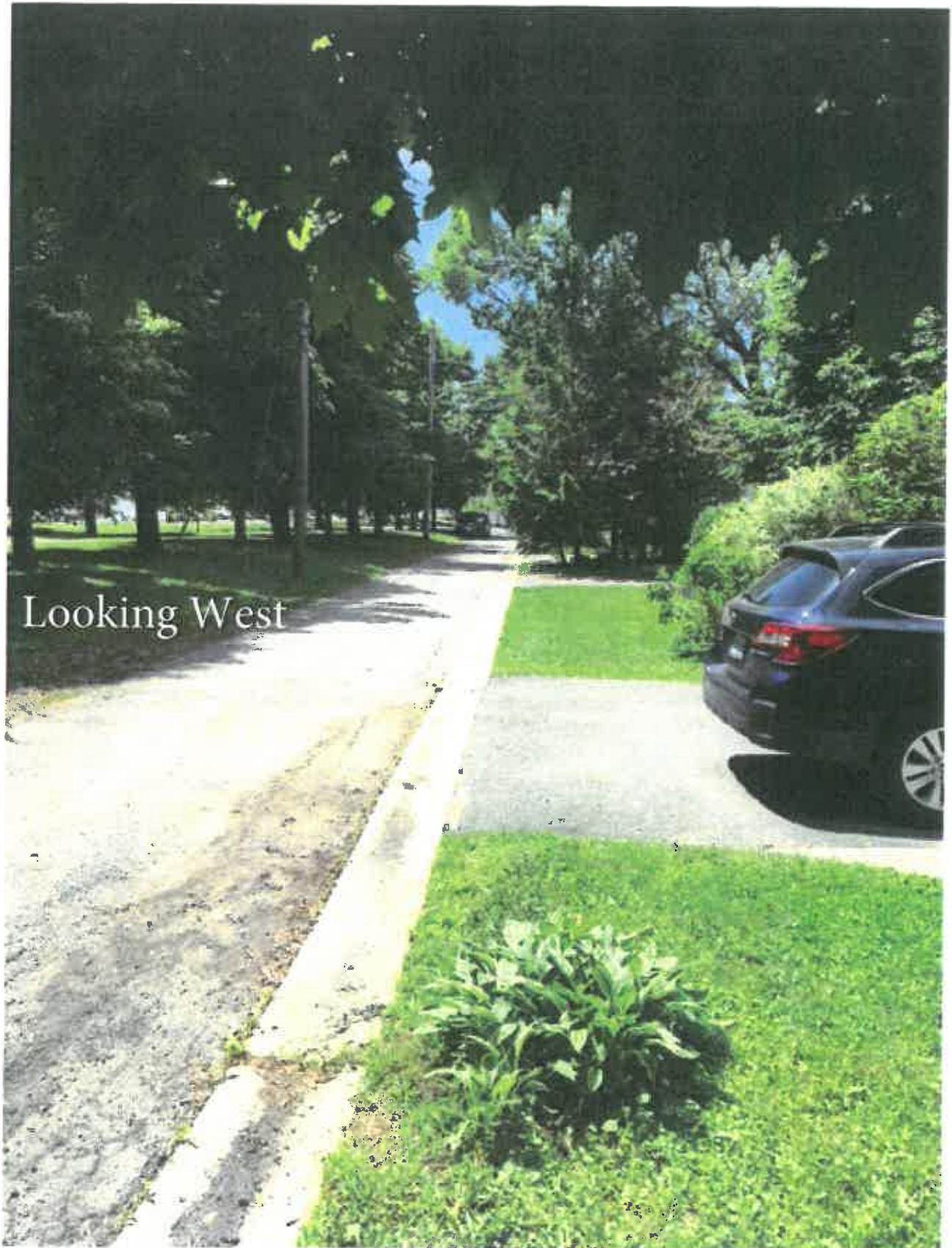
● = shared use utility pole

- approximate centerline of tree canopy along street line.

PART OF BLOCK D



Looking East



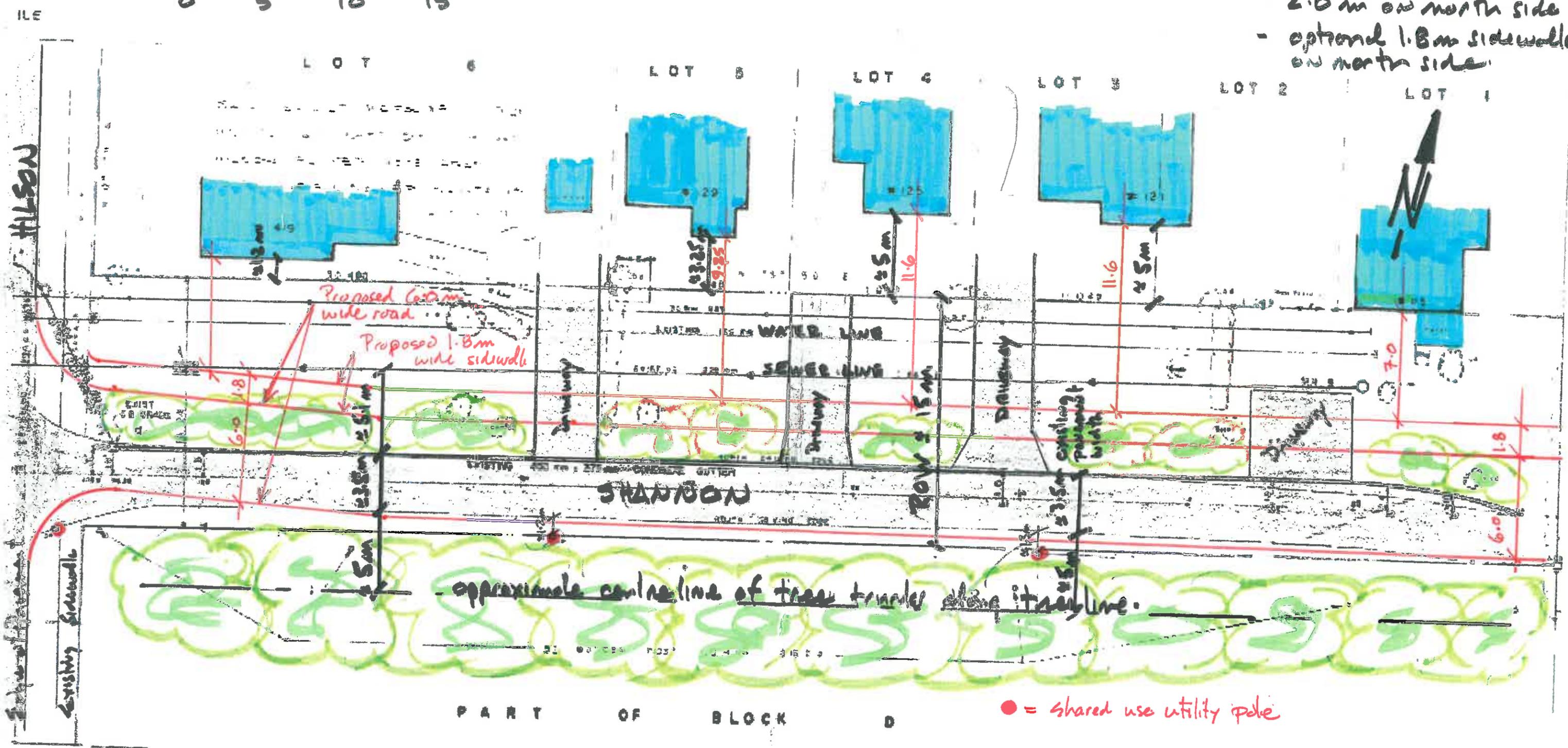
Looking West

Scale (m)



Shown Widening Options

- 0.5 m widening on south side
- 2.0 m on north side
- optional 1.8m sidewalk on north side



PART OF BLOCK D

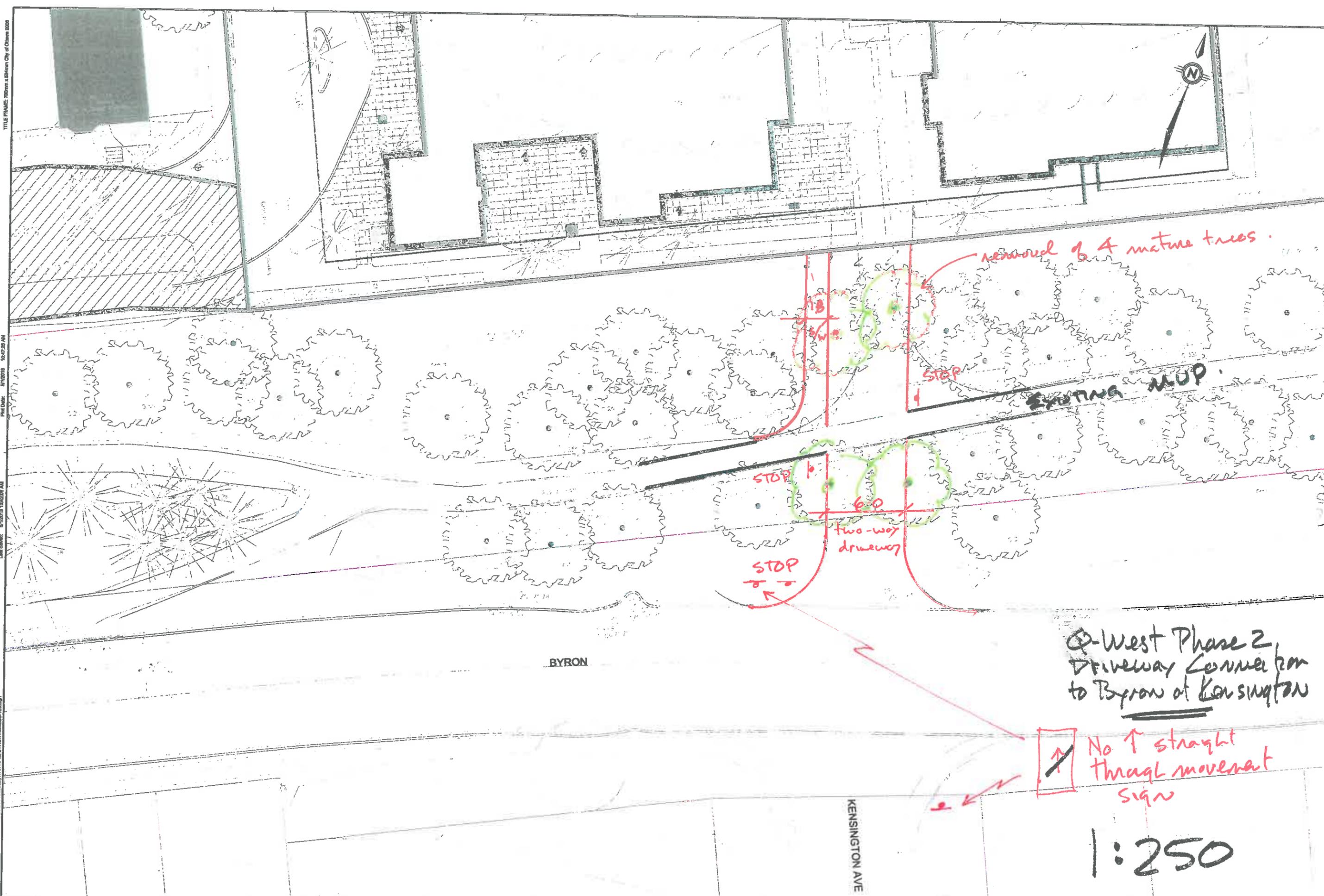
● = shared use utility pole



Attachment 2:

Sketch of the Byron Connection Option

TITLE FRAME: 780mm x 85mm City of Ottawa 2000
Pkg Date: 07/20/19 10:47:28 AM
Laid Out: 07/20/19 10:47:28 AM
Consultant: HUBCH/776/0000000001/Projects/14777/02/BYRON-ACCESS-125.Dgn



Q-West Phase 2,
Driveway Connection
to Byron at Kensington

No ↑ straight
through movement
sign

1:250

KENSINGTON AVE

BYRON