

**LAND USE COMBATIBILITY
ASSESSMENT
276 DUKE ST. DRYDEN, ONT**

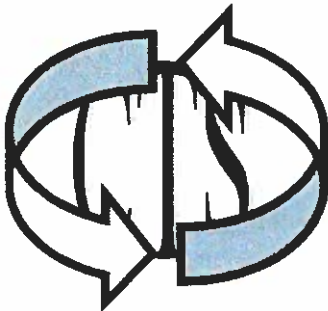
February 11, 2021

SUBMITTED TO:

FUSION CAPITAL CORP.
B-122 -1075 Portage Ave.
Winnipeg, Manitoba R3G 0RB

SUBMITTED BY:

CHANNEL TECHNICAL SERVICES
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NOISE AND VIBRATION INPACT STUDY

1.0 Introduction:

Channel Technical Services Ltd. has been retained by Fusion Capital Corporation to prepare certain reports and other document submissions for the purpose of rezoning a property located at 276 Duke Street, Dryden, Ontario. These studies are being prepared as part of that application for the rezoning. The present zoning for the site is R2 (Residential Two) and the developers are submitting an application to change the zoning to RM (Residential Multiple). It is intended that, once that zoning amendment has been approved, the developers will begin the process to utilize the subject property as the site for the construction of 4 multi unit residential complex buildings. Each building is to house 12 individual apartments and will be 3 stories high.

Once the zoning has been approved, and prior to the commencement of construction, a number of design studies and engineering field work will be performed in addition to the detailed plans and specifications for the buildings themselves.

Description of Proposed Project Location and Registered Plan:

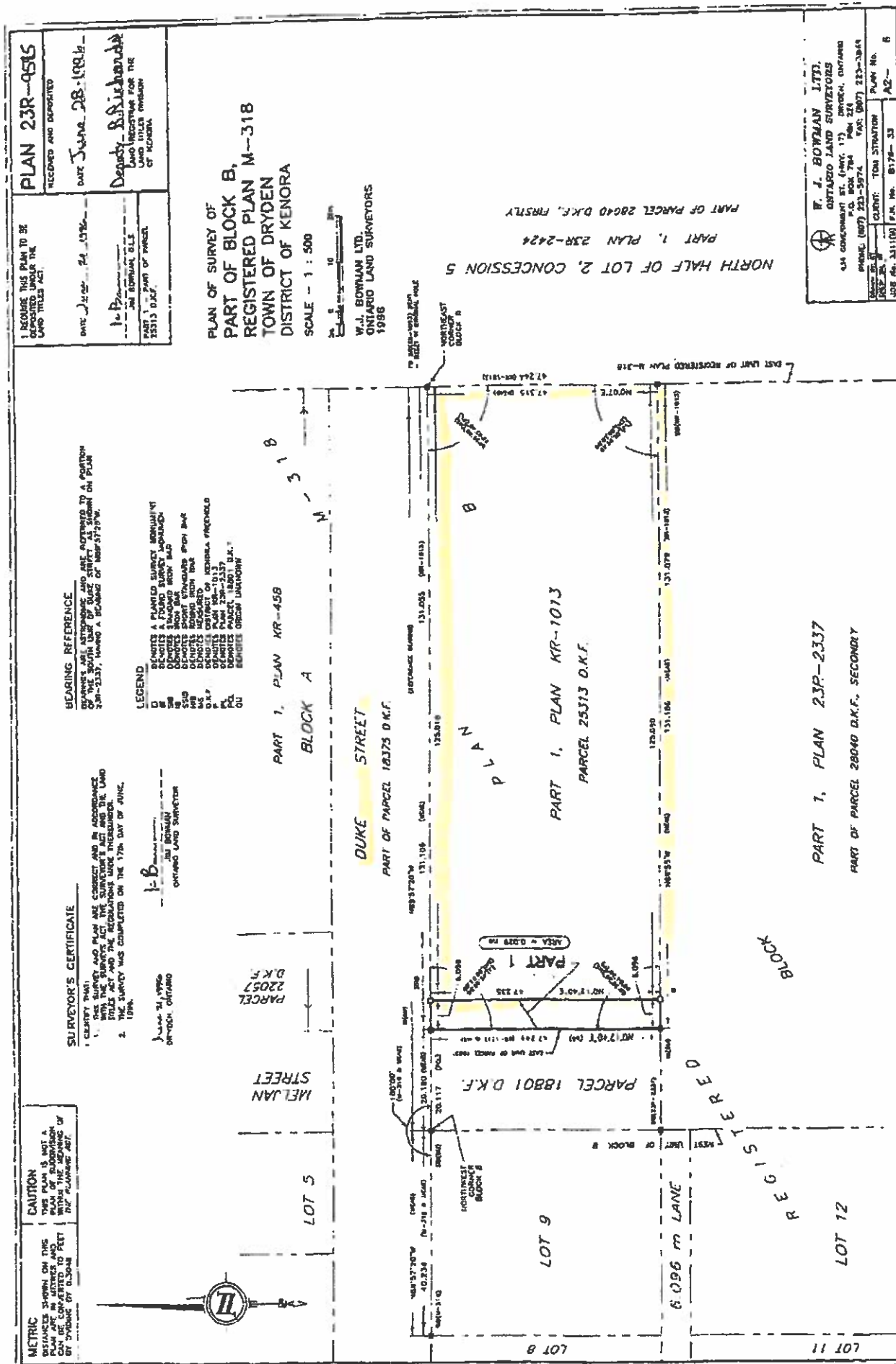
The proposed development is to take place on a vacant piece of property located on the south side of Duke Street, at the very Eastern end of the subdivided area (See attached plan maps, Google Aerial, and other photos of immediate area). This portion of Duke street is 2 blocks east of the north bound bend for the majority of traffic that directs it to the overpass over the Canadian Pacific Railway (CPR) Main Line and that terminates at the intersection with Highway 17.

The legal description of the lot (see attached copy of drawing from W.J. Bowman Ltd. Ontario Land Surveyors entitled "Part of Block B, Registered Plan M-318, Town of Dryden, District of Kenora") is: Registered Plan M-318, Parcel 18801 D.K.F., Part 1, Plan KR-1013, Parcel 25313 D.K.F., Part 1, Plan 23p-2337, part of Parcel 28040 D.K.F., Secondly.

The lot measures 125 m (410') x 47.25 m (155') as shown on the attached site plan.

The lot is at the corner of Duke Street and the northern branch of Arthur Street, (which is a gravel road leading to the south) and the northeast corner of the lot is "kitty corner" from the CPR railyard. There is a lockable steel gate located at the approximate mid point of Duke Street in front of the lot at which point the paved street becomes a gravel road.

Immediately to the west of 276 Duke Street are single family houses on both sides of the street, so there would be residential units that have full services (water, sewer, Hydro and phone). There is a sanitary manhole, fire hydrant, power, and phone lines next door at 274 Duke St. so service connections are immediately available to the vacant lot. However, it is noteworthy that there has been no work done to date by the developer's consulting team to determine the available capacities of these services to handle the new development as that work will be part and parcel of any detailed design work upon the rezoning approval.



REVISED PLAN LESS PART 1 - 20'

Since the location of the proposed construction is at the end of a short residential street that is 2 blocks removed from any major transportation route, and the presence of the gate indicates that there would be periodic times when traffic would be prohibited from continuing to Arthur Street, there would be limited traffic going past the property. Therefore, the only real source of noise would be any passing trains, which averaged 21 per day in 2019 according to the CPR website. It is noteworthy that when we were on site on November 17, 2020, the only traffic that passed by the lot were 3 C.P.R. vehicles and the gate was open.

Description of Topography:

The lot itself is a short plateau that is relatively flat running in a south-westerly direction until it reaches a bedrock ridge located past the southern lot boundary that runs diagonally to the property line ranging from approximately 75 m past it at the eastern end to 15 m at the western end. (Refer to photos and the topographic survey for topography plan and details). The plateau does slope gently to the northeast with an overall drop of approximately 2.5 – 3.5 m. along Duke St, running in front of the lot, starts level to the lot at the west end then runs downhill to become approximately 6.5 m below the crest of the plateau at the bottom of the ditch at the corner with Arthur Street then there is a further 1.5 m drop along Arthur St. to become 7.5 m at the bottom of the ditch below the top of the very steep slope on the east end to the road.

The lot also has what appears to be a set of what perhaps could be shallow (.5 – 1 m) drainage ditches, but also could have been caused by the excavation of unknown materials (perhaps plumbing, building footings, driveway drainage, etc.) from previous structures on the lot. These ditches run both parallel and perpendicular to Duke Street (see photos).

In addition, there are dozens of back dumped piles of soil from winter snow dump piled along the eastern end of the lot, (see photos) that would range from 1.5 to 2 m in height, starting at the crest and extending for 10 – 15 m westward to the edge of one of the ditches.

Soil and Geology:

At the time of this writing, there had been no soils drilling performed on the property, which will be required to be done prior to any foundation design work. However, the soils profile visible from the ditches and along Duke and Arthur Streets (see photos) shows a layer of topsoil from .5 – 1 m deep followed by 5 – 8 m of a coarse sand and gravel/ silt mixture, however, the coarse sand and gravel very well could be surficial coverage created by the aforementioned back dumping of material along the eastern crest of the lot. The bottom of the exposed slope has been stabilized by the importation of coarse blasted rock which also extends into the drainage ditch that parallels the 2 streets.

There were no visible bedrock outcrops and with the depth of the ditching being 1.5 – 2 m deep, the soils would be expected to be at least to that depth.

Surface Water: *(fens, swamp, lakes, ponds)*

There is no surface water ponding nor wetlands on site. However, there is a small pond located approximately 350 m to the southeast of the lot and approximately 75 m north east of the corner of the east/west branch of Arthur St. and its north/south branch (see aerial photos and plan map). This and another small pond further to the south are identified as Milanese's Lakes and are tributaries of Wabigoon Lake. It is noteworthy that storm water drainage from Duke Street (and its surrounding area streets) will ultimately flow into Milanese's Lakes.

Ground Water:

There will be no use of nor impairment of ground water resources due to this proposed development.

Air Quality:

Other than the normal production of sawdust and some dust created during lot clearing and landscaping during construction and lot development, and since it is presently planned to utilize electric heating appliances, the proposed buildings will, in effect, have no impact on the air quality in Dryden. However, it is noteworthy, that although it has been greatly diminished in recent decades, Dryden does have a past history of foul-smelling emissions from the Pulp mill.

Vegetation: *(forest, ground cover, aquatic plants)*

The area of the lot at 276 Duke Street had been stripped for past developments on the property and has sat fallow for several years, which has allowed a host of native grasses to flourish on the property that have reached heights approaching 1 m high. Here the native grass species would be snakeweed, sweet clover, timothy, crab grass and ragweed (see photos). Starting at Duke Street and progressing southward there are 30 – 40 m of mixed grasses running to near the back of the property. In addition, there are a couple of dozen white spruce and jack pine that would be approximately 25 – 30 years old (4 – 7 m high) growing in singles, small pairings and intermittently but mainly located in the southwest corner.

At the current bush line which roughly approximates the property line (48 m) a predominately coniferous forest of white spruce and jack pine commences, with intermittent poplar, ash, and birch (see photos). At the back of the property itself and extending into the leading edge of the undeveloped forest are "brush species" of tag alder, willow, and dogwood.

Towards the eastern portion of the property and perhaps as a result of, are the dozens of back dumped piles of soil (see photos). Whatever type of soil is in these piles seems very amenable to growing a

very thick patch of ragweed inter-spaced with thistles and native grasses.

Due to the use of coarse rock along the side slopes and in the ditches, there is very little vegetation growing in these areas.

Birds: *(waterfowl, songbirds)*

Songbirds found in the community were robins, hummingbirds, swallows, grosbeaks, red wing blackbirds, sparrows, martins, woodpeckers, jays, and finches.

Scavengers and birds of prey in the area are ravens and bald eagles. However, it should be noted that there were no stick nests located in the yard, along the road alignment, or in the woods located due south of the property line.

Milanese's Lakes could have water surface landings made by gulls, loons, herons, cranes, cormorants, mergansers, mallards, teal, and other species of waterfowl that would be common to Northwestern Ontario.

Other Fauna: *(mammals/amphibians reptiles/insects; game & protected species)*

There are no endangered or protected species of mammals, amphibians, insects, or reptiles identified on the lot. The species of each phylum are typical of Northwestern Ontario. Terrestrial animals in the area could include: ruminants (deer), ursines (black bears), canines (foxes and wolves), rodents (squirrels, chipmunks, field mice), and lagomorphs (jack rabbits) and all could pass through the property. There was a definite "game trail" with deer prints crossing the southwest corner of the lot.

There could be western painted turtles, crayfish, and leopard frogs in the Milanese's Lakes. Garter snakes would be the predominant reptile found here, although none were spotted during our site visit (which was in November).

In Northwestern Ontario there are hordes of insects: black flies, sand flies, horse flies, deer flies, house flies, no-see-ums, mosquitoes, wood ticks, tent caterpillars, moths, butterflies, red and black ants, beetles, bees, hornets, and wasps with several species of each, and all of them could be present on the property in some degree of density at times during the late spring and summer and early fall. However, there has never been a report of any rare, endangered, or protected species of any kind identified in the area.

Special Habitat Areas: *(specially designated or protected habitats)*

There are no specially designated or protected habitats in the area.

Sensitive Areas: *(residential zones, parkland, hospitals, schools)*

The existing water and sewer lines will service the residences. There are 3 schools available in that are of town plus the Dryden campus of Confederation College: Saint Joseph's Separate School is 9 blocks away; Open Roads Public School is 15 blocks away and Dryden District High School is 6 blocks away. There is a hospital in town, but not in the immediate area. There are no park, playground nor other sensitive areas immediately in the neighborhood. There are no plans to incorporate a green space area within the sub-division, especially since there is a wooded area immediately to the south of the lot. The

CPR work yard will be off limits to residents and may well be locked up in the evenings since there is a gate across Duke Street.

Human Health and Safety: *(any persons whose health and safety may be affected by the construction and operation of the project)*

Other than the construction safety issues with the contractor, there are no human health and safety issues if the project is allowed to proceed.

Traditional Land Use Activities: *(trapping, fishing, medicinal plant collection, ceremonial grounds)*

Although the residents may include people of Indigenous origin who may partake in traditional land use activities, none of the activities would occur or be affected by the clearing for the buildings or their construction.

Aesthetics: *(general character of the surrounding area, and if the project is compatible)*

The 4 buildings will require the eventual clearing of the property, however, as mentioned previously, under vegetation, there property had been cleared of trees in the past except for a few trees that have grown up among the weeds that are the predominate vegetation. There is no dense forest that will be cut and after construction the weeds that are presently growing on the site will be replaced with lawns suitable for residential lots. In addition, with the well mature forested ridge immediately to the south of the lot, the 3 storey buildings should not be visible from Arthur Road to the south.

Special Designations: *(parks, protected areas)*

There are neither parks, protected areas nor special designations within the area to be developed.

Archaeological Resources: *(recorded, or potential)*

The Indigenous community has been in existence in the area for centuries, therefore there is no doubt burial plots, and archaeological artifacts may be found in the community and surrounding area. Although there is no evidence of such on the lot, which has undergone the removal of its original topsoil under previous uses of the property, if such artifacts or human remains are encountered during excavation, tender documents will include a clause that will require the work to cease in that location and for the proper authorities to be notified of such a find.

Project Justification:

Need for the Project:

The developers have concluded that there is a need within the City of Dryden for the provision of affordable housing for families.

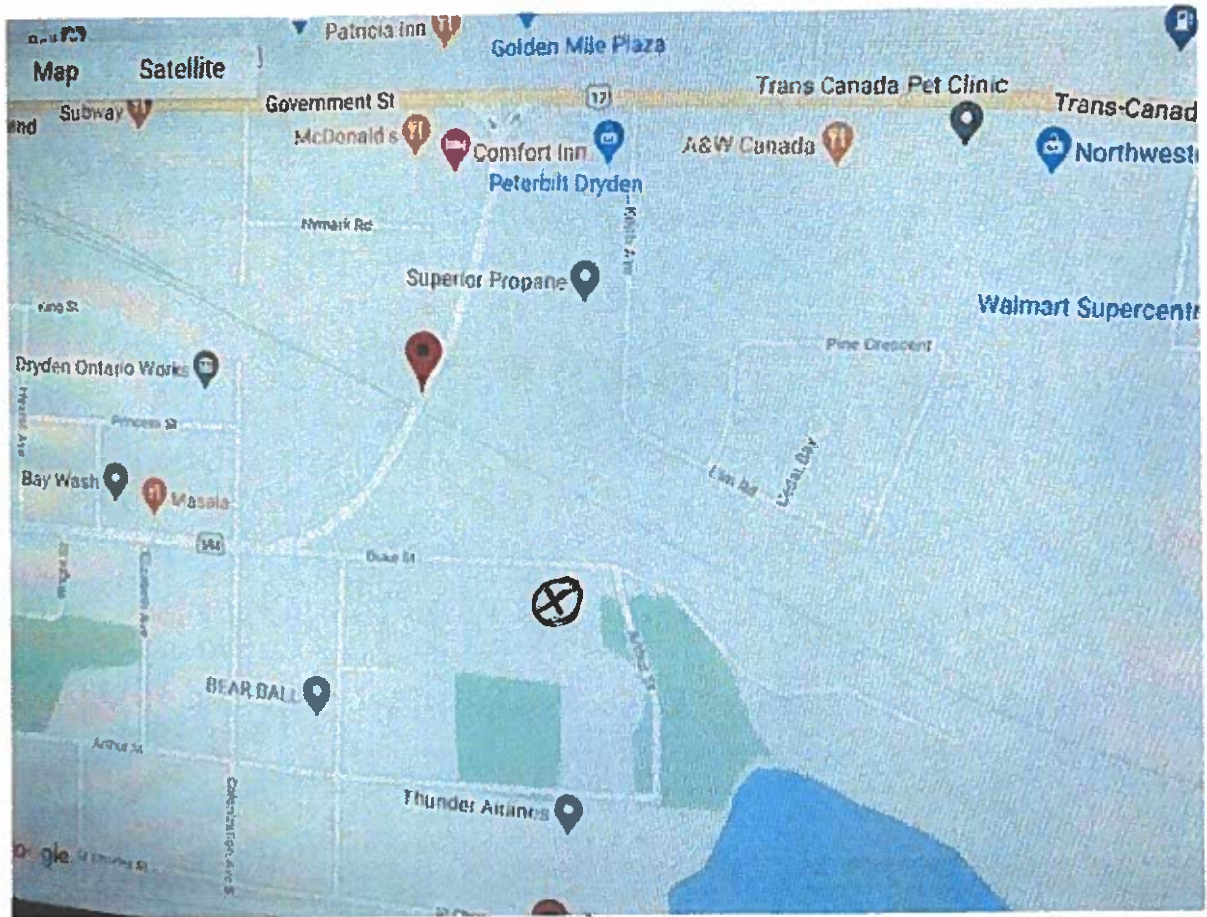
Purpose of the Project:

One of the lower cost alternatives to single family dwellings are multi-unit housing construction such as what is being proposed, which will see 48 new housing units become available.

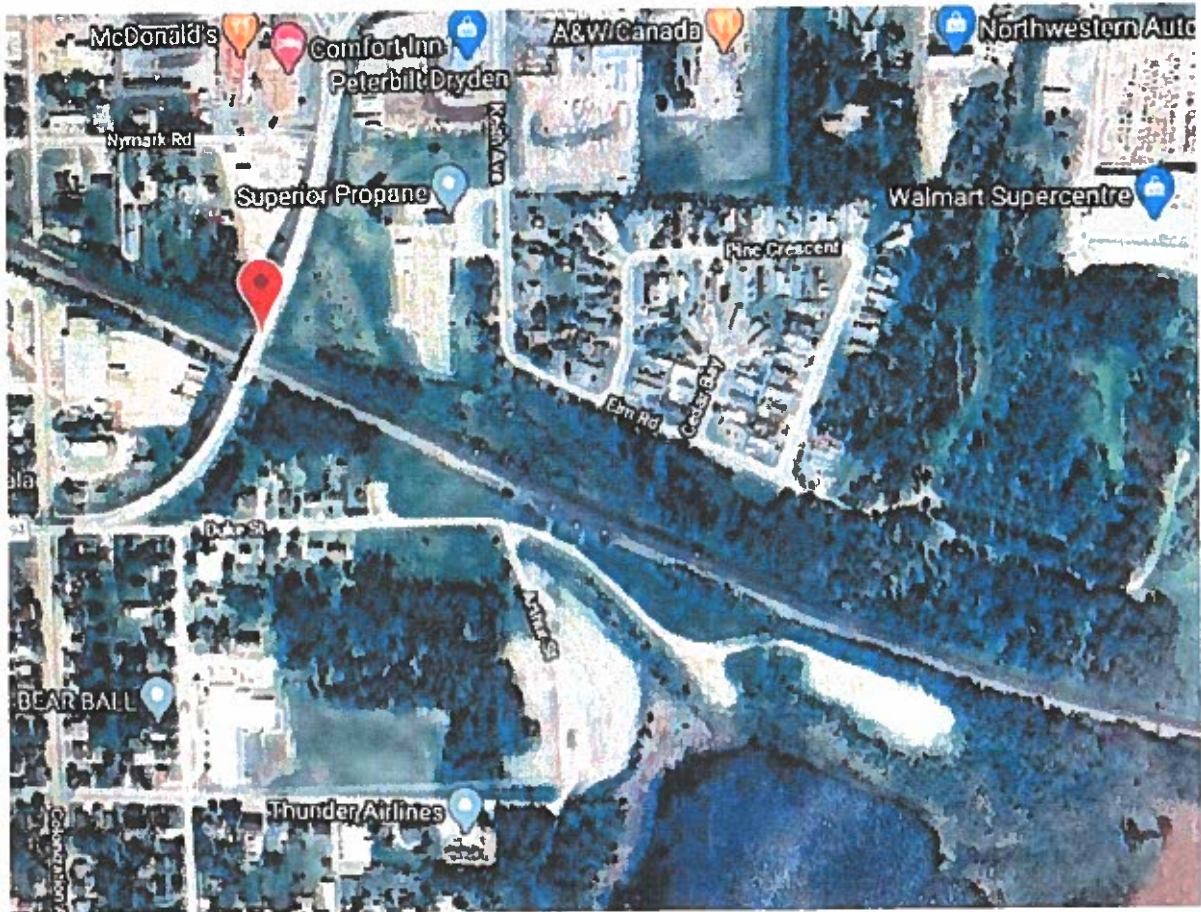
Alternatives Considered:

This proposed building site at 276 Duke Street is a very large lot (125 m or 410' of road frontage) and as such would require sub-dividing to make it practical for a single-family dwelling or otherwise would be a waste of City services. There are other potential types

of housing that can accommodate more than one family on a lot like this, such as row housing and MURBS, and high-rise apartments, but these proposed 3 stories high units makes good use of the property yet is low enough that they will not rise above the tops of the trees in the local forest behind the buildings.

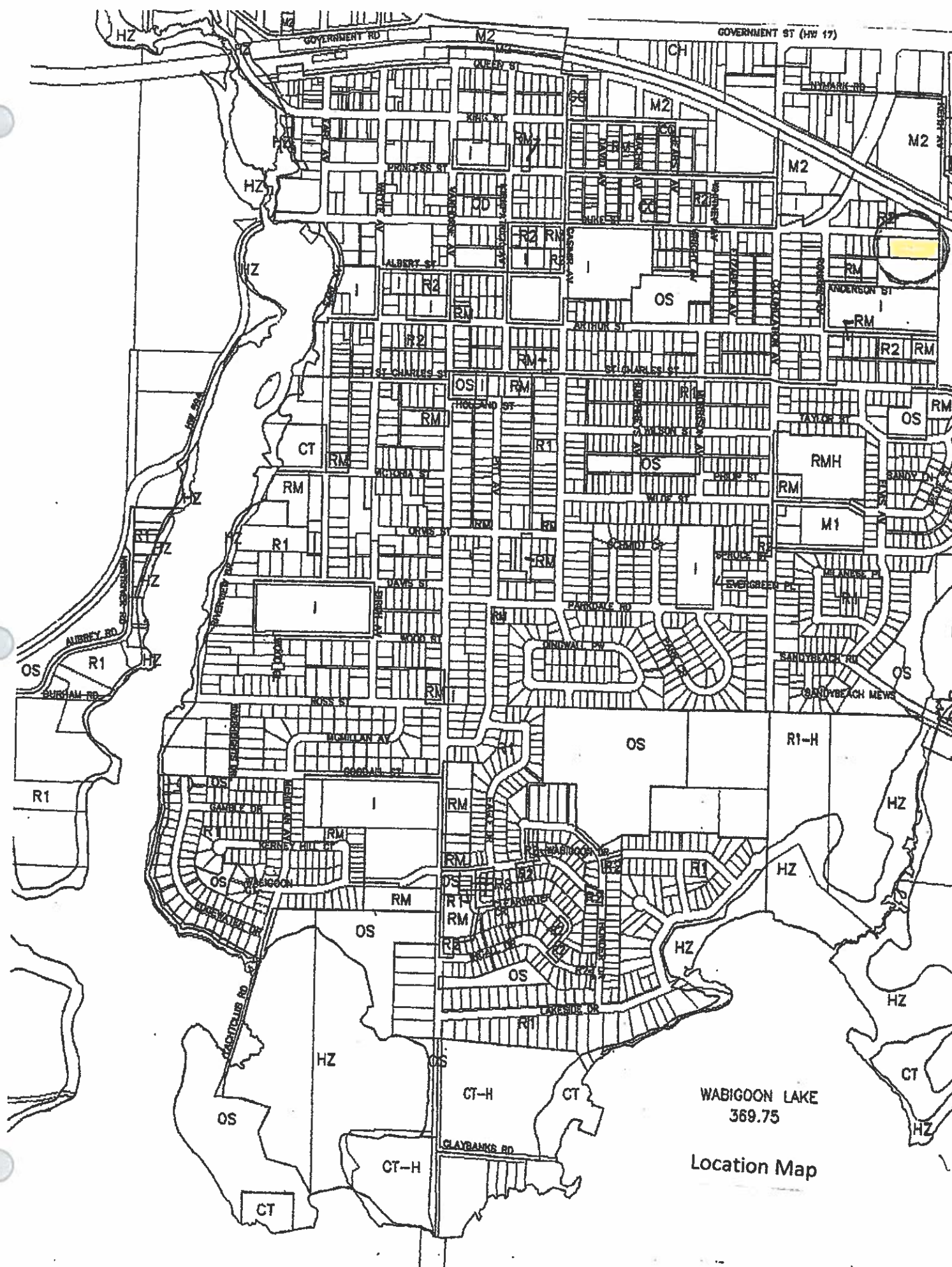


Enlarged Area Map



Google Aerial Photo

1.1 SUBJECT SITE AND THE CITY OF DRYDEN





About Dryden



Welcome to "Our Wilderness City," Dryden, Ontario. Dryden is where the outdoor beauty of Northwestern Ontario meets the bright lights of city life. With a long [history](/en/community/history.aspx) (</en/community/history.aspx>), Dryden is home to people of many different cultures and backgrounds.

In the middle of the Boreal Forest, Dryden and its surrounding area is on the edge of three freshwater lakes: Wabigoon Lake, Thunder Lake and Eagle Lake. [Our community](/en/community/community.aspx) (</en/community/community.aspx>) and [climate](/en/community/climate.aspx) (</en/community/climate.aspx>) offer something for everyone - raise a family, launch a business or career, enjoy retirement.

Our [Dryden Life Magazine](/en/explore/resources/Documents/DDC-DL-2016-Magazine-Print-Web.pdf) (</en/explore/resources/Documents/DDC-DL-2016-Magazine-Print-Web.pdf>) can help you plan a trip to Dryden and includes upcoming events and attractions. You can also check our [Events Calendar](https://calendar.dryden.ca) (<https://calendar.dryden.ca>).

Not sure what you're looking for? [Explore Dryden](/en/explore/explore.aspx) (</en/explore/explore.aspx>) and visit our [local retailers](/en/explore/shopping.aspx) (</en/explore/shopping.aspx>). View [our maps](/en/explore/maps.aspx) (</en/explore/maps.aspx>) for more information about [getting around](/en/explore/transportation-and-getting-here.aspx) (</en/explore/transportation-and-getting-here.aspx>) our community.

Dryden Life Magazine

Contact us to get a copy of the annual [Dryden Life Magazine](mailto:tourism@dryden.ca) (<mailto:tourism@dryden.ca>).

Contact Us

Community Services Department

284 Government Street

Dryden, ON

P8N 2P4

T. 807-223-2174

Tourism Manager 807-223-4100 x.1

Toll Free: 1-800-667-0935

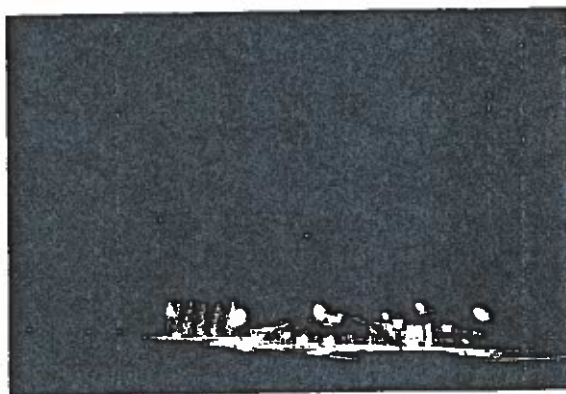
Email: Dryden Tourism

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(807) 223-1147, Email Us

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Education and Schools



The City of Dryden has a number of education options for people living in and around the area.

Public schools

There are a number of public education options for Dryden residents.

New Prospect Public School

New Prospect Public School (<http://newprospect.kpdsb.on.ca/>) offers full day kindergarten to Grade 8, French immersion and the Hockey Canada Skills Academy program. It is located at 289 Wice Road. This school is in the Keewatin Patricia District School Board.

Phone: 807-223-4713

Open Roads Public School

Open Roads Public School (<http://openroads.kpdsb.on.ca/>) offers kindergarten to Grade 8, a fine arts program and the Hockey Canada Skills Academy program. It is located at 20 Davis Street. This school is in the Keewatin Patricia District School Board.

Phone: 807-223-4418

Dryden High School

The **Dryden Public High School** (<http://dhseagles.kpdsb.on.ca/>) is for students in Grade 9 to Grade 12. It is located at 79 Casimir Avenue. It's in the Keewatin Patricia District School Board.
It offers programs in:

- technology
- computer studies
- humanities
- physical education
- outdoor education
- French immersion
- business
- arts (Music, Drama, and Visual Arts)
- native Studies
- native language
- cooperative education
- alternative education programs

Phone: 807-223-2316

Catholic Schools

The City of Dryden also has Catholic schools in the area.

St. Joseph's Catholic School

St. Joseph's Catholic School (<http://stjosephs.tncdsb.on.ca/>) offers kindergarten to Grade 8 and French immersion programming. It is located at 185 Parkdale Road. This school is in the Northwest Catholic District School Board.

Phone: 807-223-5227

École catholique de l'Enfant-Jésus

École catholique de l'Enfant-Jésus (<https://www.csdcab.ca/enfant-jesus/>) offers full-day kindergarten to Grade 8. All programs are in French. It is located at 161 Airport Road. The school is in the Conseil scolaire de district catholique des Aurores boréales board.

Phone: 807-937-4259

Post-Secondary Education

The City of Dryden also has post-secondary education opportunities.

Confederation College - Dryden Campus

Confederation College of Applied Arts and Technology (<http://www.confederationc.on.ca/>) has a campus in Dryden that offers many learning options for people. It has full and part-time courses, as well as evening courses.

Address: 100 Casmir Avenue, Dryden, ON P8N 3L4

Phone: 807-223-3035

Fax: 807-223-5460

Contact North | Contact Nord

Contact North (<http://studyonline.ca>) is Dryden's online learning centre. It offers access to online and distance education programs and courses from colleges, universities and training providers across Ontario.

Contact North has distance education technologies such as audio, visual and web conferencing, computer workstations and high-speed Internet (where available).

Address: 100 Casimir Avenue, Room 112D, Dryden, ON P8N 3L4 Phone: 1-855-539-2993 Fax: 807-223-2994 Email: dryden@contactnorth.ca

(<mailto:dryden@contactnorth.ca>)

Contact Us

City of Dryden

City of Dryden, 30 Van Horne Ave



Zoning

The City of Dryden's [Zoning By-law](/en/business/resources/Documents/Zoning-By-Law.pdf) (/en/business/resources/Documents/Zoning-By-Law.pdf) regulates the use of land and locations of buildings and structures, and ensures proper development. This can include such things as size and type of structures permitted on a property, building height, density, parking facilities and landscaping. Before applying for a [building permit](/en/community/building-permits.aspx) (/en/community/building-permits.aspx) or a [business licence](/en/business/business-applications-licences-and-permits.aspx) (/en/business/business-applications-licences-and-permits.aspx), please check the zoning regulations for your property first.

View the following Zoning-By-law maps for more information:

- [Zoning By-law Ledger A-1](/en/community/resources/Documents/Zoning-By-Law-Ledger-A-1.pdf) (/en/community/resources/Documents/Zoning-By-Law-Ledger-A-1.pdf)
- [Zoning By-law Ledger A-2](/en/community/resources/Documents/Zoning-By-Law-Ledger-A-2.pdf) (/en/community/resources/Documents/Zoning-By-Law-Ledger-A-2.pdf)
- [Zoning By-law Ledger A-3](/en/community/resources/Documents/Zoning-By-Law-Ledger-A-3.pdf) (/en/community/resources/Documents/Zoning-By-Law-Ledger-A-3.pdf)
- [Zoning By-law Ledger A-4](/en/community/resources/Documents/Zoning-By-Law-Ledger-A-4.pdf) (/en/community/resources/Documents/Zoning-By-Law-Ledger-A-4.pdf)
- [Zoning By-law Ledger A-5](/en/community/resources/Documents/Zoning-By-Law-Ledger-A-5.pdf) (/en/community/resources/Documents/Zoning-By-Law-Ledger-A-5.pdf)
- [Zoning By-law Ledger A-6](/en/community/resources/Documents/Zoning-By-Law-Ledger-A-6.pdf) (/en/community/resources/Documents/Zoning-By-Law-Ledger-A-6.pdf)

You can apply for a zoning amendment by filling out a [Zoning By-law Amendment Information and Application Form](https://forms.dryden.ca/Building-and-Planning-Forms/Zoning-By-law-Amendment-Application) (<https://forms.dryden.ca/Building-and-Planning-Forms/Zoning-By-law-Amendment-Application>). This starts the process to amend the by-law to allow a use not previously allowed, or it could change zone regulations. It can take between three to six months to process these amendments.

Committee of Adjustment and minor variances

The Committee of Adjustment is a body appointed by council made up of three members from the community. The committee may consider granting permission or approval to allow a change from the zoning by-law requirements, called a minor variance (</en/business/minor-variances-and-consents.aspx>).

Contact Us

Building and Planning Department

City of Dryden, 30 Van Horne Avenue, Dryden ON, P8N 2A7

T. [807-223-1140](tel:8072231140)

F. [807-223-6141](tel:8072236141)

Email: [Building and Planning Department](#)

[Map this Location.](#)

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2.0 LAND USE COMPATIBILITY GUIDANCE & COMMENTS

Land Use Compatibility Assessment
276 Duke Street, Dryden , Ontario

2.0 LAND USE COMPATABILITY GUIDANCE

2.1 Guidance D-6 – Compatibility between Industrial Facilities and Sensitive Land uses

Guidance D-6 Compatibility Between Industrial Facilities and Sensitive Land Uses, sets out three (3) distance classes of facilities. The criterion is provided below in Table 1

Table 1. Guideline D-6 Industrial Categorization Criteria

CATEGORY	OUTPUTS	SCALE	PROCESS	OPERATION/ INTENSITY
CLASS I	NOISE: Sound not audible off property DUST and /or ODOUR: Infrequent and not intense VIBRATION: No ground borne vibration on plant property	-No outside storage Small scale plant or scale is irrelevant in relation to all other criteria for this Class	-Self contained plant or building which produces/stores a packaged product. Low probability of fugitive emissions	-Daytime operations only -Infrequent movement of products and/or heavy trucks
CLASS II	NOISE: Sound occasionally audible off property DUST and/or ODOUR: Frequent and occasionally intense VIBRATION: Possible ground-born vibration, but cannot be perceived off property	-Outside storage permitted -Medium level of production allowed	-Open process Periodic outputs of minor annoyance -Low probability of fugitive emissions	-Shift operations permitted -Frequent movement of products and/or heavy trucks with the majority of movements during daytime hours
CLASS III	NOISE: sound frequently audible off property DUST and/or ODOUR: Persistent and/or intense VIBRATION: Ground-borne vibration can frequently be perceived off property.	-Outside storage of raw and finished products -Large production levels	- Open process - Frequent outputs of major annoyances -High probability of fugitive emissions	- Continuous movement of products and employees -Daily shift operations permitted

The study area for Land Use Compatibility Assessments are established in the D-Series Guidelines. Depending on the Facility Class categorization around the facility the potential influence area will be as set out in Table 2 below. Channel has conservatively taken the position to review the impact fro 1,000 meters around the subject site. The recommended setback distances as a function of Facility Class are also provided in Table 2.

Table 2. Guideline D-6 Minimum Separation Distances and the Potential Influence Areas

CLASS	RECOMMENDED MINIMUM SEPARATION DISTANCE (m)	POTENTIAL INFLUENCE AREA (m)
I	20	70
II	70	300
III	300	1000

Further to table 2, the D-6 guideline also suggests that while separation distances are typically measured between property lines, there is an alternative which allows for measuring from a specific source to the sensitive receptor. Additionally, guideline D-6 provides allowances for reducing the minimum separation distance required based on mitigation at industrial sites and provides for exceptions to the Minimum Separation Distances for some development sites.

3.0 **IDENTIFIED FACILITIES WITH POTENTIAL IMPACTS**

The 1,000 m study area surrounding the proposed property is partially developed with commercial facilities, (stores and shops) , as well as municipal and residential single family homes (R-1)

SUMMARY OF POTENTIAL IMPACTS AND CONCLUSIONS

In our opinion and in regards to the current property intended use and rezoning to RM (Multiple Residential) from R2 (Residential Type 2) there are no minimum separation distances of property concerns within the Sensitive Land Use Guidelines in the Class 1 Category Compatibilities.

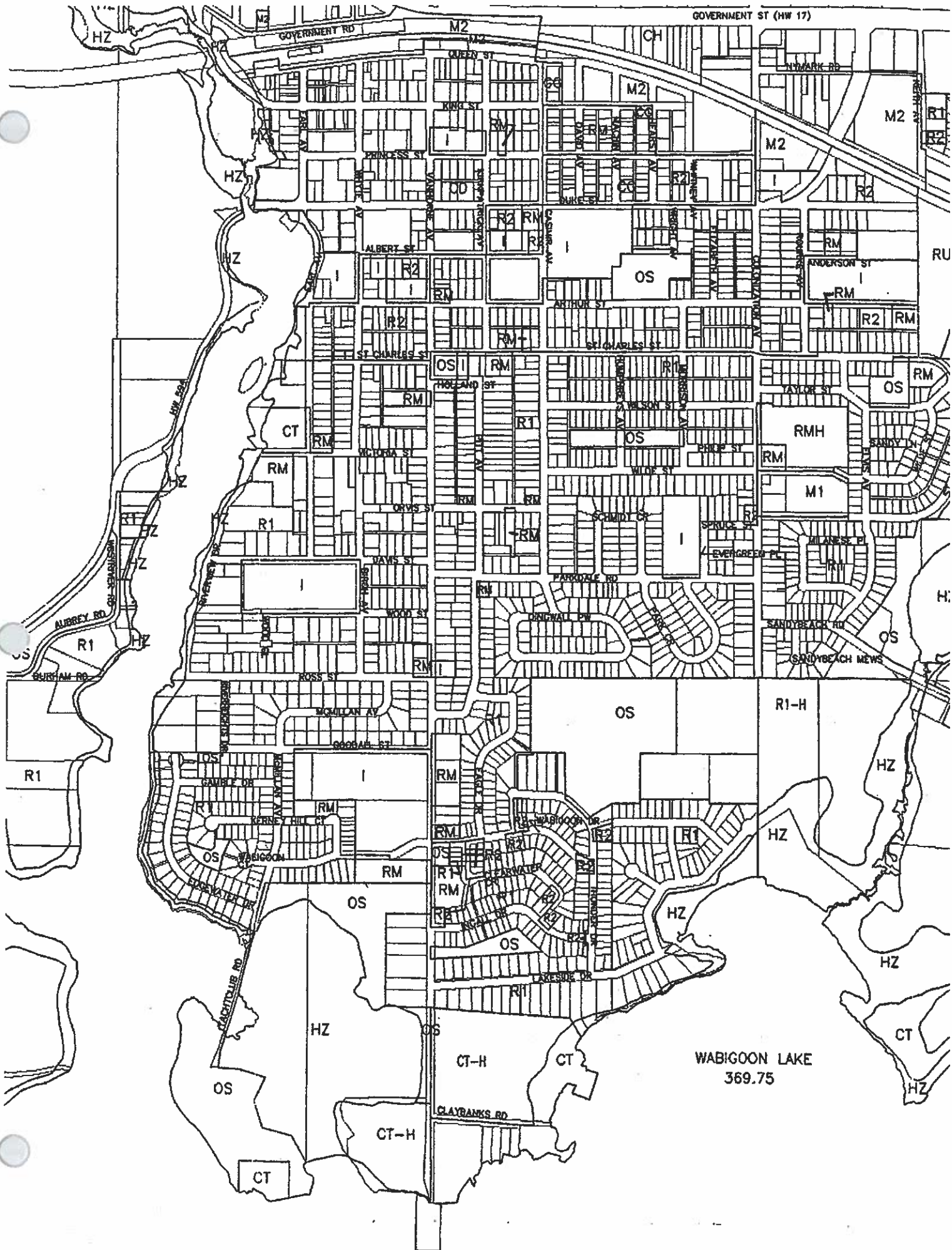
Separation distances can be met and there are adequate separations with no adverse impacts.

The subject site is not expected to adversely impact the neighbouring land uses. This is consistent with the other sensitive land uses located in proximity to the development at 276 Duke Street.

APPENDIX A

DRYDEN ZONING BYLAW (FEBRUARY 15 2000)

ORIGINAL PLAN



[illegible]

REVISED PLAN LESS PART 1 - 20'

SECTION 4 ZONE PROVISIONS

4.1 RESIDENTIAL TYPE ONE (R1) ZONE

4.1.1 Permitted Uses

No person shall within a Residential Type One (R1) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

- i) crisis centre
- ii) group home
- iii) home occupation
- iv) single detached dwelling

4.1.2 Regulations for Permitted Uses

- i) Minimum Lot Area 465 sq. m.
- ii) Minimum Lot Frontage 15.0 m.
- iii) Minimum Yard Requirements
 - a) Front Yard 7.5 m.
 - b) Interior Side Yard 1.5 m.
 - c) Exterior Side Yard 5.0 m.
 - d) Rear Yard 7.5 m.
- iv) Maximum Lot Coverage 40%
- v) Minimum Landscaped Open Space 20%
- vi) Maximum Building Height 9.0 m or not more than 1.0 metres higher than the average height of the dwellings on the adjacent lots, whichever is less.

4.1.3 Exceptions

4.2 RESIDENTIAL TYPE TWO (R2) ZONE

4.2.1 Permitted Uses

No person shall within a Residential Type Two (R2) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

- i) bed and breakfast
- ii) boarding house
- iii) crisis centre
- iv) duplex dwelling
- v) group home
- vi) home occupation
- vii) semi-detached dwelling
- viii) single detached dwelling
- ix) townhouse dwelling

4.2.2 Regulations for Permitted Uses

- i) Minimum Lot Area
 - a) bed and breakfast, boarding house, duplex, group home and single detached dwelling 465 sq. m.
 - b) semi detached and townhouse 200 sq. m.
- ii) Minimum Lot Frontage
 - a) bed and breakfast, boarding house, duplex, group home and single detached dwelling 15.0 m.
 - b) semi detached and townhouse 9.0 m.
- iii) Minimum Yard Requirements
 - a) Front Yard 7.5 m.
 - b) Interior Side Yard
 - one storey 1.5 m.
 - two storeys 3.0 m.
 - semi-detached nil with communal wall, 3.0 m. on the other
 - townhouse 5.0 m. on exterior wall only
 - c) Exterior Side Yard 5.0 m.
 - d) Rear Yard 7.5 m.
- iv) maximum lot coverage
 - all buildings 50%
 - accessory buildings - 75% of principal building or maximum 10% lot coverage, whichever is greater.

- v) Minimum Landscaped Open Space 20%

4.2.3 Exceptions

4.3 MULTIPLE RESIDENTIAL (RM) ZONE

No person shall within a Multiple Residential (RM) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

4.3.1 Permitted Uses

- i) apartment building
- ii) bed and breakfast
- iii) duplex dwelling
- iv) group home
- v) home occupation
- vi) four-plex dwelling
- vii) semi-detached dwelling
- viii) single detached dwelling
- ix) townhouse dwelling
- x) triplex building

4.3.2 Regulations for Permitted Uses

Single detached dwellings, semi detached, duplex dwellings, triplex or quadraplex, boarding houses and group homes shall meet the Regulations for permitted uses in the R2 Zone.

- i) Minimum Lot Area
 - tri-plex or townhouse 200 sq. m. per unit
 - apartment building 200 sq. m. per unit
 - plus 93.0 sq. m. per unit after 4 units
- ii) Minimum Lot Frontage 8.0 m. per unit
- iii) Minimum Yard Requirements
 - a) Front Yard 7.5 m. plus 3.0 metres for each storey above 3
 - b) Interior Side Yard
 - with common wall nil
 - without common wall 4.5 m. or half the building height whichever is greater
 - c) Exterior Side Yard 7.5 m.
 - d) Rear Yard 10.5 m.

- v) Minimum Landscaped Open Space 20%

4.2.3 Exceptions

4.3 MULTIPLE RESIDENTIAL (RM) ZONE

No person shall within a Multiple Residential (RM) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

4.3.1 Permitted Uses

- i) apartment building
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- iv) group home
- v) home occupation
- vi) four-plex dwelling
- vii) semi-detached dwelling
- viii) single detached dwelling
- ix) townhouse dwelling
- x) triplex building

4.3.2 Regulations for Permitted Uses

Single detached dwellings, semi detached, duplex dwellings, triplex or quadraplex, boarding houses and group homes shall meet the Regulations for permitted uses in the R2 Zone.

- i) Minimum Lot Area
 - tri-plex or townhouse 200 sq. m. per unit
 - apartment building 200 sq. m. per unit plus 93.0 sq. m. per unit after 4 units
- ii) Minimum Lot Frontage 8.0 m. per unit
- iii) Minimum Yard Requirements
 - a) Front Yard 7.5 m. plus 3.0 metres for each storey above 3
 - b) Interior Side Yard with common wall nil
without common wall 4.5 m. or half the building height whichever is greater
 - c) Exterior Side Yard 7.5 m.
 - d) Rear Yard 10.5 m.

No person shall within a Multiple Residential (RM) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

4.3.1

Permitted Uses

- i) apartment building
- ii) bed and breakfast
- iii) duplex dwelling
- iv) group home
- v) home occupation
- vi) four-plex dwelling
- vii) semi-detached dwelling
- viii) single detached dwelling
- ix) townhouse dwelling
- x) triplex building

4.3.2

Regulations for Permitted Uses

Single detached dwellings, semi detached, duplex dwellings, triplex or quadraplex, boarding houses and group homes shall meet the Regulations for permitted uses in the R2 Zone.

- i) Minimum Lot Area
 - tri-plex or townhouse 200 sq. m. per unit
 - apartment building 200 sq. m. per unit
plus 93.0 sq. m. per unit after 4 units
- ii) Minimum Lot Frontage 8.0 m. per unit
- iii) Minimum Yard Requirements
 - a) Front Yard 7.5 m. plus 3.0 metres
for each storey above 3
 - b) Interior Side Yard
with common wall nil
without common wall 4.5 m. or half the building
height whichever is greater
 - c) Exterior Side Yard 7.5 m.
 - d) Rear Yard 10.5 m.
- iv) Maximum Lot Coverage 50%
- v) Minimum Landscaped Open Space 20%

4.3.3

Exceptions

4.8 LOCAL COMMERCIAL (CL) ZONE

No person shall within a Local Commercial (CL) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

4.8.1 Permitted Uses

- i) one business and professional office
- ii) a maximum of 2 dwelling units located on the second storey or at the rear of the first storey
- iii) retail stores not exceeding 185 sq. m.

4.8.2 Regulations for Permitted Uses

- i) Minimum Lot Area
 - on full municipal services 280 sq. m.
 - on private services 4,000 sq. m.
- ii) Minimum Lot Frontage
 - on full municipal services 12.0 m.
 - on private services 60.0 m.
- iii) Minimum Yard Requirements
 - a) Front Yard 9.0 m.
 - b) Interior Side Yard
 - abutting a commercial zone nil
 - abutting another zone 5.0 m.
 - c) Exterior Side Yard 9.0 m.
 - d) Rear Yard
 - abutting a non residential zone 7.5 m.
 - abutting a residential zone 10.5 m.
- iv) Maximum Lot Coverage 40%
- v) Minimum Landscaped Open Space 10 %
 - in any yard abutting a residential zone a landscaping strip shall be required.

4.8.3 Exceptions

4.8.3.1 Local Commercial Exception One (CL-1) Zone

Notwithstanding the uses permitted in the Local Commercial (CL) zone to the contrary, within the Local Commercial Exception One (CL-1) Zone, the permitted uses shall be limited to a business or professional office, a fire hall, a police office, and government offices.

In all other respects the provisions of the Local Commercial (CL) Zone shall apply.

4.9

DOWNTOWN COMMERCIAL (CD) ZONE

No person shall within a Downtown Commercial (CD) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

4.9.1

Permitted Uses

- i) apartment dwelling
- ii) assembly hall
- ii) banks or financial institutions
- iii) business, professional and administrative offices
- iv) car wash
- v) clinic
- vi) crisis centre
- vii) day nurseries
- viii) dwelling units ~~on a floor above the first storey or on the first floor behind the commercial use~~ within a commercial building
- ix) existing dwelling units
- ix) funeral parlour
- x) gas bar
- xi) hotels and motels
- xii) laundromat
- xiii) movie theatre
- xiv) parking lot
- xv) personal services establishment
- xvi) place of amusement
- xvii) place of worship
- xviii) post office
- xix) private club
- xx) restaurant
- xxi) retail store
- xxii) service shop
- xxiii) supermarket
- xxiv) tavern
- xxv) taxi depot

4.9.2

Regulations for Permitted Uses

- i) Minimum Lot Area 230 sq. m.
- ii) Minimum Lot Frontage 7.5 m
- iii) Minimum Yard Requirements
 - a) Front Yard nil
 - b) Interior Side Yard nil
 - c) Exterior Side Yard nil
 - d) Rear Yard nil

- iv) Maximum Lot Coverage 100%
- v) Minimum Landscaped Open Space
 - in any yard abutting a Residential zone a landscaping strip shall be required
- vi) Notwithstanding the regulations in this section, permitted dwellings shall meet the requirements of the Residential Type 2 (R2) Zone

4.9.3 Exceptions

4.10

GENERAL COMMERCIAL (GC) ZONE

No person shall within a General Commercial (GC) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

4.10.1

Permitted Uses

- i) assembly hall
- ii) banks or financial institutions
- iii) business, professional and administrative offices
- iv) car wash
- v) clinic
- vi) crisis centre
- vii) day nurseries
- viii) dwelling units on a floor above the first storey or on the first floor behind the commercial use
- ix) existing dwelling units
- x) funeral parlour
- xi) gas bar
- xii) hotels and motels
- xiii) laundromat
- xiv) movie theatre
- xv) parking lot
- xvi) personal services establishment
- xvii) place of amusement
- xviii) place of worship
- xix) post office
- xx) private club
- xxi) restaurant
- xxii) retail store
- xxiii) service shop
- xxiv) supermarket
- xxv) tavern
- xxvi) taxi depot

4.10.2

Regulations for Permitted Uses

- i) Minimum Lot Area 555 sq. m.
- ii) Minimum Lot Frontage 18 m
- iii) Minimum Yard Requirements
 - a) Front Yard nil
 - b) Interior Side Yard nil
 - c) Exterior Side Yard nil
 - d) Rear Yard 7.5
- iv) Maximum Lot Coverage 60%

- v) Minimum Landscaped Open Space
 - in any yard abutting a Residential zone a landscaping strip shall be required

4.10.3 Exceptions

4.11 HIGHWAY COMMERCIAL (CH) ZONE

No person shall within a Highway Commercial (CH) Zone, use any land or erect, alter or use any building or structure except in accordance with the following:

4.11.1 Permitted Uses

- i) accessory dwelling (one only)
- ii) building supply and lumber outlet
- iii) bus depot
- iv) car wash
- v) commercial greenhouse/nursery sales
- vi) convenience store
- vii) equipment sales/rental establishment
- viii) laundromat
- ix) hotel and motel
- x) marine or small engine sales and service establishment
- xi) motor vehicle dealership
- xii) motor vehicle fuel bar or service station
- xiii) prefabricated housing sales establishment
- xiv) public storage facilities
- xv) recreational establishment
- xvi) recreational vehicle sales and service operation
- xvii) restaurant or tavern
- xviii) retail commercial uses having a minimum floor area of 100 sq m
- xix) veterinary clinic

4.11.2 Regulations for Permitted Uses

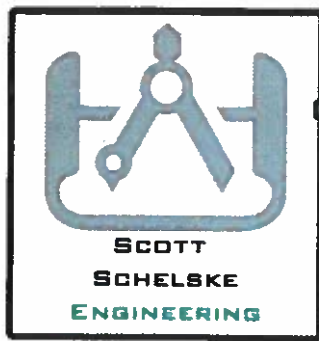
- i) Minimum Lot Area
 - without municipal sewage services 4,000 sq. m.
 - with municipal sewage services 930 sq.-m.
- ii) Minimum Lot Frontage 30.0 m.
- iii) Minimum Yard Requirements
 - a) Front Yard 15.0 m.
 - b) Interior Side Yard 6.0 m.
 - c) Exterior Side Yard 15.0 m.
 - d) Rear Yard 7.5 m.

- iv) Maximum Lot Coverage 35%
- v) Minimum Landscaped Open Space 15%

4.11.3 Exceptions

APPENDIX B

NOISE AND VIBRATION IMPACT STUDY



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Railway Vibration Study for 276 Duke Street, Dryden, Ontario

Prepared by: Scott Schelske, P.Eng., F.E.C.

Date: January 20, 2021

1.0 Introduction:

Channel Technical Services Ltd. has been retained by Fusion Capital to prepare certain reports and other document submissions for the purpose of rezoning a property located at 276 Duke Street, Dryden, Ontario. This report is intended to be used to satisfy one of the requirements by the City of Dryden, that being the submission of a railway vibration study. It is intended that the subject property be utilized as the site for the construction of 4 multi unit residential complex buildings. Each building is to house 12 individual apartments and will be 3 stories high.

Since the nearest edge of the Canadian Pacific (CP) Rail main line corridor is located 63.4 m (208') from the presently designed, nearest corner of the nearest planned structure, (see Appendix for Plan View and Photos of Area) the buildings have to be capable of withstanding any vibration created by any passing train. Although building design could have to be accommodated to meet this requirement, as detailed in this document, this will not pose any significant impediment to construction.

In order to produce this report without delving into a complicated mathematical exercise, an online search was conducted to find suitable graphs that would easily relate predicted vibration levels versus distance from the rail line to the receptor (the nearest corner of the nearest building). Since rail transportation is much more prevalent in Europe than in Canada, there was a significantly larger volume of information and detailed studies done on train traffic there than in North America, including the graphs and information on the effects of vibration on structures and human response.

2.0 Significant Information On Train Traffic:

Since the location of the proposed construction is at the end of a short residential street that is 2 blocks removed from any major transportation route, there would be limited traffic so the only real source of noise or vibrations would be any passing train. Information on the train traffic has been gleaned from the Canadian Pacific's website found on-line. building design must be accommodated.

According to the Company's website, in 2019, the average daily train traffic on the CP mainline between Winnipeg and Thunder Bay was 21 trains per day. Since passenger traffic through North Western Ontario has become very limited, almost 100% of all train traffic would be freight trains.

The average speed of a CP freight train in 2019 was 35.7 kph or 22.2 mph and the speed in town would be significantly slower than that.

3.0 Description of Proposed Project Location:

The proposed development is to take place on a vacant piece of property located on the south side of Duke Street, at the very Eastern end of the subdivided area (See attached plan map and photos of immediate area). This portion of Duke street is 2 blocks east of the north bound bend for the majority of traffic that directs it to the overpass over the CP Main Line and that terminates at the intersection with Highway 17.

The lot is at the corner of Duke Street and a gravel road leading to the south and the northeast corner of the lot is "kitty corner" from the CP railyard. There is a lockable steel gate located at the approximate mid point of Duke Street in front of the lot at which point the paved street becomes a gravel road.

Immediately to the west of 276 Duke Street are single family houses on both sides of the street, so there would be residential units that would actually be closer to the CP line than the proposed new residential complexes.

4.0 Effect of Train Vibrations:

Damage to buildings due to ground-borne vibrations (as what would be produced by trains) almost never occurs in practice. This directly is due to the fact that vibration levels dissipate on a log-log scale with distance. (More on that later in this report). However, that being stated, there are many case histories of residents blaming railroads for minor cosmetic damage to their houses, when more often than not the more credible causes are: foundation settlement, fatigue due to aging of building materials, moisture and condensation or drying of drywall, temperature variations between

freezing in the winter and heat in the summer, slamming of doors, poor building quality, ground water extraction or heavy truck traffic. The amplitude of vibration that will trigger the onset of cosmetic damage with the cracking of glass panes (cracking of drywall is higher) is 5.0 mm/sec. According to studies, the amplitude of vibration caused by trains typically is on the order of 0.1 and 0.6 mm/sec, or typically less than $1/10^{\text{th}}$ of the onslaught of even minor damage. The very strict recommended maximum level of vibration guideline established by the Swedish Transport Administration is set to completely ensure that there will be no damage caused by trains at 0.4 mm/sec.

However, vibration can also be expressed in Vibration decibels (or VdB) and in this instance, it can represent the rate of ground movement and VdB refers to the vibration level adjusted to how humans perceive vibration. It is noteworthy that as a conversion, 0.1 mm/sec is equivalent to 72 VdB, and the threshold of human perception to rail vibration is approximately 65 VdB (or .045 mm/sec). Furthermore, human annoyance begins to occur for frequent events at vibration levels over 70 VdB. However, as stated earlier, the onset of damage to structures commences at 5.0 mm/sec, so therefore, glass damage does not even begin to occur until it is 50 times greater than the onset of human annoyance!

5.0 Factors Effecting Vibration Effects on Structures:

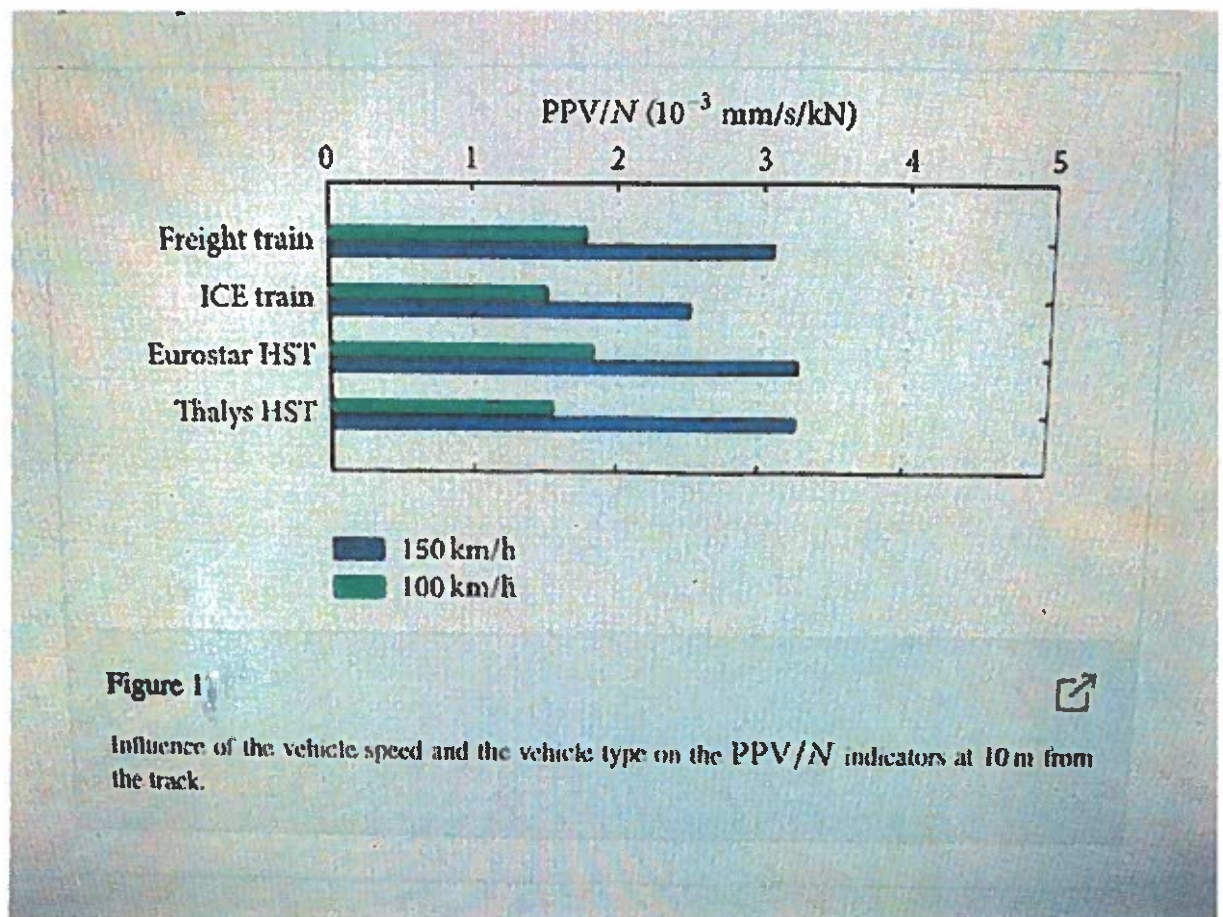
There are many factors that can have an affect on the response of a particular building to vibration beyond distance to the source. Of these, the following are perhaps the most significant:

-Rail Construction: Tracks will not only vary in size but in composition of the steel, length of rail sections, welding of track lengths, type of ballast, sources of uneven or rough spots, with the smoother the surface resulting in a reduction in vibration.

-Rail Car Construction: Passenger cars have additional suspension for the comfort of passengers, so freight trains will generally have higher levels of vibration. Steel wheels can become almost imperceptibly out of round due to uneven wear caused by braking but will still generate a higher level of vibration.

-Train Speed: The velocity of trains has a huge impact on vibration (see chart below*).

Since most available studies and data has been generated in Europe, where high speed rail is commonplace, there has been significant research on how to limit vibration caused by high-speed rail. The chart below clearly shows a direct 1/3 (or greater) decline in vibrations when the average velocity was decreased from 150 kph to 100 kph. Since the average speed of a CVP freight train is 35.7 kph (or approximately 2/3 less than the lower speed trains in the graph) the corresponding reduction in railway induced vibrations will be significant indeed, and most of the empirical data on train vibration has been generated from studies using high speed rail.



***Figure 1:**

Taken from: "Modelling the Environmental Effects of Railway Vibrations from Different Types of Rolling Stock: A Numerical Study"
(See notes in Section 6 for more details).

-Soil Depth and Type: The depth of soil effects the velocity of acceleration of vibrations in that waves travel more w\quickly through bedrock than dirt, so a deeper soil will tend to damper vibrations. Within the lot, it appears to be (looking from the side of the road) mainly soil with no bedrock outcrop visible, which will also serve to reduce any vibration.

Soil type also can greatly influence the response of a building's foundation to vibration. The effective parameters of a soil type of density, Poisson's Ratio, Young's modulus, and damping can vary greatly. Soils like clay and silt that have a much higher moisture content than sand or gravel can be more effected by vibration. This can either by the fact that waves travel slower through air, so materials like sand and gravel have more air voids and thus will tend to disperse energy more quickly. When a soil is compressed using a force in a single direction (as when a vibration passes through) Poisson's Ratio defines the degree to which the soil will expand in the other 2 directions. As a soil becomes fully saturated the wave speed increases dramatically.

-Topography: Vibrations tend to travel out horizontally, so topographical features such as hills, or valley will tend to reduce the amplitude of vibrations at a given point. In fact, a mitigation technique used for the reduction of train vibrations is to construct a ditch along side the rail line so as to interrupt the propagation of the waves. Since the proposed development is across the road from the CP Mainline, there are 2 ditches that will serve to reduce the amplitude and furthermore the subject property is on a hill that is significantly higher than the tracks, all of which will also serve to reduce any vibrations.

-Building Height and Construction Materials: The effect of vibration on multi story buildings can increase up to 10-fold on high rise structures. However, on a 3-storey residential building the effect of height should not be significant. While masonry construction is stronger than wood frame, it is more brittle and susceptible to cracking due to deflection. However, it weighs more and would be resistant to minor vibrations. Wood may be more pliable but more likely to exhibit cracking of drywall due to environmental issues and because it is lighter, may be more effected by vibrations.

6.0 Estimated Vibration Level at Buildings:

The following note will provide some details on the trains involved in the study that provided the most relevant information and easiest to interpret curves on the subject of railway vibration attenuation with distance from the tracks. As mentioned previously in this report, the most significant train would be the freight train as it best represents the utilization of rail service in North Western Ontario.

Note: The Graphs in Figures 2, 3 & 4 were taken from: “Modelling the Environmental Effects of Railway Vibrations from Different Types of Rolling Stock: A Numerical Study”

Studied Trains:

“Four vehicles are studied in the present analysis, with their own characteristics (Figure 4 and Table 1). (i)The Thalys high-speed train (HST) is derived from the French TGV. It operates between Paris, Brussels, Köln, and Amsterdam (also called PBKA train). It consists of two locomotives and eight carriages, with a total length of 200 m. The two locomotives are supported by two bogies. Instead of the conventional bogie configuration of two-to-a-car, Jacobs bogies are used for the carriage bogies, except for the side carriage bogies near the power car and at the middle of the vehicle. All the bogies present a wheelset spacing of 3 m.(ii)Also known as the TransManche Super Train (Cross-Channel Super Train), the Eurostar train is the longest HST, with a length of 394 m, and the faster train in regular UK passenger service. Its geometrical and inertia characteristics are very similar to the Thalys, except in the middle of the train (specialised trainsets are used in the center for safety reasons). (iii)The German InterCity train is also studied. The typical trainset contains 8 cars, with a classical bogie configuration. The trainset consists of 2 power cars and 6 intermediate cars. Contrary to the preceding trains, the bogie axle spacing is only 2.5 m.(iv)The last vehicle is a Belgian freight train which has a large mass and with stiff primary suspensions (193 kN/wheelset—40% more than the Thalys and Eurostar loading and more than twice as much the ICE). Although the locomotive presents a bogie axle spacing of 3.0 m, the carriage bogies have a spacing of 2.5 m.”

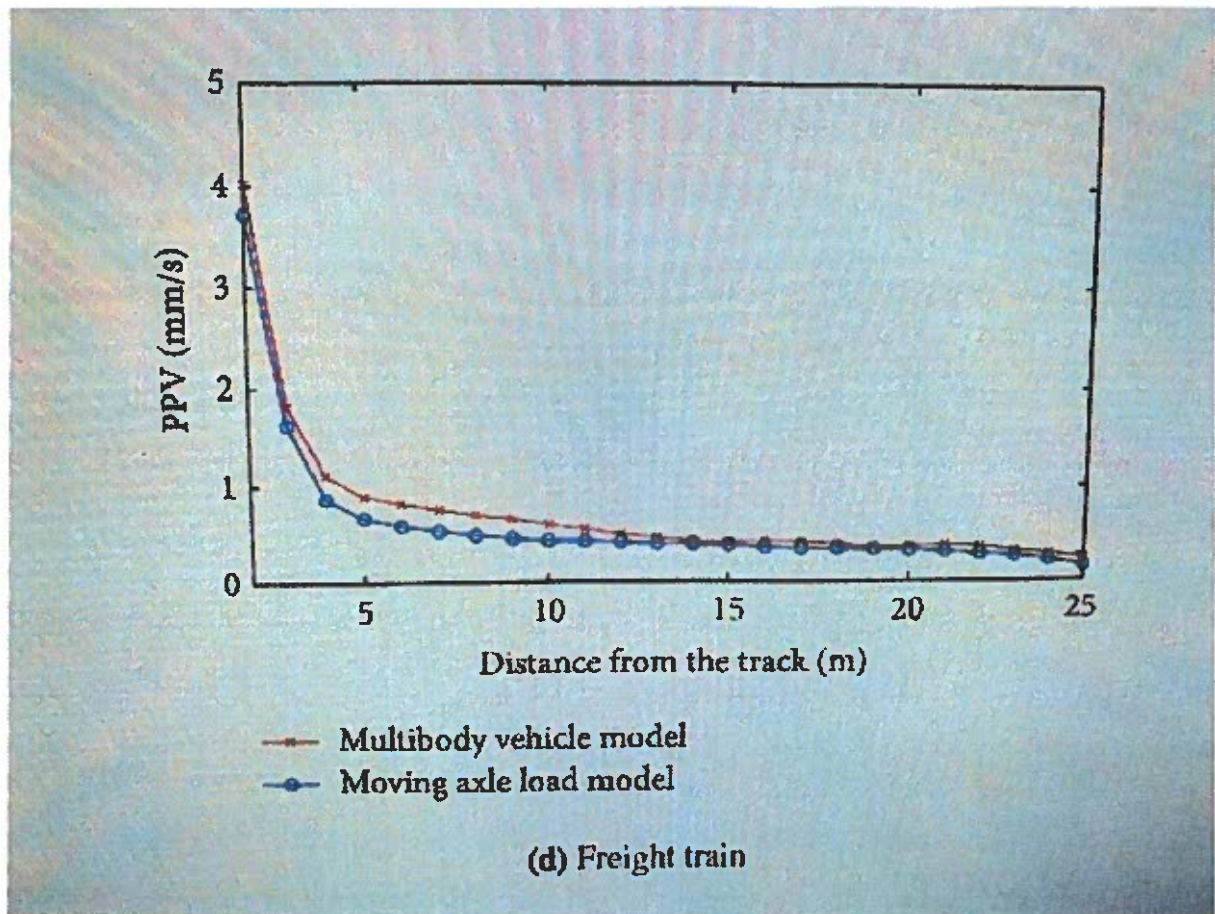


Figure 2:

In this instance, it is noteworthy that the vibration drops to below the recommended level of .4mm/sec at 10 m from the track which is indicative the effect of the dissipation at a log-log rate with distance. Therefore, with the nearest corner of the planned development at 63.4 m away, it becomes very evident that there will be no adverse effect on structure by railway vibrations.

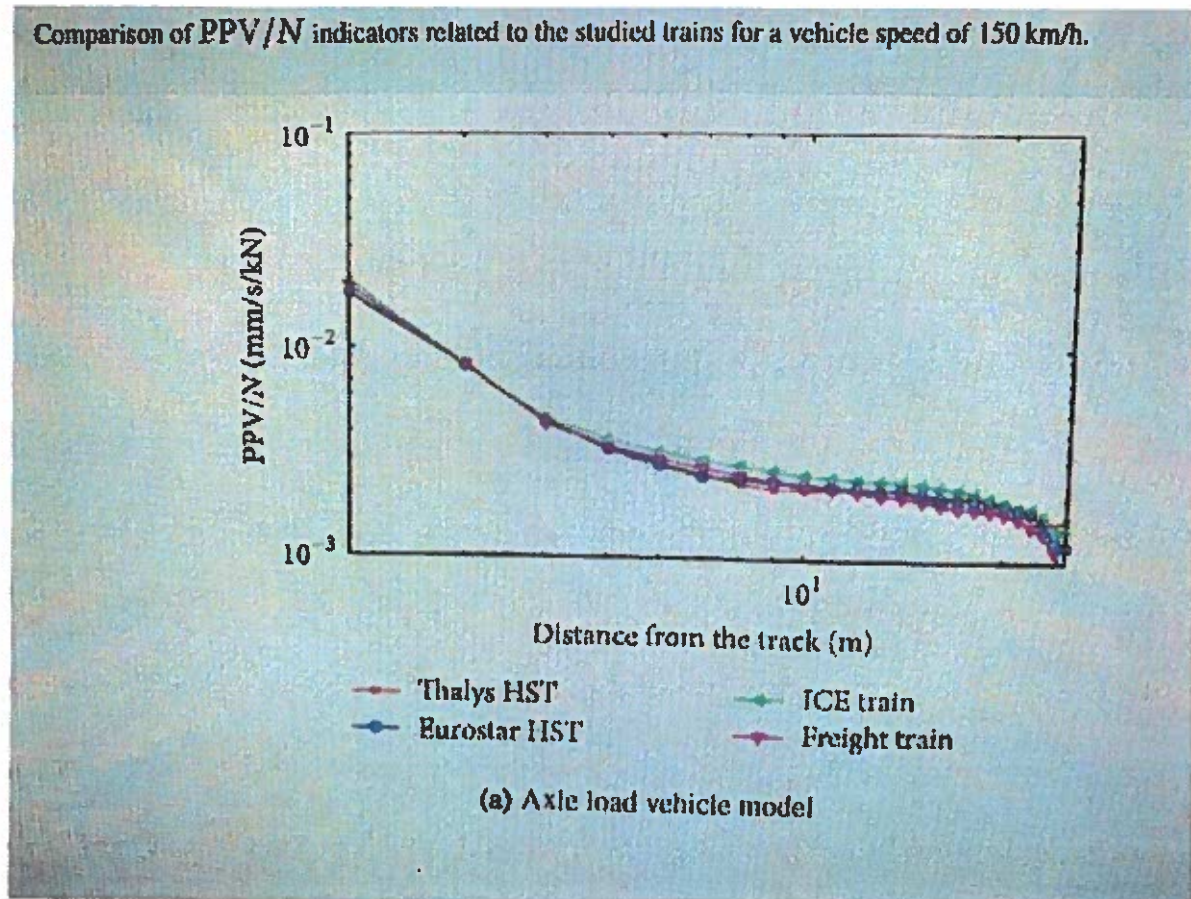


Figure 3.

This figure of the superimposition of the vibration versus distance for all 4 trains at 150 km demonstrates the drop off in vibration levels to almost nil at 14 m from the tracks.

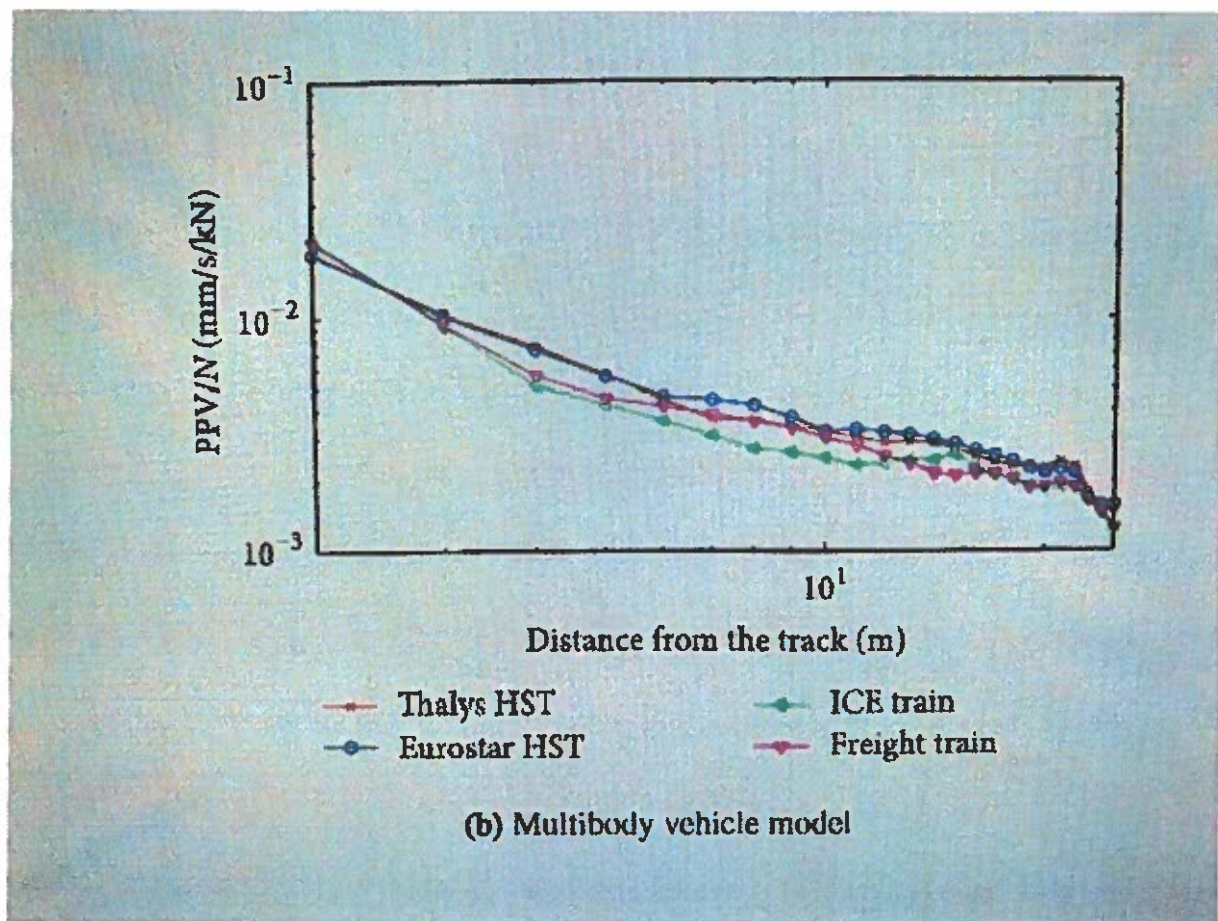


Figure 4.

This figure of the superimposition of the vibration versus distance for all 4 trains at 150 km demonstrates the drop off in vibration levels to below .02 mm/sec at 14 m from the tracks.

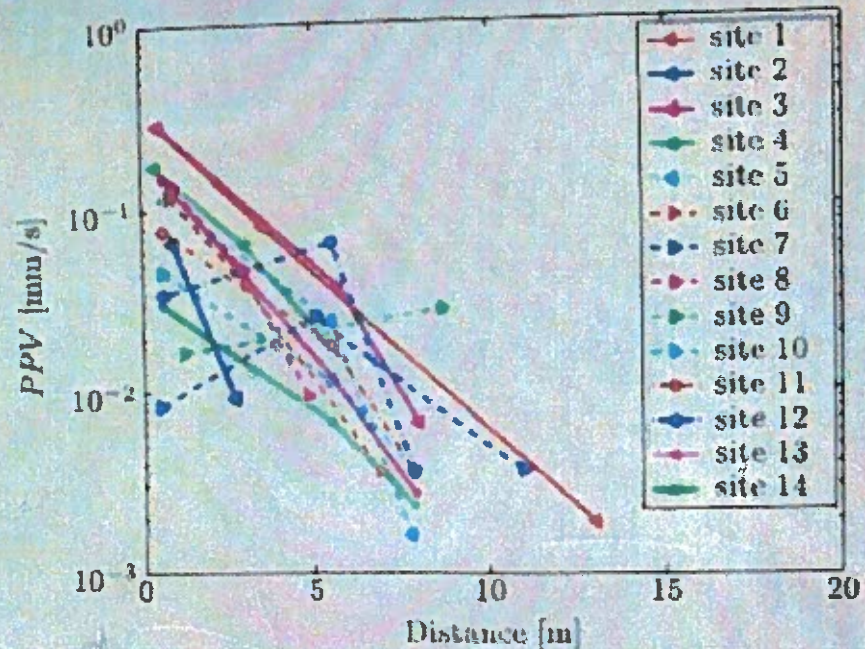


Fig. 5. Calculated *PPV* versus distance: the effect of all the studied sites.

$$PPV = \max(\text{abs}(m_{ij}(t))) \quad (12)$$

Figure 5.

Taken from: "Structural Impact Response for Assessing Railway Vibration Induced on Buildings"

In this illustration it is noteworthy that the Peak Particle Velocities on all 14 curves on this graph project to dissipate to **below 1/1000 of a mm per second by 15 m** from the tracks. With the planned construction at a minimum distance of 63.4 m for the nearest corner of the nearest building there should be absolutely no effect whatsoever on the buildings due to railway vibrations.

7.0 Summary and Conclusions:

In summary, although the presence of the Canadian Pacific Railway Mainline within a close proximity (63.4 m) of the planned development of 4-multi unit residential buildings may not be an ideal situation due to the noise of the trains passing through town there is nothing to suggest that there will be any adverse effect of the building itself due to vibrations emanating from the trains. Not only are the buildings located on a hill above the rail line so as to not be in a direct line for impulses, but there are 2 sets of ditches along the road that will act to mitigate any vibrations. Furthermore, as per the analysis of the curves of the dissolution of the amplitudes of vibration in mm/sec versus distance being on a log-log relation, there will be no ill effect whatsoever of railway vibrations on the structures themselves.

Respectively submitted:


Scott Schelske, P.Eng., F.E.C.
License Number 409350177



APPENDIX C



Photo of Neighborhood Looking West



Photo of Neighborhood Looking North



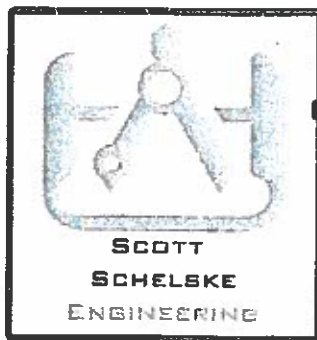
Photo of Neighborhood Looking East
Note: Railway Crossing in Background



Photo Looking West Showing Steel Gate at End of Pavement
& Drainage Ditch Along North Side that Also Provides Mitigation to Dampen Vibrations



Photo Looking North from East End of Lot Showing
CP Railway Worker Parking Area & Local Crossing,
Corner of Duke St. & Gravel Side Road Trending South,
Side of Hill Upon Top of which Buildings will be Constructed,
& Drainage Ditch Along East Side of Property
that Also Provides Mitigation to Dampen Vibrations



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Environmental Impact Statement for 276 Duke St.

Prepared by: Scott Schelske, P.Eng., F.E.C.

Date: January 27, 2021

19.0 Past History and Site Conditions:

As mentioned previously the site had been cleared of vegetation in the past with field grasses and a few trees, estimated to be 25 – 30 years old, growing on site. In the past and for several years, the City of Dryden reportedly has used the area and perhaps even the lot itself as the repository for snow that has been cleared from City streets. This could be part of the source of the dozens of back dumped piles located at the east end of the property (see photos). However, the individual piles contain much more soil than what would ever be associated with the light sanding on top of a street after a snowfall. Therefore, indeed this is the source, it is speculated that the material could be reclaimed sand from City streets that would have been picked up by a street sweeper then transported to the site in the back of a dump truck or bucket of a large front-end loader. If indeed this is the source of the piles of soil, then the material could be lightly contaminated with remnants of road salt and possibly some hydrocarbons, litter and other material that accumulate along the shoulders of City roads. If the source of the back dumps was not Dryden Public Works, then they either could have originated from haulage from an unknown outside source or even have been from the original clearing of the property using a front-end loader and/or dump truck combination and depositing the surface material at the crest and never flattening the piles. It is noteworthy that part of the studies being undertaken for this project is soils drilling that would include a chemical analysis of soil cores to identify contaminants that may impact concrete foundations. (Salt can cause a breakdown of concrete). In addition, during our site inspection, a substantial pile of concrete rubble was discovered at the bush line in the south east corner of the property just a few meters south of the back dumped piles (see photos). The pieces were in the order of 300 mm (12") thick which would be indicative of a concrete foundation for a building that would be used for commercial or institutional purposes as opposed to a 100 – 150 mm (4" – 6") slab that would generally be used for a house. However, the pile is located in a forested area with significantly large enough trees growing around them to prove that it had been placed there a couple of decades ago. It is also unknown if the pieces originated on site or were hauled there from off of the property. According to the developer, they were informed at the start of this process, that there had never been any buildings constructed on the property, so if this is in fact true, then the concrete and other materials were hauled in from an outside source.

20.0 Description of Project:

It is intended that, once that zoning amendment has been approved, the developers will begin the process to utilize the subject property as the site for the construction of 4 multi unit residential complex buildings. Each building is to house 12 individual 2-bedroom apartments and will be 3 stories high (see attached conceptual building outside 3D view and floor plan and cross section), for a total of 48 new housing units.

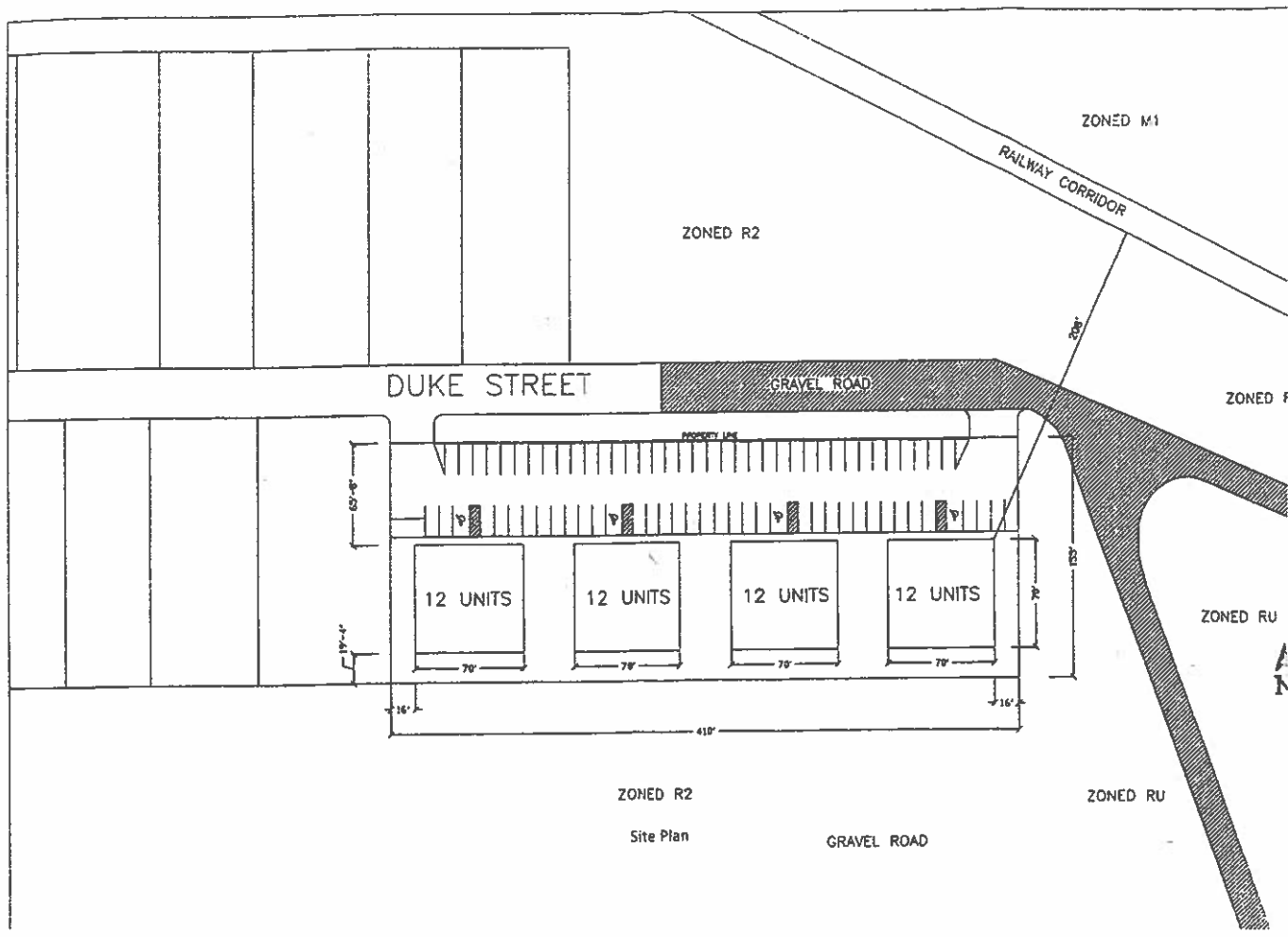
Plans call for each individual unit to have 3 bedrooms, 2 bathrooms with full laundry services. Construction is to be wood frame and all 4 buildings will be built to the latest standards established by the Ontario Building Code, designed by an architect and project managed and inspected by a registered professional engineer as well as the Dryden Chief Building Official.

21.0 Environmental Impacts:

The construction will place the 4 buildings within the direct line of sight between the residents of Duke Street and the forest behind and will occupy the vacant field that presently exists and remove that as a habitat for wandering deer and small rodents that frequent the field. The total height of the buildings will be 12.5 m (41'-2") which would be below the height of the forest immediately to the south of the property. Therefore, the front would only be visible from Duke Street and the side from the north/south extension of Arthur Street and that would be partially obscured by the 8 m high embankment along the side of the road.

Using an average of 4 persons per 3-bedroom unit, at full occupancy, there could be as many as 192 new residents in the neighborhood, half of which could be children. Using standards established by the Ministry of Environment for determining effluent quantities for apartment dwellings (as found in Table 8.2.1.3. under Item 1 of Part 8 of the Ontario Building Code as per the attached found in the Appendix), the daily design quantity per person is 275 litres. Therefore, 192 new residents would add 52,800 litres daily to the sanitary sewer system for the neighborhood. Conversely, that would also require an additional 52,800 litres of domestic water to be taken from the City waterline supply. However, it should be noted that the majority of the buildings' residents may not be new residents of Dryden, just relocated from other residential areas.

The noise levels in the neighborhood would increase, particularly in summer months when



ZONED R2

Site Plan

GRAVEL ROAD

ZONED M1

RAILWAY CORRIDOR

ZONED R2

DUKE STREET

GRAVEL ROAD

ZONED F

ZONED RU

ZONED RU