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CONSULTING ENGINEERS

NextEng Consulting Group Inc.

July 3, 2020

Mr. Mark Palmer, P.Eng.

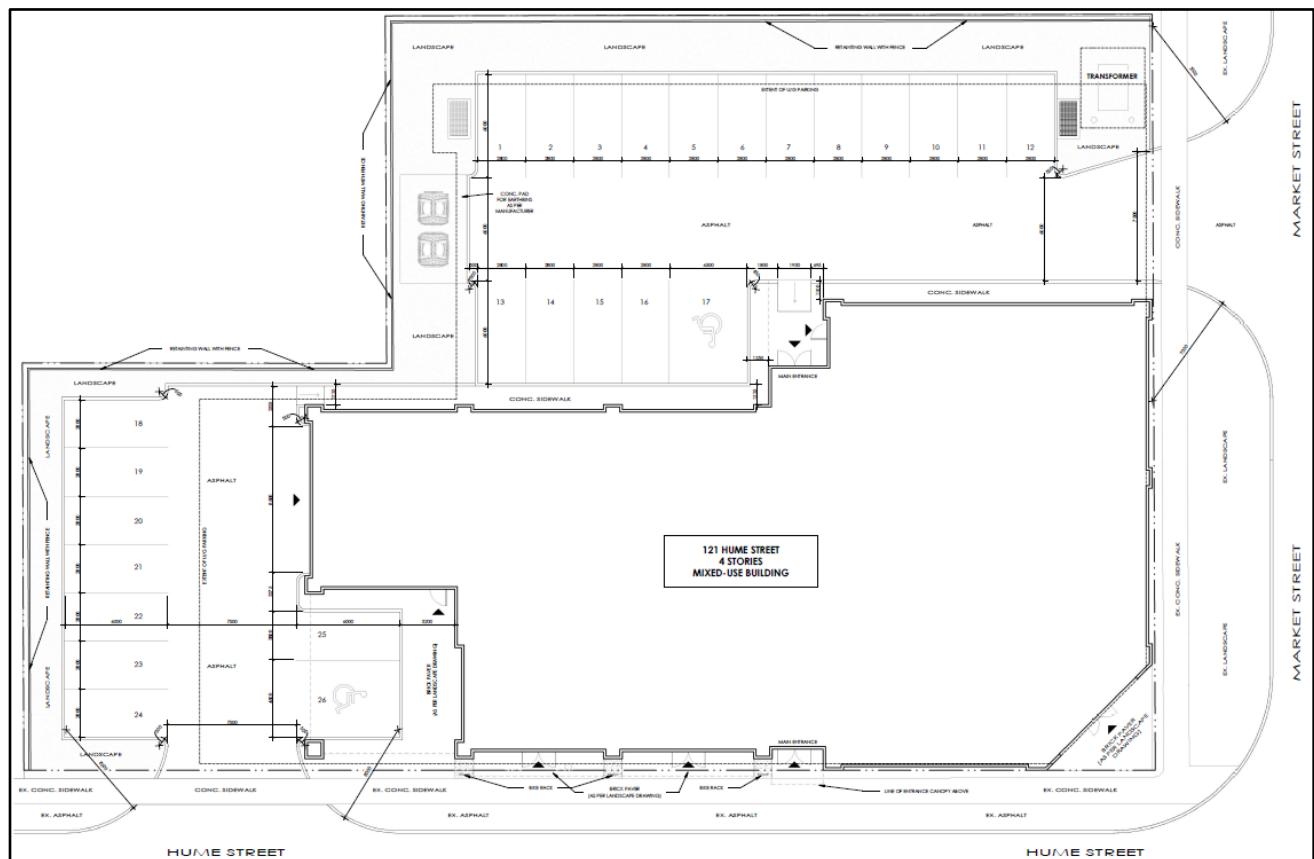
2554281 Ontario Ltd.
120 Hume Street
Collingwood, ON L9Y 1V5

Re: Site Plan, Access and Vehicle Turning Movement Review
Proposed 4-Storey Mixed-Use Building
121 Hume Street, Town of Collingwood
Our Project No. NT-19-168

Nextrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) was retained by 2554281 Ontario Ltd. (the client) to provide Site Plan, Access and Vehicle Turning Movement Review for a proposed retail/commercial development. The proposed development is located at 121 Hume Street, between Ste Marie Street and Market Street, in the Town of Collingwood.

It is Nextrans' understanding that the proposed development consists of a 4-storey mixed-used retail/commercial building. Figure 1 illustrates the proposed site plan.

Figure 1 – Proposed Site Plan



Given that this proposed access will accommodate low traffic volumes, this access will only require one inbound lane and one outbound lane with a total width of approximately 6.0 m. The recommended two-way centre left turn lane on Hume Street will be able to accommodate the turning movements in and out of the site.

2. VEHICLE TURNING MOVEMENT ANALYSIS

AutoTURN software has been used to generate turning movements for passenger vehicles (TAC 1999), garbage truck (TAC Heavy-Single-Unit) and delivery truck (TAC Medium-Single-Unit) in order to test the accessibility of the proposed access designs. As indicated above, service vehicles will only be accessing the proposed access onto Market Street and not Hume Street.

Market Street Access

As indicated, both passenger vehicles and service vehicles have been tested for this proposed access. Figure 3 illustrates the passenger vehicle turning movements in and out of the access and parking spaces. Figures 4 and 5 illustrate the service vehicles turning in and out of the proposed access onto Market Street. The analysis indicates that the proposed design is sufficient to accommodate the type of vehicle tested.

To ensure safe and minimize on-site traffic operation, the proposed development will provide the following:

- It is anticipated that the garbage truck will only access the site once a week, therefore, the garbage pick-up will be coordinated with building management to ensure that it will occur during off-peak period and will not interfere with delivery trucks.
- Building management will ensure that both garbage and delivery will only occur during the off-peak period, such as between 10am-12pm and/or 2pm-4pm; and
- Building management personnel can provide assistance at the time of garbage pick-up or delivery to ensure that service vehicles can enter and back-out of the site.

Based on Nextrans' experience working on similar site in the Greater Toronto Area, this arrangement is sufficient to accommodate the proposed development.

Hume Street Access

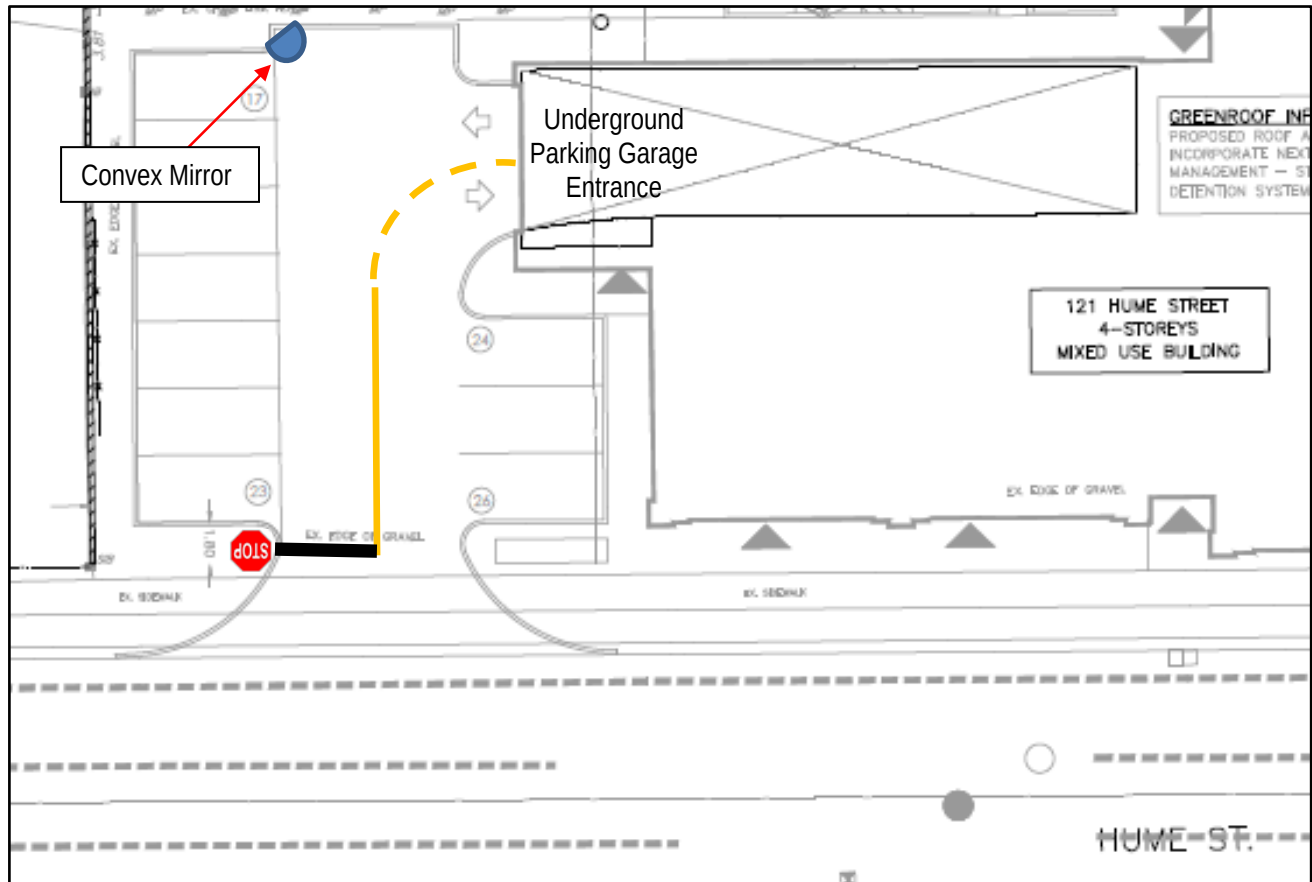
As indicated, only passenger vehicles will be tested for this proposed access as garbage and delivery trucks will not be using this proposed access. Figure 3 illustrates the passenger vehicle turning movements in and out of the access onto Hume Street. The analysis indicates that the proposed design is sufficient to accommodate the type of vehicle tested.

For the underground garage parking entrance, it is recommended that stop bars and stop signs be installed at the bottom of the ramp so that it will prioritize the entering vehicles instead of exiting vehicles. All exiting vehicles will be required to stop and wait until the entering vehicles are cleared. This provision will require the exiting vehicles to queue within the site and allowing entering vehicles to access the underground parking to minimize any potential traffic backing onto Hume Street. In addition, clearly delineated lane divider pavement markings will be provided to assist exiting and entering vehicles to stay in their respective lane without impacting each other.

It is Nextrans' understanding that about 37 vehicle parking spaces will be provided underground. Based on Nextrans' experience, not all vehicles will be entering or exiting the site during the peak hour because both retail and commercial units are opening at different times, as well as employees will arrive/leaving at different times. In the worst-case scenario where all 37 vehicles entering or existing during the peak hour, it is anticipated that the average headway between each vehicle is more than 1.5 minute (60 minutes/hour / 37 vehicles/hour). Given that the vehicle can enter or exit the site in less than one minute, there will be no queue spill back onto Hume Street.

It is also recommended that convex mirror will be installed at the turning corners to assist drivers maneuver in and out of the underground parking entrance safely by improving visibility. Figure 6 illustrates the proposed pavement markings and stop signs.

Figure 6 – Proposed Pavement Markings and Stop Signs for Underground Parking Entrance



Underground Parking

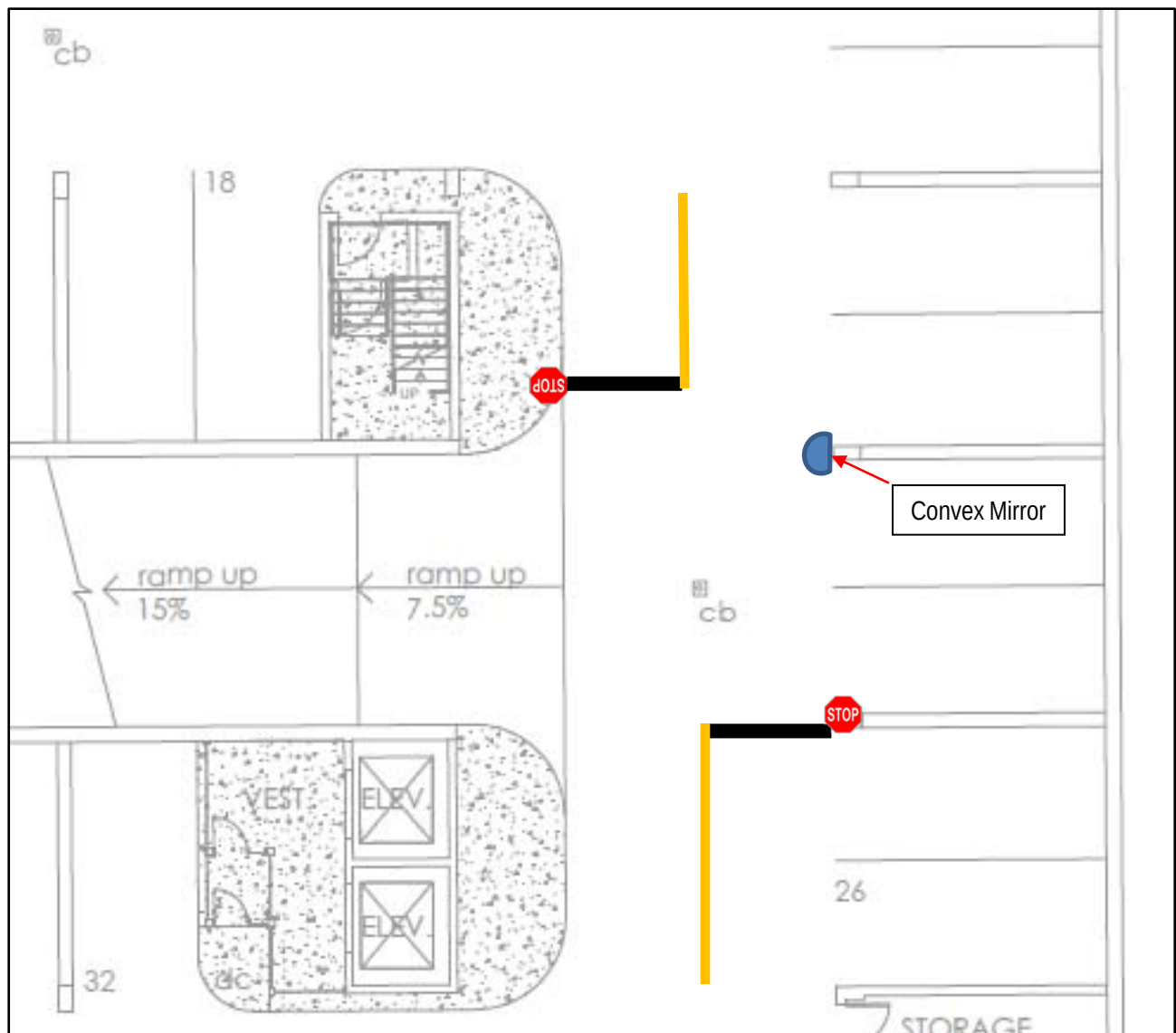
Similarly, only passenger vehicles have been tested for the underground parking garage as this is the only type of vehicle that will be accessing the underground parking.

As indicated, stop bars and stop signs will be installed at the bottom of the ramp to ensure that the exiting vehicle will wait until the entering vehicle is cleared of the ramp in before proceeding. This provision will also minimize any turning movement conflict within the ramp area. It requires the exiting vehicles to queue within the site and allowing entering vehicles to clear Hume Street when accessing the underground parking to prevent any potential traffic backing onto Hume Street.

It is recommended that convex mirrors will be installed at turning corners to assist drivers maneuver in and out of the ramp safely by increasing vehicle visibility. Figure 7 illustrates the stop signs, pavement markings and convex mirrors.

Based on both AutoTURN analysis and the proposed measures provided above, it is Nextrans' opinion that the proposed site plan is sufficient to accommodate vehicular traffic and minimize any potential queue spilling back onto Hume Street.

Figure 7 – Proposed Pavement Markings and Stop Signs for Underground Parking Ramp



3. SUMMARY

Based on the assessment provided in this Letter, the following recommendations should be implemented as part of the proposed development:

- Revise the existing pavement marking (hatched) on Hume Street accommodate a two-way centre left turn lane, similar to the existing conditions east of the proposed site access;
- Install stop bars, stop signs and convex mirror at the bottom of the underground parking garage to ensure sufficient and safe vehicle movements, as well as prevent any potential queuing spill back;
- The proposed access onto Market Street is acceptable to accommodate servicing vehicles;
- The proposed access onto Hume Street is acceptable to accommodate passenger vehicles; and

- Schedule garbage and delivery vehicles during off peak hour and building management will provide assistance as required.

The following wordings should be included in the lease agreements:

"The tenant(s) shall acknowledge that garbage and delivery vehicles will use Market Street access only. The garbage pick-up and deliver vehicles shall not be operating during the morning and afternoon peak periods to minimize interference with the site parking operations. Delivery and garbage pick-up schedule shall be coordinated with building management."

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

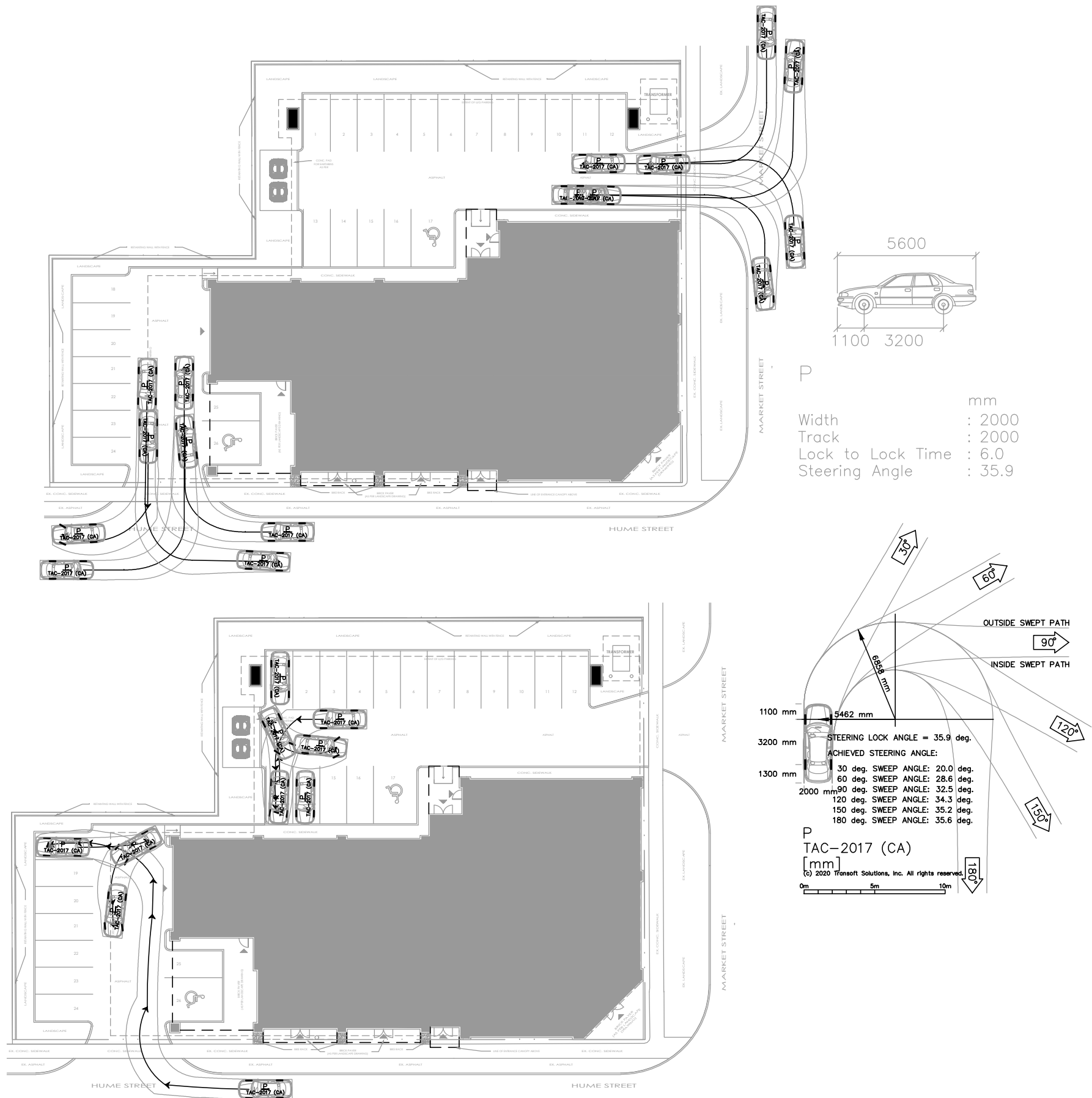
Yours truly,

Nextrans Consulting Engineers

A Division of NextEng Consulting Group Inc.



Richard Pernicky, CET, MITE
Principal



KEY PLAN



BENCHMARK

REVISIONS

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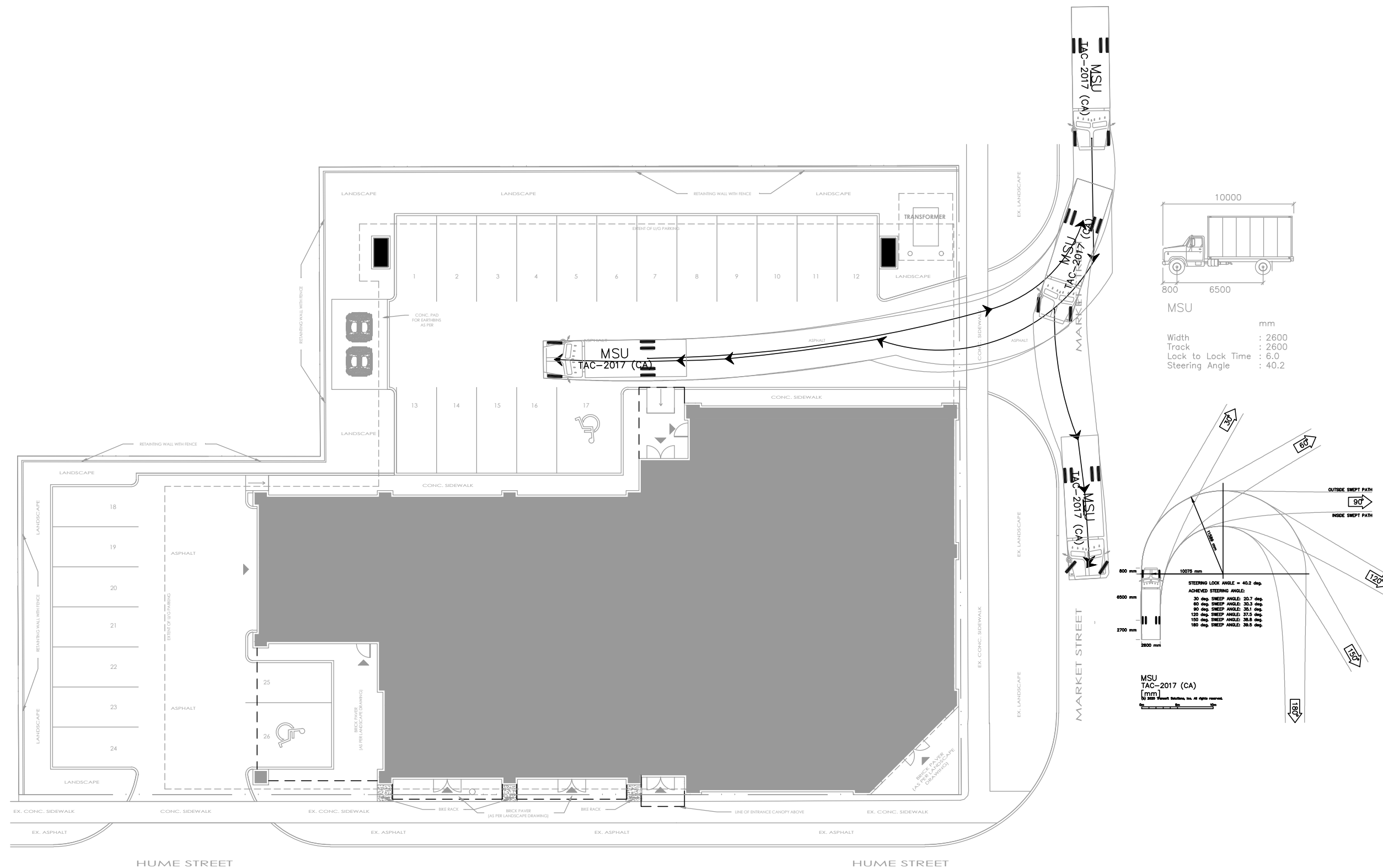
PROJECT NAME:

Mixed Use Development
121 Hume Street
(Town of Collingwood)

DRAWING TITLE:

AutoTURN Analysis
(P TAC-2017)

DESIGN BY: A.S.	DATE: June 23, 2020
CHECKED BY: R.P.	PROJECT NO:
DRAWN BY: A.S.	NT-19-001
SCALE: NTS	DRAWING NO: Figure 3



KEY PLAN



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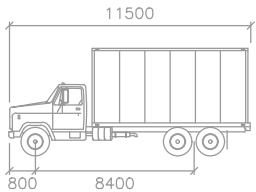
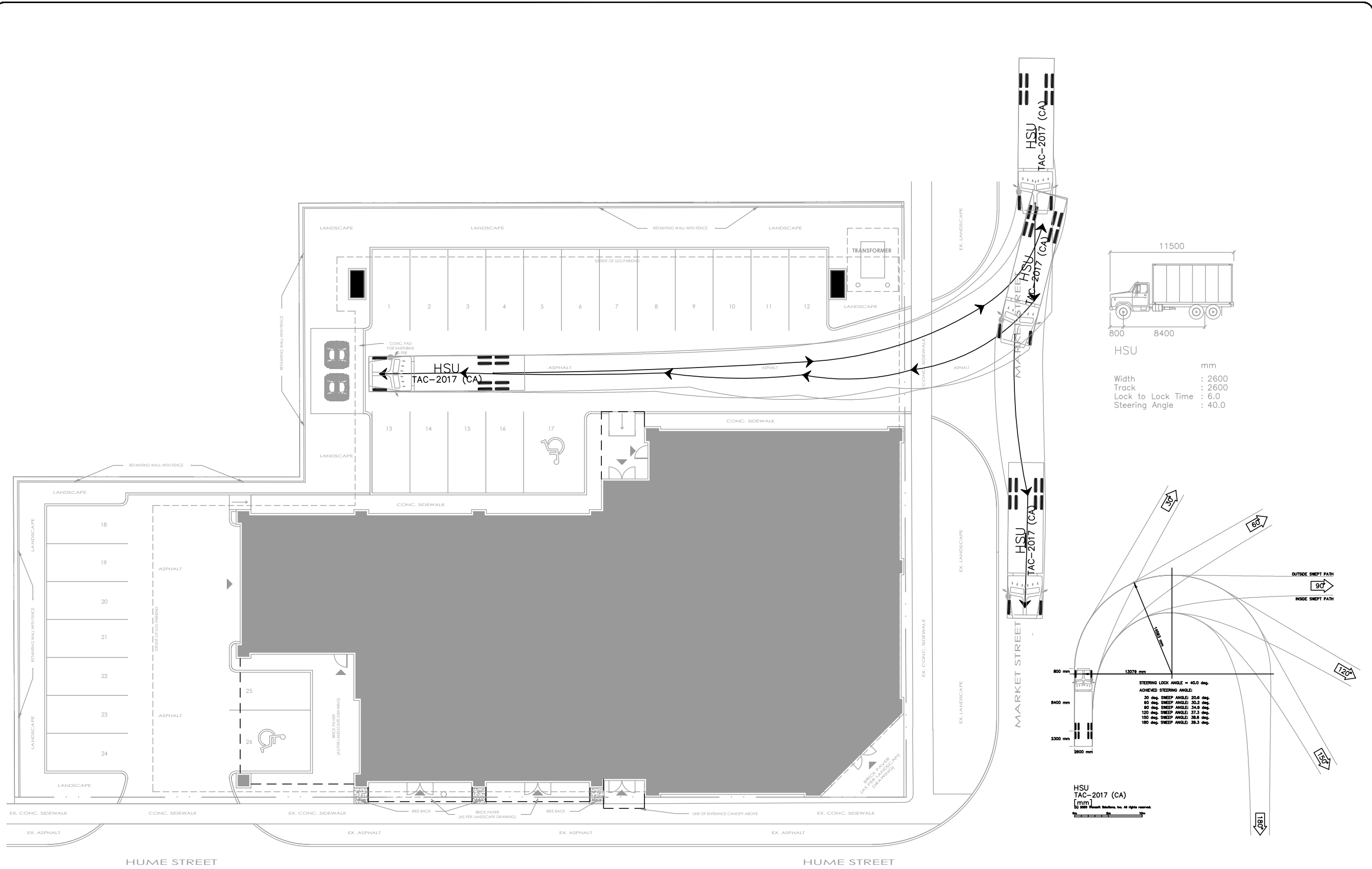
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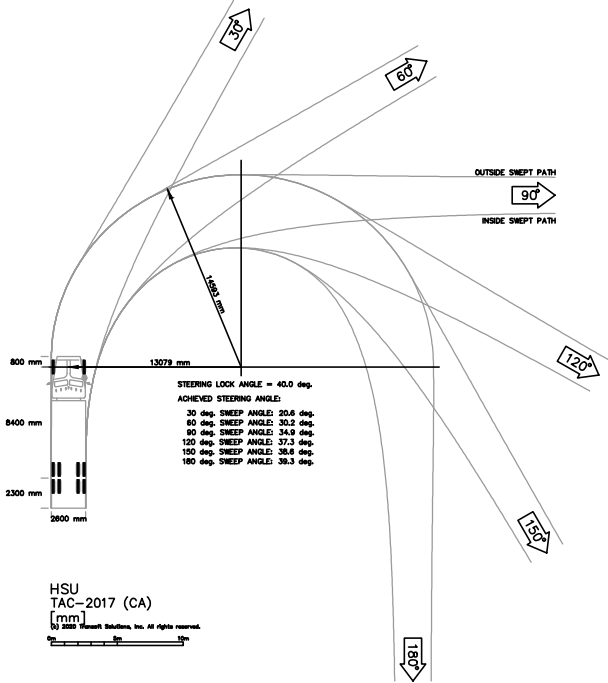
DRAWING TITLE:

AutoTURN Analysis
(MSU TAC-2017)

DESIGN BY: A.S.	DATE: June 23, 2020
CHECKED BY: R.P.	PROJECT NO:
DRAWN BY: A.S.	NT-19-001
SCALE: NTS	DRAWING NO:
	Figure 4



HSU
mm
Width : 2600
Track : 2600
Lock to Lock Time : 6.0
Steering Angle : 40.0



KEY PLAN



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	Figure 5