



August 11, 2020

Reference Number: 18031

Mr. Tim Jessop
NYX Capital Corp.
201-1131 Leslie Street
Toronto, Ontario
M3C 3L8

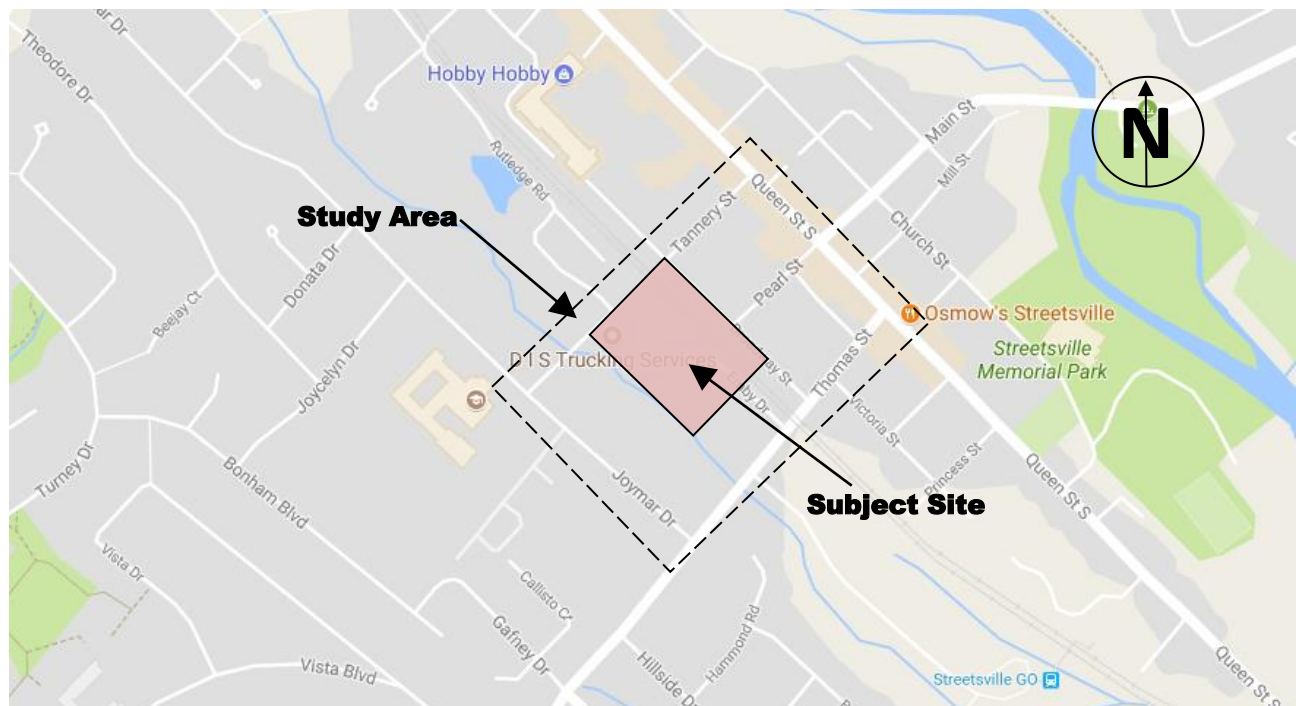
RE: Transportation Impact Study (TIS) Update – Tannery Street Townhouse Development, Mississauga Ontario

Dear Mr. Jessop,

LEA Consulting Ltd. (LEA) was retained by NYX Capital Corp. to prepare a Transportation Impact Study (TIS) for the proposed townhouse residential development located at 51, 57 Tannery Street and 208 Emby Drive, in the City of Mississauga (herein referred to as the “subject site”). LEA previously prepared a Transportation Impact Study for the proposed development, dated June 2018. A TIS Update was prepared in response to comments received from City staff, dated June 2019.

Since the completion of the TIS Update in June 2019, the proposed site plan has changed with revised site statistics. This update letter has been prepared to review the changes and refinements to the proposed site plan and statistics from a transportation perspective. The subject site is located between Tannery Street and Thomas Street, west of Broadway Street, as illustrated in **Figure 1**.

Figure 1: Subject Site Location





PROPOSED DEVELOPMENT

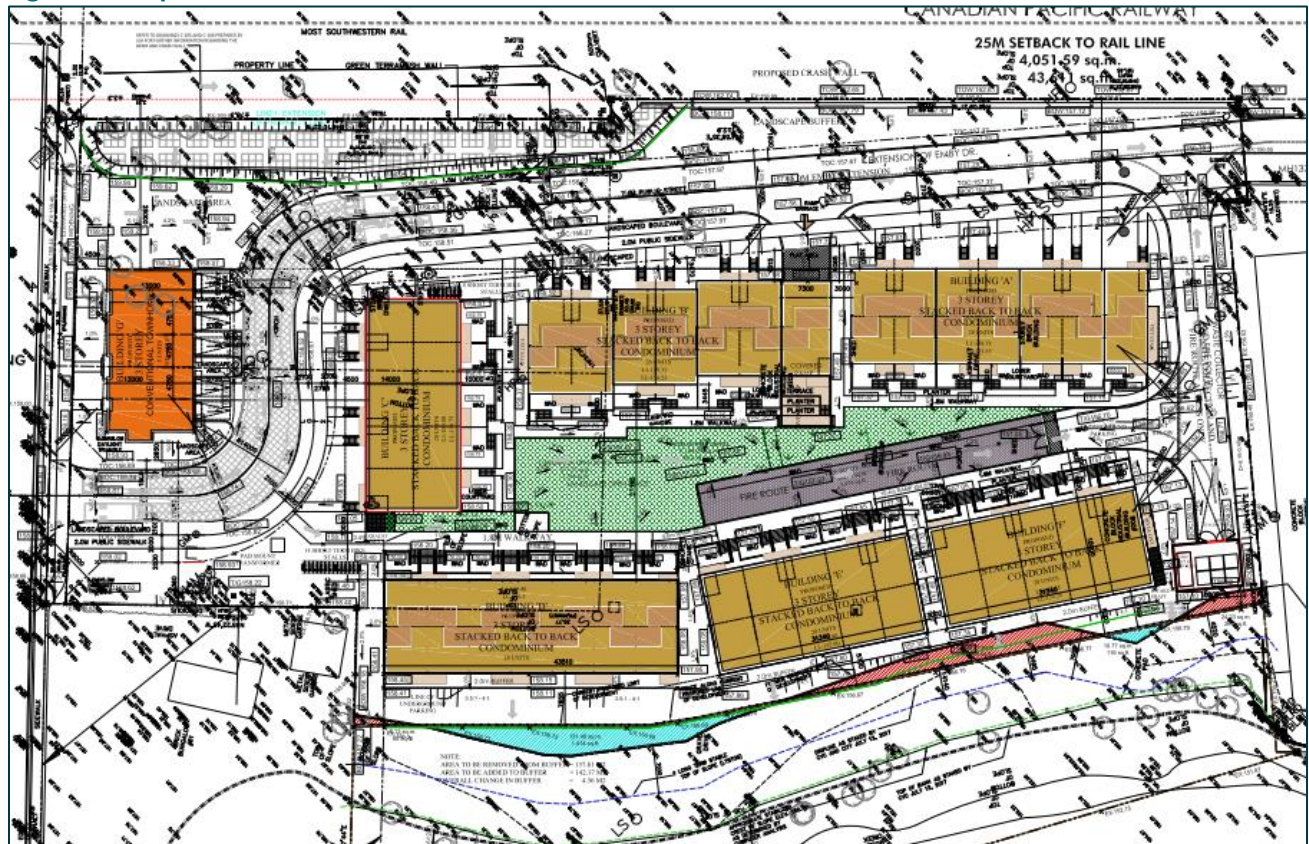
The original development proposal included 155 stacked townhouse units and 233 parking spaces. Since the June 2019 application, modest changes have been incorporated into the proposal. The proposed development will introduce a total of 147 townhouse units consisting of 142 stacked townhouse units and five (5) stand-alone street townhouse units. The proposed development will provide a total of 210 parking spaces, consisting of 181 resident spaces and 29 visitor spaces. The revised proposal results in a decrease of eight (8) residential units and 23 parking spaces from the previous TIS Update.

A summary of the changes to the proposal since the June 2019 TIS Update is presented in **Table 1**, with the updated site plan illustrated in **Figure 2**.

Table 1: Statistics Comparison

Type	June 2019 submission	Current Submissions	Net Change
Townhouse	155 stacked townhouse units	142 stacked townhouse units; 5 street townhouse units	-8 units
Resident Parking	202 residential spaces	181 residential spaces	-21 spaces
Visitor Parking	31 visitor spaces	29 visitor spaces	-2 spaces

Figure 2: Proposed Site Plan



Source: Kirkor Architects + Planners (August 2020)



FUTURE TRIP GENERATION

For the purpose of this review, trip generation for the proposed development is consistent with the methodology applied in the TIS Update, dated June 2019. Trip generation based on ITE Trip Generation Manual 9th Edition equation rates (LUC 230 – Residential Condominium / Townhouse) are shown in **Table 2** below. Trip reductions were applied to the generated vehicular trips given the site's proximity to the Streetsville GO Station. ITE auto mode splits were taken from the ITE Trip Generation Handbook, 3rd edition for residential land use. More applicable mode splits for the area was derived from 2011 Transportation Tomorrow Survey (TTS) data and applied to the auto trip generation to account for higher transit use to/from the site.

Table 2: Trip Generation Summary

Use		GFA	Weekday AM Peak			Weekday PM Peak		
			In	Out	Total	In	Out	Total
Previous TIS Update (June 2019)								
Trip Rate / Unit		155	0.17	0.83	1.00	0.67	0.33	1.00
Trip Generation			12	61	73	58	28	86
ITE Auto Mode Split			89%	97%	-	96%	95%	-
TTS 2011 Mode Splits	Auto Mode		85%	84%		76%	92%	
	Transit Mode		10%	12%		24%	7%	
	Active Mode		5%	4%		0%	1%	
Total Trips (Reduced)			11	53	64	46	27	73
Current Proposal								
Trip Rate / Unit		147	0.17	0.83	1.00	0.67	0.33	1.00
Trip Generation			12	58	70	55	27	82
ITE Auto Mode Split			89%	97%	-	96%	95%	-
TTS 2011 Mode Splits	Auto Mode		85%	84%		76%	92%	
	Transit Mode		10%	12%		24%	7%	
	Active Mode		5%	4%		0%	1%	
Total Trips (Reduced)			11	50	61	44	26	70
Net Change			0	-3	-3	-2	-1	-3

The proposed development is expected to generate 61 two-way trips (11 inbound, 50 outbound) during the weekday AM peak hour and 70 two-way trips (44 inbound, 26 outbound) during the weekday PM peak hour. This is a decrease of three (3) trips during both peak hours, compared to the June 2019 assessment.

Since the forecasted trips are slightly lower than the estimates in the previous assessment, it is expected that the circulation and traffic operation with the proposed development would be consistent with the findings in the previous study. Therefore, detailed intersection capacity analysis has not been conducted for the decrease in units.



EMBY DRIVE EXTENSION

The site plan shows an extension of Emby Drive through the subject site. This extension provides a public connection between Tannery Street and Thomas Street adjacent to the railway tracks. Currently, Emby Drive terminates just south of the subject site. To ensure Emby Drive would intersect Rutledge Road and the existing Emby Drive, the proposed roadway alignment consist of a modified pavement width to ensure an MSU and a passenger vehicle can pass each other concurrently through the reverse curve area. It is our understanding the City of Mississauga has agreed the proposed pavement width of 7.4m boulevard within the proposed 15m right-of-way. A detailed functional review of the proposed Emby Drive extension and proposed pavement marking, and signage plan are enclosed in **Appendix B**.

The roadway will have a cross-section of 15.0m, with a pavement of 7.40m and a 2.10m sidewalk. The connection of Emby Drive with Tannery Street is aligned to create a right-angle intersection. The sightline analysis confirms that the extension meets the minimum stopping sight distance (SSD) requirements from Tannery Street and the existing Emby Drive, as outlined in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads. The sightline analysis is enclosed in **Appendix B**.

VEHICULAR PARKING REVIEW

The City of Mississauga Zoning By-law 0225-2007 parking requirements were considered for the proposed development. The Zoning By-law has a rate of 2.0 residential spaces per unit and 0.25 visitor parking spaces per unit. Of note, no visitor parking is required for street townhouses. The parking requirements and proposed supply for the subject site is summarized in **Table 3**.

Table 3: Vehicle Parking Summary

Type	Units	By-law 0225-2007		Proposed Parking Supply
		Parking Rate	Parking Spaces	
Street Townhouse	5	2 spaces / unit	10	10
Stacked back-to-back Townhouse	142	2 spaces / unit	284	171
Resident Sub-Total			294	181
Visitor	142	0.25 spaces/ unit	36	29
Total			330	210

According to the Zoning By-law, the proposed development is required to provide a total of 330 parking spaces consisting of 294 resident parking spaces and 36 visitor parking spaces. As noted, no visitor parking is required for street townhouses. The development is proposing a total of 210 parking spaces, which is 120 spaces deficient from the by-law requirement; however, the parking supply of 10 parking spaces meets the minimum requirements for street townhouses according to By-law 0225-2007.



FUTURE PARKING DEMAND

In support of reduce parking rates, the subject site is located approximately 800m from the Streetsville GO Station, which is a higher order transit station and a significant commuter trip attractor. All townhouses are within a 10-15 minute walk to the platform. Furthermore, a variety of MiWay transit service routes are available to the subject site, providing convenient access to a robust transit network. Given this location, a reduced demand for parking is considered reasonable for the subject site.

Furthermore, parking utilization data at 2929 Aquitaine Avenue was reviewed to verify the parking demand and to determine if the proposed reduce parking supply is appropriate for the proposed development. 2929 Aquitaine Avenue has 175 residential units and provides 388 parking spaces (348 underground for residents and 40 surface spaces for visitors). 2929 Aquitaine Avenue is a residential apartment building located within a 20-minute walk of the Meadowvale GO station. In comparison, the subject site is within a 15-minute walk to Streetsville GO station. The parking supply for the proxy study's building is 2.0 spaces per unit, which is consistent with the Zoning By-law 0225-2007 minimum requirements. Therefore, this survey represents a relatively unconstrained supply for a development within walking and cycling distance of a GO station.

The proxy surveys were conducted on Friday, August 25th, and Saturday, August 26th, 2017 from 5:00 p.m. to 9:00 p.m. and Saturday, August 26th from 11:00 a.m. to 9:00 p.m. at 30-minute intervals. A summary of peak resident and visitor demand rates for the study period is in **Table 4** below. Detailed results of the proxy parking demand surveys are enclosed in **Appendix A**.

Table 4: Resident and Visitor Parking Demand of Proxy Survey (2929 Aquitaine Avenue)

Date	Units	Peak Residential Demand	Peak Residential Demand Rate	Peak Visitor Demand	Peak Visitor Demand Rate
Friday, August 25	175	117	0.67	32	0.18
Saturday, August 26		167	0.95	11	0.06

The proxy parking survey results show a peak resident demand of 167 spaces (0.95 spaces per unit) and a peak visitor demand of 32 spaces (0.18 spaces per unit). The data from the proxy surveys reveal that the typical parking demand rate is significantly lower than the building provisions, and lower than the By-law 0225-2007 demand rate of 2.0 resident spaces per unit and 0.25 visitor spaces per unit that applies to the given site. Given this difference in demand between the observed and By-law rates, it is recommended that a comparable reduced demand rate be applied to the proposed development.

PROPOSED PARKING SUPPLY

The total proposed parking supply for the development is 210 parking spaces. A breakdown of parking by type is outlined in **Table 5**.



Table 5: Proposed Vehicle Parking

Type	Units	By-law 0225-2007	Number of Parking Spaces
		Parking Rate	
Street Townhouse	5	2 spaces / unit	10
Stacked back-to-back Townhouse	142	1.2 spaces / unit	171
Visitor Parking		0.20 space /unit	29
Total			210

As previously noted, the street townhouse parking rates of 2.0 spaces per unit satisfies the Zoning By-law requirement. A resident parking rate of 1.20 spaces per stacked townhouse unit and a visitor parking rate of 0.20 spaces per unit are proposed for the subject site. These rates are higher than the maximum observed resident and visitor parking rate the proxy site. Therefore, given the proxy data collected from 2929 Aquitaine Avenue, the proximity of the development to Streetsville GO Station, as well as the site's accessibility to a variety of Miway transit routes, the development's proposed supply is expected to accommodate the anticipated parking demand.

BICYCLE PARKING REVIEW

While the City of Mississauga Zoning By-law does not require bicycle parking, the City of Mississauga Cycling Master Plan recommends 0.08 and 0.70 spaces per residential unit for short-term and long-term bicycle parking, respectively. The City's recommended bicycle parking provisions and the proposed bicycle parking supply is detailed in **Table 6**.

Table 6: Bicycle Parking Summary

Type	Units	Minimum Rates	Minimum Requirement	Proposed Supply
		Parking Rate		
Residential Short-Term	142	0.08 spaces / unit	11	22
Residential Long-Term		0.70 spaces / unit	99	107
TOTAL			110	129

According to the City of Mississauga recommended rates, the subject site requires a minimum of 110 bicycle parking spaces, consisting of 11 short-term and 99 long-term bicycle parking spaces. The subject site is proposing a total of 129 bicycle parking spaces which will meet the City's requirement.

LOADING REVIEW

Although the applicable zoning by-law does not require any loading spaces for the proposed uses on site, one (1) loading space is provided for the proposed development. Swept path diagrams demonstrating loading functionality are enclosed in **Appendix B**.



CONCLUSION

- ▶ The proposed development will introduce a total of 147 townhouse units and 210 parking spaces, resulting in a decrease of eight (8) residential units and 23 parking spaces from the previous June 2019 TIS update.
- ▶ The proposed development is expected to generate 61 two-way trips (11 inbound, 50 outbound) during the weekday AM peak hour and 70 two-way trips (44 inbound, 26 outbound) during the weekday PM peak hour. The trip forecasts are slightly lower than the previous assessment. As such, the conclusions and finding of the June 2019 study remain valid.
- ▶ Based on the Zoning By-law parking standards, the proposed development is required to provide 294 residential parking spaces and 36 visitor parking spaces. Considering the proximity of the site to Streetsville GO Station and a proxy parking utilization study at 2929 Aquitaine Avenue, a reduced supply of 210 total parking spaces (181 residential, 29 visitor) is reasonable for the subject site.
- ▶ The bicycle parking provisions exceed the City of Mississauga's recommended bicycle parking rates.
- ▶ Although no loading spaces are required for the proposed development, one (1) loading is proposed.

Should you have any questions or concerns with regards to this letter, please do not hesitate to contact us.

Yours truly,

LEA CONSULTING LTD.

Kenneth Chan, P.Eng., PTOE, PMP

Vice President, Transportation Planning & Engineering

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Encl. Appendix A – Proxy Survey Results
 Appendix B –Swept Path Diagrams, Pavement Marking & Signage Plan, & Sightline Analysis



APPENDIX A

Proxy Survey Results

2929 AQUITAINE AVE PARKING SUMMARY

PROJECT NO: 18031.200
SURVEYOR: Anthony Li, Henry Li

DATE: Friday, August 25, 2017
WEATHER:

		Time																				
	Supply	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
Surface - Visitors	40													32	31	28	25	18	21	18	14	12
Underground - Resident	348													86	85	90	96	101	102	106	112	117

2929 AQUITAINE AVE PARKING SUMMARY

PROJECT NO: 18031.200
SURVEYOR: Ashok Panda, Ujwal Panda

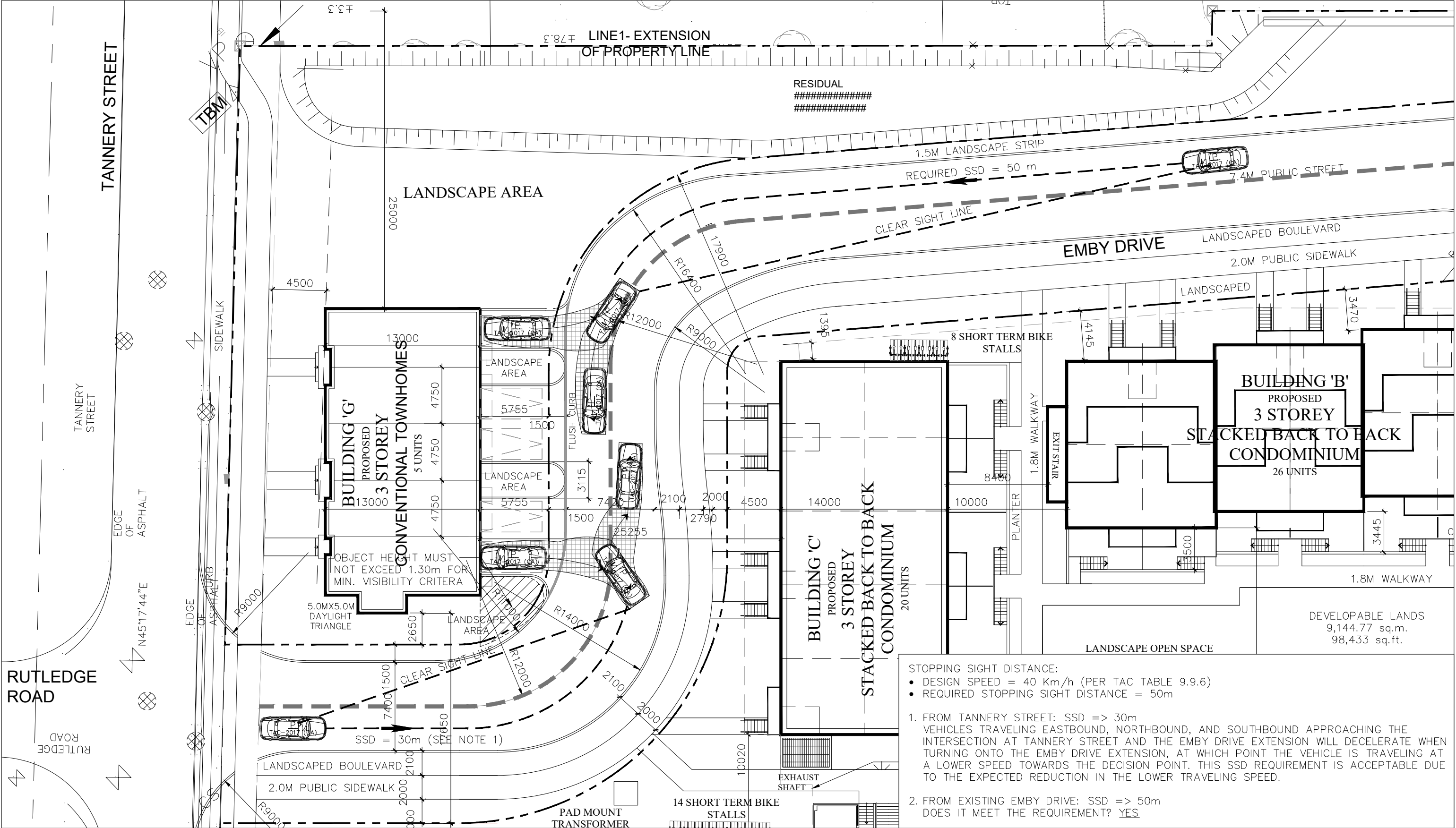
DATE: Saturday, August 26, 2017
WEATHER:

		Time																				
	Supply	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
Surface - Visitors	40	7	8	8	11	4	5	6	6	6	5	7	8	9	7	8	9	8	8	7	7	7
Underground - Resident	348	159	157	140	141	139	137	140	137	142	143	139	147	149	154	153	153	153	158	163	165	167

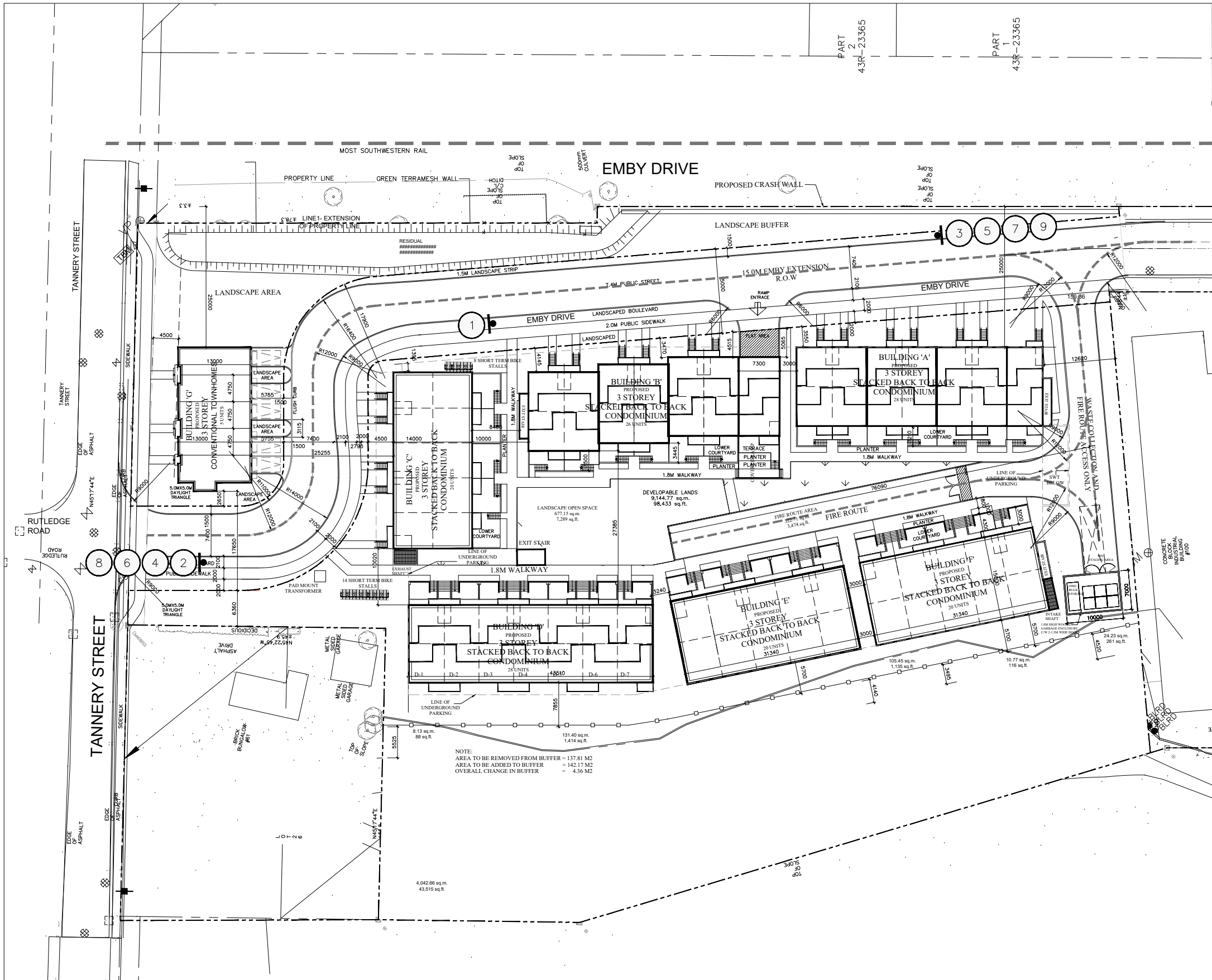






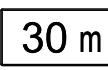
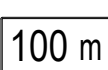
APPENDIX B

Swept Path Diagrams, Pavement Marking & Signage Plan, & Sightline Analysis





DRAWN BY: A.T. PLOT DATE: August 05, 2020



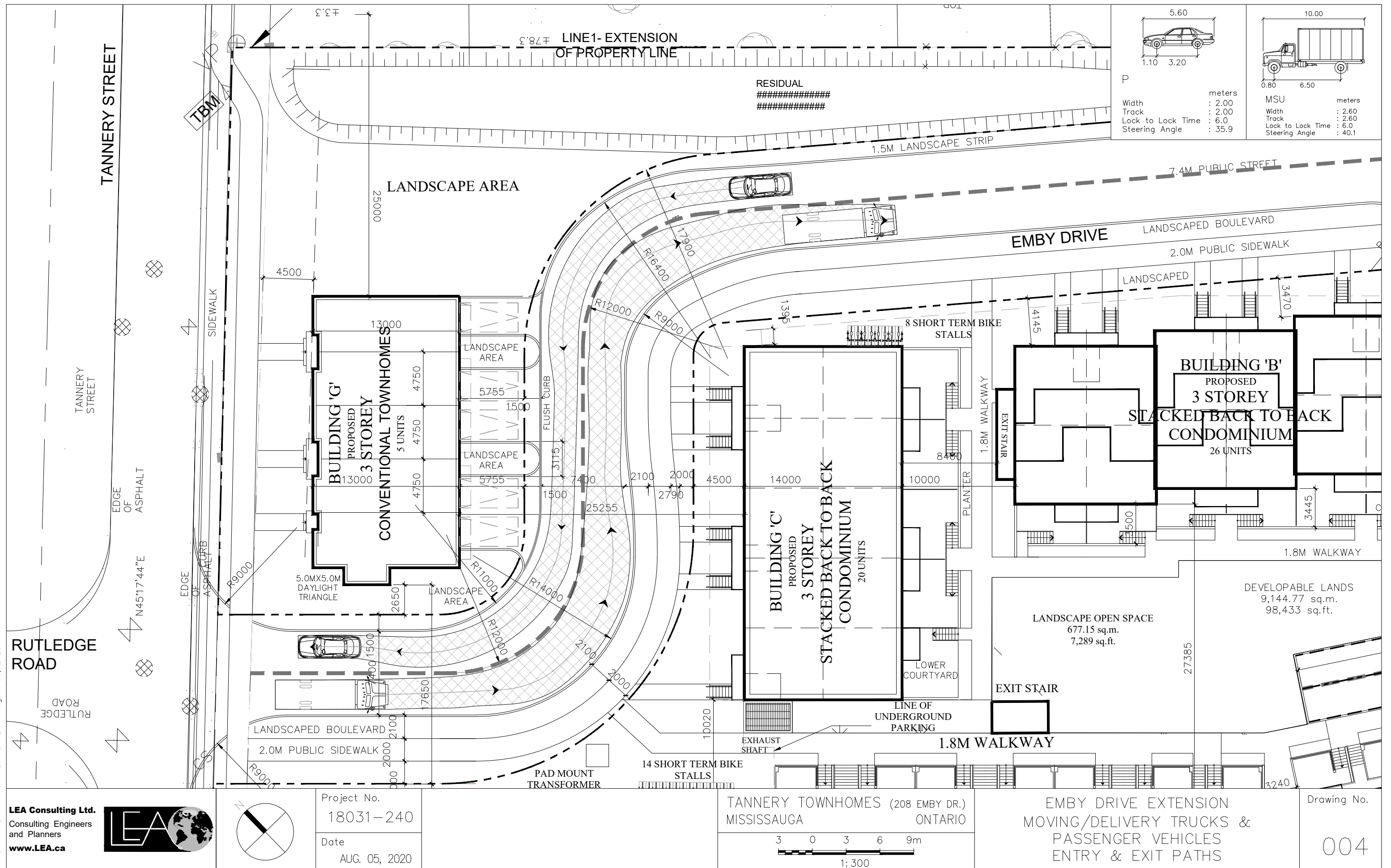
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	2-3	2	Wa-4L SHARP REVERSE CURVE (60X60cm) LEGEND & BORDER – BLACK BACKGROUND – YELLOW REFL.
	4-5	2	Wa-7t ADVISORY SPEED (45X45cm) LEGEND & BORDER – BLACK BACKGROUND – YELLOW REFL.
	6-7	2	Wa-11 MOD. HIDDEN DRIVEWAY (60X60cm) LEGEND & BORDER – BLACK BACKGROUND – YELLOW REFL.
	8	1	Wa-23t DISTANCE (30X60cm) LEGEND & BORDER – BLACK BACKGROUND – YELLOW REFL.
	9	1	Wa-23t DISTANCE (30X60cm) LEGEND & BORDER – BLACK BACKGROUND – YELLOW REFL.

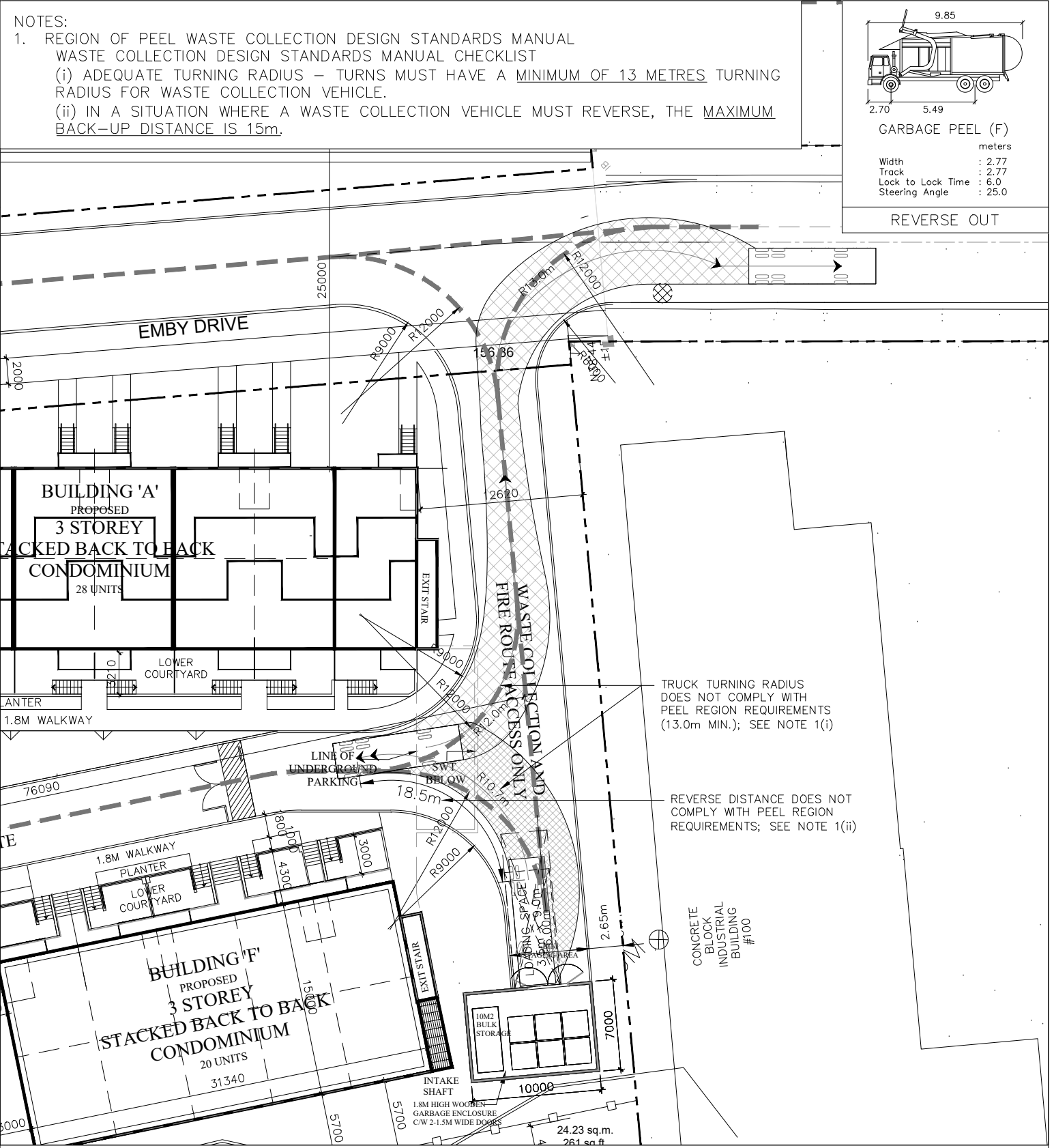
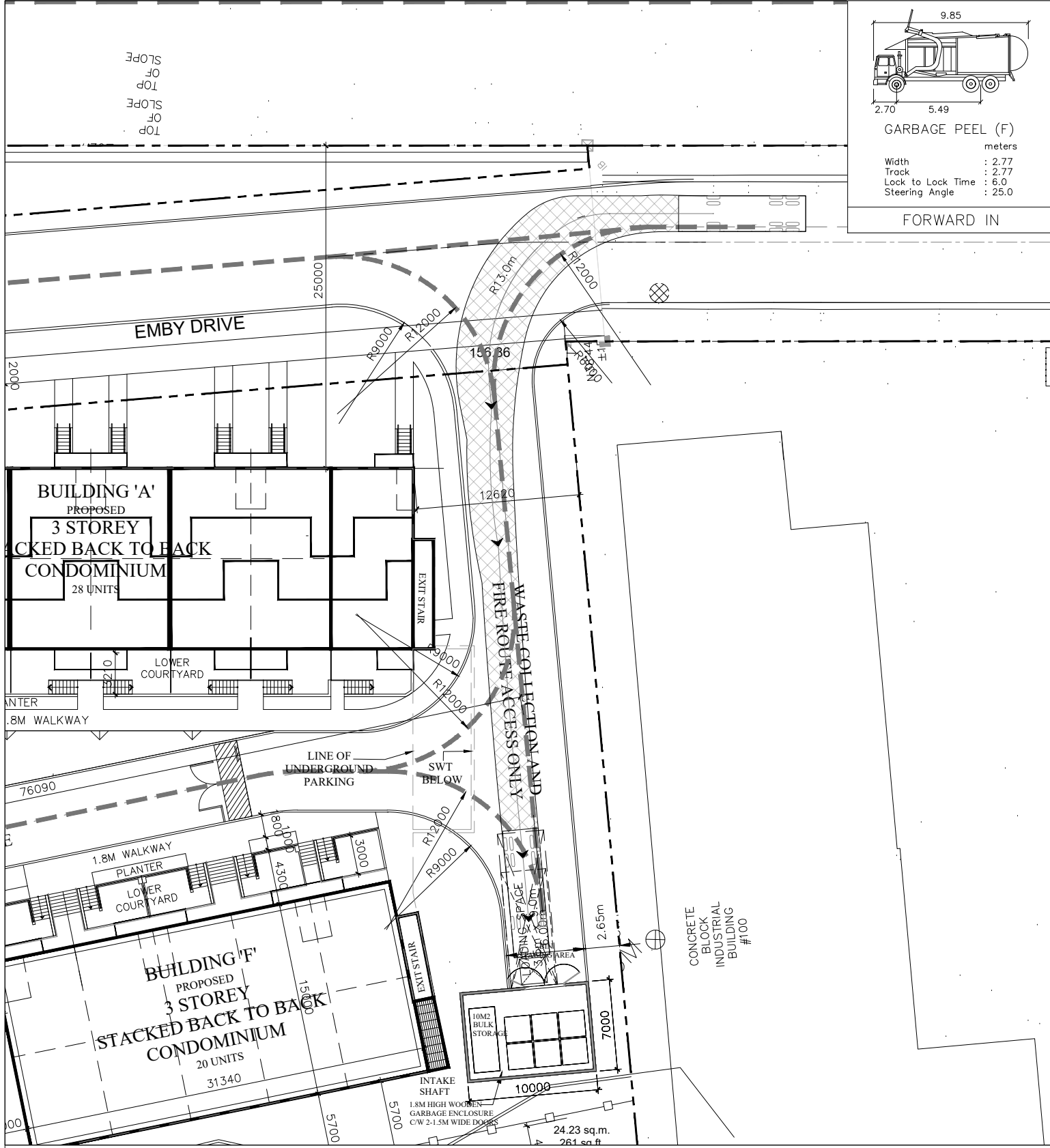
SIGNAGE LEGEND:

 POLE MOUNTED SIGN

 SIGN NUMBER

EMBY DRIVE EXTENSION PAVEMENT MARKINGS AND SIGNAGE PLAN	Drawing No. 003
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DRAWN BY: A.T. PLOT DATE: August 05, 2020

LEA Consulting Ltd.
Consulting Engineers
and Planners
www.LEA.ca

Project No.
18031-240

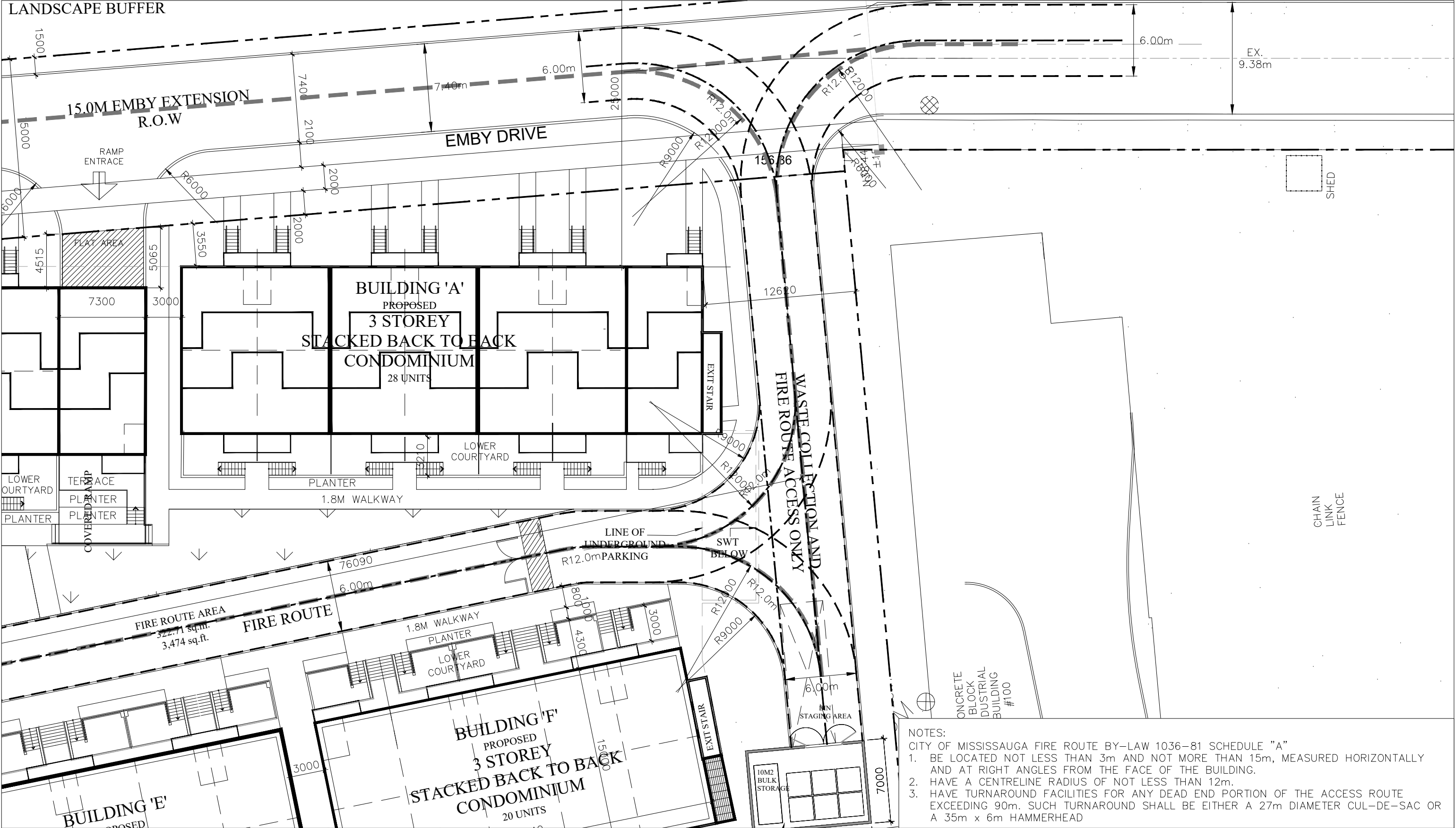
Date
AUG. 05, 2020

TANNERY TOWNHOMES (208 EMBY DR.)
MISSISSAUGA ONTARIO

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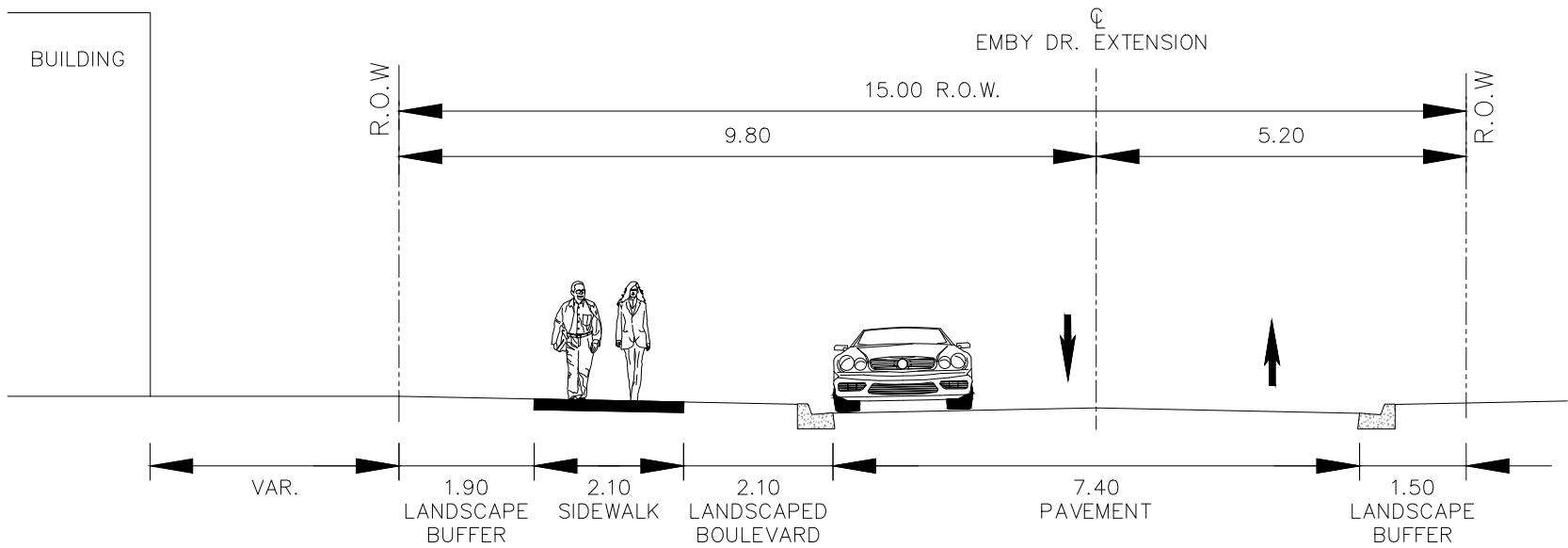
SITE PLAN - LOADING REVIEW
GARBAGE TRUCK (FRONT END LOADING)
ENTRY & EXIT PATHS

Drawing No.
005



- NOTES:
- CITY OF MISSISSAUGA FIRE ROUTE BY-LAW 1036-81 SCHEDULE "A"
1. BE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m, MEASURED HORIZONTALLY AND AT RIGHT ANGLES FROM THE FACE OF THE BUILDING.
 2. HAVE A CENTRELINE RADIUS OF NOT LESS THAN 12m.
 3. HAVE TURNAROUND FACILITIES FOR ANY DEAD END PORTION OF THE ACCESS ROUTE EXCEEDING 90m. SUCH TURNAROUND SHALL BE EITHER A 27m DIAMETER CUL-DE-SAC OR A 35m x 6m HAMMERHEAD

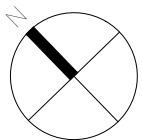
LEA Consulting Ltd. Consulting Engineers and Planners www.LEA.ca			Project No. 18031-240	TANNERY TOWNHOMES (208 EMBY DR.) MISSISSAUGA ONTARIO	 1: 300	Drawing No. 006
			Date AUG. 05, 2020			



SECTION A-A
EMBY DRIVE EXTENSION
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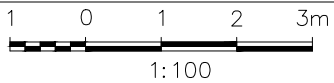
DRAWN BY: A.T. PLOT DATE: August 05, 2020

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AUG. 05, 2020

TANNERY TOWNHOMES (208 EMBY DR.)
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EMBY DRIVE EXTENSION
ROAD CROSS-SECTION

Drawing No.

007