ENVIRONMENTAL NOISE IMPACT STUDY

"1396 GUELPH LINE RESIDENTIAL APARTMENT BUILDING" CITY OF BURLINGTON, ON REGIONAL MUNICIPALITY OF HALTON

Prepared for:

Infinity Development Group
2275 Upper Middle Road East,
Oakville, ON
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Owner/President

March 2022
Our File No: 22-2232



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TABLE OF CONTENTS

1.0 INTRODUCTION..... Page 3

2.0 SITE DESCRIPTION..... Page 3

3.0 NOISE IMPACT ASSESSMENT……. Page 3
3.1 Noise Criteria……. Page 3
3.2 Road Noise……. Page 4

4.0 RECOMMENDATIONS NOISE CONTROL……. Page 5
4.1 Outdoor Living Areas……. Page 5
4.2 Indoor Noise Levels…… Page 5
5.0 VENTILATION/WARNING CLAUSES……. Page 6

6.0 SUMMARY OF RECOMMENDATIONS…….. Page 6

7.0 CONCLUSIONS…… Page 7

FIGURE 1 – Site Location
FIGURE 2 – Site Plan
FIGURE 3 – Receptor Location

Appendix “A”
Halton Region Traffic Data
Stamson Calculation Sheets
Building Design
Elevations
Site Statistics

1.0 INTRODUCTION

dBA Acoustical Consultants Inc. has been asked to provide a noise impact study on behalf of Infinity Development Group for the proposed "1396 Guelph Line Residential Apartment Building" in Burlington, ON. (See Attached Figure 1 Site Location).

The purpose of the study is to determine, for OPA/ZBA approval, the traffic noise impact from Guelph Line, Burlington, ON. Proposed is a 12-storey residential apartment building consisting of 236 units with 3 levels of underground parking. There is an enclosed rooftop mechanical room for the HVAC unit(s). There are no outdoor amenity areas for this development. There are proposed indoor amenity areas.

This study will detail noise impact relative to the proposed site plan and recommend the noise control measures necessary (if applicable) to meet Ministry of Environment, Conservation and Parks (MECP) guidelines, while satisfying the planning requirements of the City of Burlington.

Rail noise was not considered in this report as there are no CN/CP rail lines within the immediate area. Aircraft noise was not considered in this report as the development is located outside the 25 NEF of any area airports.

2.0 SITE DESCRIPTION

The proposed development is in an area largely comprised of residential properties to the north, south, and west. To the north is a Hydro right of way. These hydro lines do not generate noise levels that will impact the proposed development. Upper Middle Road is approximately 500m north and will have no acoustical impact on the proposed development. Palmer Drive is located east of the development and is not considered in this report due to low traffic volume and speed. Traffic volumes for other area roadways are not considered in this report due to low traffic volumes. MECP D6 setback requirements do not apply as there are no industries in the subject site development area. There are no area stationary noise sources that may impact the proposed development.

Guelph Line abutting the proposed site development is a 5-lane roadway with a center turn lane with a speed limit of 60km/hr. and runs north and south of the development. See Figure 2 Site Plan.

3.0 NOISE IMPACT ASSESSMENT

3.1 NOISE CRITERIA

The Ministry of Environment (MECP) specifies limits for road noise relative to new residential developments. The MOE Publication 300, Stationary & Transportation Sources-Approval & Planning, specifies the criteria, summarized as follows:

TABLE 1 - Road Traffic Sound Levels Limits	
Time Period	L_{eq} (dBA)
07:00 – 23:00 (16 hr.)	55 Outdoor Living Area (OLA)
23:00 – 07:00 (8 hr.)	50 Plane of Bedroom Window (POW)

The OLA refers to an outdoor patio, a backyard, a terrace or other area where outdoor passive recreation is expected to occur on the residential property. Noise levels are calculated at the upper storey bedroom window to represent nighttime (23:00 - 07:00) periods.

Where noise levels estimated in the Outdoor Living Area (OLA) and at an upper storey window (POW) are equal to or less than the values listed in Table 1, no noise control measures are required. Where noise levels exceed Table 1 values, the following action is required:

TABLE 2 –Noise Control Requirements		
Time Period	Noise Level Leq (dBA)	Action Required
07:00 - 23:00 Daytime (OLA)	55 to 60	Barrier or Warning Clause Type "A"
07:00 - 23:00 Daytime (OLA)	> 60	Barrier & Warning Clause Type "B"
07:00 – 23:00 Daytime (POW)	>55	Provision for A/C, Warning Clause "C"
	>65	Central A/C, Warning Clause "D"
	>65	Building Component Specification
23:00 to 07:00 Nighttime (POW)	> 50-60	Provision for A/C and Warning Clause Type "C"
23:00 to 07:00 Nighttime (POW)	> 60 > 60	Building Component Specification Central Air Conditioning and Warning Clause Type "D"

Where nighttime noise levels exceed 60 dBA, building components must be designed to meet the following Table 3 indoor sound level limits.

TABLE 3 - Indoor Road Sound Levels Limits	
Indoor Location	Leq (dBA)
	Road
Living/Dining 7:00 – 23:00	45
Bedroom 23:00 - 07:00	40

3.2 ROAD NOISE

Predicted road traffic noise levels were calculated for Guelph Line, the major road noise source in the site area. Road traffic volumes were sourced supplied from the Region of Halton relative to the roadway. MECP computer program STAMSON version 5.04 was used to carry out prediction calculations (See Appendix "A" Attached). Traffic data is summarized in Table 4.

The daytime/night-time volume ratio relative for Guelph Line roadway is calculated using a 90/10 split and a 16/8-hour assessment as required by the MECP. The 2020 AADT (Annual Average Daily Traffic) volumes were forecasted over 12 years and reflective of the worst-case scenario. Truck volumes were factored at 2% medium and 3% heavy of the total vehicle volumes for Guelph Line.

TABLE 4 – Future Road Traffic Volumes (2032)			
Guelph Line	Forecasted AADT 35442 Vehicles		
	Cars	Medium Trucks	Heavy Trucks
Day	30239	702	957
Night	3360	78	106

Table 5A summarizes the "free field" traffic noise prediction results, modeled at 4 receptor location representative of the outdoor living areas (OLA) and 2nd floor building facades within the proposed development. (See Figure 3 Receptor Locations).

TABLE 5 – Predicted Future Traffic Noise (dBA)		
Location	07:00 – 23:00	23:00 – 07:00
R1 – 1st Floor East Façade (2m)	69	63
R2 - 7th Floor East Façade (22m)	70	63
R3 – 12th Floor East Façade (35m)	70	63
R4 - 1st Floor North Façade (2m)	66	60
R5 - 7th Floor North Façade (22m)	66	60
R6 - 12th Floor North Façade (35m)	67	60
R7 - 1st Floor South Façade (2m)	64	57
R8 - 7th Floor South Façade (22m)	64	57
R9 - 12th Floor South Façade (35m)	64	57

4.0 RECOMMENDATIONS - NOISE CONTROL

4.1 OUTDOOR LIVING AREAS

Calculated road noise levels exceed 55 dBA daytime criteria as outlined in Table 1. Proposed for the development are standard balconies that are less than 4m in depth and are not considered an amenity area as defined in the MECP noise guidelines. It is requested by the City of Burlington staff that all balconies have a Type "A" and "D" Warning Clauses as the traffic noise levels are high.

4.2 INDOOR NOISE LEVELS

Calculated road noise levels at the Plane of Window (POW) exceed the 50 dBA criteria outlined in Table 1 for indoor spaces for all receptor locations. Specific building components (walls, windows, doors etc.) are required and confirmed using the STC (Sound Transmission Class) methods and are summarized in Table 6 following with minimum window door and wall construction specified for all residential units throughout the development.

The STC values were calculated for each room type, based on typical window to floor ratios of 20% for bedrooms and 30% for living room areas. Wall-to-floor ratio was factored at 80%. A maximum of two components were factored per room. Windows must meet STC values with acoustical ratings.

TABLE 6 – Recommended Door, Wall, and Window Construction			
LOCATION	STC To Be Used	Exterior Wall Construction	Patio Door Construction
R1 – R3 All Units	Example		
Bedroom	32	43	32
Living room	32	43	32
R4 – R9 All Units	Example		
Bedroom	30	43	30
Living room	30	43	30

Recommendations assume windows are well-fitted, weather-stripped units that can be opened.

5.0 VENTILATION / WARNING CLAUSES

Ventilation and Warning Clause requirements are required for this project as noted in Table 7 following. It is recommended that the appropriate warning clauses be inserted into all Offers and Agreements of Purchase and Sale or Lease.

TABLE 7 - Ventilation and Warning Clause Requirements		
LOCATION	VENTILATION	WARNING CLAUSE
All Units	Central Air Conditioning	Type "A" and "D"

TYPE A:

"Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the Municipality's and the Ministry of the Environment's noise criteria."

TYPE D:

"This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Municipality's and the MECP noise criteria."

6.0 SUMMARY OF RECOMMENDATIONS

The following noise control measures are required to satisfy the indoor and outdoor noise level criterion:

- Window, door, and wall construction as recommended in Section 4.
- Central Air conditioners for all units.
- Warning Clauses inserted into all Offers and Agreements of Purchase and Sale or Lease for all units. (Section 5.0)
- Supply HVAC units, Generators (Outdoor) and, parking venting system mechanical sound specifications for further noise impact.
- All balconies require a 1.22m (4 ft) safety railing as required by Ontario Building Code and Ontario Fire Code
- Qualified Acoustical Consultant certifies that the required noise control measures have been incorporated into the builder's plans prior to issuance of a building permit.

- Qualified Acoustical Consultant certifies that the required noise control measures have been incorporated into the builder's plans prior to issuance of a building permit.
- Prior to issuance of an occupancy permit or equivalent, it is recommended the Qualified Acoustical Consultant certify that the approved noise control measures have been professionally installed.

7.0 CONCLUSIONS

dBA Acoustical Consultants Inc. has provided a noise impact study on behalf of Infinity Development Group for the proposed "1396 Guelph Line Residential Apartment Building" in Burlington, ON.

The study determined, for OPA/ZBA approval, the traffic noise impact from Guelph Line, Burlington, ON. Proposed is a 12-storey residential apartment building consisting of 236 units with 3 levels of underground parking. There is an enclosed rooftop mechanical room for the HVAC unit(s). There are no outdoor amenity areas for this development.

This study detailed noise impact relative to the proposed site plan and recommended the noise control measures necessary to meet Ministry of Environment, Conservation and Parks (MECP) guidelines, while satisfying the planning requirements of the City of Burlington. Once approval for the OPA/ZBA have been granted and addendum to the noise study will be required to address the rooftop HVAC unit, generator, parking ventilation.

Rail noise was not considered in this report as there are no CN/CP rail lines within the immediate area. Aircraft noise was not considered in this report as the development is located outside the 25 NEF of any area airports.

FIGURE 1
SITE LOCATION



FIGURE 2
SITE PLAN

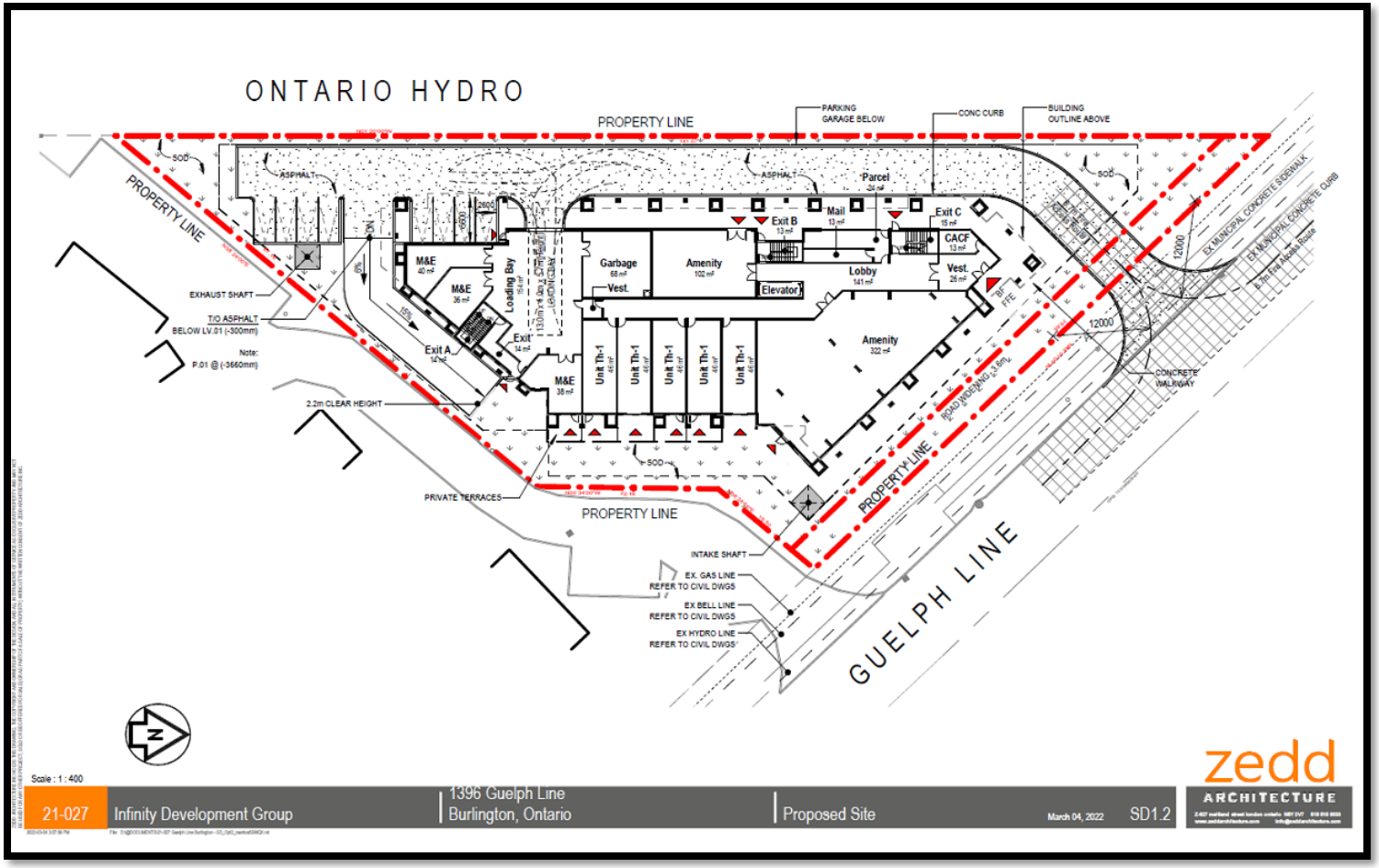


FIGURE 3
RECEPTOR LOCATIONS





HALTON REGION
AADT TRAFFIC DATA (2020)

Prepared For: Halton Region
Prepared By: *PYRAMID* Traffic Inc.
Location: Reg. Rd. #1 south of Upper Middle Rd
Start Date: Thursday Oct 8, 2020

Site ID: 100104
Interval: 15 min.

Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary	Period Ending	Channel 1 NB	Channel 2 SB	Hourly Summary
0:15	28	18		12:15	283	234	2015
0:30	21	25		12:30	256	234	2034
0:45	19	8		12:45	235	226	1997
1:00	15	5	139	13:00	247	284	1999
1:15	10	6	109	13:15	259	264	2005
1:30	13	5	81	13:30	225	280	2020
1:45	9	4	67	13:45	269	254	2082
2:00	8	5	60	14:00	218	288	2057
2:15	10	5	59	14:15	236	248	2018
2:30	13	7	61	14:30	255	261	2029
2:45	7	4	59	14:45	270	271	2047
3:00	4	4	54	15:00	251	288	2080
3:15	3	6	48	15:15	269	331	2196
3:30	4	6	38	15:30	321	335	2336
3:45	0	4	31	15:45	318	371	2484
4:00	3	8	34	16:00	285	365	2595
4:15	1	7	33	16:15	296	308	2599
4:30	4	12	39	16:30	316	304	2563
4:45	5	15	55	16:45	290	321	2485
5:00	7	22	73	17:00	287	326	2448
5:15	14	18	97	17:15	295	305	2444
5:30	14	38	133	17:30	276	302	2402
5:45	35	50	198	17:45	272	283	2346
6:00	25	78	272	18:00	265	262	2260
6:15	41	72	353	18:15	209	252	2121
6:30	49	49	399	18:30	233	237	2013
6:45	69	122	505	18:45	209	230	1897
7:00	68	113	583	19:00	190	208	1768
7:15	105	123	698	19:15	180	192	1679
7:30	92	169	861	19:30	175	169	1553
7:45	153	205	1028	19:45	134	185	1433
8:00	159	241	1247	20:00	136	168	1339
8:15	164	232	1415	20:15	108	130	1205
8:30	163	241	1558	20:30	138	113	1112
8:45	142	237	1579	20:45	118	91	1002
9:00	152	281	1612	21:00	87	109	894
9:15	176	212	1604	21:15	73	79	808
9:30	174	221	1595	21:30	66	88	711
9:45	141	210	1567	21:45	55	61	618
10:00	192	218	1544	22:00	49	68	539
10:15	177	211	1544	22:15	44	52	483
10:30	195	235	1579	22:30	54	59	442
10:45	188	238	1654	22:45	50	43	419
11:00	224	244	1712	23:00	42	37	381
11:15	229	252	1805	23:15	35	42	362
11:30	231	240	1846	23:30	34	35	318
11:45	237	261	1918	23:45	29	30	284
12:00	253	276	1979	0:00	35	37	277

AM Peak: 1979 PM Peak: 2599 24 HR VOLUME: 27946

STAMSON CALCULATIONS

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 20:41:44
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R1Guelp.te           Time Period: Day/Night 16/8 hours
Description: R1 First Floor Fee Field Facade
                  TOTAL Leq FROM ALL SOURCES              (DAY): 69.44
                                                          (NIGHT): 62.90

Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
---------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :   2.00 / 2.00   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    69.44 !    69.44
--------------------+---------+---------+---------
                      Total                  69.44 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    62.90 !    62.90
--------------------+---------+---------+---------
                      Total                  62.90 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 20:44:41
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r2guelp.te           Time Period: Day/Night 16/8 hours
Description: R2 7th Floor Fee Field Facade
                  TOTAL Leq FROM ALL SOURCES              (DAY): 70.00
                                                          (NIGHT): 62.90

Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
---------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  22.00 / 25.00  m
Receiver height           :   2.00 / 22.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    70.00 !    70.00
--------------------+---------+---------+---------
                      Total                  70.00 Dba
Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    62.90 !    62.90
--------------------+---------+---------+---------
                                  Total                  62.90 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 20:47:03
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r3guelp.te           Time Period: Day/Night 16/8 hours
Description: R3 12 Floor Fee Field Facade
                  TOTAL Leq FROM ALL SOURCES              (DAY): 70.00
                                                         (NIGHT): 62.90
Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
-----------------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  22.00 / 25.00  m
Receiver height           :  35.00 / 25.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    70.00 !    70.00
--------------------+---------+---------+---------
                      Total                  70.00 dBA
Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    62.90 !    62.90
--------------------+---------+---------+---------
                                  Total                  62.90 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 20:50:22
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r4guelp.te           Time Period: Day/Night 16/8 hours
Description: R4 1st Floor Free Field Facade
                  TOTAL Leq FROM ALL SOURCES              (DAY): 66.43
                                                          (NIGHT): 59.89

Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
---------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :   2.00 / 2.00   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    66.43 !    66.43
--------------------+---------+---------+---------
                      Total                  66.43 Dba

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    59.89 !    59.89
--------------------+---------+---------+---------
                                  Total                  59.89 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 20:56:08
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r5guelp.te           Time Period: Day/Night 16/8 hours
Description: R5 7th Floor Free Field Facade
                  TOTAL Leq FROM ALL SOURCES              (DAY): 66.43
                                                          (NIGHT): 59.89

Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
---------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  25.00 / 25.00  m
Receiver height           :  22.00 / 22.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    66.43 !    66.43
--------------------+---------+---------+---------
                      Total                  66.43 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    59.89 !    59.89
--------------------+---------+---------+---------
                                  Total                  59.89 Dba
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 21:07:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r6guelp.te           Time Period: Day/Night 16/8 hours
Description: R6 12th Floor Free Field Facade
                  TOTAL Leq FROM ALL SOURCES              (DAY): 66.99
                                                          (NIGHT): 60.45

Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
---------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  22.00 / 22.00  m
Receiver height           :  35.00 / 25.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    66.99 !    66.99
--------------------+---------+---------+---------
                      Total                  66.99 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    60.45 !    60.45
--------------------+---------+---------+---------
                      Total                  60.45 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 21:09:55
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r7guelp.te           Time Period: Day/Night 16/8 hours
Description: R7 1st Floor Free South Field Facade
                  TOTAL Leq FROM ALL SOURCES              (DAY): 63.69
                                                         (NIGHT): 57.15
Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  47.00 / 47.00  m
Receiver height           :   2.00 / 47.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    63.69 !    63.69
--------------------+---------+---------+---------
                      Total                  63.69 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    57.15 !    57.15
--------------------+---------+---------+---------
                                  Total                  57.15 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 21:14:25
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r8guelp.te           Time Period: Day/Night 16/8 hours
```
Description: R8 7th Floor Free South Field Facade
TOTAL Leq FROM ALL SOURCES (DAY): 63.69
(NIGHT): 57.15

```
Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 1: Guelph Line (day/night)
-----------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  47.00 / 47.00  m
Receiver height           :  22.00 / 22.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    63.69 !    63.69
--------------------+---------+---------+---------
                      Total                  63.69 dBA

Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    57.15 !    57.15
--------------------+---------+---------+---------
                      Total                  57.15 dBA
```

```
STAMSON 5.04        SUMMARY REPORT        Date: 07-03-2022 21:16:06
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r8guelp.te           Time Period: Day/Night 16/8 hours
Description: R9 12th Floor Free South Field Facade
                 TOTAL Leq FROM ALL SOURCES              (DAY): 63.69
                                                        (NIGHT): 57.15

Road data, segment # 1: Guelph Line (day/night)
-----------------------------------------------
Car traffic volume  : 30239/3360  veh/TimePeriod  *
Medium truck volume :   702/78    veh/TimePeriod  *
Heavy truck volume  :   957/106   veh/TimePeriod  *
Posted speed limit  :    60 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

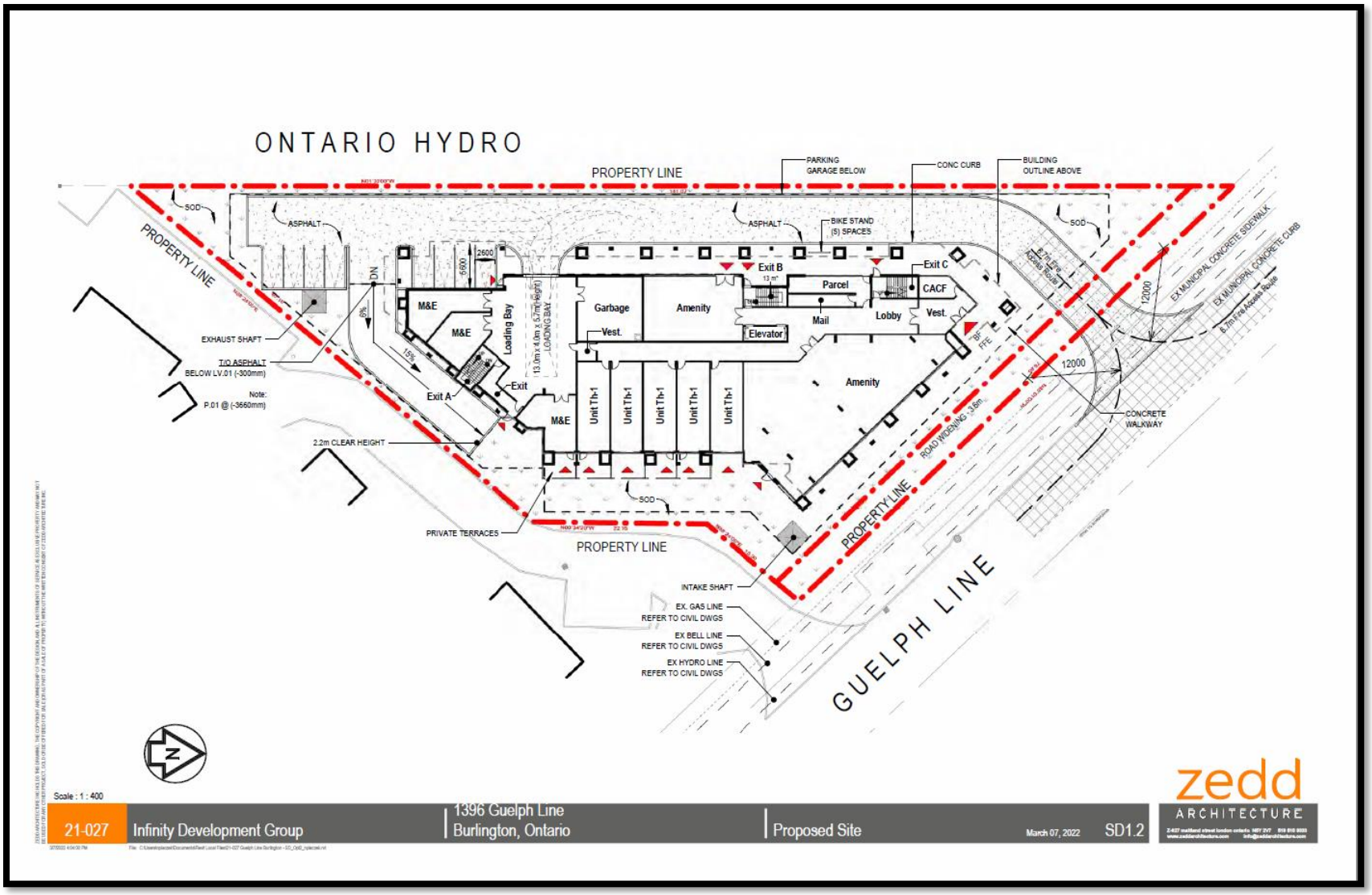
    24 hr Traffic Volume (AADT or SADT):  27946
    Percentage of Annual Growth        :   2.00
    Number of Years of Growth          :  12.00
    Medium Truck % of Total Volume     :   2.20
    Heavy Truck  % of Total Volume     :   3.00
    Day (16 hrs) % of Total Volume     :  90.00

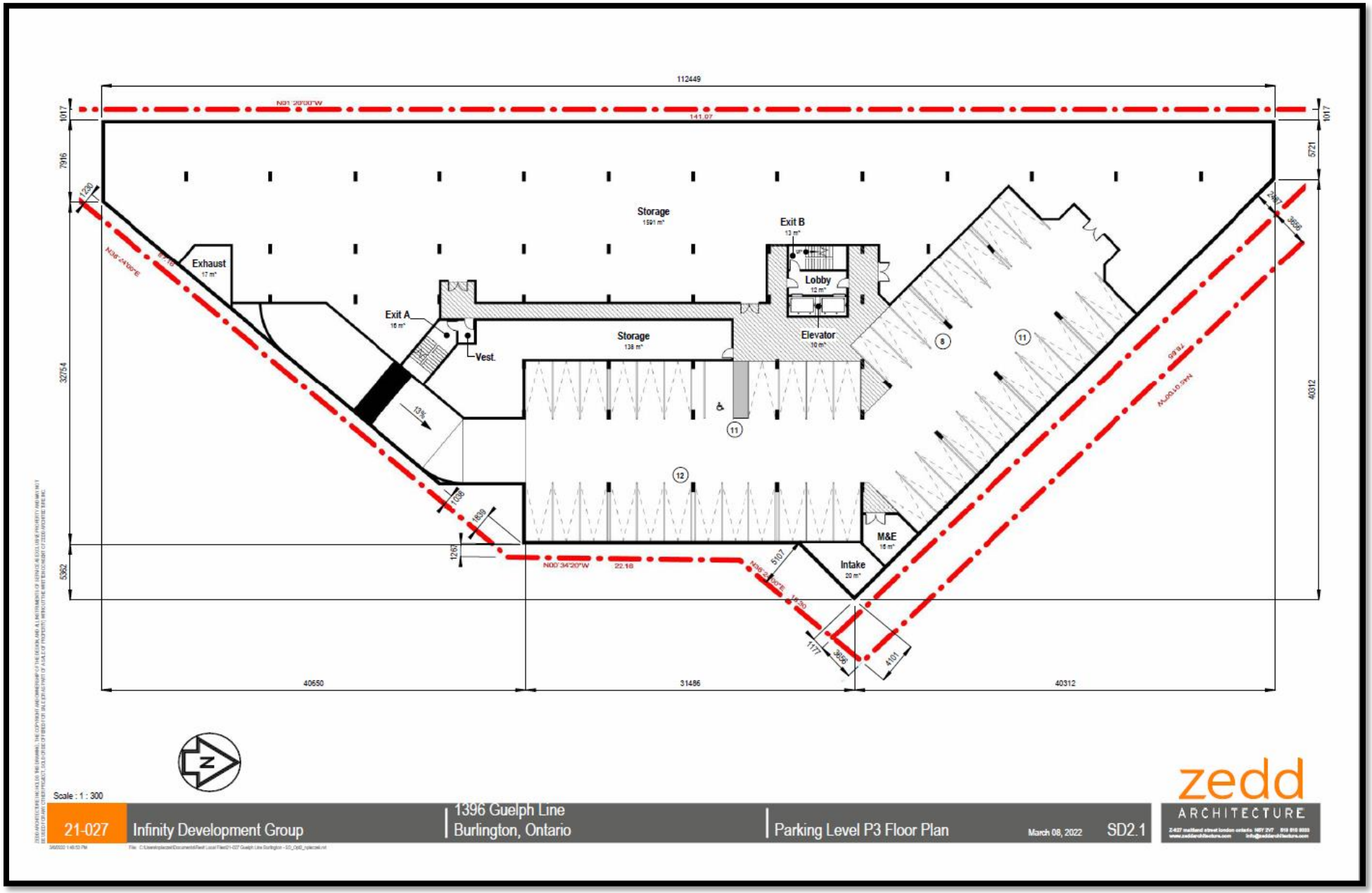
Data for Segment # 1: Guelph Line (day/night)
---------------------------------------------
Angle1   Angle2           :  -0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      0 / 0
Surface                   :      2       (Reflective ground surface)
Receiver source distance  :  47.00 / 47.00  m
Receiver height           :  35.00 / 35.00  m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

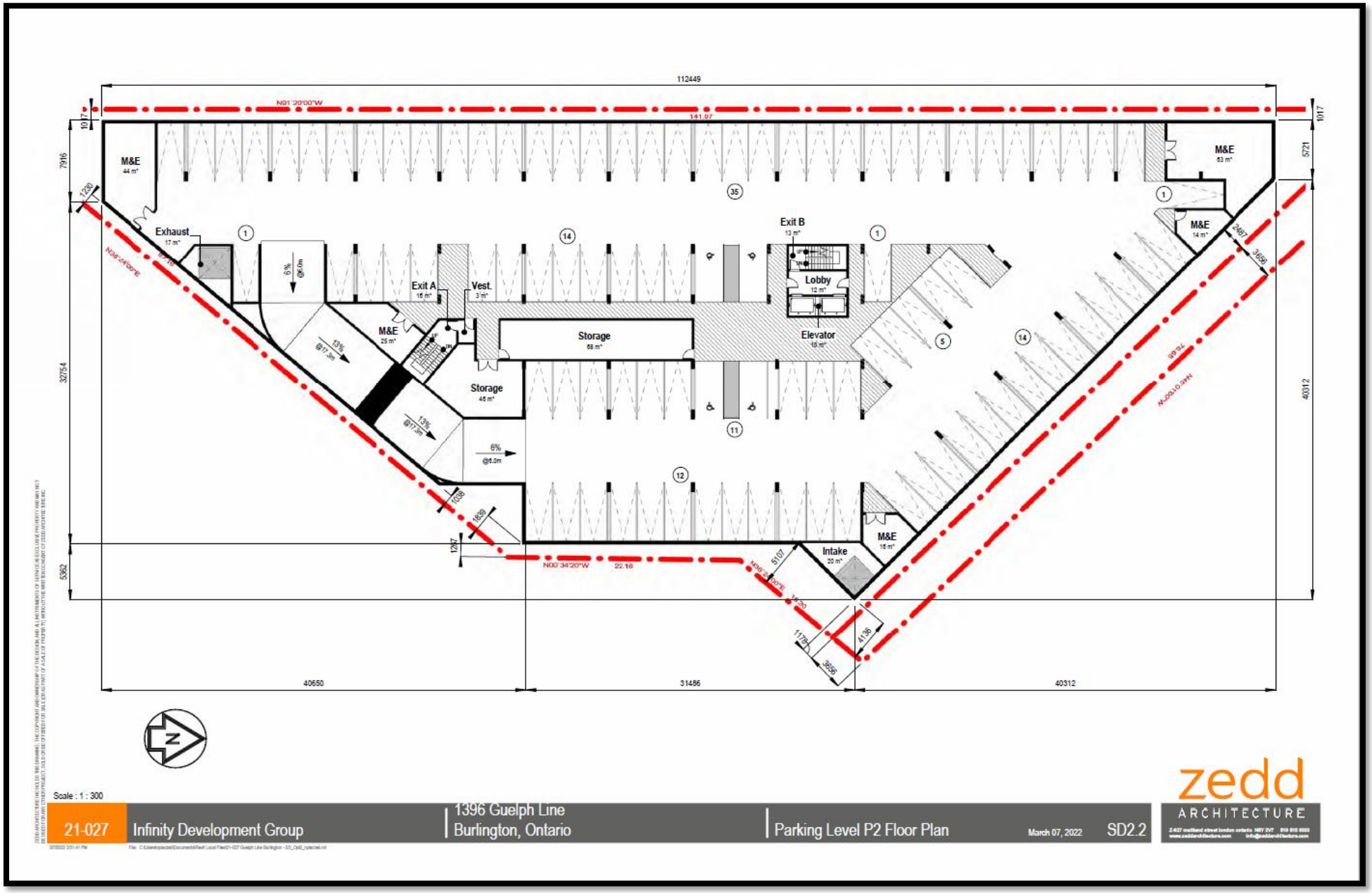
Result summary (day)
--------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    63.69 !    63.69
--------------------+---------+---------+---------
                      Total                  63.69 dBA

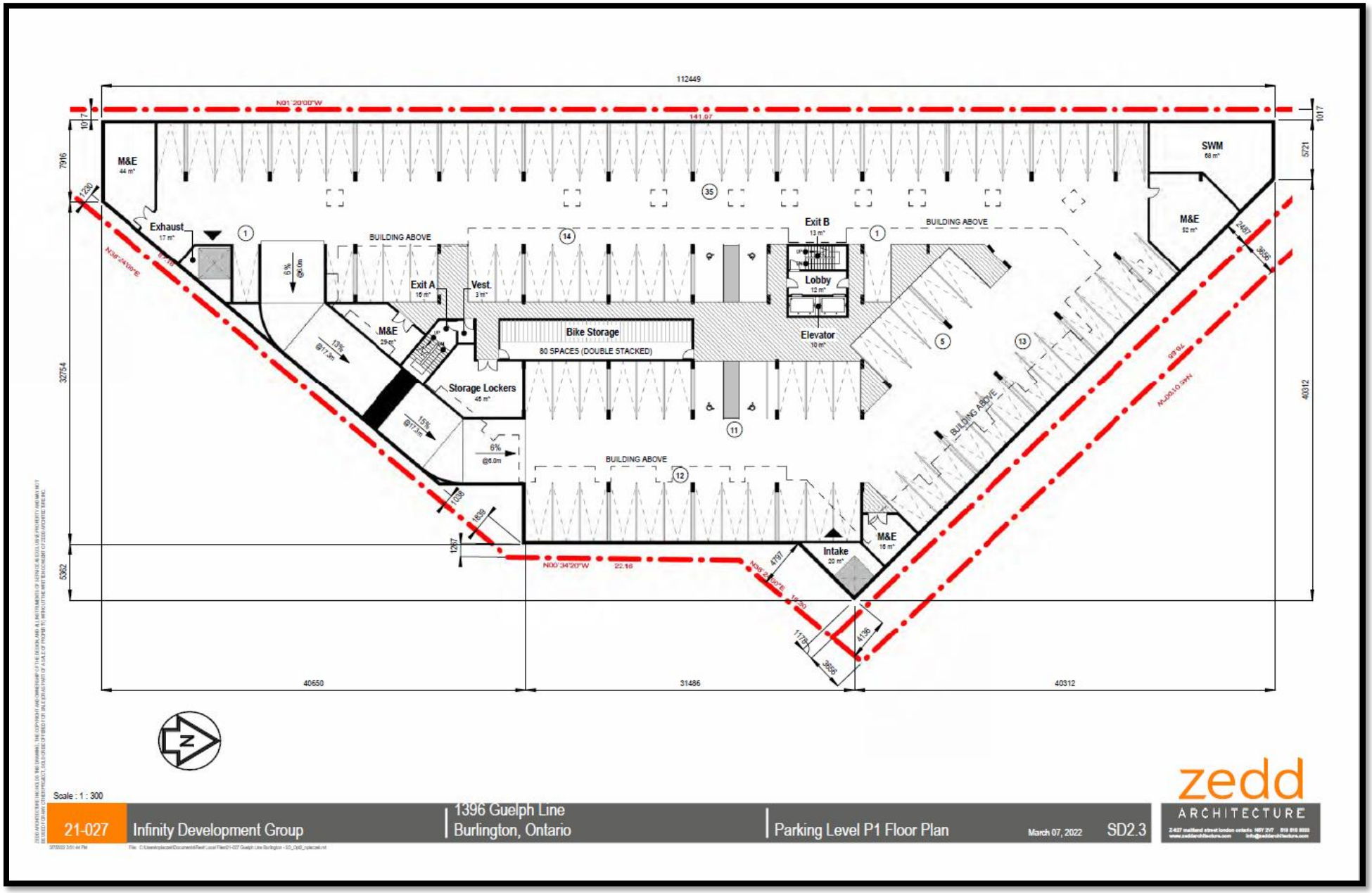
Result summary (night)
----------------------
                    !  source  !   Road   !  Total
                    !  height  !   Leq    !   Leq
                    !   (m)    !  (dBA)   !  (dBA)
--------------------+---------+---------+---------
 1.Guelph Line      !     1.32 !    57.15 !    57.15
--------------------+---------+---------+---------
                                  Total                  57.15 dBA
```

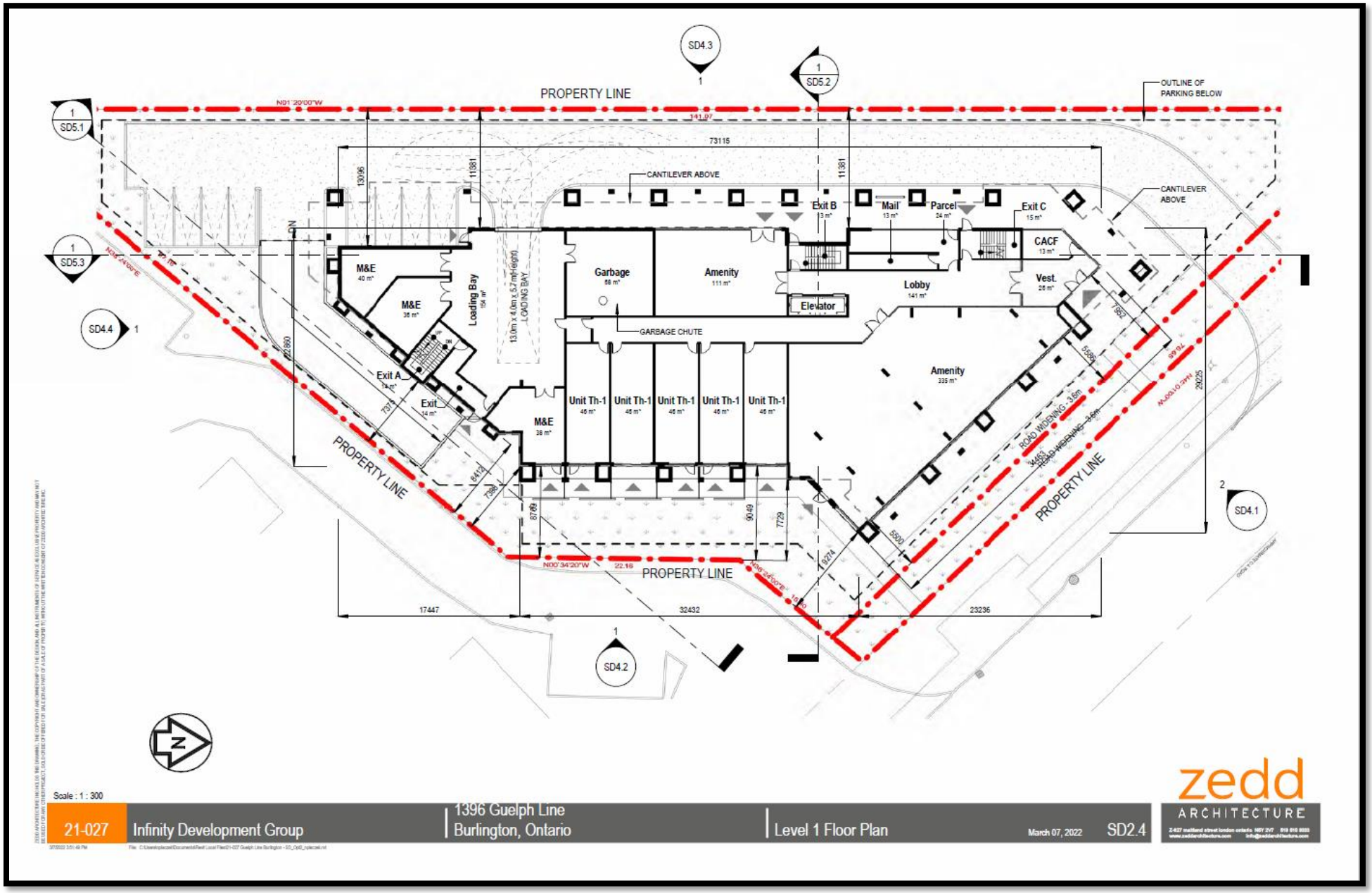
BUILDING DESIGN

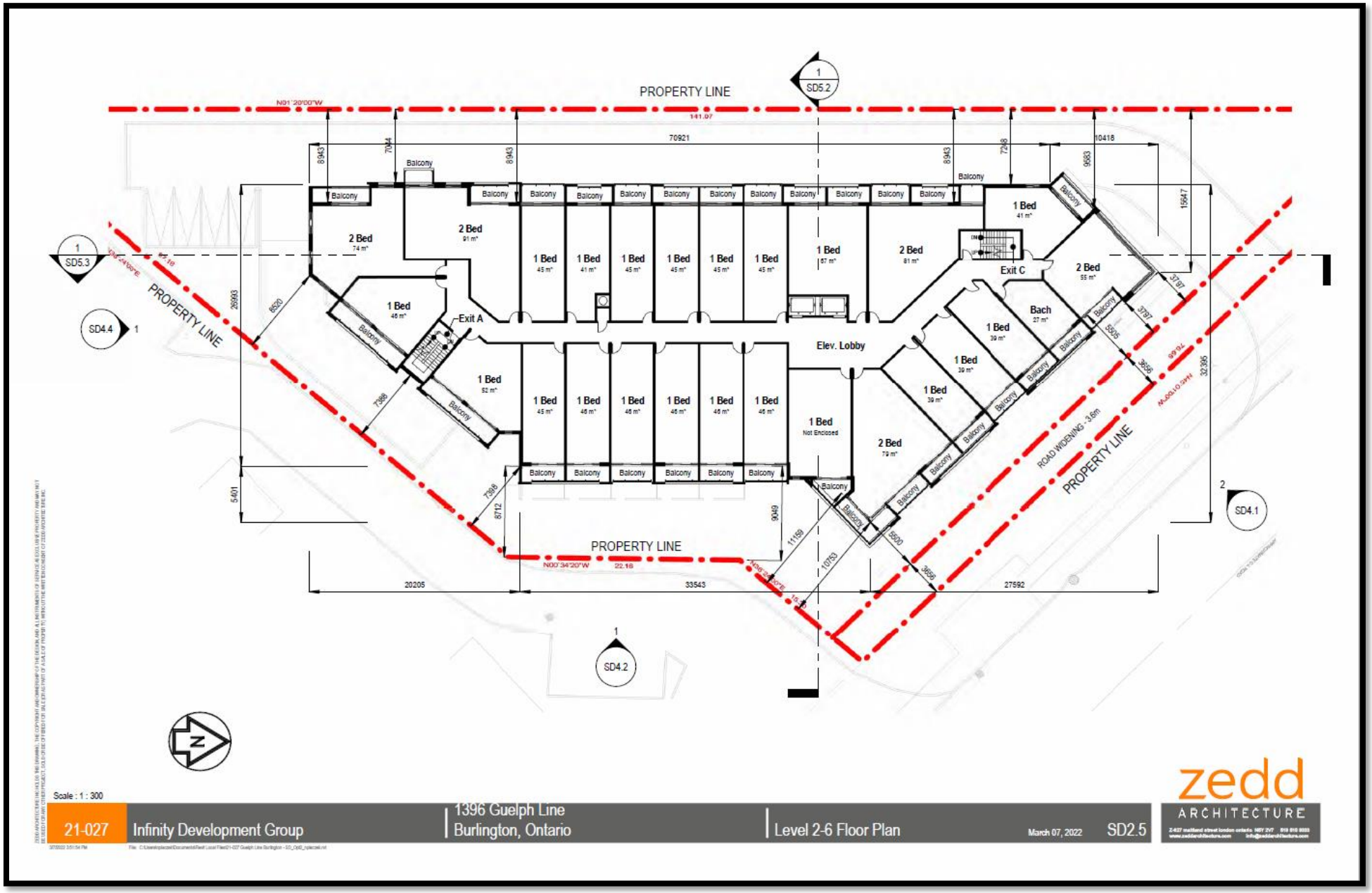

ONTARIO HYDRO
PROPERTY LINE
PARKING GARAGE BELOW
CONC CURB
BUILDING OUTLINE ABOVE
SOD
ASPHALT
BIKE STAND (5) SPACES
EXHAUST SHAFT
T/O ASPHALT BELOW LV.01 (-300mm)
Note: P.01 @ (-3660mm)
M&E
Loading Bay
13.0m x 4.0m x 5.7m (Height) LOADING BAY
Garbage
Amenity
Vest.
Exit B
Parcel
Mail
Elevator
Exit C
CACF
Lobby
Exit A
Exit
Unit Th-1
2.2m CLEAR HEIGHT
PRIVATE TERRACES
ROAD WIDENING - 3.5m
CONCRETE WALKWAY
EX MUNICIPAL CONCRETE SIDEWALK
EX MUNICIPAL CONCRETE CURB
INTAKE SHAFT
EX. GAS LINE REFER TO CIVIL DWGS
EX BELL LINE REFER TO CIVIL DWGS
EX HYDRO LINE REFER TO CIVIL DWGS
GUELPH LINE
Scale : 1 : 400
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Proposed Site
March 07, 2022
SD1.2
zedd
ARCHITECTURE

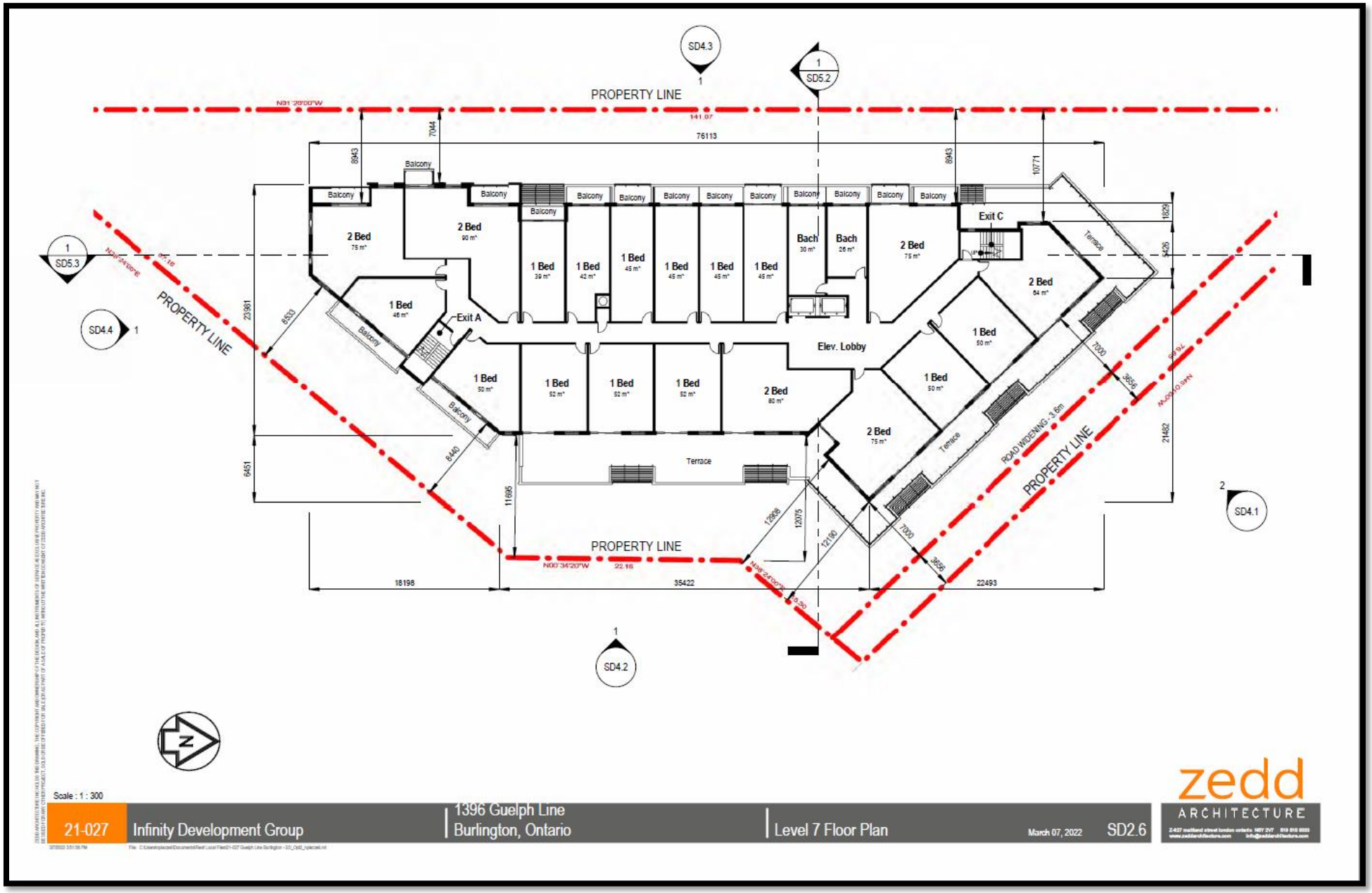

112449
141.07
Storage
1591 m²
Exit B
13 m²
Lobby
12 m²
Elevator
10 m²
Exhaust
17 m²
Exit A
16 m²
Vest.
Storage
138 m²
M&E
15 m²
Intake
20 m²
13%
N36°24'00"E
N00°34'20"W
22.18
40650
31486
40312
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Parking Level P3 Floor Plan
March 08, 2022
SD2.1
zedd
ARCHITECTURE

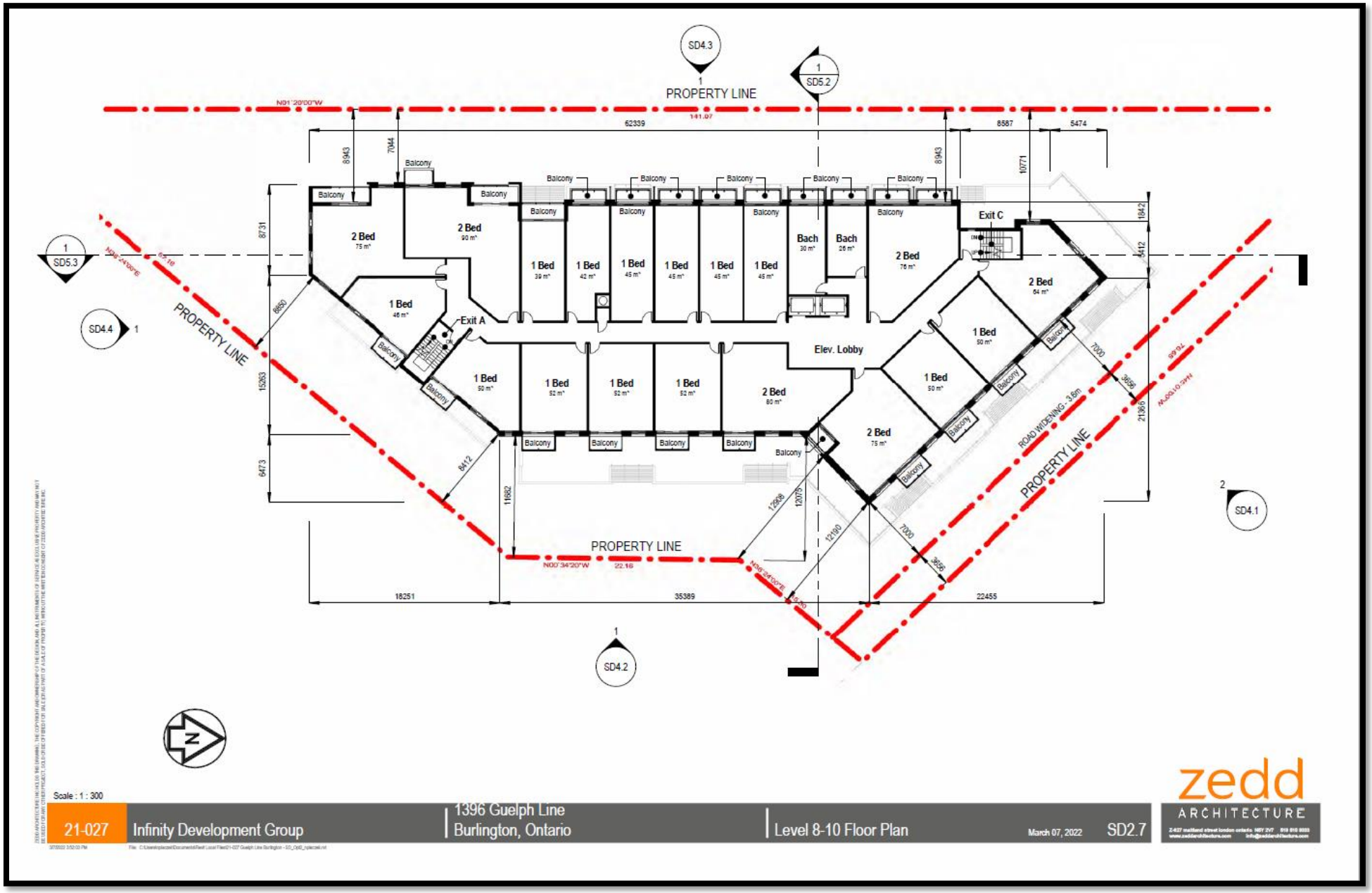

112449
N01°20'00"W
141.07
1017
7916
M&E
44 m²
1220
Exhaust
17 m²
N38°24'00"E
97.16
6%
@5.0m
13%
@17.3m
Exit A
16 m²
Vest.
3 m²
M&E
25 m²
Storage
68 m²
Storage
46 m²
Exit B
13 m²
Lobby
12 m²
Elevator
16 m²
M&E
63 m²
M&E
14 m²
5721
2467
3659
32754
40312
1038
1659
1267
5362
N00°34'20"W
22.18
N06°52'20"E
14.20
5107
Intake
20 m²
M&E
15 m²
1178
4136
3656
40650
31486
40312
N
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Parking Level P2 Floor Plan
March 07, 2022
SD2.2
zedd
ARCHITECTURE

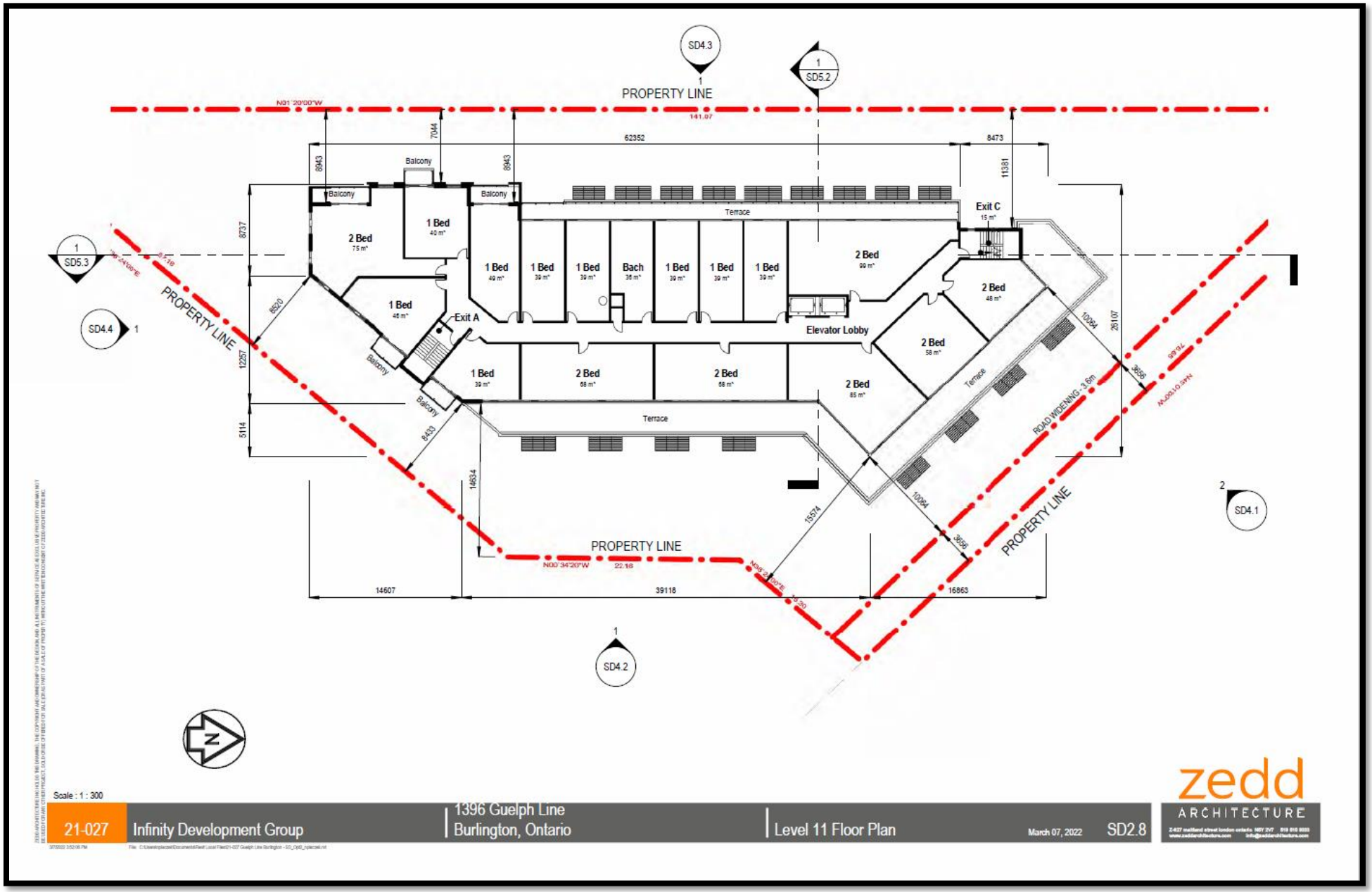

112449
N01°20'00"W
141.97
M&E
44 m²
SWM
68 m²
Exhaust
17 m²
BUILDING ABOVE
Exit A
16 m²
Vest.
3 m²
Exit B
13 m²
Lobby
12 m²
M&E
52 m²
Bike Storage
80 SPACES (DOUBLE STACKED)
Elevator
10 m²
M&E
25 m²
Storage Lockers
46 m²
Intake
20 m²
M&E
16 m²
N00°34'20"W
22.16
40650
31486
40312
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Parking Level P1 Floor Plan
March 07, 2022
SD2.3
zedd
ARCHITECTURE

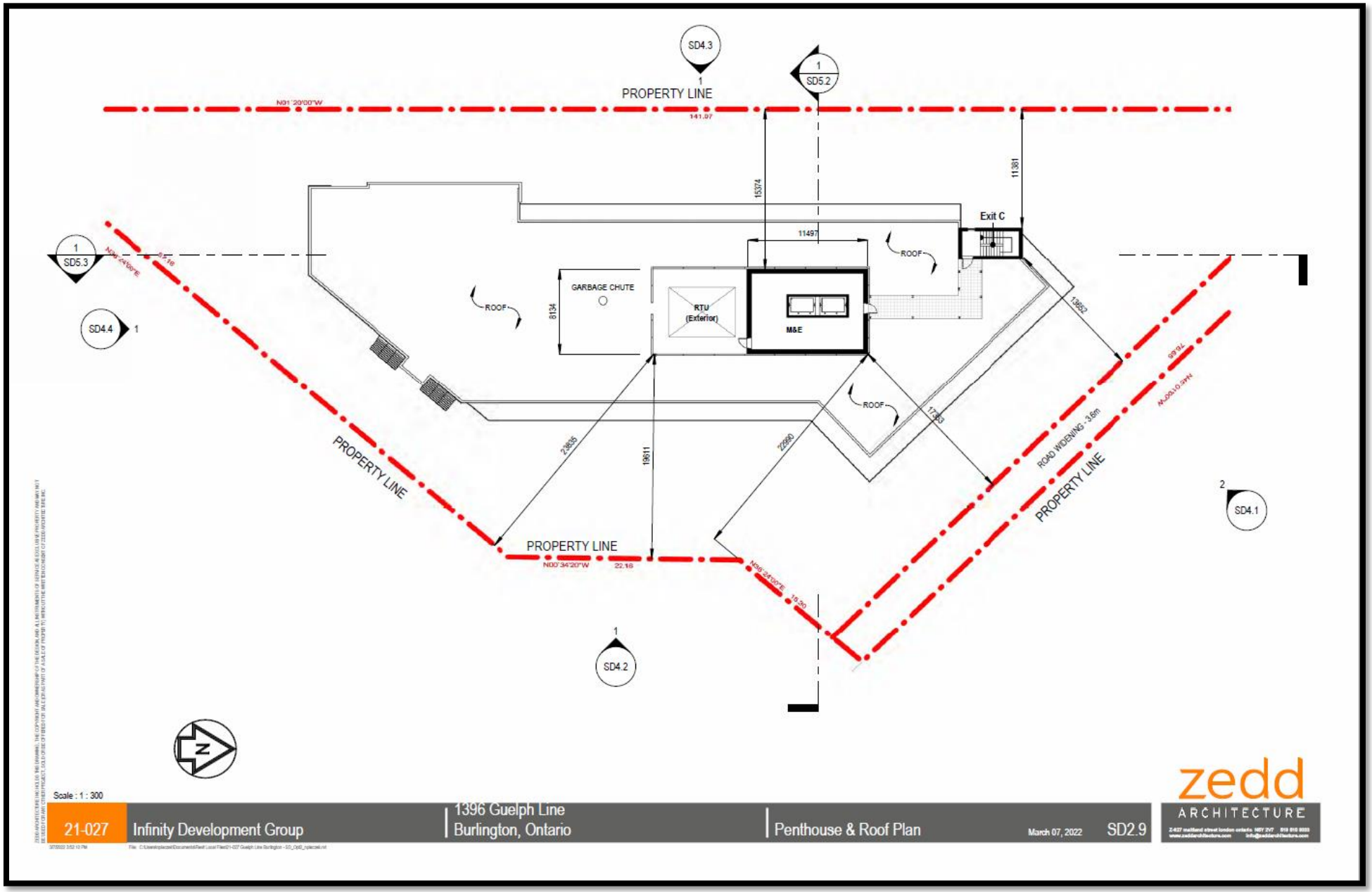

PROPERTY LINE
OUTLINE OF PARKING BELOW
CANTILEVER ABOVE
CANTILEVER ABOVE
M&E
M&E
Loading Bay
13.0m x 4.0m x 5.7m Height
LOADING BAY
Garbage
Amenity
Exit B
Mail
Parcel
Exit C
CACF
Vest.
Lobby
Elevator
GARBAGE CHUTE
Exit A
Exit
M&E
Unit Th-1
Unit Th-1
Unit Th-1
Unit Th-1
Unit Th-1
Amenity
ROAD WIDENING - 3.6m
ROAD WIDENING - 3.6m
PROPERTY LINE
PROPERTY LINE
PROPERTY LINE
N00°34'20"W
22.16
17447
32432
23236
SD4.3
SD5.2
SD5.1
SD5.3
SD4.4
SD4.2
SD4.1
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Level 1 Floor Plan
March 07, 2022
SD2.4
zedd
ARCHITECTURE


PROPERTY LINE
N01°20'00"W
141.07
70921
8943
7044
8943
8943
7248
10418
9583
15647
Balcony
2 Bed
74 m²
2 Bed
91 m²
1 Bed
45 m²
1 Bed
41 m²
1 Bed
45 m²
1 Bed
45 m²
1 Bed
45 m²
1 Bed
45 m²
1 Bed
67 m²
2 Bed
81 m²
1 Bed
41 m²
Exit C
2 Bed
95 m²
Bach
27 m²
1 Bed
39 m²
1 Bed
39 m²
1 Bed
39 m²
1 Bed
46 m²
Exit A
Elev. Lobby
1 Bed
52 m²
1 Bed
45 m²
1 Bed
46 m²
1 Bed
46 m²
1 Bed
46 m²
1 Bed
46 m²
1 Bed
Not Enclosed
2 Bed
79 m²
SD5.3
SD4.4
SD5.2
SD4.1
SD4.2
PROPERTY LINE
N30°24'00"E
25993
6520
7388
5401
7388
8712
9049
11159
10753
3900
3899
20205
33543
27592
N00°34'20"W
22.18
ROAD WIDENING - 3.6m
PROPERTY LINE
3797
3797
3905
3899
32395
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Level 2-6 Floor Plan
March 07, 2022
SD2.5
zedd
ARCHITECTURE

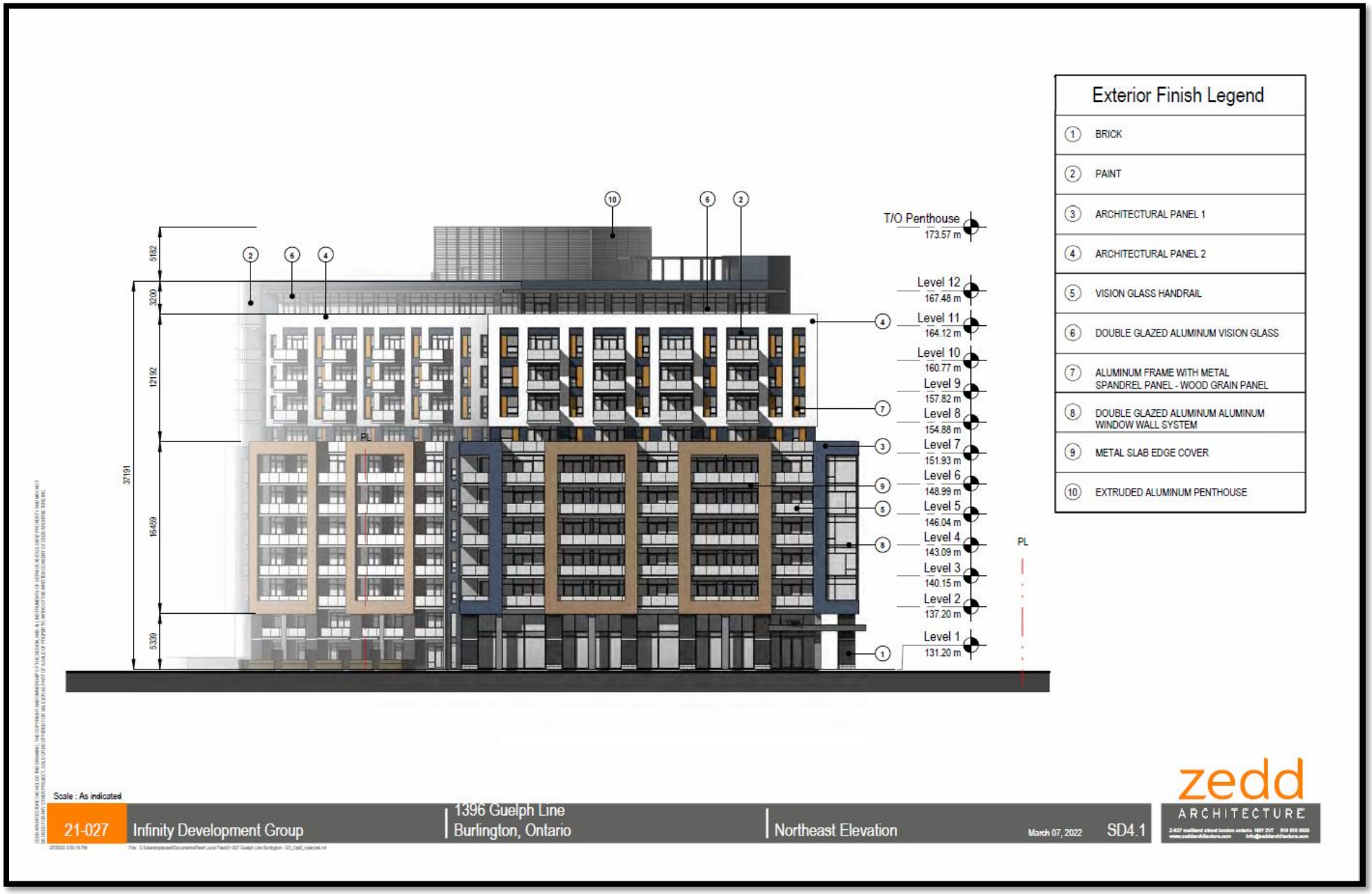

PROPERTY LINE
PROPERTY LINE
PROPERTY LINE
ROAD WIDENING - 3.6m
Balcony
Terrace
Elev. Lobby
Exit A
Exit C
2 Bed
1 Bed
Bach
SD4.3
SD5.2
SD5.3
SD4.4
SD4.2
SD4.1
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Level 7 Floor Plan
March 07, 2022
SD2.6
zedd
ARCHITECTURE

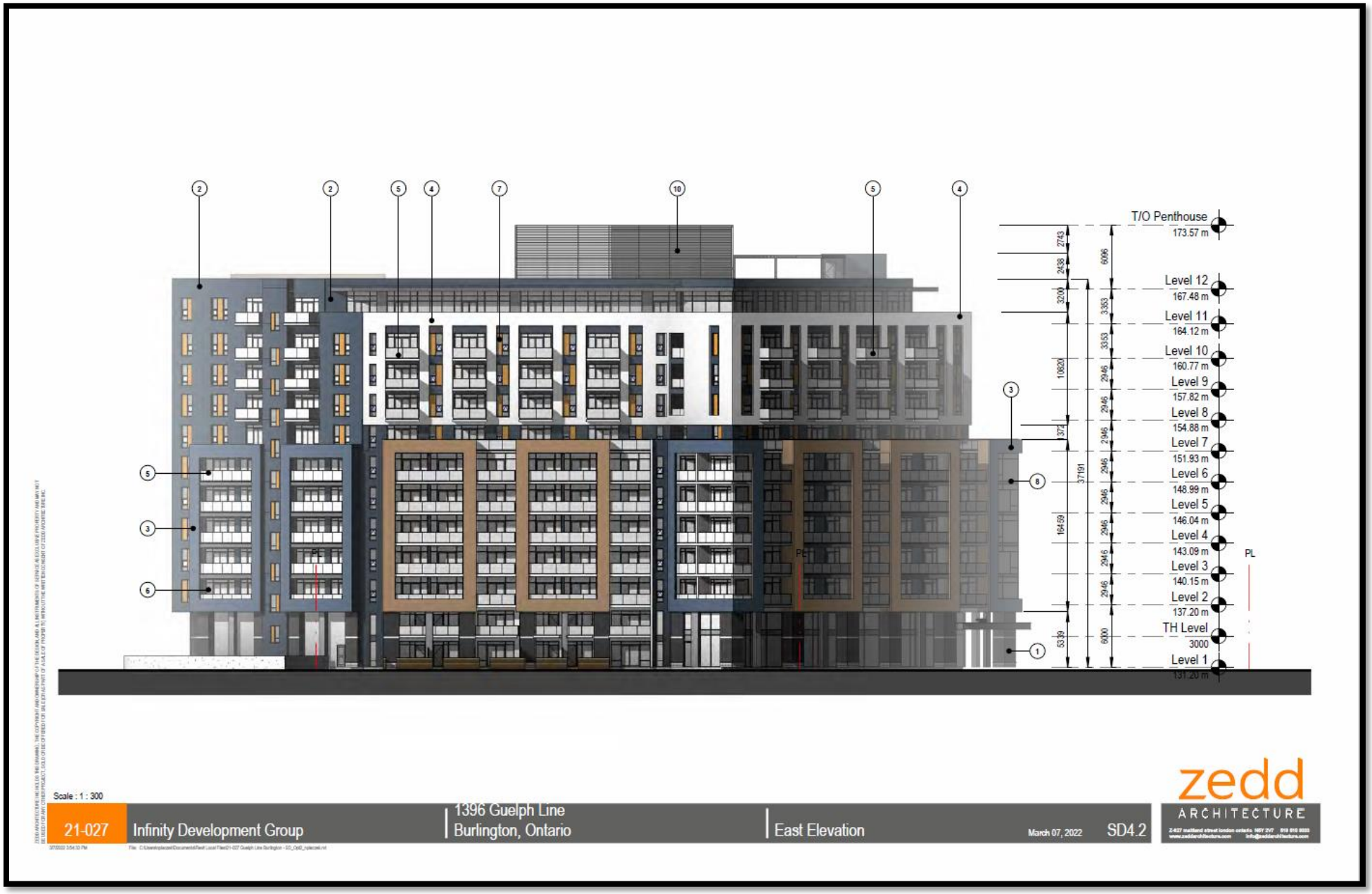

SD4.3
1
PROPERTY LINE
1
SD5.2
N01°20'00"W
141.07
62339
8587
5474
8943
7044
10771
Balcony
Exit C
Exit A
Elev. Lobby
2 Bed
1 Bed
Bach
1
SD5.3
SD4.4
1
PROPERTY LINE
N39°24'00"E
65.16
8731
8650
15263
6473
8412
1642
6412
7000
3656
21366
59°32'
ROAD WIDENING - 3.6m
PROPERTY LINE
N45°24'00"E
PROPERTY LINE
N00°34'20"W
22.16
11682
12608
12075
12190
7000
3656
18251
35389
22455
2
SD4.1
1
SD4.2
N
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Level 8-10 Floor Plan
March 07, 2022
SD2.7
zedd
ARCHITECTURE

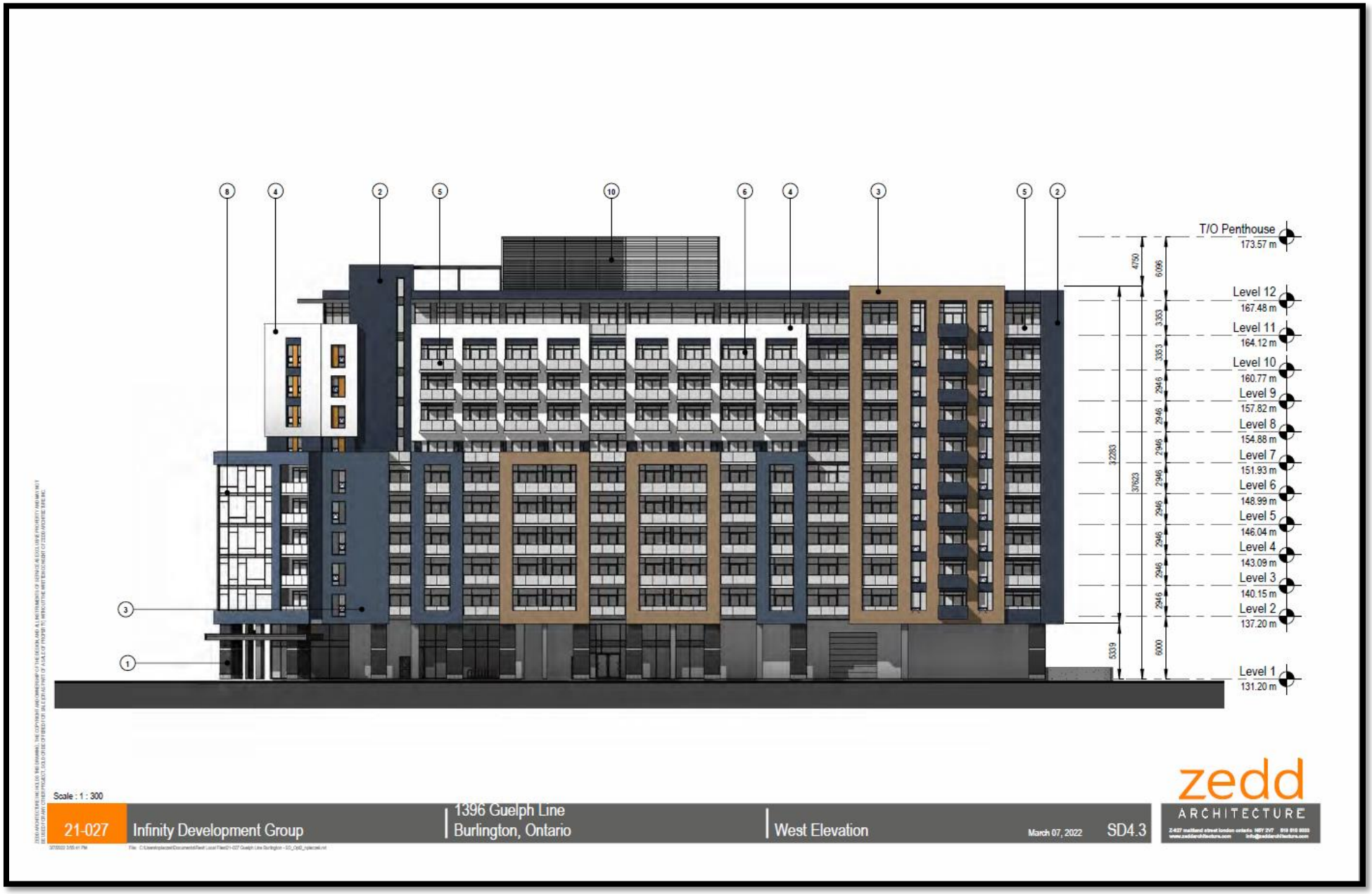

SD4.3
1
PROPERTY LINE
1
SD5.2
N01° 20'00"W
141.07
62352
8473
7044
8943
8943
11381
Balcony
Balcony
Balcony
Terrace
Exit C
15 m²
1
SD5.3
8737
2 Bed
75 m²
1 Bed
40 m²
1 Bed
49 m²
1 Bed
39 m²
1 Bed
39 m²
Bach
36 m²
1 Bed
39 m²
1 Bed
39 m²
1 Bed
39 m²
2 Bed
99 m²
2 Bed
48 m²
SD4.4
1
PROPERTY LINE
8520
1 Bed
46 m²
Exit A
Elevator Lobby
2 Bed
58 m²
10364
26107
12257
Balcony
1 Bed
39 m²
2 Bed
68 m²
2 Bed
68 m²
2 Bed
85 m²
Terrace
Terrace
ROAD WIDENING - 3.6m
3656
5114
Balcony
8433
Terrace
14634
15574
10364
2
SD4.1
PROPERTY LINE
N00° 34'20"W
22.16
3656
PROPERTY LINE
14607
39118
16863
1
SD4.2
N
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Level 11 Floor Plan
March 07, 2022
SD2.8
zedd
ARCHITECTURE

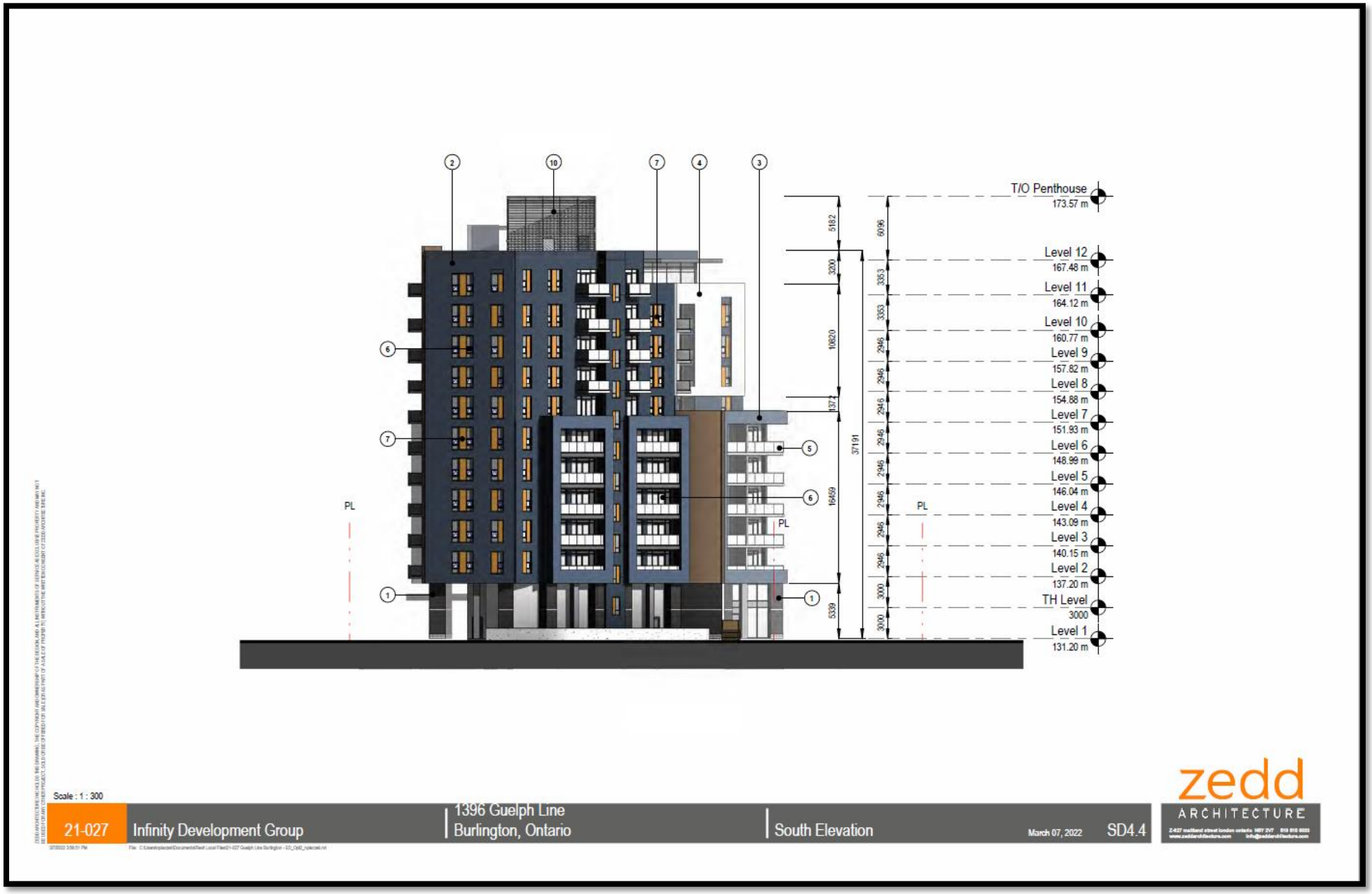

SD4.3
1
PROPERTY LINE
1
SD5.2
N01°20'00"W
141.07
15374
11381
Exit C
11497
ROOF
1
SD5.3
N00°24'00"E
GARBAGE CHUTE
ROOF
8134
RTU
(Exterior)
M&E
13852
SD4.4
1
ROOF
PROPERTY LINE
23835
19611
22690
17830
ROAD WIDENING - 3.6m
PROPERTY LINE
2
SD4.1
PROPERTY LINE
N00°34'20"W
22.16
N08°24'00"E
19.30
1
SD4.2
N
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Penthouse & Roof Plan
March 07, 2022
SD2.9
zedd
ARCHITECTURE

ELEVATIONS


Exterior Finish Legend
1 BRICK
2 PAINT
3 ARCHITECTURAL PANEL 1
4 ARCHITECTURAL PANEL 2
5 VISION GLASS HANDRAIL
6 DOUBLE GLAZED ALUMINUM VISION GLASS
7 ALUMINUM FRAME WITH METAL SPANDREL PANEL - WOOD GRAIN PANEL
8 DOUBLE GLAZED ALUMINUM ALUMINUM WINDOW WALL SYSTEM
9 METAL SLAB EDGE COVER
10 EXTRUDED ALUMINUM PENTHOUSE
T/O Penthouse 173.57 m
Level 12 167.48 m
Level 11 164.12 m
Level 10 160.77 m
Level 9 157.82 m
Level 8 154.88 m
Level 7 151.93 m
Level 6 148.99 m
Level 5 146.04 m
Level 4 143.09 m
Level 3 140.15 m
Level 2 137.20 m
Level 1 131.20 m
PL
5182
3200
12192
16459
5339
37191
Scale : As indicated
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
Northeast Elevation
March 07, 2022
SD4.1
zedd
ARCHITECTURE


T/O Penthouse
173.57 m
Level 12
167.48 m
Level 11
164.12 m
Level 10
160.77 m
Level 9
157.82 m
Level 8
154.88 m
Level 7
151.93 m
Level 6
148.99 m
Level 5
146.04 m
Level 4
143.09 m
Level 3
140.15 m
Level 2
137.20 m
TH Level
3000
Level 1
131.20 m
PL
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
East Elevation
March 07, 2022
SD4.2
zedd
ARCHITECTURE


T/O Penthouse
173.57 m
Level 12
167.48 m
Level 11
164.12 m
Level 10
160.77 m
Level 9
157.82 m
Level 8
154.88 m
Level 7
151.93 m
Level 6
148.99 m
Level 5
146.04 m
Level 4
143.09 m
Level 3
140.15 m
Level 2
137.20 m
Level 1
131.20 m
4750
6096
3353
3353
2946
2946
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2946
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2946
6000
32283
37623
5339
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
West Elevation
March 07, 2022
SD4.3
zedd
ARCHITECTURE


T/O Penthouse
173.57 m
Level 12
167.48 m
Level 11
164.12 m
Level 10
160.77 m
Level 9
157.82 m
Level 8
154.88 m
Level 7
151.93 m
Level 6
148.99 m
Level 5
146.04 m
Level 4
143.09 m
Level 3
140.15 m
Level 2
137.20 m
TH Level
3000
Level 1
131.20 m
5182
3200
10820
1372
16459
5339
37191
6096
3353
3353
2946
2946
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2946
3000
3000
PL
PL
PL
Scale : 1 : 300
21-027
Infinity Development Group
1396 Guelph Line
Burlington, Ontario
South Elevation
March 07, 2022
SD4.4
zedd
ARCHITECTURE

SITE STATISTICS

PROJECT STATISTICS

PROJECT#: 21-027
MARCH 04 2022

1396 GUELPH LINE
BURLINGTON

SITE

	Acre	Hectare	ft²	m²
TOTAL SITE AREA	**1.03**	**0.4168**	**44,867**	**4,168**

LOT COVERAGE (%)	33% (1,392 m²)
BUILDING HEIGHT (m)	42.37 (11 STOREYS)
VEHICLE PARKING	236 (1.00 PER UNIT)
BICYCLE PARKING	85 (0.36 PER UNIT)
DENSITY (UNITS PER HECTARE)	566
FLOOR SPACE RATIO (m²) (ABOVE GRADE GFA / SITE AREA)	4.02
OUTDOOR AMENITY	1,807 m² (7.66 m² PER UNIT)
INDOOR AMENITY	446 m² (1.89 m² PER UNIT)

BUILDING

FLOOR AREAS (m²)	BELOW GRADE	ABOVE GRADE
P.03	3,326	0
P.02	3,326	0
P.01	3,326	0
LV.01	0	1,392
LV.02-LV.06 (x5)	0	1,679 (8,395)
LV.07-.LV.10 (x4)	0	1,450 (5,800)
LV.11	0	1,160
TOTAL GFA 26,725	**9,978**	**16,747**

UNITS	TOTAL	3 BED	2 BED	1 BED	BACHELOR
LV.01	5	0	0	5 (100%)	0
LV.02-LV.06 (x5)	26 (130)	0	5 (25) (19%)	20 (100) (77%)	1 (5) (4%)
LV.07-.LV.10 (x4)	21 (84)	0	6 (24) (28%)	13 (52) (62%)	2 (8) (10%)
LV.11	17	0	7 (41%)	10 (59%)	0
TOTAL UNITS	**236**	**0**	**56 (24%)**	**167 (70%)**	**13 (6%)**

AMENITY (m²)	BALCONIES & TERRACES	INTERIOR SPACE
LV.01	60	446
LV.02-LV.06 (x5)	218 (1,090)	0
LV.07	393	0
LV.08-LV.10 (x3)	114 (342)	0
LV.11	315	0
TOTAL AMENITY 2,253	**1,807**	**446**

PARKING	BICYCLE	BARRIER-FREE (2.75m x 5.6m)	STANDARD (2.6m x 5.6m)
P.01	80	4	88
P.02	0	4	90
P.03	0	1	41
LV.01	5	0	8
TOTAL PARKING 236V / 85B	**85**	**(4%) 9**	**227**

NOTE:
- GROSS FLOOR AREA INCLUDES ALL BELOW AND ABOVE GRADE SPACES WITHIN EXTERIOR WALLS AND IS CALCULATED TO THE EXTERIOR FACE OF EXTERIOR WALL.
- ROOM CALCULATIONS ARE MADE TO INTERIOR FACE OF DEMISING, CORRIDOR AND EXTERIOR WALLS.
- AMENITY AREAS ARE CALCULATED TO CENTERLINE OF DEMISING WALLS, EXTERIOR FACE OF CORRIDOR AND EXTERIOR WALLS.

EXTERIOR WALL STC RATINGS

Wall Configuration	EW1	EW2	EW3	EW4	EW1R	EW2R	EW3R	EW5	EW4R	EW6	EW7 EW5R	EW8
STC Rating	**38**	**40**	**43**	**46**	**47**	**48**	**49**	**54**	**55**	**57**	**58**	**62**

Source: National Research Council, Division of Building Research

NOTES:

1 The common structure of walls EW1 to EW5 is composed of 12.7mm gypsum board, vapour barrier and 38x89 mm studs with 50 mm (or thicker) mineral wool or glass fibre batts in inter-stud cavities.

- EW1 denotes the common structure, plus sheathing, plus wood siding or metal siding and fibre backer board
- EW2 denotes the common structure, plus rigid insulation (25 to 30 mm), and wood siding or metal siding and fibre backer board.
- EW3 denotes simulated mansard with the common structure, plus sheathing, 28 X89 mm framing, sheathing and asphalt roofing material
- EW4 denotes the common structure, plus sheathing and 20 mm stucco.
- EW5 denotes the common structure, plus sheathing, 25 mm air space, 100mm brick veneer.
- EW6 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 100 mm back-up block 100 mm face brick.
- EW7 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 140mm back-up block, 100 mm face brick.
- EW8 denotes exterior wall composed of 12.7 mm gypsum board, rigid insulation (25 to 50 mm), 200 mm concrete.

2 R signifies the mounting of the interior gypsum board on resilient clips.

3 An exterior wall conforming to rainscreen design principles and composed of 12.7 mm gypsum board, 100 mm concrete block, rigid insulation (25 to 50 mm), 25 mm air space, and 100 mm brick veneer has the same STC as EW6.

4 An exterior wall described in EW1 with the addition of rigid insulation (25 to 50 mm) between the sheathing and the external finish has the same STC as EW2.