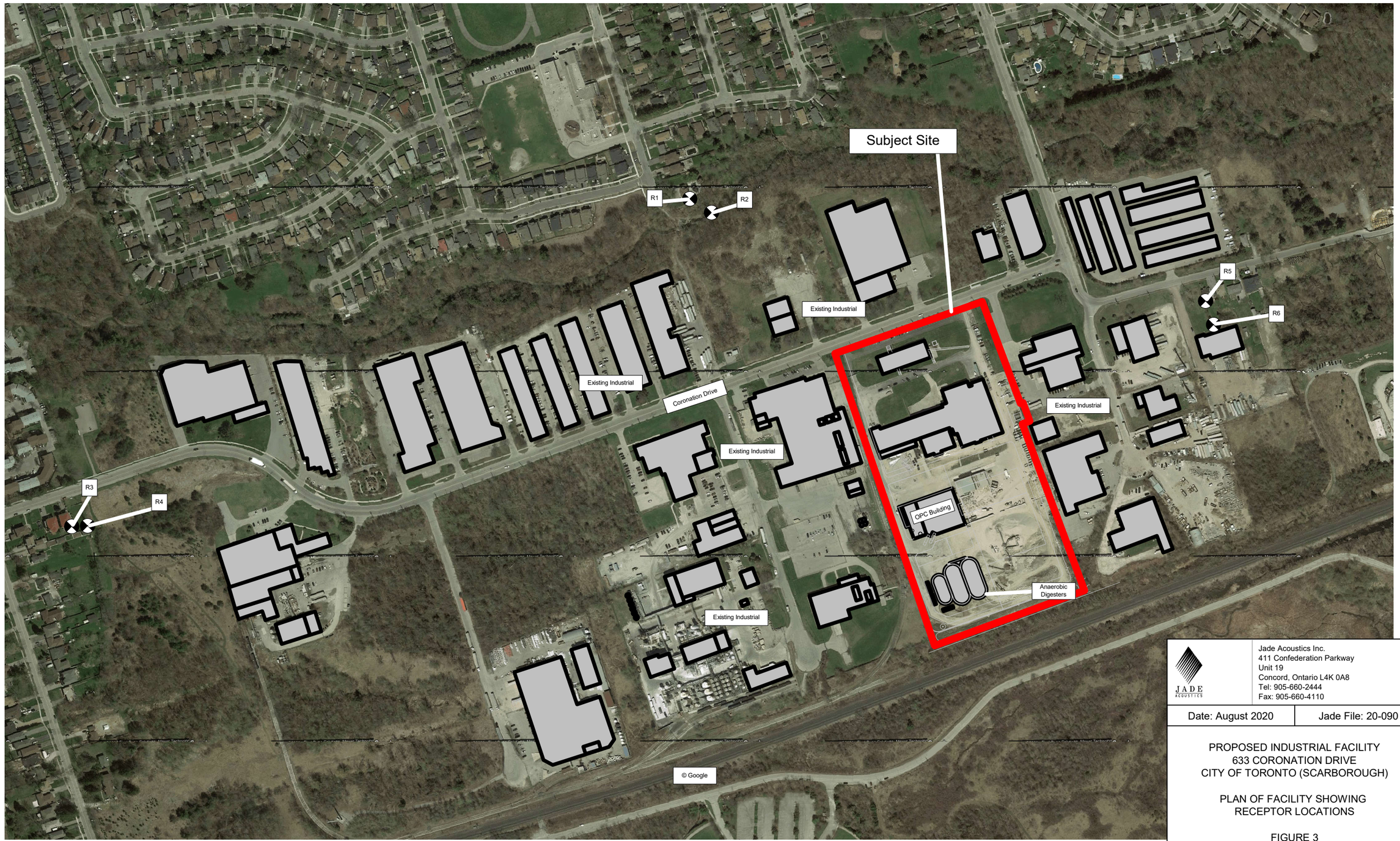


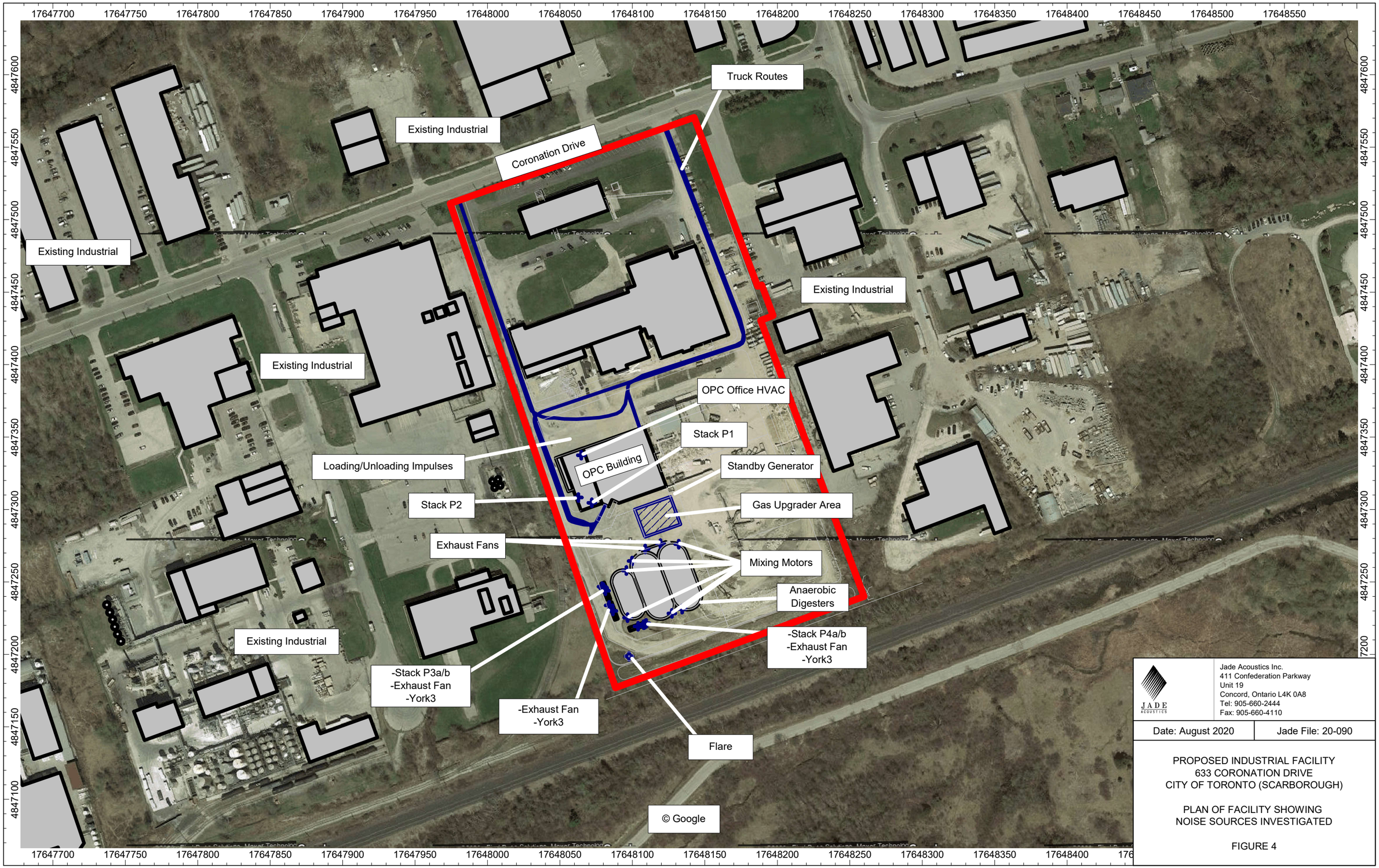
JADE ACOUSTICS
Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: August 2020 | Jade File: 20-090

PROPOSED INDUSTRIAL FACILITY
633 CORONATION DRIVE
CITY OF TORONTO (SCARBOROUGH)

PLAN OF FACILITY SHOWING
RECEPTOR LOCATIONS

FIGURE 3



JADE ACOUSTICS

Jade Acoustics Inc.
411 Confederation Parkway
Unit 19
Concord, Ontario L4K 0A8
Tel: 905-660-2444
Fax: 905-660-4110

Date: August 2020 | Jade File: 20-090

PROPOSED INDUSTRIAL FACILITY
633 CORONATION DRIVE
CITY OF TORONTO (SCARBOROUGH)

PLAN OF FACILITY SHOWING
NOISE SOURCES INVESTIGATED

FIGURE 4

APPENDIX A

NOISE SOURCE INFORMATION

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: TRUCK_#
Noise Source: Truck Passby

Based on Historical Measurement Data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
	97	101	100	97	93	90	83	76	**99**

Manufacturer Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: York5
Noise Source: OPC Office Rooftop HVAC
York Predator ZH061

Based on Manufacturer data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
	81	91	82.5	80.5	79	73.5	69.5	64.5	**84**

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: Stack P2, Stack P3a/b, Stack P4a/b
Noise Source: Natural Gas Boilers

Based on Calculation

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
99	99	98	96	93	90	87	84	81	**96**

NOTE: PWL is for one boiler. Stack P2 accounts for seven boilers; Stacks P3a/b and P4a/b account for one boiler for each noise source

Manufacturer Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: Stack P1
Noise Source: Odour Control Blower
NYB EZ Plenum 36

Based on Manufacturer data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
	103	103	108	101	99	97	93	85	**105**

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: GAS_UP
Noise Source: Gas Upgrader Area

Based on Manufacturer data and Calculation

OCTAVE BAND CENTRE FREQUENCY, Hz

	31	63	125	250	500	1K	2K	4K	8K	A Wtg
Inlet Blower	72	75	79	82	84	82	82	79	75	**88**
Compressor	92	87	87	86	89	92	92	90	87	**98**
Vacuum Blower		74	80	89	86	81	78	82	72	**89**
TOTAL	92	87	88	92	92	93	93	91	87	**98**

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: EF_#
Noise Source: Exhaust Fan - Pump house, electrical container, heating containers

Based on Historical Measurement Data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
78	84	83	82	79	76	74	70	65	**82**

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: SUMA_#
Noise Source: Tank Mixing Motor
Suma GiantMix AMX 6

Based on Manufacturer Data and Calculation

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
70	70	72	72	73	70	67	61	52	**75**

Manufacturer Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: York3_#
Noise Source: Heating and Electrical Container HVAC
York Predator ZH037\

Based on Manufacturer data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
	83	87	78	76	77	69	63	57	**80**

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: Stack P6a
Noise Source: Flare - Base

Based on Historical Measurement Data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
104	104	97	96	88	91	87	84	79	**95**

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: Stack P6b
Noise Source: Flare - Top/Opening

Based on Historical Measurement Data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
112	110	101	93	91	87	84	82	76	**94**

Manufacturer Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: GENSET
Noise Source: Backup Generator
Generac SG500

Based on Manufacturer data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
108	111	116	118	115	108	105	103	100	**116**

NOTE: Representative power level for a 500 kW unit, as the specific generator has not been selected

Sound Level information

Investigation Date: **2020_08_13**
Job: **633 Coronation Drive**
Our File: **20-090**
Receptor: **R1 to R6**

Source Number: LOAD_#
Noise Source: Loading and Unloading Impulses

Based on Historical Measurement Data

OCTAVE BAND CENTRE FREQUENCY, Hz

31	63	125	250	500	1K	2K	4K	8K	A Wtg
	92	106	102	107	109	103	98	88	**111**

APPENDIX B

INSIGNIFICANT AND EMERGENCY NOISE SOURCES

ACOUSTICALLY INSIGNIFICANT AND EMERGENCY NOISE SOURCES

Source ID	Source Description	Approximate Location
Stack P5	Biogas Upgrader Exhaust	Gas Upgrader Area
Stack P6a/b*	Emergency Flare	SW Corner of Site
Stack P7a/b	Emergency Pressure Relief Valve	Anaerobic Digesters

* Stack P6a/b is an emergency measure included in the process design, it is also used during start-up activities and has therefore been included in the continuous noise source predictable worst case scenario. It is included in the above table as its primary function is an emergency measure.

APPENDIX C

CADNAA MODELLING PARAMETERS

Point sources

Name	M.	ID	Result. PWL			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			K0	Freq.	Direct.	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night						X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		(m)		(m)	(m)	(m)
EF_1		!0000000!	81.8	81.8	81.8	Lw	EF		0	0	0							0		(none)	2.5	r	17648083.9	4847233.87	2.5
EF_2		!0000000!	81.8	81.8	81.8	Lw	EF		0	0	0							0		(none)	2.5	r	17648079.1	4847246.79	2.5
EF_3		!0000000!	81.8	81.8	81.8	Lw	EF		0	0	0							0		(none)	2.5	r	17648109.5	4847221.4	2.5
EF_4		!0000000!	81.8	81.8	81.8	Lw	EF		0	0	0							0		(none)	2	r	17648108.9	4847272.73	2
EF_5		!0000000!	81.8	81.8	81.8	Lw	EF		0	0	0							0		(none)	2	r	17648119.4	4847276.43	2
GENSET	"	!0002200!	115.7	115.7	115.7	Lw	GENSET		0	0	0							0		(none)	4	r	17648127.1	4847310.65	4
Stack P1		!0000000!	105.1	105.1	105.1	Lw	OdourBlower		0	0	0							0		Edison	-0.05	g	17648072	4847304.66	30.05
Stack P2		!0000000!	104.2	104.2	104.2	Lw	BOILER+10*LOG10(7)		0	0	0							0		Edison	-0.05	g	17648062.7	4847308.23	30.05
Stack P3a		!0000000!	95.7	95.7	95.7	Lw	BOILER		0	0	0							0		Edison	-0.05	g	17648080	4847246.16	7.55
Stack P3b		!0000000!	95.7	95.7	95.7	Lw	BOILER		0	0	0							0		Edison	-0.05	g	17648080.2	4847245.62	7.55
Stack P4a		!0000000!	95.7	95.7	95.7	Lw	BOILER		0	0	0							0		Edison	-0.05	g	17648107.7	4847220.47	6.65
Stack P4b		!0000000!	95.7	95.7	95.7	Lw	BOILER		0	0	0							0		Edison	-0.05	g	17648108.3	4847220.64	6.65
Stack P6a		!0000000!	95.4	95.4	95.4	Lw	Bflare		0	0	0							0		(none)	0.6	r	17648097.6	4847198.69	0.6
Stack P6b		!0000000!	94.1	94.1	94.1	Lw	Tflare		0	0	0							0		(none)	12.4	r	17648097.6	4847198.69	12.4
SUMA_1		!0000000!	75	75	75	Lw	SUMA		0	0	0							0		(none)	1.75	r	17648096.7	4847225.36	1.75
SUMA_2		!0000000!	75	75	75	Lw	SUMA		0	0	0							0		(none)	1.75	r	17648095.9	4847257.89	1.75
SUMA_3		!0000000!	75	75	75	Lw	SUMA		0	0	0							0		(none)	1.75	r	17648099.8	4847264.41	1.75
SUMA_4		!0000000!	75	75	75	Lw	SUMA		0	0	0							0		(none)	1.75	r	17648132	4847276.07	1.75
SUMA_5		!0000000!	75	75	75	Lw	SUMA		0	0	0							0		(none)	1.75	r	17648127.2	4847228.26	1.75
SUMA_6		!0000000!	75	75	75	Lw	SUMA		0	0	0							0		(none)	1.75	r	17648134.4	4847231.34	1.75
York3_1		!0000000!	79.7	79.7	79.7	Lw	York3		0	0	0							0		(none)	1.42	g	17648086.6	4847230.01	4.42
York3_2		!0000000!	79.7	79.7	79.7	Lw	York3		0	0	0							0		(none)	1.42	g	17648081.4	4847243.97	4.42
York3_3		!0000000!	79.7	79.7	79.7	Lw	York3		0	0	0							0		(none)	1.42	g	17648103.9	4847219.42	4.42
York5		!0000000!	83.7	83.7	83.7	Lw	York5		0	0	0							0		(none)	1.42	g	17648064.7	4847337.45	14.42

Line sources

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			KO	Freq.	Direct.	Moving Pt. Src			
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number			Speed
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night	(km/h)
TRUCK_1		l000001!	87.3	-12.7	-12.7	58.9	-41.1	-41.1	PWL-Pt	TruckPassby		0	0	0							0		(none)	1	0	0	10
TRUCK_2		l000001!	99.9	99.9	99.9	72.7	72.7	72.7	PWL-Pt	TruckPassby		0	0	0							0		(none)	24	24	24	10

Area sources

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Correction			Sound Reduction		Attenuation	Operating Time			KO	Freq.	Direct.	Moving Pt. Src		
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Evening	Night	R	Area		Day	Special	Night				Number		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	dB(A)	dB(A)	dB(A)		(m^2)		(min)	(min)	(min)	(dB)	(Hz)		Day	Evening	Night
GAS_UP		!000002!	98.5	98.5	98.5	71.3	71.3	71.3	Lw	COMP++BLOW_IN++VAC		0	0	0							0		(none)			
LOAD_1	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_2	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_3	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_4	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_5	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_6	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_7	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_8	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_9	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			
LOAD_10	~	!000102!	101	101	101	85.2	85.2	85.2	Lw	TTI-(10*LOG10(10))		0	0	0							0		(none)			

Receivers

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	Evening	Day	Night	Evening	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(m)		(m)	(m)	(m)
R1		1011	37.7	37.6	37.6	0	0	0		x	Total	4.5	r	17647808	4947688.09	4.5
R2		1011	37.4	37.3	37.3	0	0	0		x	Total	1.5	r	17647833	4947672.52	1.5
R3		1011	32.2	32.2	32.2	0	0	0		x	Total	4.5	r	17647100.6	4947313.37	4.5
R4		1011	32.5	32.5	32.5	0	0	0		x	Total	4.5	r	17647118.9	4947313.93	4.5
R5		1011	39.3	39.3	39.3	0	0	0		x	Total	4.5	r	17648398.3	4947571.22	4.5
R6		1011	38.4	38.3	38.3	0	0	0		x	Total	1.5	r	17648407.4	4947544.12	1.5

Buildings

Name	M.	ID	RB	Residents	Absorption	Height	
						Begin	
						(m)	
Ex. Industry - 595 Coronation		I02I		0	0.37	6	r
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 595 Coronation		I02I		0	0.37	8	r
Ex. Industry - 595 Coronation		I02I		0	0.37	4	r
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 595 Coronation		I02I		0	0.37	3	g
Ex. Industry - 20 Minuk Acres		I02I		0	0.37	6	r
Ex. Industry - 20 Minuk Acres		I02I		0	0.37	9	r
Ex. Industry - 40 Minuk Acres		I02I		0	0.37	5.2	r
Ex. Industry - 100 Minuk		I02I		0	0.37	4	r
Ex. Industry - 100 Minuk		I02I		0	0.37	6	r
Proposed OPC Building		I02I		0	0.37	7.5	r
Proposed OPC Building		I02I		0	0.37	13	r
Anaerobic Digester		I02I		0	0.21	3.5	r
Anaerobic Digester		I02I		0	0.21	3.5	r
Pump House		I02I		0	0.37	3.5	r
Existing 633 Coronation		I02I		0	0.37	5	r
Existing 633 Coronation		I02I		0	0.37	25	r
Existing 633 Coronation		I02I		0	0.37	5	r
Existing 30 Minuk Acres		I02I		0	0.37	4.25	r
Existing 90 Minuk Acres		I02I		0	0.37	4.5	r
Existing 90 Minuk Acres		I02I		0	0.37	3	r
Existing Industry		I02I		0	0.37	4.5	r
Existing 640 Coronation Drive		I02I		0	0.37	6	r
Existing 640 Coronation Drive		I02I		0	0.37	3	r
Existing 610 Coronation Drive		I02I		0	0.37	5.25	r
Existing 610 Coronation Drive		I02I		0	0.37	3.5	r
Existing 650 Coronation Drive		I02I		0	0.37	3.25	r
Existing 670 Coronation Drive		I02I		0	0.37	4.25	r
Existing 135 Beechgrove Drive		I02I		0	0.37	4	r
Existing 135 Beechgrove Drive		I02I		0	0.37	4	r
Existing 135 Beechgrove Drive		I02I		0	0.37	4	r
Existing 135 Beechgrove Drive		I02I		0	0.37	4	r
Existing 135 Beechgrove Drive		I02I		0	0.37	4	r
Existing 135 Beechgrove Drive		I02I		0	0.37	4	r

Existing 135 Beechgrove Drive		I02I		0	0.37	4	r
Existing 570 Coronation Drive		I02I		0	0.37	4.5	r
Existing 550 Coronation Drive		I02I		0	0.37	4.5	r
Existing 540 Coronation Drive		I02I		0	0.37	4.5	r
Existing 530 Coronation Drive		I02I		0	0.37	4.5	r
Existing 520 Coronation Drive		I02I		0	0.37	4.5	r
Existing 510 Coronation Drive		I02I		0	0.37	5.5	r
Existing 510 Coronation Drive		I02I		0	0.37	5.5	r
Existing 470 Coronation Drive		I02I		0	0.37	4.5	r
Existing 460 Coronation Drive		I02I		0	0.37	5.5	r
Existing 460 Coronation Drive		I02I		0	0.37	4	r
Existing 595 Coronation Drive		I02I		0	0.37	4	r
Existing 595 Coronation Drive		I02I		0	0.37	2.5	r
Existing Industry		I02I		0	0.37	3	r
Existing Industry		I02I		0	0.37	5	r
Existing Industry		I02I		0	0.37	4.5	r
Existing Industry		I02I		0	0.37	4	r
Existing Industry		I02I		0	0.37	5	r
Existing Industry		I02I		0	0.37	10	r
Existing Industry		I02I		0	0.37	8	r
Existing Industry		I02I		0	0.37	5.5	r
Existing Industry		I02I		0	0.37	5	r
Existing Industry		I02I		0	0.37	3	r
Existing Industry		I02I		0	0.37	10	r
Existing Industry		I02I		0	0.37	8	r
Existing Industry		I02I		0	0.37	12	r
Existing Industry		I02I		0	0.37	5	r
Existing Industry		I02I		0	0.37	11	r
Existing Industry		I02I		0	0.37	5	g
Existing Industry		I02I		0	0.37	12	g
Existing Industry		I02I		0	0.37	4.25	r
Existing Industry		I02I		0	0.37	5	r
Existing Industry		I02I		0	0.37	4.25	r
Existing Industry		I02I		0	0.37	5	r
Existing Industry		I02I		0	0.37	7	r
Existing Industry		I02I		0	0.37	6.5	r
Existing Industry		I02I		0	0.37	8	r
Existing 80 Minuk Acres		I02I		0	0.37	4.5	r
Existing 50 Minuk Acres		I02I		0	0.37	4	r
Hydrolyzer Tank		I02I		0	0.21	3.5	r
Heating HiCube Container		I02I		0	0.37	3	r
Heating HiCube Container		I02I		0	0.37	3	r
Electrical HiCube Container		I02I		0	0.37	3	r