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HGC Noise Vibration Acoustics
2000 Argentia Road, Plaza One, Suite 203
Mississauga, Ontario, L5N 1P7
t: 905.826.4044

August 27, 2026

Michael Buske C.E.T.
Project Manager
Tatham Engineering Limited
mbuske@tathameng.com T 705-444-2565 x2009 C 705-716-5294
115 Sandford Fleming Drive, Suite 200, Collingwood, Ontario L9Y 5A6

Via Email: **mbuske@tathameng.com**

RE : Addendum Due to Change of Site Plan, Phase V, Living Water Resorts Collingwood, Ontario
HGC Project #: 01700695

Dear Michael,

As requested, HGC Noise Vibration Acoustics has reviewed the latest site plan dated July 15, 2026. Our latest noise report for this site is entitled, "Noise Feasibility Study, Proposed Hotel Development, Living Waters Resort, Collingwood, Ontario" dated November 19, 2018. The 2018 noise report addressed both Phase 4 and 5, but the owner only constructed Phase 4. This letter serves as an addendum to that report and addresses the proposed Phase V.

The reader is referred to the November 19, 2018 noise report for a description of the analysis methods and criteria with regard to road traffic noise assessment.

Figure 1 indicates an aerial view showing Phase V and the existing Bear Estate building. Figure 2 shows a site plan for Phase V prepared by Tatham Engineering dated July 15, 2026. Figure 3 indicates a phasing plan for the site.

Summary

Phase V of the development is well shielded by the existing building and is at a significant distance from Highway 26 and Balsam Street, which is low volume residential roadway. Therefore, there are no specific ventilation requirements for Phase V or noise barrier requirements for transportation noise. Any building construction meeting the minimum requirements of the Ontario Building Code (OBC) will be sufficient for Phase V. For stationary noise, the northeast and southeast balconies from floors 3 to 5 will require a solid acoustic screen 2.0 m in height.

When the plans are available for the future Phase 6, a revised noise analysis should be completed and appropriate noise mitigation should be provided for the rooftop units, potential balconies and rooftop amenity areas.

Stationary Noise Source Assessment

A noise assessment was conducted to determine the noise impact of proposed and existing stationary noise sources on future hotel occupants in Phase V and existing residences nearby.

Noise Assessment

Predictive noise modelling was used to assess the potential noise impact of the existing and proposed HVAC equipment at the closest residential receptors, indicated in Figure 4. The noise prediction model was based on sound emission levels for rooftop equipment, assumed operational profiles (during the daytime and nighttime), and established engineering methods for the prediction of outdoor sound propagation. These methods include the effects of distance, air absorption, and acoustical screening by barrier obstacles such as buildings.

Mechanical rooftop plans indicating the location of the existing and proposed HVAC units and manufacturer's sound data was provided by HL Engineering, the mechanical engineering consultant for the project. There are existing HVAC units on the roof of the Bear Estate building at the north and south roofs.

Table I below summarizes the sound data used in the analysis for the HVAC units.

Table I: Sound Power Levels for Existing and Proposed HVAC Units [dB re 10-12 W]

Existing/Proposed	Unit	Octave Band Centre Frequency [Hz]							
		63	125	250	500	1k	2k	4k	8k
Existing	MUA	Sound Power Rating = 87 dB							
	HVAC 6.5 tons	89	89	85	85	82	77	72	67
	HVAC 7.5 tons	93	92	91	88	87	83	78	74
	MUA	89	86	81	75	73	70	69	62
	PTAC	Sound Power Rating = Maximum 67 dB							

The following information and assumptions were used in the analysis. Each noise source is shown as a green cross in Figure 4.

- The Phase IV and V hotel buildings will be 15.0 m in height. The existing Bear Estate building is 4.5 m in height.
- The existing HVAC units are located on the roof of the existing Bear Estate Building are 1.1 m to 1.5 m in height;
- The proposed and existing make-up air (MUA) units are assumed to be 1.5 m in height;

In accordance with establishing the predictable worst-case conditions, the rooftop HVAC equipment were assumed to operate at 100% capacity during daytime and 50% during nighttime hours.

These sound levels were used as input to a predictive computer model (*Cadna-A version 2025 64 bit (build: 209.5501*) in order to estimate the sound levels from the existing and proposed noise sources towards the most potentially impacted receptors (existing 3-storey residential building and future hotel units). Cadna-A is a computer implementation of ISO Standard 9613-2.2, "Acoustics – Attenuation of Sound During

Propagation Outdoors", which takes into account attenuation due to distance (geometrical spreading), shielding by intervening structures (such as buildings and bush), air attenuation and ground absorption.

Results

The calculated daytime and nighttime sound levels from the noise sources associated with the Phase V hotel building and the existing Bear Estate building at the most potentially impacted residences are summarized in Table II, and presented graphically in Figures 5 and 6. Figure 5 indicates the predicted daytime sound level contours. Figure 6 indicates the predicted nighttime sound level contours

Table II: Predicted Sound Levels from the Living Waters Resort Expansion at Existing and Future Sensitive Receptors [dBA], Without Mitigation

Receptor	Description	Criteria (D/N)	Predicted Sound Levels		Criteria Met
			Day*	Night*	
R1	Existing 3-Storey Residential Building (Southeast Façade)	50/45	45	42	Y / Y
R2	Existing 3-Storey Residential Building (Southeast Façade)	50/45	45	42	Y / Y
R3	Proposed hotel suites on the northeast side of Phase V	50/45	50	47	Y / **N**
R4	Proposed hotel suites on the south side of Phase V	50/45	50	47	Y / **N**
R5	Proposed rooftop garden on the roof of the future Phase V	50/45	56	--	**N** / --

Note: *The sound level predictions at the facades were performed at the top floor of the building

Results indicate that the predicted sound levels due to the operation of proposed and existing mechanical equipment associated with the existing Bear Estate building and hotel expansion (Phase V) have the potential to exceed MECP's minimum exclusionary limits at the proposed hotel suites (R3 and R4) and a potential rooftop garden (R5), without any addition noise mitigation measures. The existing HVAC units of the Bear Estate building has the greatest noise impact on the proposed hotel suites of Phase V while the proposed HVAC units will have the greatest noise impact at the rooftop garden. Feasible means exist to reduce stationary sound impacts to within MECP's criteria.

Recommendations for Mitigation

For the hotel suites on the northeast and southeast on floors (3 to 5), a solid glass parapet will be required along the east portion of the balconies of these units to provide sufficient noise mitigation to the windows behind the glass parapet. The solid glass parapets along these balconies will be up to 2.0 m high. The heights and locations of the required acoustic barriers/glass parapets are indicated in Figure 7a, b, c.

If a rooftop garden is proposed on the roof of the proposed Phase V building, an acoustic barrier 2.0 m in height is required for the MUA, a minimum of 0.3 m above the top of the unit.

The wall component of the barrier should be of a solid construction with a surface density of no less than 20 kg/m^2. The walls may be constructed from a variety of materials such as wood, brick, pre-cast concrete or other concrete/wood composite systems provided that it is free of gaps or cracks.

Summary of Recommendations

Sound levels due to road traffic and stationary noise sources will exceed MECP guidelines at the proposed expansion of the Living Waters Resort. The following recommendations are provided with regard to noise mitigation.

For transportation noise sources:

1. No specific ventilation requirements are required for Phase V due to road traffic noise. PTAC heating/cooling units are proposed, meeting and exceeding this requirement, for the units, and are a suitable option if these are housed within an insulated drywall system/closest with a door for maintenance.

2. Any building construction meeting the minimum requirements of the Ontario Building Code will provide sufficient acoustical insulation for all units in the proposed development.

For stationary noise sources:

3. Solid glass parapets, 2.0 m in height, are required on the east of the balconies of the hotel suites at the northeast and southeast corners of Phase V which have the greatest exposure to the existing HVAC units on the Bear Estate building to the east.

4. If a rooftop garden/outdoor amenity area is proposed on the roof of Phase V, a 3-sided acoustic barrier 2.0 m in height facing east will be required. If an outdoor area is not included on the roof of Phase V, the rooftop unit is not required to be screened.

Future Phase 6

The noise sources associated with the musical activities of the Bear Estate building as mentioned in the previous reports will need to be considered when Phase 6 is developed. The rooftop units both future and existing should be considered to determine appropriate noise mitigation.

Implementation

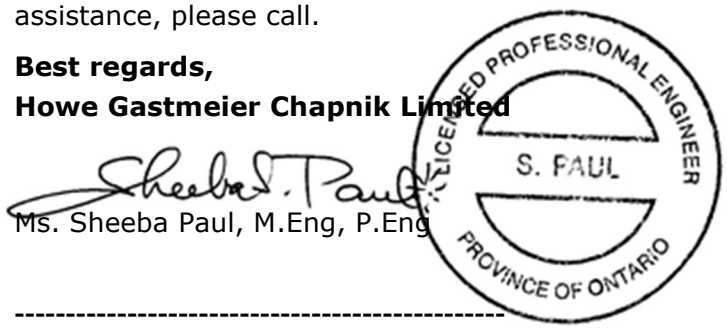
To ensure that the noise control recommendations outlined above are properly included in the building design and properly implemented in the final construction, it is recommended that:

1) Prior to the issuance of building permits for this development, the Municipality's building inspector or a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should certify that the noise control measures have been properly incorporated.

2) Prior to occupancy, the Municipality's building inspector or a Professional Engineer qualified to perform acoustical engineering services in the Province of Ontario should certify that the noise control measures have been properly installed and constructed.

We trust the above is sufficient for your current purposes. If we can be of further assistance, please call.

Best regards,
Howe Gastmeier Chapnik Limited



Ms. Sheeba Paul, M.Eng, P.Eng

Limitations

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Any conclusions and/or recommendations herein reflect the judgment of HGC based on information available at the time of preparation and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.

Figure 1 - Aerial View

ZONING REQUIREMENTS (C3-2)	REQUIRED	PROVIDED	NOTES
LOT PROVISIONS:			
MINIMUM LOT AREA (m²):	10,000	67,760*	CONFORMS
MINIMUM FRONTAGE (m):	50.0	148.5	CONFORMS
MINIMUM FRONT YARD (m):	9.0	40.6	CONFORMS
MINIMUM EXTERIOR SIDE YARD (m):	9.0	9.1	CONFORMS
MINIMUM INTERIOR SIDE YARD (m):	9.0	16.2	CONFORMS
MINIMUM INTERIOR SIDE YARD ABUTTING AN EP ZONE (m):	1.2	1.2	CONFORMS
MINIMUM INTERIOR SIDE YARD ABUTTING AN REC ZONE(m):	4.0	4.0	CONFORMS
MINIMUM REAR YARD (m):	10.0	207.0	CONFORMS
MAXIMUM HEIGHT (m):	15.0	15.0	CONFORMS
MAXIMUM BUILDING LOT COVERAGE:	50%	18.8%	CONFORMS
MINIMUM LANDSCAPED OPEN SPACE:	10%	40%	CONFORMS
*LAND AREA = 39,458 m² + WATER AREA = 28,302 m²			

BUILDING COVERAGE (m²) & UNITS		UNITS
EXISTING PHASE 1 CENTRAL & SOUTH CORNER BLOCK EXISTING PHASE 1 BANQUET HALL	1,555.00 693.00	32
EXISTING PHASE 2 HOTEL & AMENITY AREA (SOUTH BLOCK)	1,053.94	32
EXISTING PHASE 3 HOTEL & AMENITY	1,604.34	52
EXISTING PHASE 4 HOTEL	1,258.08	54
PROPOSED PHASE 5 HOTEL	1,245.00	50
TOTAL	7,409.36	220

FLOOR SPACE INDEX (m²)	
EXISTING PHASE 1 HOTEL AND AMENITY AREA GFA (4 STORIES) EXISTING PHASE 1 BANQUET HALL GFA	4,470 693
EXISTING PHASE 2 HOTEL & AMENITY AREA GFA (6 STORIES)	5,000
EXISTING PHASE 3 HOTEL & AMENITY AREA GFA (6 STORIES)	8,170.51
EXISTING PHASE 4 HOTEL & AMENITY AREA GFA (6 STORIES)	4980
PROPOSED PHASE 5 HOTEL GFA (5 STORIES)	5,028
TOTAL GFA	28,341.51
GROUND FLOOR INDEX	TOTAL GFA / LOT AREA
GROUND FLOOR INDEX	28,341.51 / 39,458 = 0.72
ALLOWABLE GROUND FLOOR INDEX	3.5

PARKING	
EXISTING PHASE 1 PARKING REQUIREMENTS:	178
EXISTING PHASE 2 PARKING REQUIREMENTS:	55
EXISTING PHASE 3 PARKING REQUIREMENTS:	89
EXISTING PHASE 4 PARKING REQUIREMENTS:	70
EXISTING PARKING TOTAL	392
PROPOSED PHASE 5 PARKING REQUIREMENTS:	
45 2–BEDROOM WITH LOCK–OFF @ 1.5 CARS/UNIT = 67.5	68
5 2–BEDROOM @ 1.0 CARS/UNIT = 5.0	5
REQUIRED PARKING	465
TOTAL PARKING SPOTS PROVIDED (INCLUDED ACCESSIBLE PARKING)	485
ACCESSIBLE PARKING REQUIREMENTS (2 + 467 x 2% = 11.3)	ROUND UP TO 12
TOTAL BIKE RACK SPOTS REQUIRED (465 X 10% = 46.5)	47
TOTAL BIKE RACK SPOTS PROVIDED	50
STANDARD PARKING SPACE DIMENSIONS	2.8m x 6.0m
ACCESSIBLE PARKING SPACES DIMENSIONS	6 – TYPE A: 3.4m x 6.0m 6 – TYPE B: 2.4m x 6.0m
DELIVERY SPACE DIMENSIONS	3.5m x 7.5m
DELIVERY SPACES REQUIRED	2
DELIVERY SPACES PROVIDED	2

NOTES

WINTER BOAT STORAGE–USE MARINA PARKING SPACES

OVERSIZE BOAT STORAGE LOCATED OFFSITE

GARBAGE PICK–UP BY PRIVATE CONTRACTOR

LEGEND

FIRE ROUTE

ELECTRIC VEHICLE PARKING SPOT — EV

ELECTRIC VEHICLE CHARGING UNIT — EVC

EXISTING PARKING IMPROVEMENT AREAS (SEE DWS IP.1)

EXISTING/PROPOSED ENTRANCE/EXIT

TYPE A BARRIER FREE PARKING SPACE — 'A'

TYPE B BARRIER FREE PARKING SPACE — 'B'

TOWN APPROVAL STAMP

TOWN FILE No. D00324

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BENCHMARKS

TBM1 – ELEVATION 179.64
TOP OF NAIL IN HYDRO POLE LOCATED SOUTHWEST OF THE SITE AT THE SOUTHWEST CORNER.

TBM2 – ELEVATION 180.48
TOP NUT OF FIRE HYDRANT ON THE NORTHWEST OF THE PHASE 4 BUILDING CORNER.

TBM3 – ELEVATION 179.39
TOP NUT OF FIRE HYDRANT ON THE NORTHWEST OF THE BEAR ESTATE BUILDING.

NOTES

TOPOGRAPHIC SURVEY INFORMATION COMPILED BY TATHAM ENGINEERING LIMITED., DATED SEPTEMBER 8, 2025. SURVEY IS GEODETIC AND DERIVED FROM CANNET GNSS NETWORK; COORDINATES ARE NAD83 UTM17N (CSRS); ELEVATIONS ARE CGVD28.

BUILDING FOOTPRINT PROVIDED BY HENRY W CHIU ARCHITECT, DATED DECEMBER 3, 2024.

LEGAL INFORMATION PROVIDED BY LLOYD & PURCELL, A DIVISION OF SCHAEFFER DZALDOV BENNETT LTD., DATED OCTOBER 14, 2020.

No.	REVISION DESCRIPTION	DATE
1.	FIRST SUBMISSION	JULY 2026

ENGINEER STAMP

LICENSED PROFESSIONAL ENGINEER
K. R. SANSOM
JUL 15/26
PROVINCE OF ONTARIO

LIVING WATER RESORTS PHASE 5

TOWN OF COLLINGWOOD

TATHAM ENGINEERING

SITE PLAN

DESIGN: MAB	FILE: 105282-10	DWG: SP.1
DRAWN: KRL	DATE: JUL 2025	
CHECK: KRS	SCALE: 1:500	

Drawing Name: 105282–10 SP01.dwg, Plotted: Jul 15, 2026

Figure 2 - Proposed Site Plan Showing Phase 5

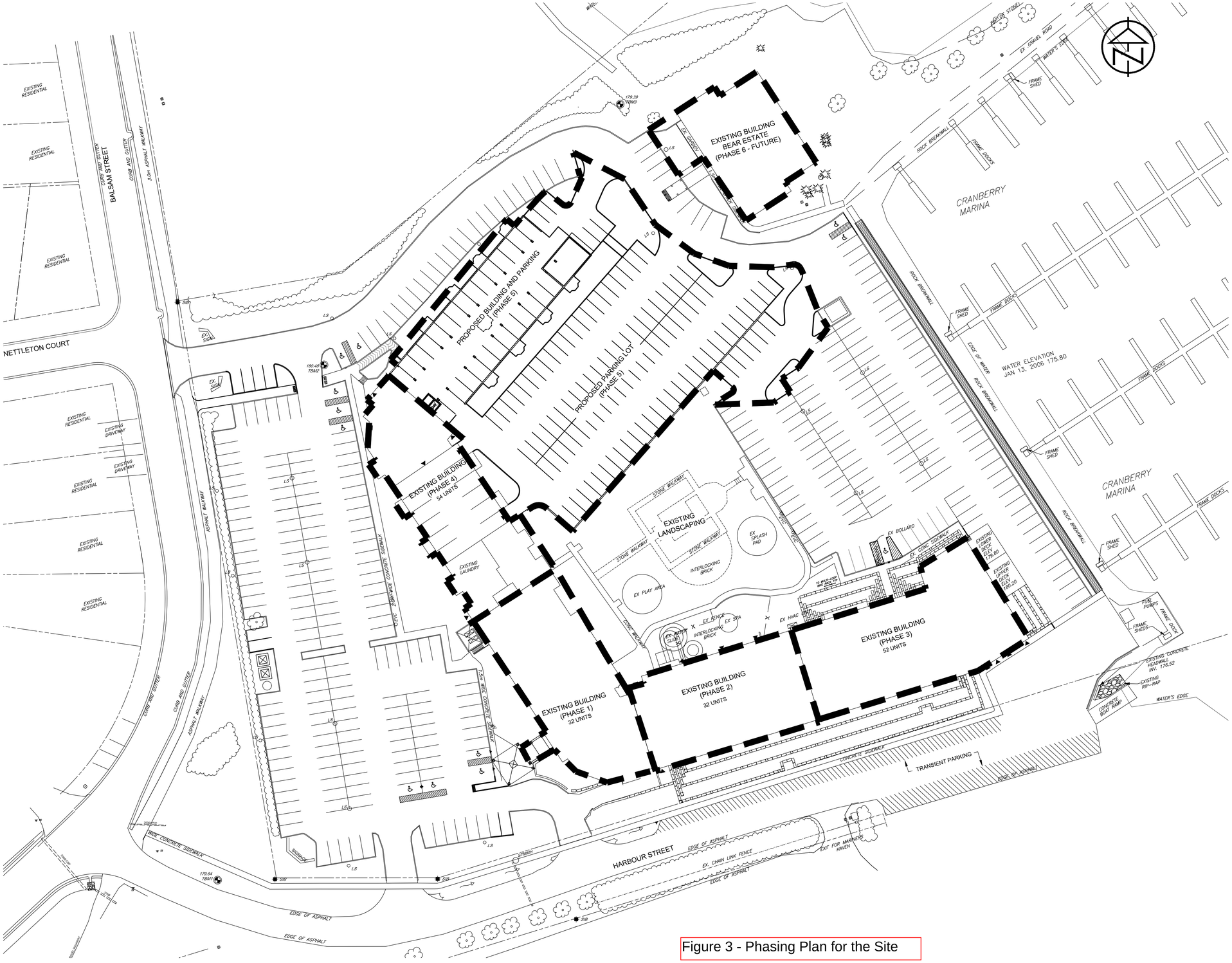

Figure 3 - Phasing Plan for the Site

LEGEND

BUILDING PHASE LIMITS

REFER TO SITE PLAN (SP.1) FOR PARKING PHASING REQUIREMENTS

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TBM2 – ELEVATION 180.48
TOP NUT OF FIRE HYDRANT ON THE NORTHWEST OF THE PHASE 4 BUILDING CORNER.

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TOP NUT OF FIRE HYDRANT ON THE NORTHWEST CORNER OF THE BEAR ESTATE BUILDING.

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ARCHITECTURAL PLANS COMPILED BY HENRY W CHIU ARCHITECT, DATED DECEMBER 3, 2024.

LEGAL INFORMATION PROVIDED BY LLOYD & PURCELL, A DIVISION OF SCHAEFFER DZALDOV BENNETT LTD., DATED OCTOBER 14, 2020.

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SITE PHASING PLAN

TATHAM ENGINEERING

DESIGN: MAB	FILE: 105282-10	DWG: PH.1
DRAWN: KB	DATE: JUL 2025	
CHECK: KRS	SCALE: 1:500	

Drawing Name: 105282-10 PH01.dwg, Plotted: Jul 16, 2026

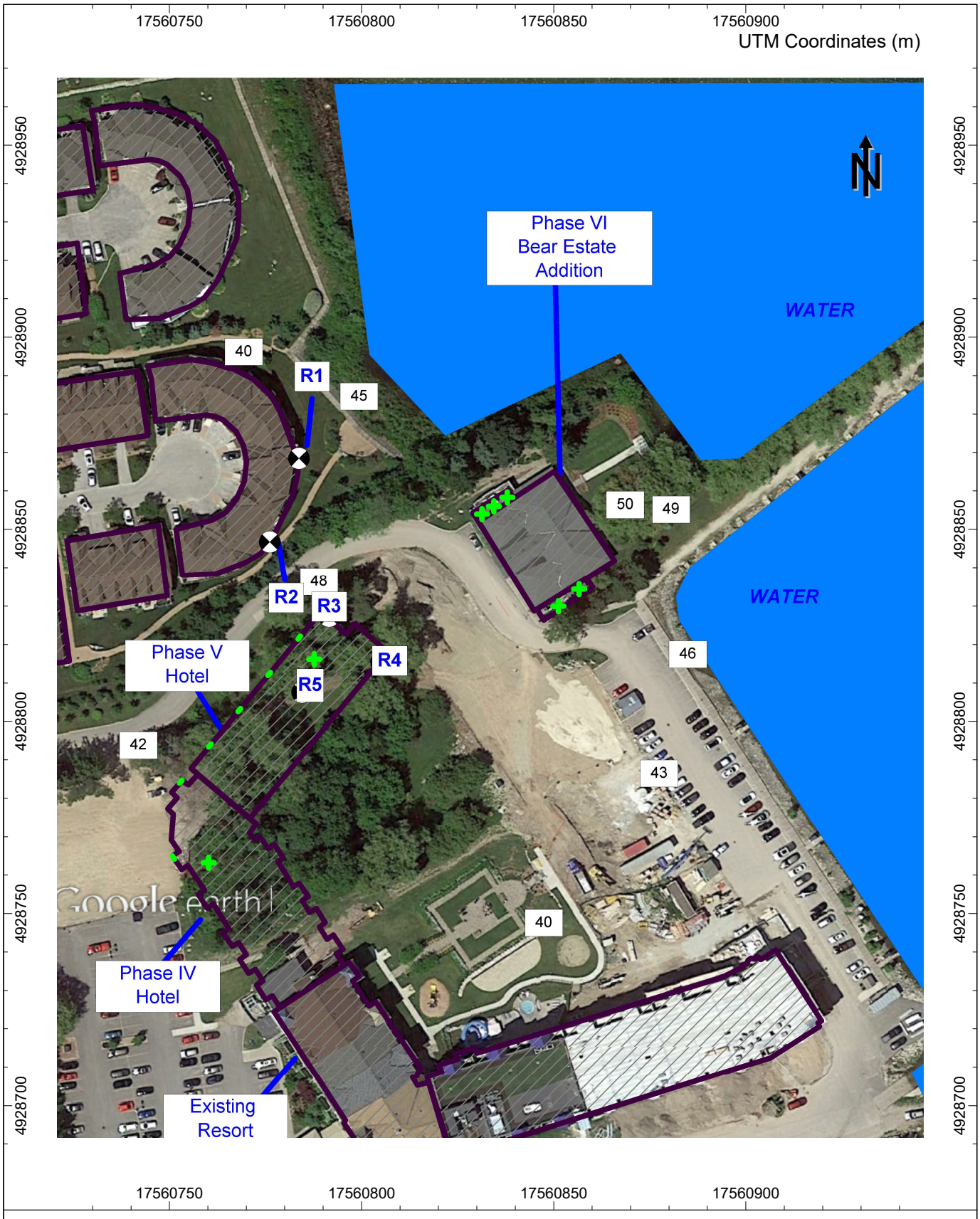

Figure 4: Noise Sources and Receptor Locations

Figure 5: Daytime Sound Level Contours, dBA

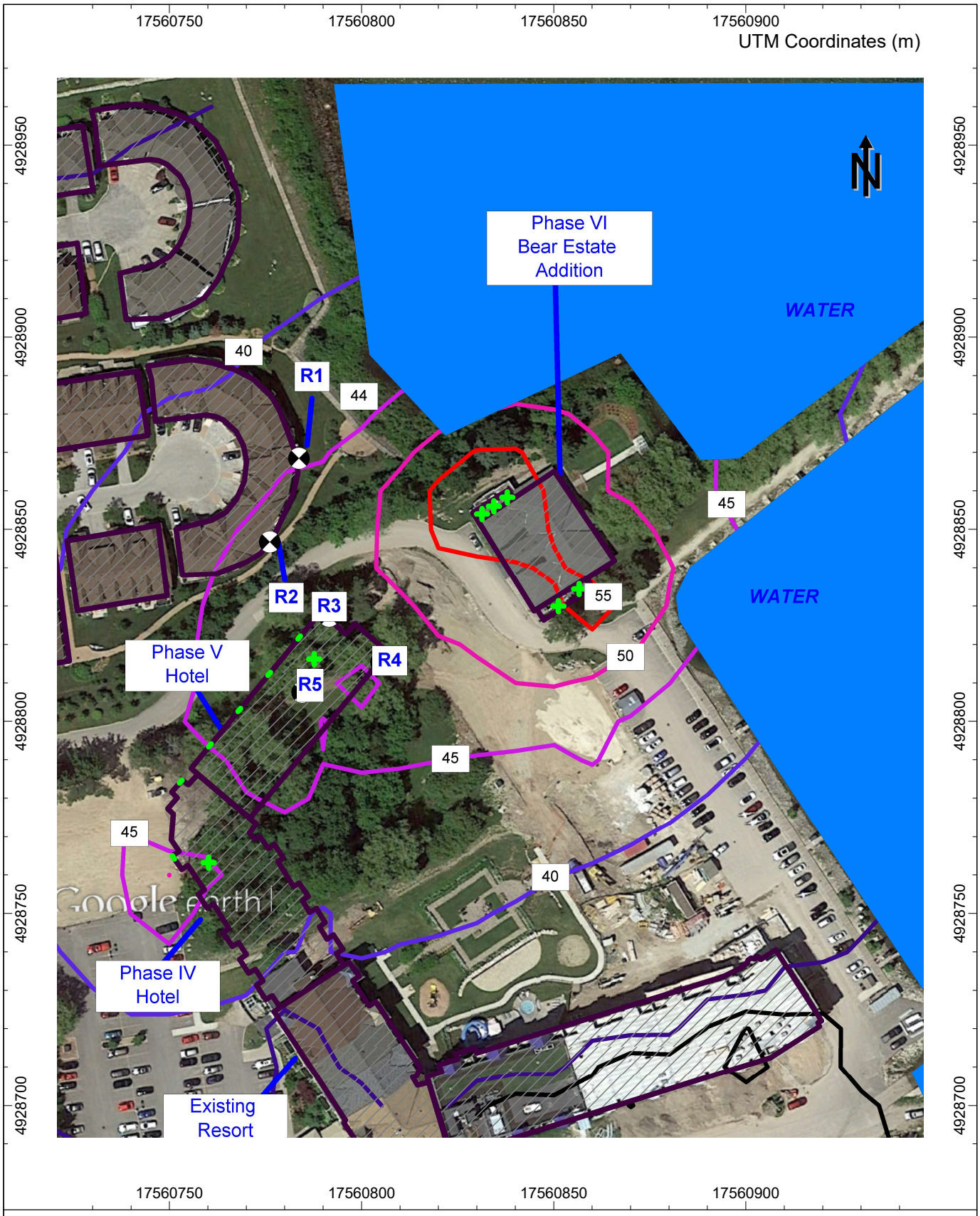

Figure 6: Nighttime Sound Level Contours, dBA

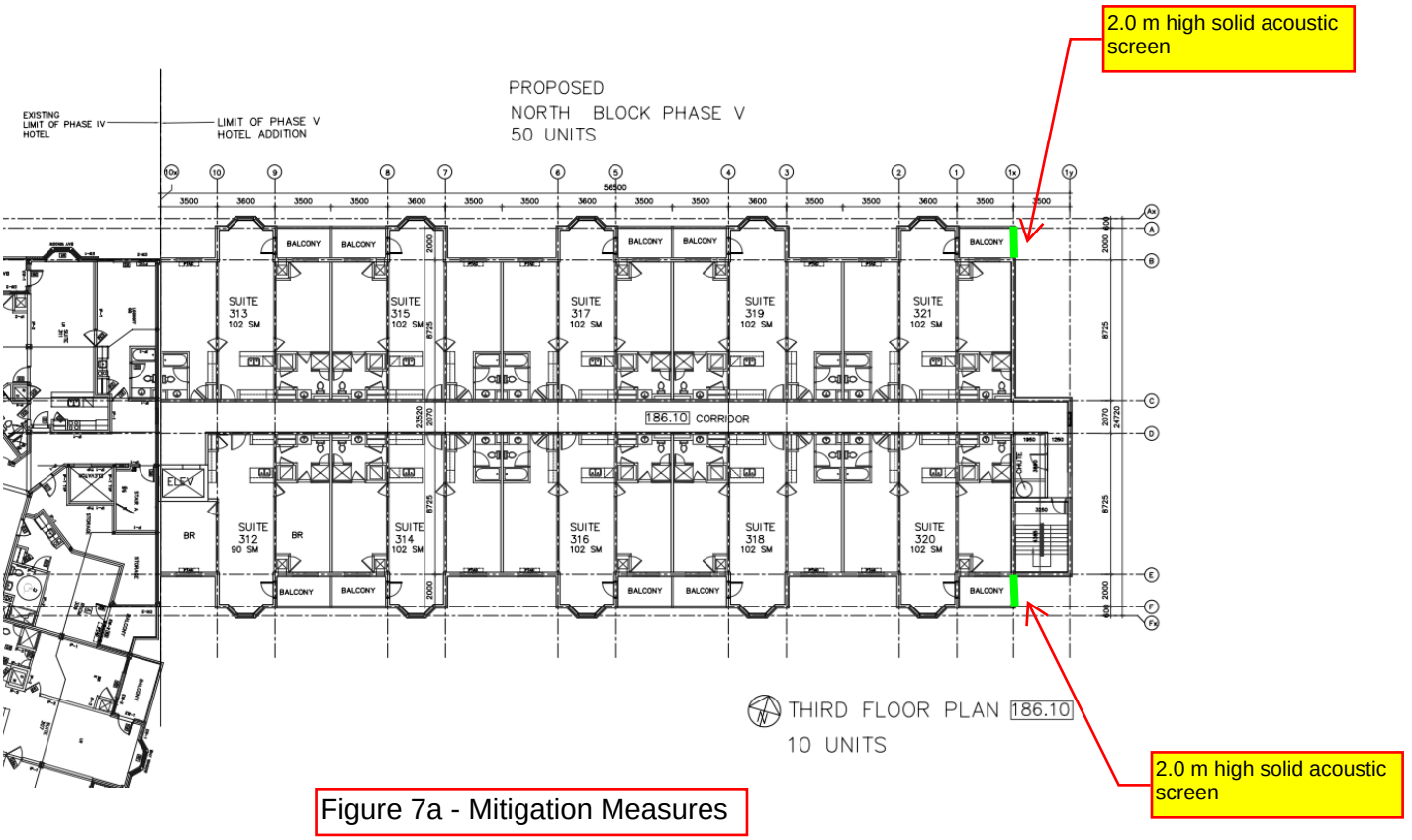

Figure 7a - Mitigation Measures

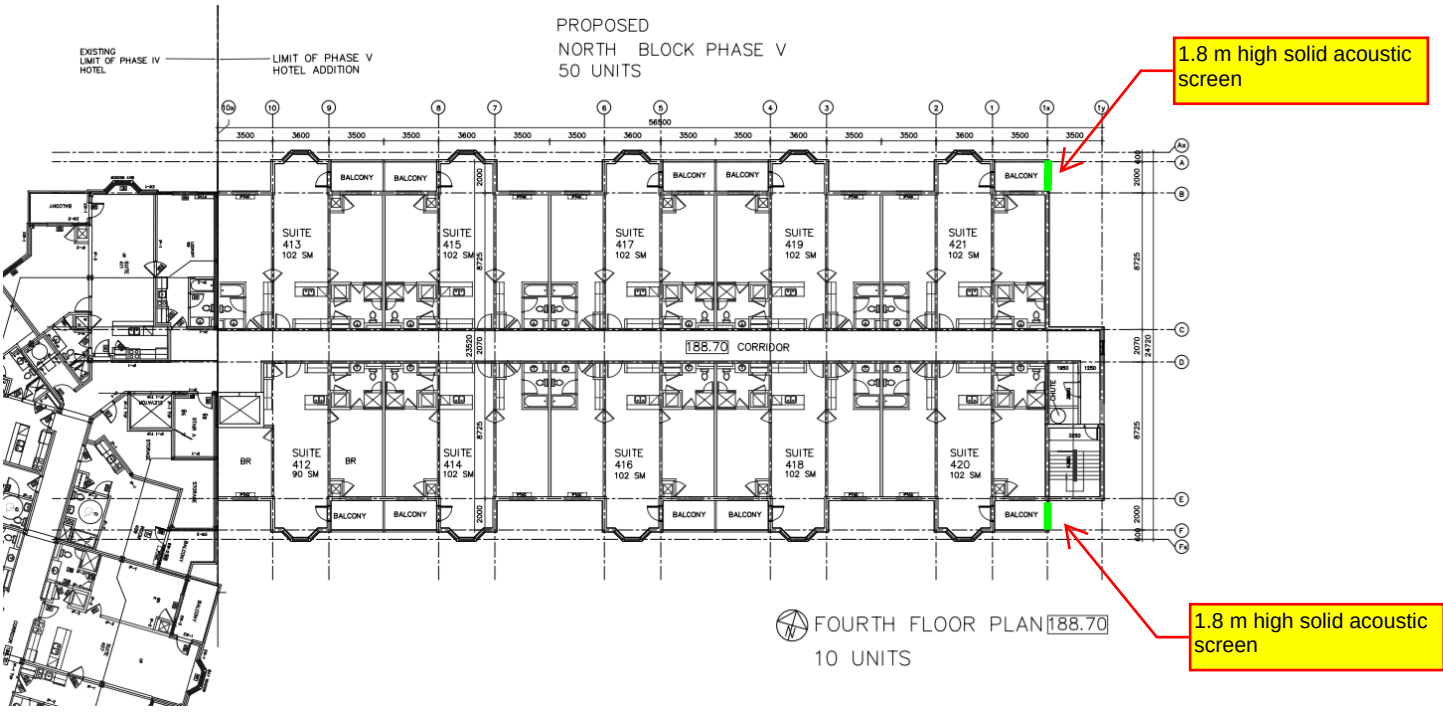

Figure 7b - Mitigation Measures

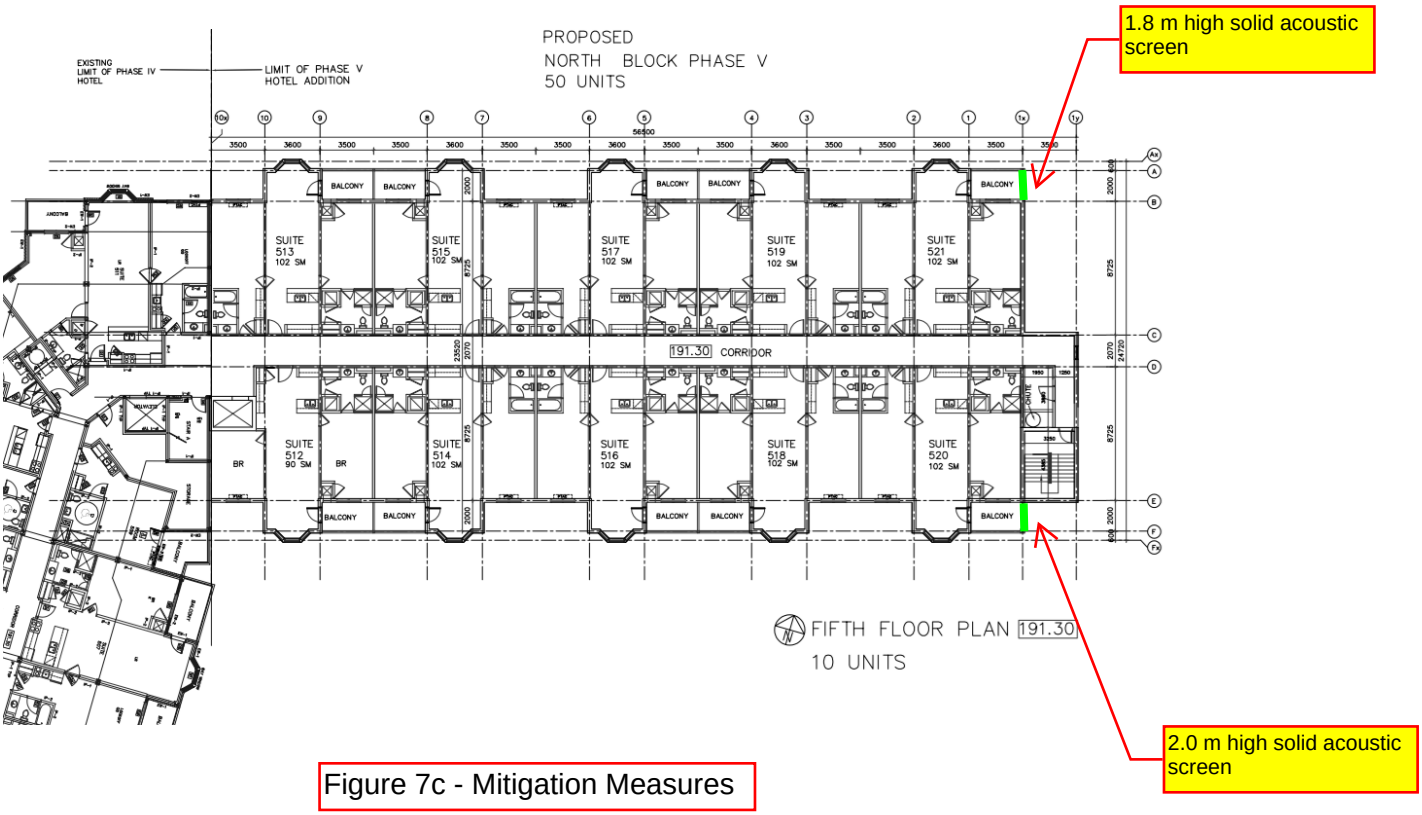

Figure 7c - Mitigation Measures