FINAL REPORT

3089 Greenfield Mill

Noise Study

June 18, 2026

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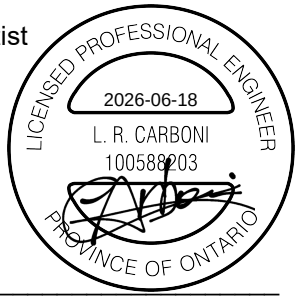

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1 Introduction

Arcadis Professional Services (Canada) Inc. (Arcadis) was retained by Baker Planning Group to prepare a Noise Study in support of a Zoning By-law Application (ZBA) and Official Plan Application (OPA) for the proposed conversion of the historical Greenfield Mill building into an event space located at 3089 Greenfield Road in Ayr, Ontario (the Site). This event space will be predominantly used for large events such as weddings. The context site plan dated May 8, 2026, is shown in Figure 1-1. The design drawings are included in Appendix A.

Arcadis understands that the proposed conversation consists of the existing Greenfield Mill Building and a proposed expansion. The proposed development is surrounded by residential land uses to the north and agricultural land to the south, east and west.

To evaluate the potential impacts of the proposed development on the surrounding residential lands, a detailed noise study was completed to evaluate the impacts of the noise emissions on the surrounding residential lands.

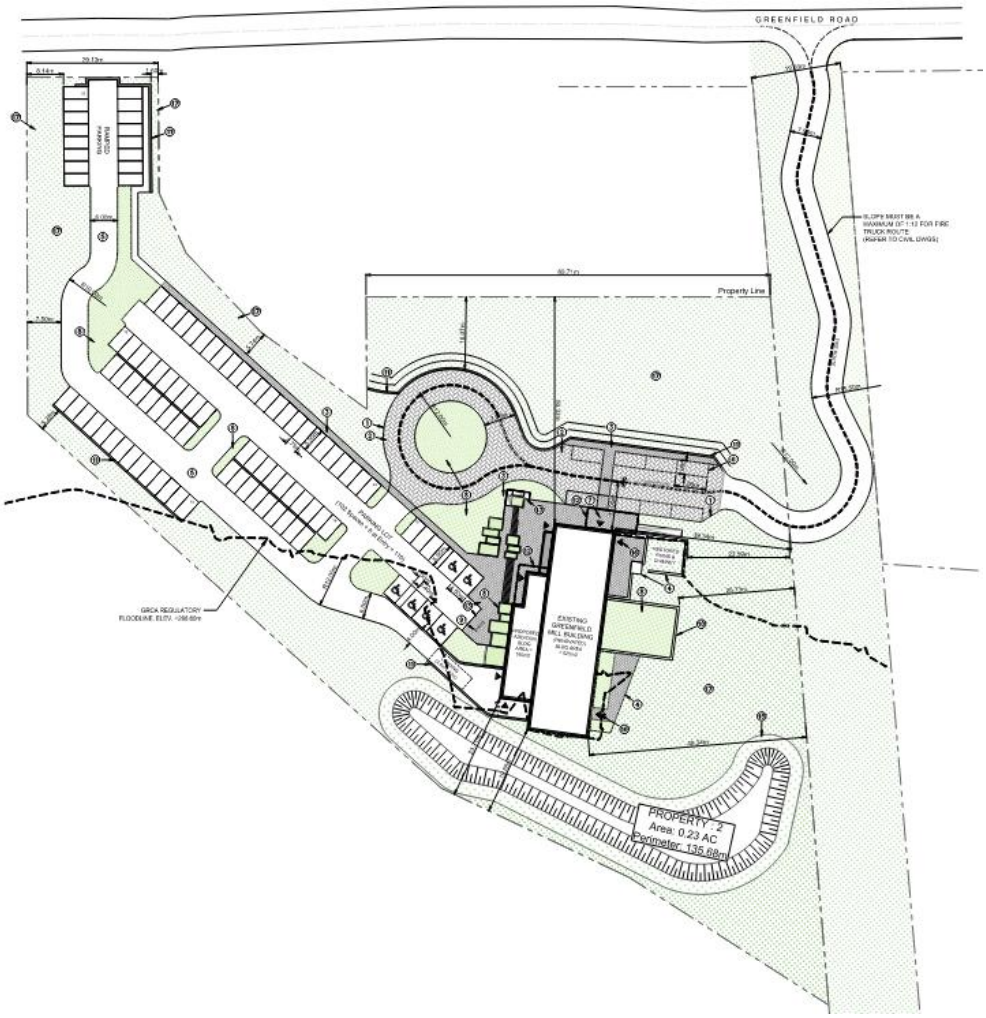

Figure 1-1 Context Site Plan

2 Applicable Guidelines

The applicable criteria for the noise assessment are from the Ontario Ministry of the Environment Conservation and Parks (MECP) guideline NPC-300. Sound level limits for the surrounding residential areas are assigned based on the classification of the community such as urban, suburban or rural environment. The proposed development is in a suburban area where the daytime and evening are dominated by human activity (i.e. road traffic) and nighttime has noticeably lower noise levels characterized by sounds of nature. Therefore, as per NPC-300 Class 2 exclusion limits would be applicable to this area. The applicable sound level limits for Class 2 are presented in Table 2-1.

Table 2-1 Sound Level Limits (L_{eq})

Acoustical Environment Class	Time Period	Sound Level Criteria	
		Outdoor Points of Reception (OPOR)	Plane of Window (POW)
Class 2	Daytime (07:00 – 19:00)	50 dBA	50 dBA
	Evening (19:00 – 23:00)	45 dBA	50 dBA
	Nighttime (23:00 – 07:00)	N/A[1]	45 dBA

Notes:

1. Outdoor locations are not assessed during the nighttime.

The sound level limits for noise produced by emergency equipment operating in non-emergency situations (i.e testing or maintenance), are 5 dB greater than the sound level limits presented in Table 2-1. This is applicable to the emergency generator expected on the site.

3 Sources of Noise

Sources of noise at the redevelopment include:

- Rooftop Mechanical Equipment
- Forklift Movements
- Emergency Generator

At the time of this study, the exact locations and equipment specifications are unknown. An expected worst-case location above the building services room for these sources was considered. The noise source locations included in the modelling are shown in Figure 3-1.

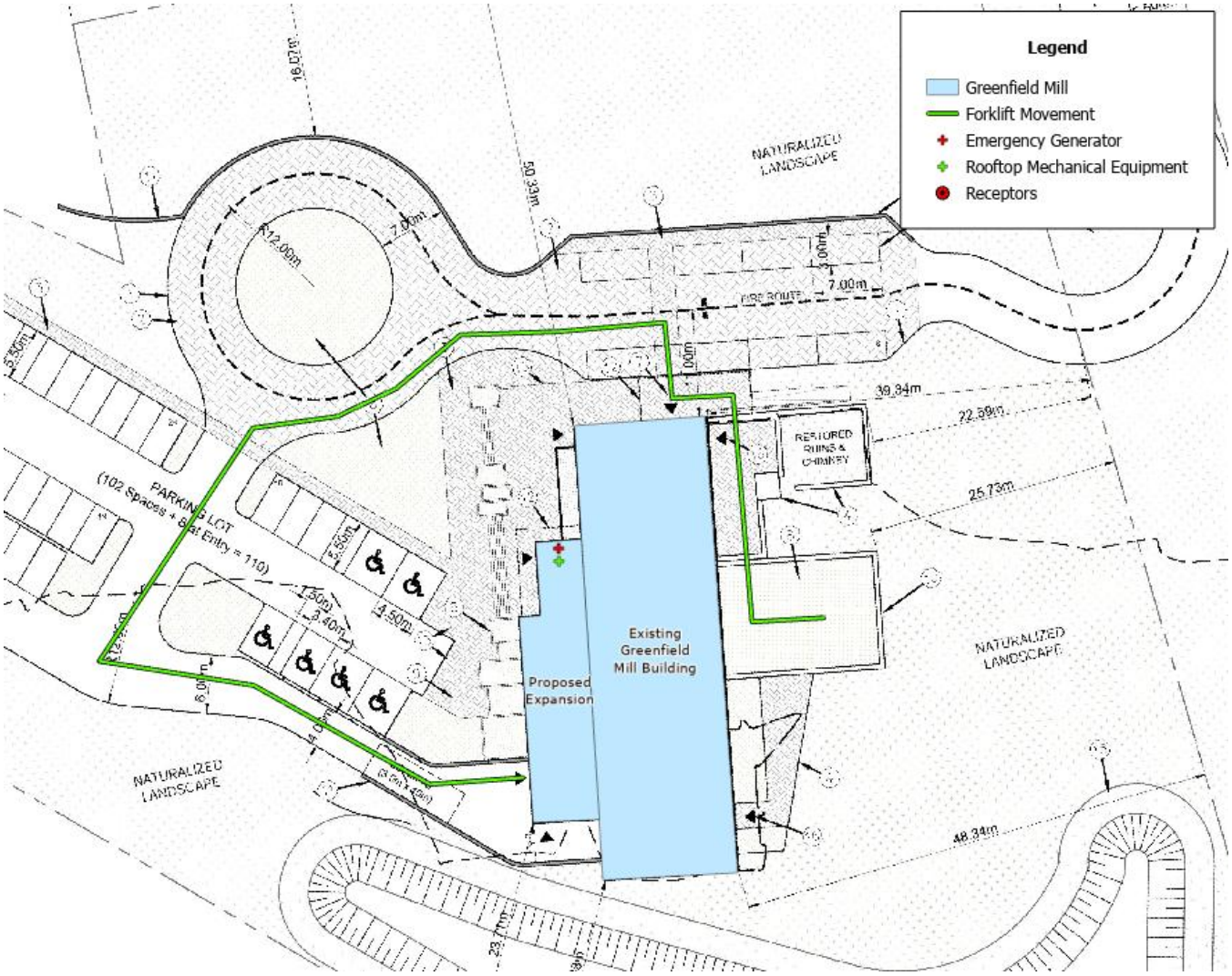

Figure 3-1 Noise Source Locations

At the time of this assessment mechanical design and equipment selections have not been completed, as a result equipment specific sound level data was not available. Therefore, maximum sound power levels to meet the applicable limits at the surrounding noise sensitive receptors are provided. The maximum sound levels for the equipment are shown in Table 3-1. Note that these sound levels are for the locations shown in Figure 3-1 specifically. If the locations of the equipment change significantly, the required sound levels may also change.

These requirements are expected to be feasible given the type and size of the proposed development and associated equipment.

When mechanical drawings and equipment selections are available, an acoustical consultant should review the manufacturer's data of the selected equipment to ensure that it meets criteria and compliance will be met. The forklift movement sound level data is based on proxy data on file. It has been conservatively assumed that there are up to 4 forklift movements per hour during the day and 2 per hour during the evening and nighttime period.

Sound data and operational duty cycles are presented in Table 3-1. It is understood that only wedding ceremonies will take place outdoors and that there will be no reception or reception music outdoors. It is expected that the sound levels from any idling cars, car movements, refrigerated cargo vans, boiler systems, and ceremony speakers at the facility are insignificant at the surrounding receptors, and therefore were not considered in this assessment.

Table 3-1 Sound Power Levels

Source Description	Sound Power Level (dBA)	Duty Cycle[1]		
		Daytime (07:00 – 19:00)	Evening (19:00-23:00)	Nighttime (23:00 – 07:00)
Rooftop Mechanical Equipment	93	100%	100%	100%
Forklift Movements	95	4 forklift/hour	2 forklift/hour	2 forklift/hour
Emergency Generator Testing	102	100%	Off	Off

Notes:

1. Expected runtime during the highest demand hour.
2. The maximum allowable sound pressure level for the emergency generator is 77 dBA at 7 meters.

The noise source propagation modelling was done using the ISO 9613 algorithms as implemented in the Cadna/A commercial software package.

Four receptors were selected to represent the most impacted of the surrounding residences, the locations are shown in Figure 3-2. The predicted sound levels for stationary sources and emergency sources at the representative receptors are presented in Table 3-2 and Table 3-3, respectively. The predicted sound levels for each receptor were assessed at the plane of window and outdoor point of reception. Note that the outdoor points of reception are not assessed during the nighttime period.

The noise modelling demonstrates that all noise sensitive land uses surrounding the site are expected to meet the applicable sound level limits. If the above-mentioned maximum sound power levels for equipment are met, no mitigation measures are required.

Figure 3-2 Representative Residential Receptors Locations

Table 3-2 Predicted Sound Levels Due to Proposed Development – Stationary Sources

Receptor ID	Description	Location	Predicted Sound Level L_{EQ},1-hr (dBA)			Sound Level Limit L_{EQ},1-hr (dBA)			Sound Level Limit Met?
			Day	Evening	Night	Day	Evening	Night	
POR1	3067 Greenfield Road Residential Home	Plane of Window	45	45	45	50	50	45	Yes
		Outdoor Point of Reception	44	44	-	50	45	-	Yes
POR2	3073 Greenfield Road Residential Home	Plane of Window	42	42	42	50	50	45	Yes
		Outdoor Point of Reception	44	44	-	50	45	-	Yes
POR3	3083 Greenfield Road Residential Home	Plane of Window	42	42	42	50	50	45	Yes
		Outdoor Point of Reception	41	41	-	50	45	-	Yes
POR4	3097 Greenfield Road Residential Home	Plane of Window	37	37	37	50	50	45	Yes
		Outdoor Point of Reception	39	39	39	50	45	-	Yes

Table 3-3 Predicted Sound Levels Due to Proposed Development – Emergency Sources

Receptor ID	Description	Location	Predicted Sound Level L_{EQ},1-hr (dBA)	Sound Level Limit L_{EQ},1-hr (dBA) [1]	Sound Level Limit Met?
			Day	Day	
POR1	3067 Greenfield Road Residential Home	Plane of Window	54	55	Yes
		Outdoor Point of Reception	53	55	Yes
POR2	3073 Greenfield Road Residential Home	Plane of Window	51	55	Yes
		Outdoor Point of Reception	53	55	Yes
POR3	3083 Greenfield Road Residential Home	Plane of Window	51	55	Yes
		Outdoor Point of Reception	50	55	Yes
POR4	3097 Greenfield Road Residential Home	Plane of Window	46	55	Yes
		Outdoor Point of Reception	47	55	Yes

Notes:

1. The sound level limits for Emergency Sources are 5 dB higher than the sound level limits presented in Table 3-2.

4 Conclusions and Recommendations

Arcadis Professional Services (Canada) Inc. was retained by Baker Planning Group to prepare a noise study in support of a Zoning By-law Application and Official Plan Application for a site located at 3089 Greenfield Road in Ayr, Ontario. The sound power level of the following equipment must be met at the locations described in this report.

- All rooftop mechanical equipment combined must meet an overall sound power level of 93 dBA
- Emergency Generator must meet an overall sound power level of 102 dBA (equivalent to 77 dBA at 7 meters)

These requirements are expected to be feasible given the type and size of the proposed development and associated equipment. An acoustical consultant should review the manufacturer's data of the selected equipment to ensure that it meets criteria and compliance will be met.

Appendix A

Design Drawings

GREENFIELD MILL

Ayr, Ontario

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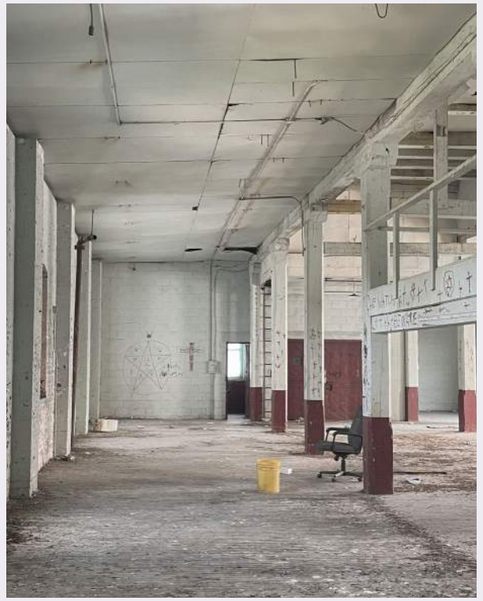
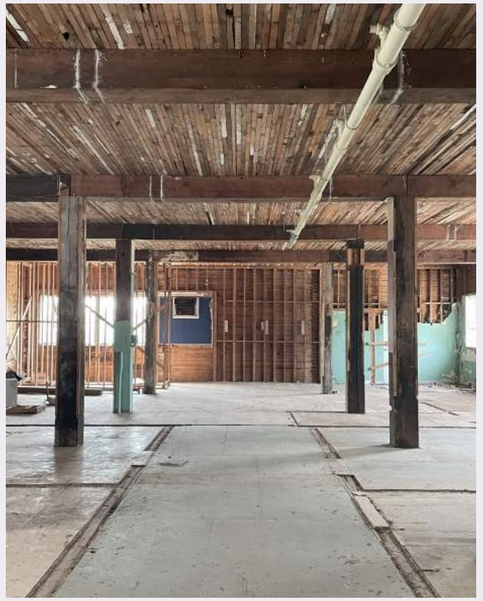
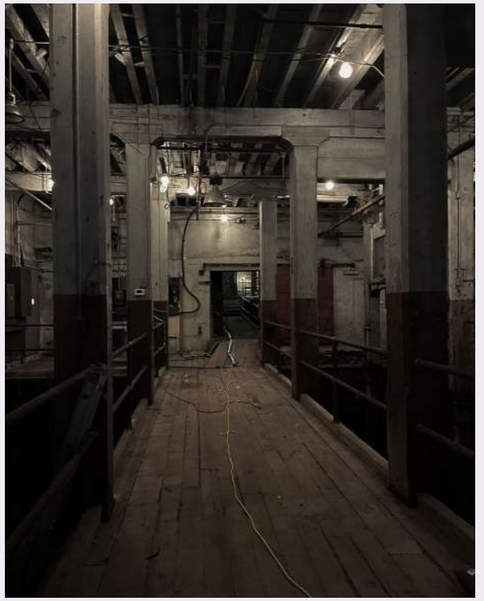
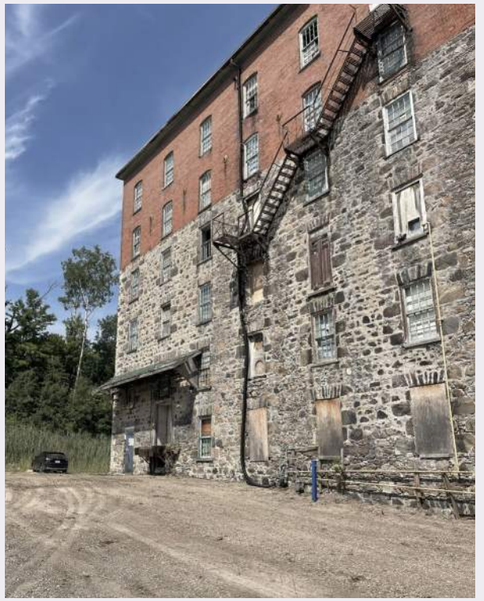
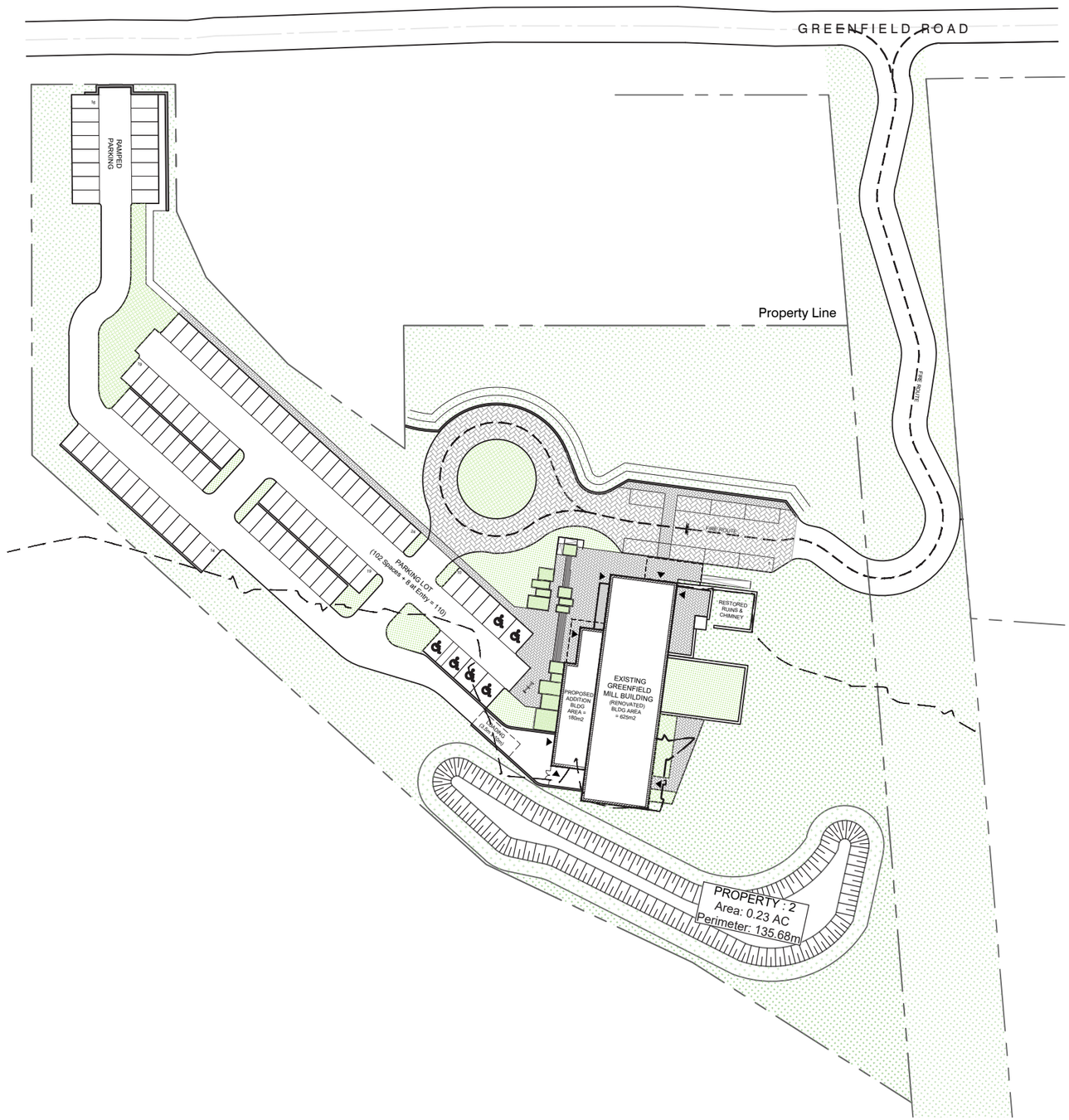







SITE PLAN



SITE DATA & ZONING PROPOSED

Township of North Dumfries
3089 Greenfield, Ayr
Proposed: Zone 7

Total Site Area = 17,630 m^2 or 1.763 ha
Percentage of Landscape Open Space (excludes pond) = 60.4% (10,645 m^2)
Total Building Area = 805m^2
Total GFA = 2,251 m^2

	REQUIRED	PROPOSED
Setback from Zones 2, 2a, 3, 4, 4a, 5	3.0 m of the boundary	min. 3.0 m (see below)
Buffer Strips	Required	min. 1.5 m at all side/rear yards
Minimum Lot Area	Area of the existing lot	1.763 hectares
Minimum Lot Frontage	Frontage of the existing lot	13.5 m Frontage
Maximum Building Height (at average grade)	Existing height	18.6 m
Off-Street Parking & Loading	As per zoning	110 +1 Loading
Minimum Rear Yard	7.5 m	18 m
Enclosed Buildings Requirement	All commercial uses	Event Center & Restaurant

BUILDING SETBACKS	'Front' Yard (North)	Side Yard(s)	Rear Yard (South)
Building (Existing)	50 m	38 m (min)	19.8 m
Building (Addition)	60 m	50 m (min)	23.7 m

MINIMUM REQ'D PARKING SPACES	REQUIRED	PROVIDED
•• Surface Parking Spaces	n/a	110
•• Loading (at Rear)	1	1
•• Barrier free parking (4%)	5	6
TOTAL	n/a	110 Spaces

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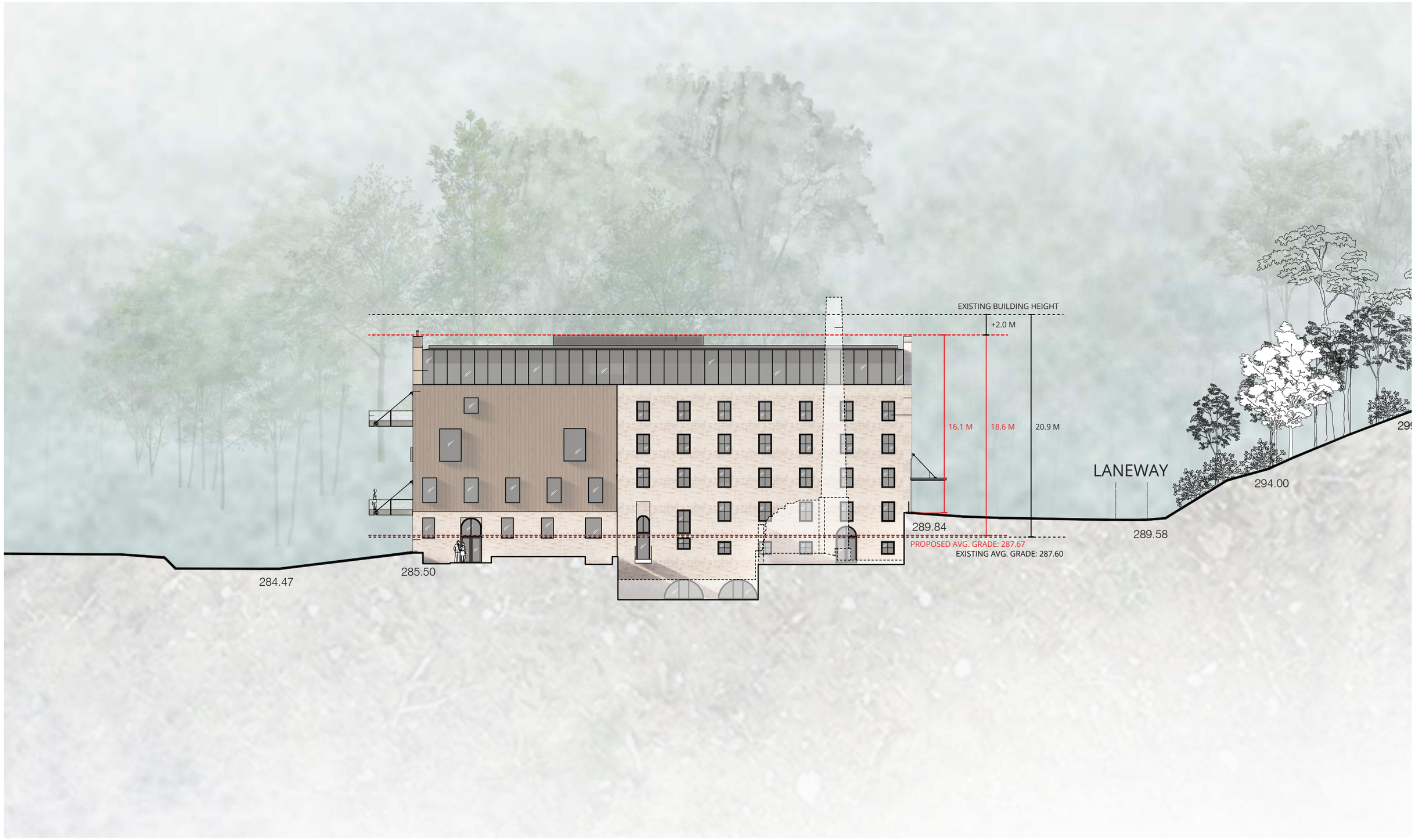
SITE SECTION

SITE SECTION



OPA/ZPA SUBMISSION

GREENFIELD MILL

NORTH ELEVATION

LEGEND

1. EXISTING STONE
2. EXISTING BRICK SMOKESTACK
3. VERTICAL WOOD SIDING
4. STANDING SEAM METAL CLADDING
5. CLEAR GLASS
6. METAL CANOPY
7. PERFORATED METAL BALCONY

0 2 5 10 20 M

EAST ELEVATION

LEGEND

1. EXISTING STONE
2. EXISTING BRICK SMOKESTACK
3. VERTICAL WOOD SIDING
4. STANDING SEAM METAL CLADDING
5. CLEAR GLASS
6. METAL CANOPY
7. PERFORATED METAL BALCONY

0 2 5 10 20 M

SOUTH ELEVATION

LEGEND

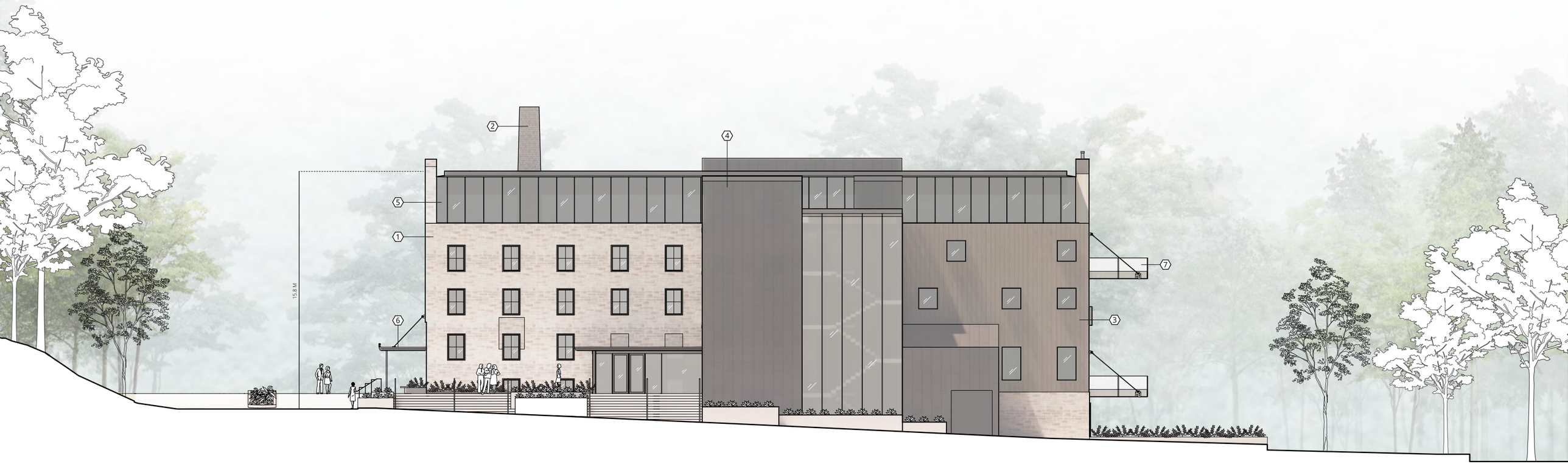
1. EXISTING STONE
2. EXISTING BRICK SMOKESTACK
3. VERTICAL WOOD SIDING
4. STANDING SEAM METAL CLADDING
5. CLEAR GLASS
6. METAL CANOPY
7. PERFORATED METAL BALCONY

0 2 5 10 20 M

WEST ELEVATION

LEGEND

1. EXISTING STONE
2. EXISTING BRICK SMOKESTACK
3. VERTICAL WOOD SIDING
4. STANDING SEAM METAL CLADDING
5. CLEAR GLASS
6. METAL CANOPY
7. PERFORATED METAL BALCONY



0 2 5 10 20 M

NORTH-WEST PERSPECTIVE

NORTH-EAST PERSPECTIVE

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