



REPORT

VOLUME 6

Environmental Impact Statement

Prestons Waste Treatment Facility

Submitted to:

NSW Department of Planning, Industry and Environment

Submitted by:

Hi Quality Waste Treatment Services Pty Ltd

Golder Associates Pty Ltd

Level 8, 40 Mount Street, North Sydney, New South Wales 2060, Australia

20142192-052-R-Rev0 - Appendices N - P

August 2021

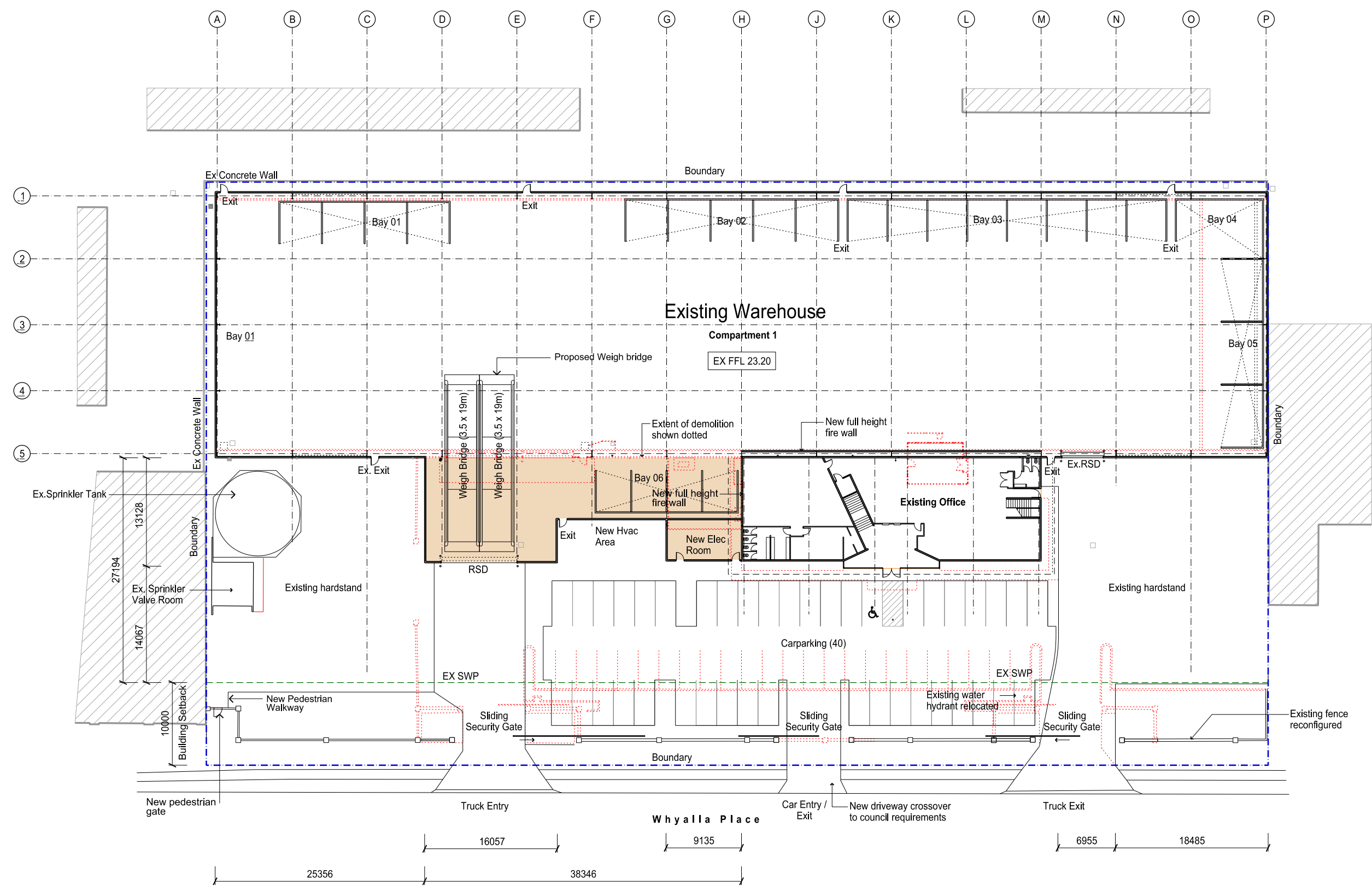


APPENDIX N

**Existing Site Survey and
Preliminary Design Drawings**

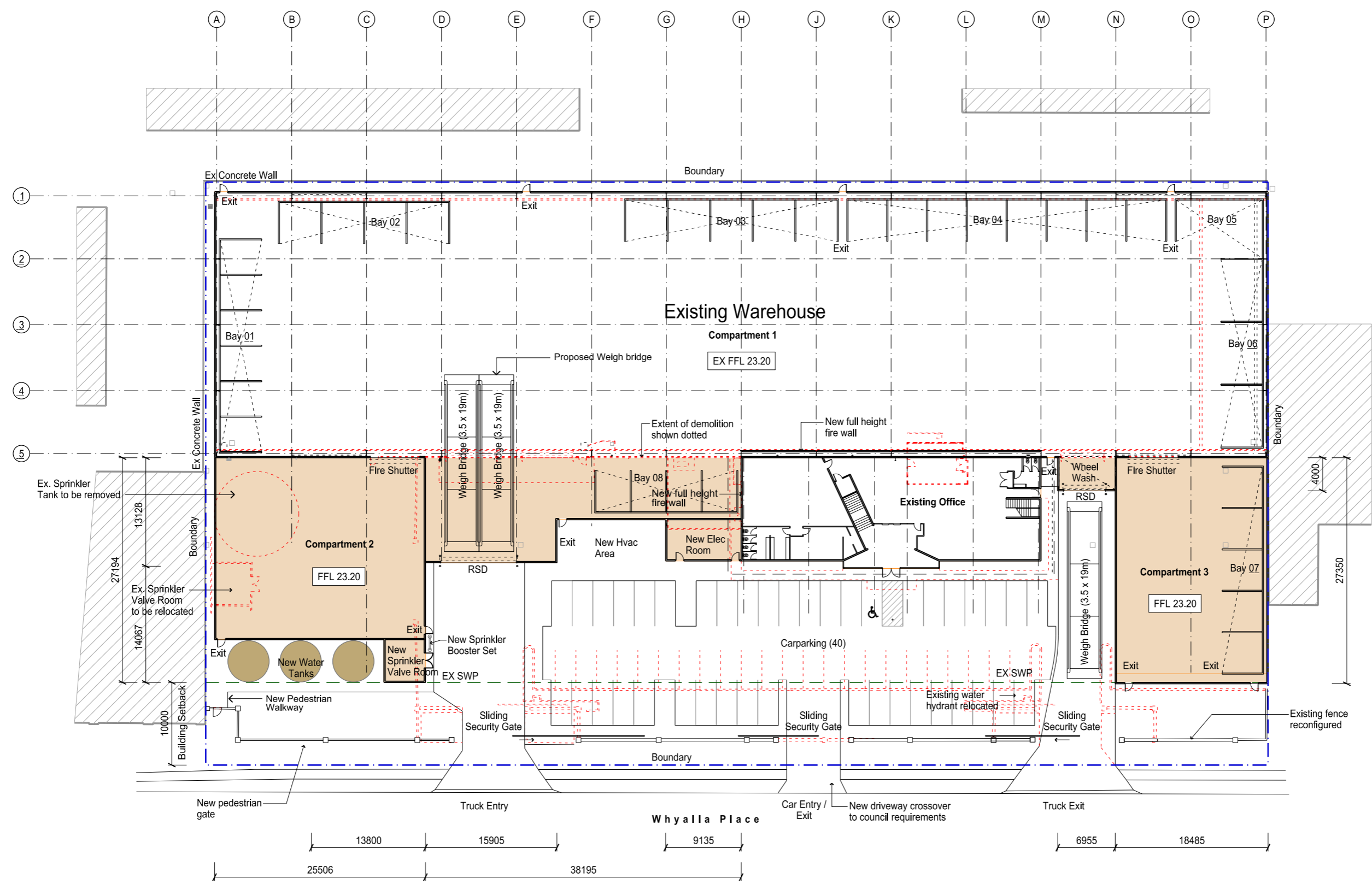
Legend	
	Site Boundary
	10m Building Setback
	Existing To Be Demolished

Area Schedule	
Site	9,065 sqm
Existing Warehouse	4,054 sqm
Existing Office (2 Levels)	908 sqm
New Warehouse	407 sqm
Total	5,370 sqm
FSR	0.60 :1



Legend	
	Site Boundary
	10m Building Setback
	Existing To Be Demolished

Area Schedule	
Site	9,065 sqm
Existing Warehouse	4,054 sqm
Existing Office (2 Levels)	908 sqm
New Warehouse	1,519 sqm
Total	6,481 sqm
FSR	0.71 :1

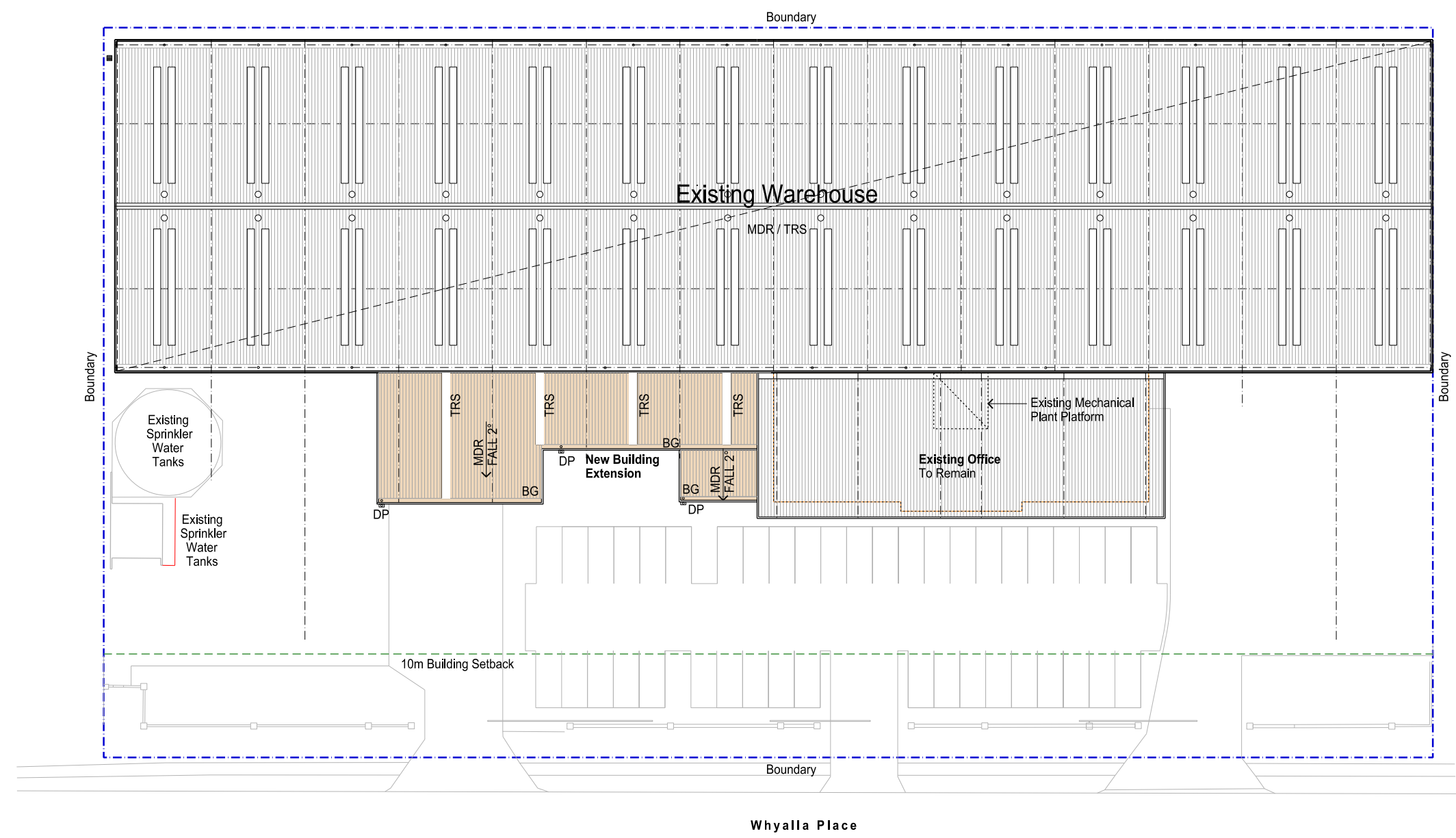


NOTE:
Location of Weigh Bridge and size of Water Tanks to be confirmed during detail design

ISSUE	REV	DESCRIPTION	DATE
P7		PRELIMINARY ISSUE	18.02.2021
P6		PRELIMINARY ISSUE	17.02.2021
P5		PRELIMINARY ISSUE	25.01.2021
P4		PRELIMINARY ISSUE	22.12.2020
P3		PRELIMINARY ISSUE	04.12.2020
P2		PRELIMINARY ISSUE	26.11.2020
P1		PRELIMINARY ISSUE	24.11.2020

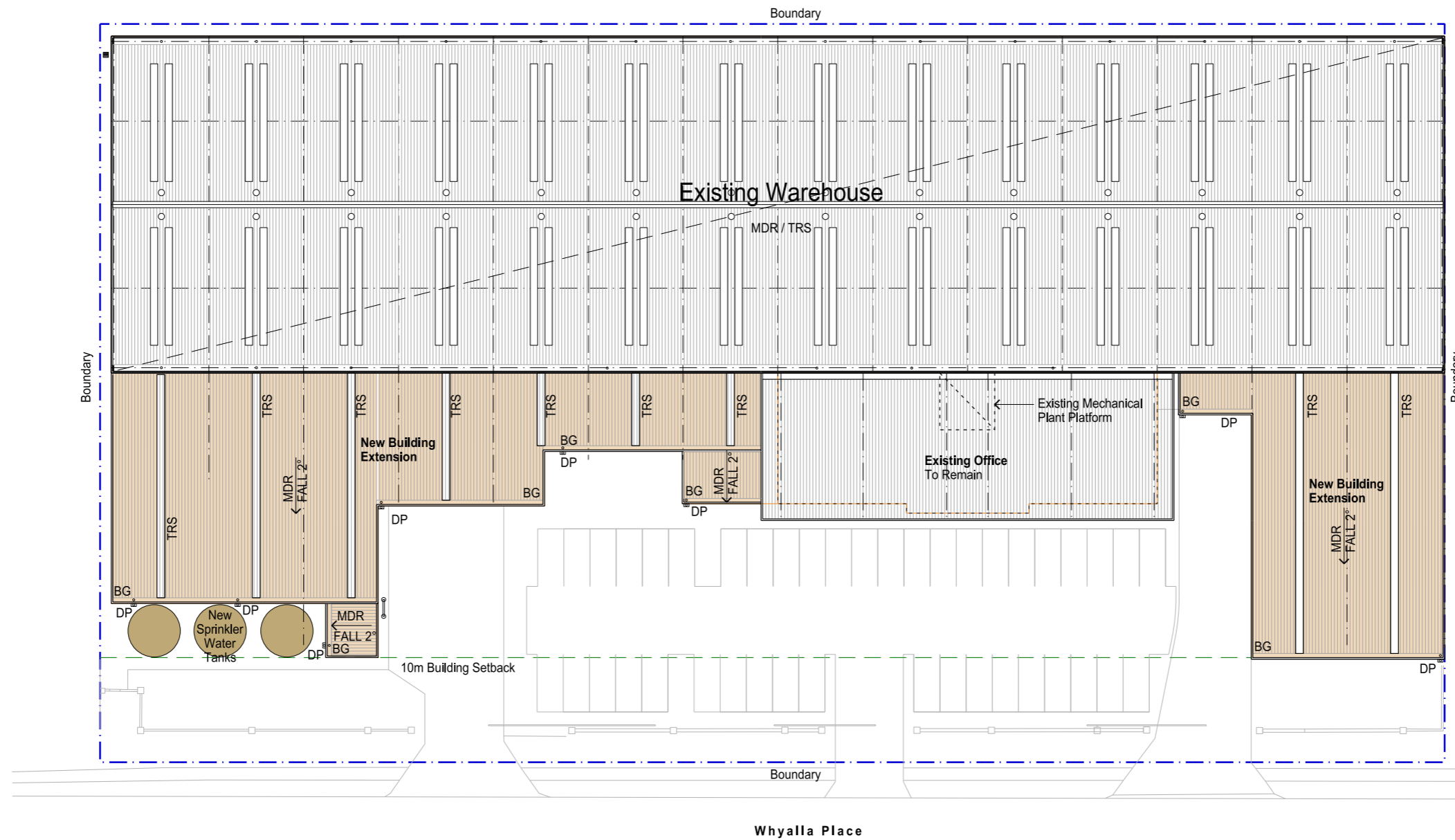
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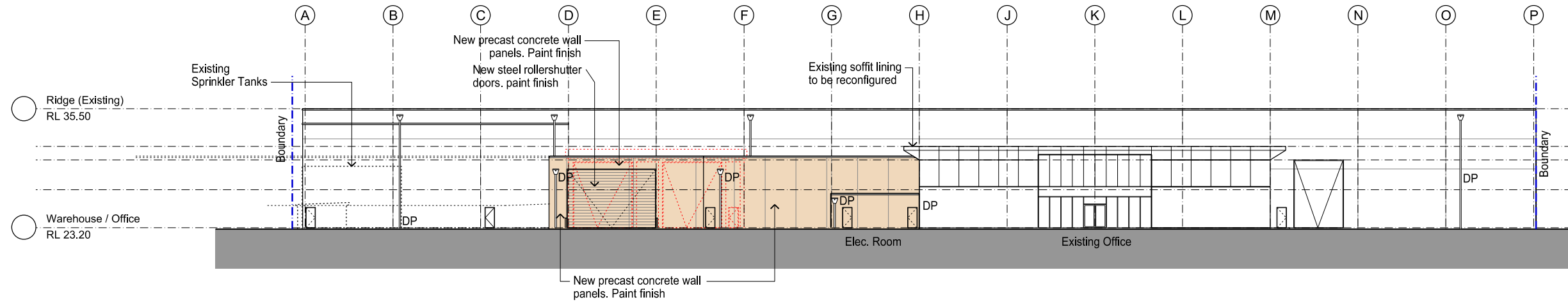
- - - Site Boundary
- - - 10m Building Setback



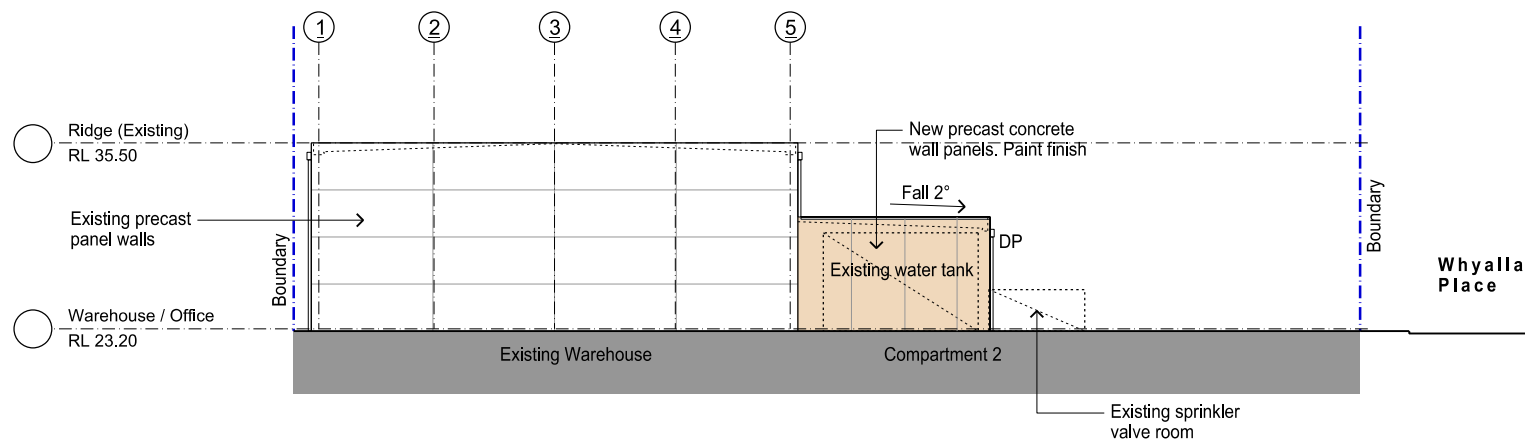
Legend

- Site Boundary
- 10m Building Setback

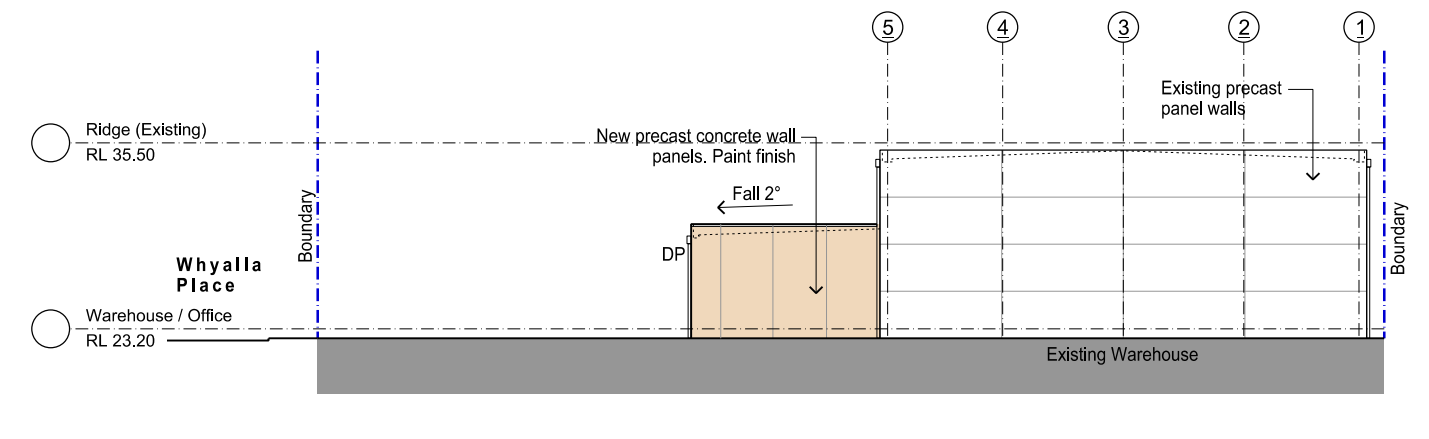




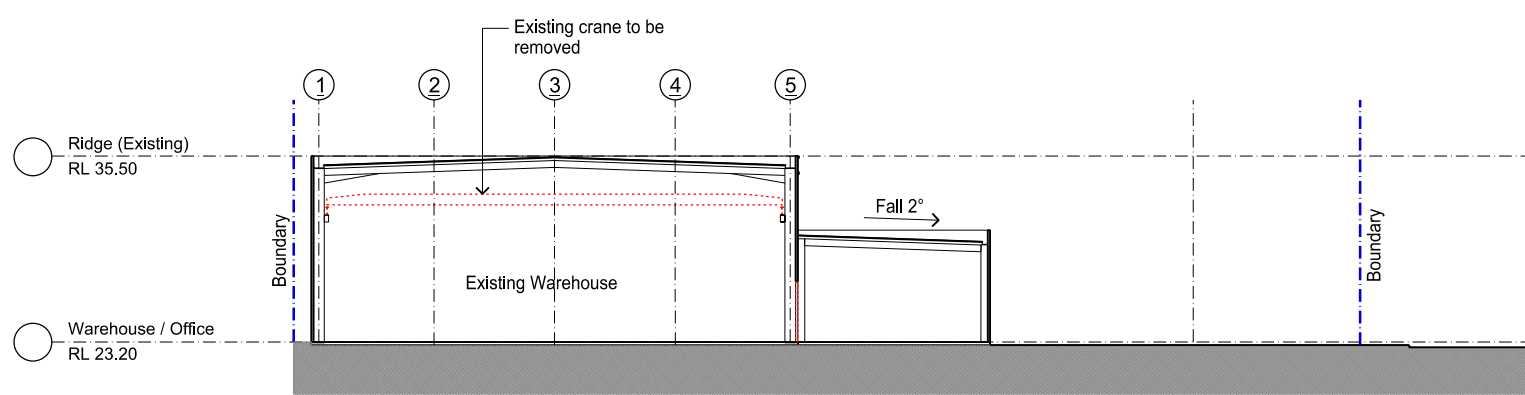
01 West Elevation 1:500



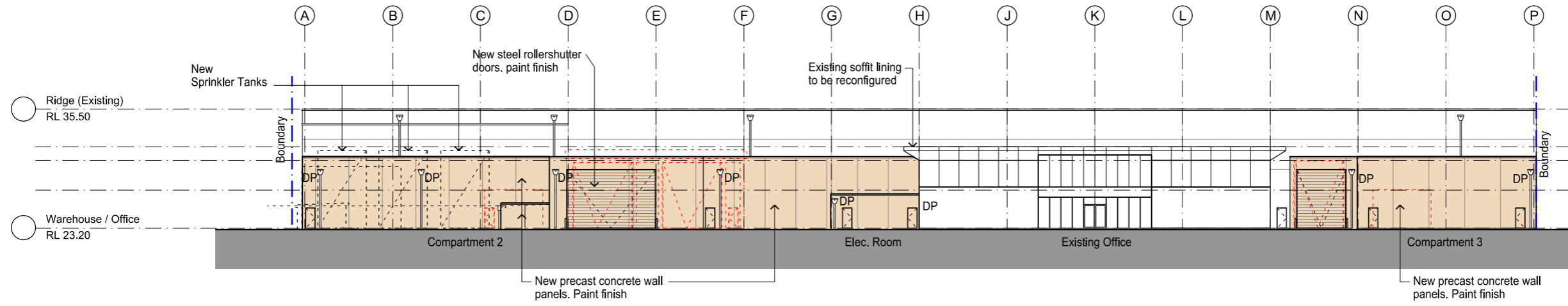
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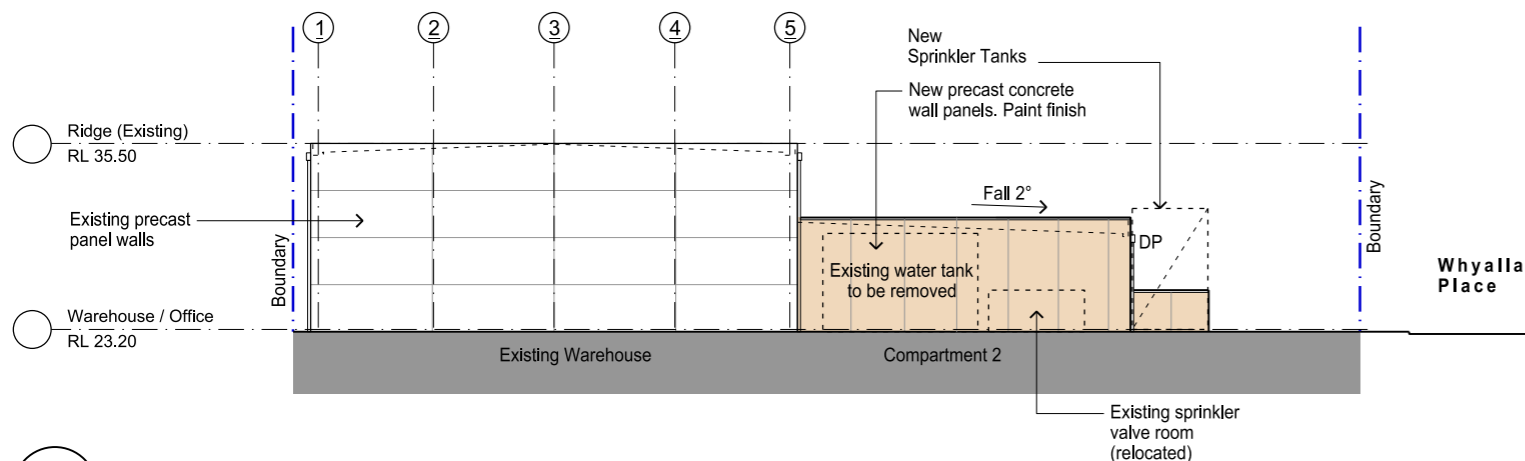
03 South Elevation 1:500



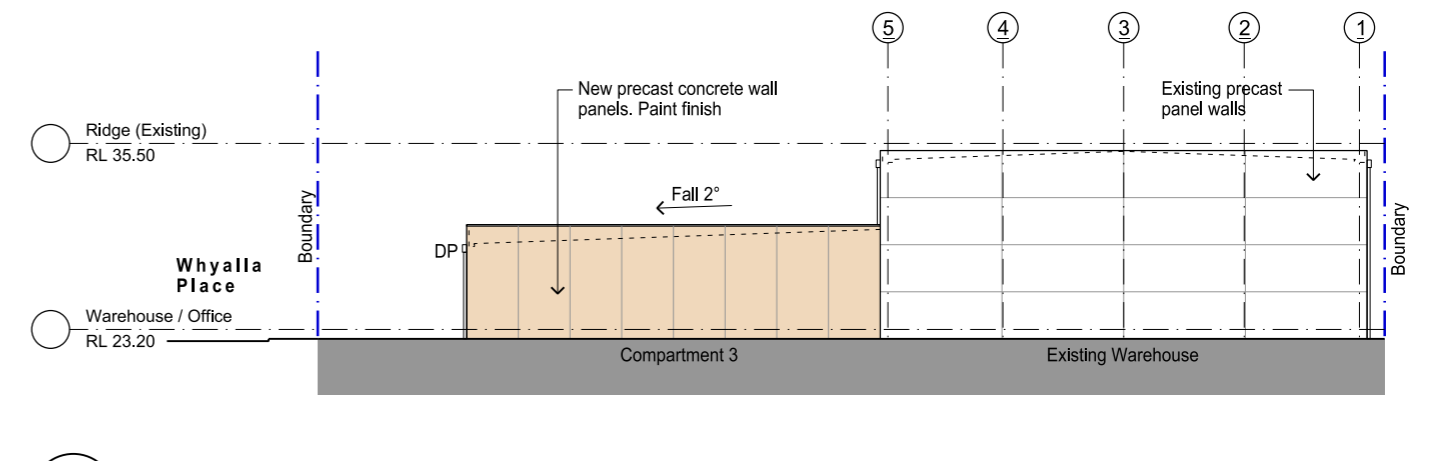
04 Section - Warehouse 1:500



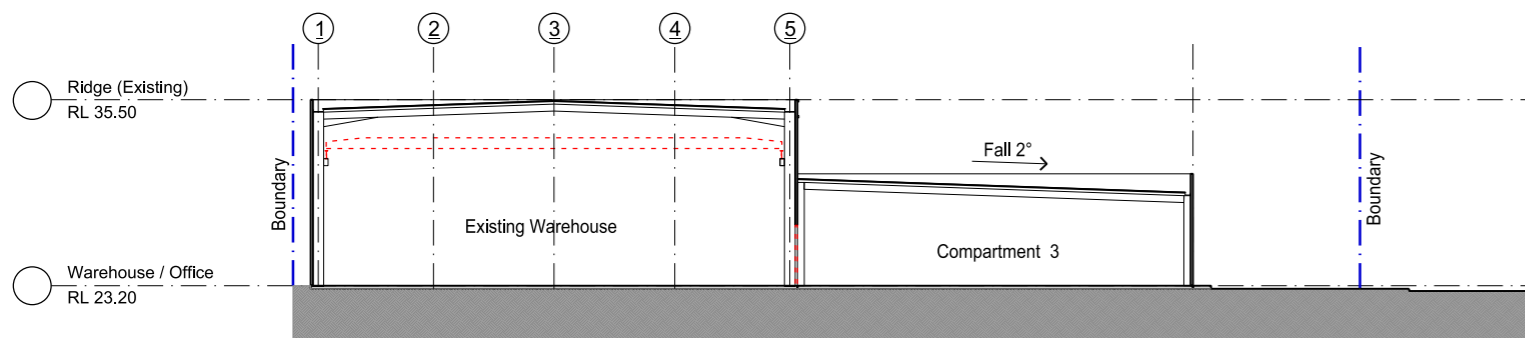
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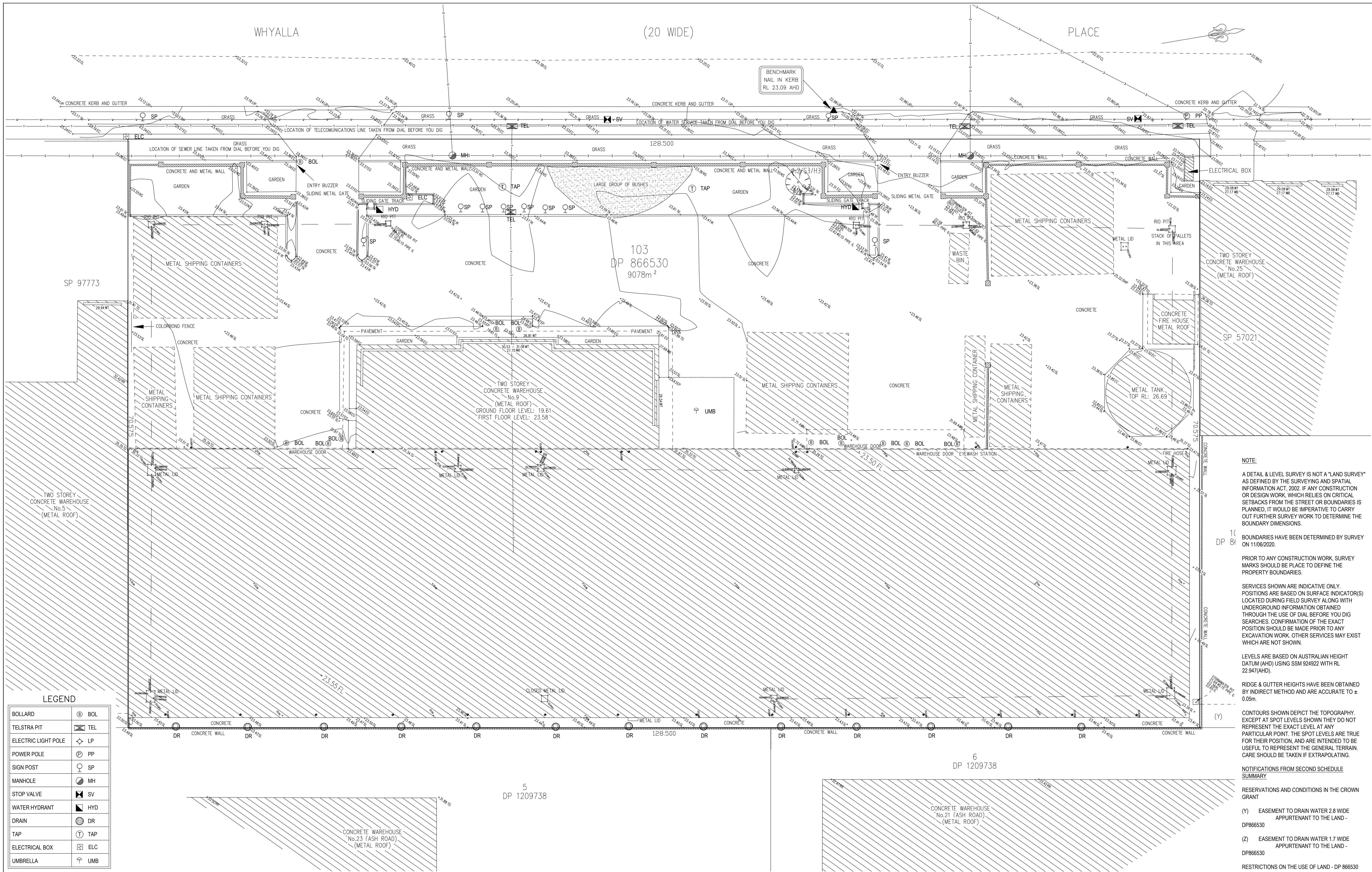
02 North Elevation 1:500



03 South Elevation 1:500



04 Section - Warehouse 1:500



NOTE:
 A DETAIL & LEVEL SURVEY IS NOT A 'LAND SURVEY' AS DEFINED BY THE SURVEYING AND SPATIAL INFORMATION ACT, 2002. IF ANY CONSTRUCTION OR DESIGN WORK, WHICH RELIES ON CRITICAL SETBACKS FROM THE STREET OR BOUNDARIES IS PLANNED, IT WOULD BE IMPERATIVE TO CARRY OUT FURTHER SURVEY WORK TO DETERMINE THE BOUNDARY DIMENSIONS.

1C DP 866530 BOUNDARIES HAVE BEEN DETERMINED BY SURVEY ON 11/06/2020.

PRIOR TO ANY CONSTRUCTION WORK, SURVEY MARKS SHOULD BE PLACED TO DEFINE THE PROPERTY BOUNDARIES.

SERVICES SHOWN ARE INDICATIVE ONLY. POSITIONS ARE BASED ON SURFACE INDICATOR(S) LOCATED DURING FIELD SURVEY ALONG WITH UNDERGROUND INFORMATION OBTAINED THROUGH THE USE OF DIAL BEFORE YOU DIG SEARCHES. CONFIRMATION OF THE EXACT POSITION SHOULD BE MADE PRIOR TO ANY EXCAVATION WORK. OTHER SERVICES MAY EXIST WHICH ARE NOT SHOWN.

LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) USING SSM 924922 WITH RL 22.947(AHD).

RIDGE & GUTTER HEIGHTS HAVE BEEN OBTAINED BY INDIRECT METHOD AND ARE ACCURATE TO ± 0.05m.

CONTOURS SHOWN DEPICT THE TOPOGRAPHY. EXCEPT AT SPOT LEVELS SHOWN THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT. THE SPOT LEVELS ARE TRUE FOR THEIR POSITION, AND ARE INTENDED TO BE USEFUL TO REPRESENT THE GENERAL TERRAIN. CARE SHOULD BE TAKEN IF EXTRAPOLATING.

NOTIFICATIONS FROM SECOND SCHEDULE SUMMARY

RESERVATIONS AND CONDITIONS IN THE CROWN GRANT

(Y) EASEMENT TO DRAIN WATER 2.8 WIDE APPURTENANT TO THE LAND - DP866530

(Z) EASEMENT TO DRAIN WATER 1.7 WIDE APPURTENANT TO THE LAND - DP866530

RESTRICTIONS ON THE USE OF LAND - DP 866530

LEGEND

BOLLARD	⊗ BOL
TELSTRA PIT	⊗ TEL
ELECTRIC LIGHT POLE	⊕ LP
POWER POLE	⊕ PP
SIGN POST	⊕ SP
MANHOLE	⊕ MH
STOP VALVE	⊕ SV
WATER HYDRANT	⊕ HYD
DRAIN	⊕ DR
TAP	⊕ TAP
ELECTRICAL BOX	⊕ ELC
UMBRELLA	⊕ UMB

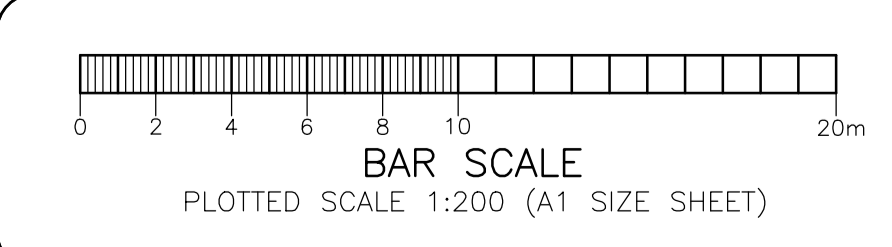
TSS TOTAL SURVEYING SOLUTIONS
 LANE COVE | CAMDEN | MANLY VALE | CENTRAL COAST

NOTE:
 INFORMATION CONTAINED IN THIS PLAN IS THE COPYRIGHT OF TOTAL SURVEYING SOLUTIONS. THE USE OR DUPLICATION WITHOUT THE WRITTEN CONSENT OF TOTAL SURVEYING SOLUTIONS CONSTITUTES AN INFRINGEMENT OF COPYRIGHT.

REVISION No.	REVISION DATE:	COMMENT:

LEGEND:

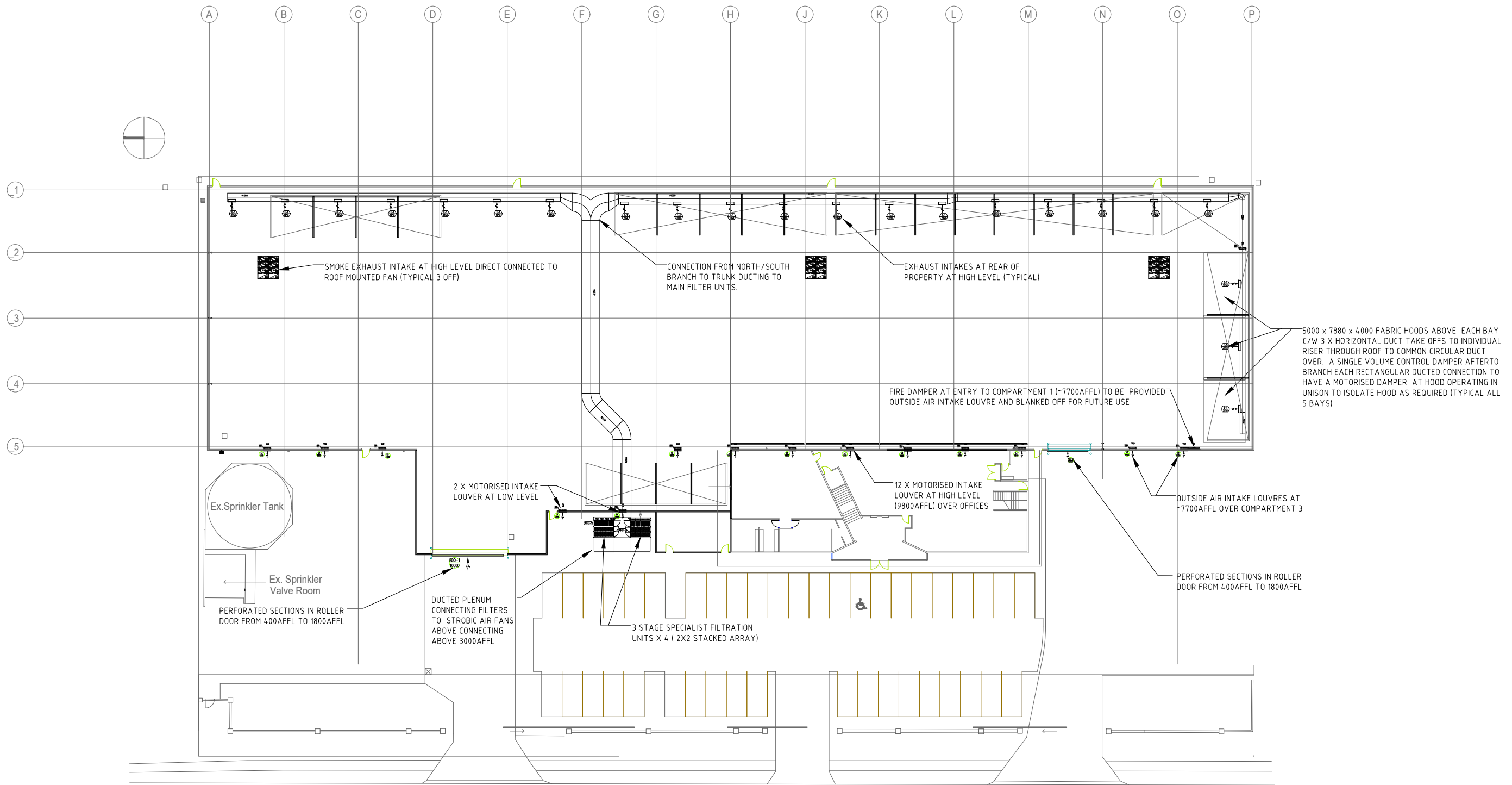
AWN - AWNING	IL - INVERT LEVEL	TK - TOP OF KERB
CL - CENTER LINE	LIP - LIP OF KERB	WT - TOP OF WINDOW
EC - EDGE OF CONCRETE	NS - NATURAL SURFACE	WB - BOTTOM OF WINDOW
EG - EDGE OF GARDEN	RR - ROOF RIDGE	INVxxx - INVERT (PIPE SIZE mm)
EP - EDGE OF PAVEMENT	SL - SURFACE LEVEL	TREES: 0.4S/10H/16 - DIAMETER/SPREAD/HEIGHT
IK - INVERT OF KERB	TG - TOP OF GUTTER	



PLAN SHOWING DRAINAGE INFORMATION WITH PREVIOUS SURVEY OF DETAIL & LEVELS OVER LOT 103 IN DP866530

CLIENT: HI QUALITY
 PROJECT: DETAIL SURVEY - PRESTONS
 ADDRESS: 9 WHYALLA PLACE, PRESTONS

JOB No.: 201000	LGA: LIVERPOOL
PLAN No.: 201000-2	DATUM: AHD
DATE: 19/4/2021	SCALE: 1:200@A1
DRAWN: RC	CONT. INTERVAL: 0.25m
CHK: BB	SHEET 1 OF 1



5000 x 7880 x 4000 FABRIC HOODS ABOVE EACH BAY C/W 3 X HORIZONTAL DUCT TAKE OFFS TO INDIVIDUAL RISER THROUGH ROOF TO COMMON CIRCULAR DUCT OVER. A SINGLE VOLUME CONTROL DAMPER AFTER TO BRANCH EACH RECTANGULAR DUCTED CONNECTION TO HAVE A MOTORISED DAMPER AT HOOD OPERATING IN UNISON TO ISOLATE HOOD AS REQUIRED (TYPICAL ALL 5 BAYS)

FIRE DAMPER AT ENTRY TO COMPARTMENT 1 (-7700AFFL) TO BE PROVIDED OUTSIDE AIR INTAKE LOUVRE AND BLANKED OFF FOR FUTURE USE

OUTSIDE AIR INTAKE LOUVRES AT 7700AFFL OVER COMPARTMENT 3

PERFORATED SECTIONS IN ROLLER DOOR FROM 400AFFL TO 1800AFFL

DUCTED PLENUM CONNECTING FILTERS TO STROBIC AIR FANS ABOVE CONNECTING ABOVE 3000AFFL

3 STAGE SPECIALIST FILTRATION UNITS X 4 (2X2 STACKED ARRAY)

12 X MOTORISED INTAKE LOUVER AT HIGH LEVEL (9800AFFL) OVER OFFICES

2 X MOTORISED INTAKE LOUVER AT LOW LEVEL

Ex. Sprinkler Tank

Ex. Sprinkler Valve Room

PERFORATED SECTIONS IN ROLLER DOOR FROM 400AFFL TO 1800AFFL

REV	DATE	DRAFTER	DESCRIPTION	APPROVED
P1	06/06/2021	P.L	CONCEPT HVAC	P.L

STRICTLY CONFIDENTIAL

PROJECT STAGE: _____

SIGNATURE _____ DATE _____

CD _____

DD _____

TD _____

IFC _____

QUALITY RECORD :

HVAC Alliance
ARN 44 612 366 006

HI-QUALITY GROUP

CLIENT

KEY PLAN

DRAWING TITLE:
MECHANICAL SERVICES
STAGE 1 - WASTE TREATMENT FACILITY
GROUND LEVEL VENTILATION LAYOUT
9 WHYALLA PL

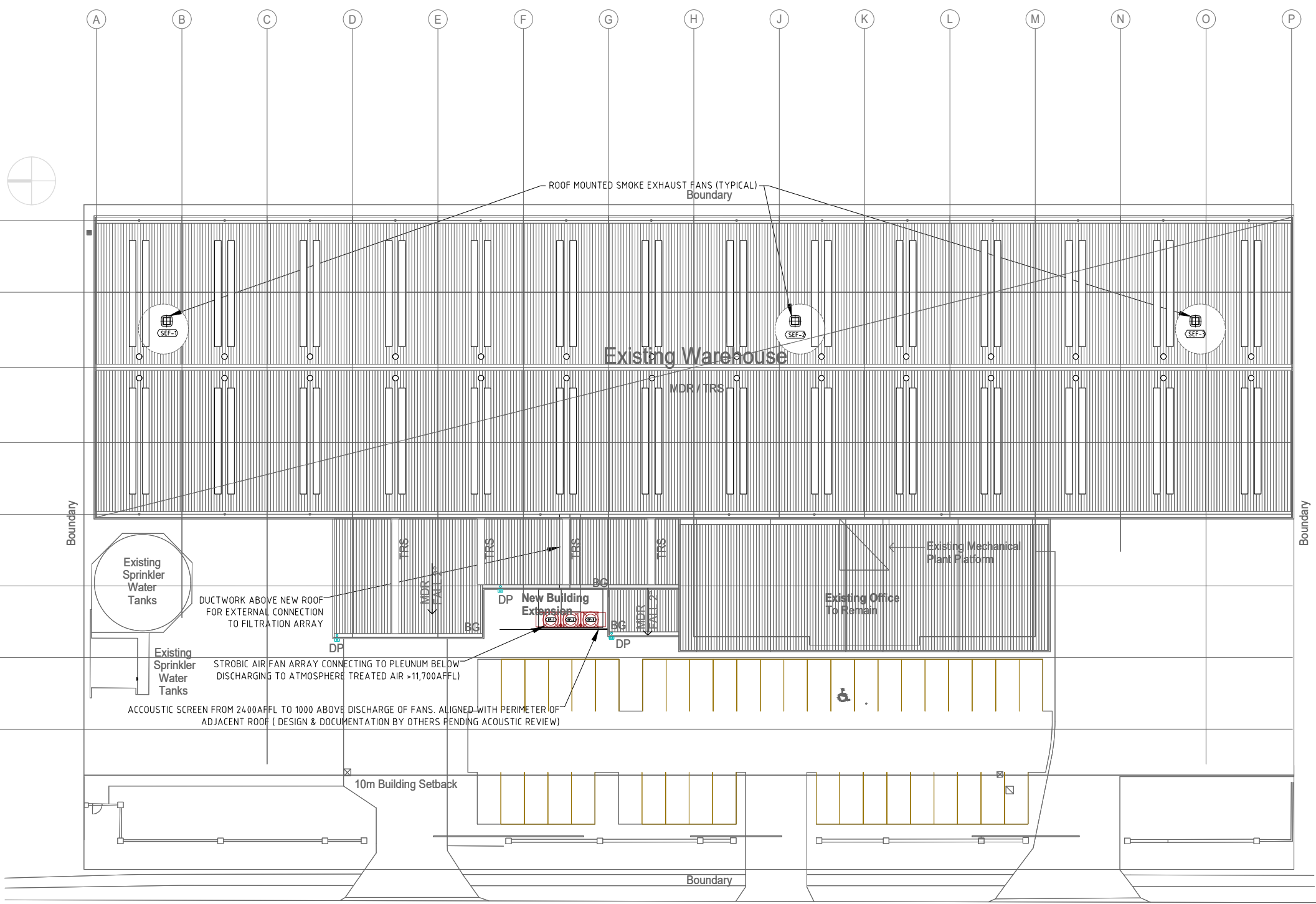
STATE: NSW REGION: PRESTON

ENG: P.L DRAWN: P.L QA: P.L

PROJECT No: HVACA-HWQ-002

CADREF No: M003

SCALE 1:500 SHEET No. 1 OF 6 REV. P1



Whyalla Place

REV	DATE	DRAFTER	DESCRIPTION	APPROVED
P1	06/06/2021	P.L	CONCEPT HVAC	P.L

STRICTLY CONFIDENTIAL

PROJECT STAGE: _____

SIGNATURE _____ DATE _____

CD _____

DD _____

TD _____

IFC _____

QUALITY RECORD : _____

HVAC Alliance
ARN 44 612 366 006

HI-QUALITY GROUP

CLIENT _____

N KEY PLAN

DRAWING TITLE:
MECHANICAL SERVICES
STAGE 1 - WASTE TREATMENT FACILITY
ROOF LEVEL VENTILATION LAYOUT
9 WHYALLA PL

STATE: NSW REGION: PRESTON

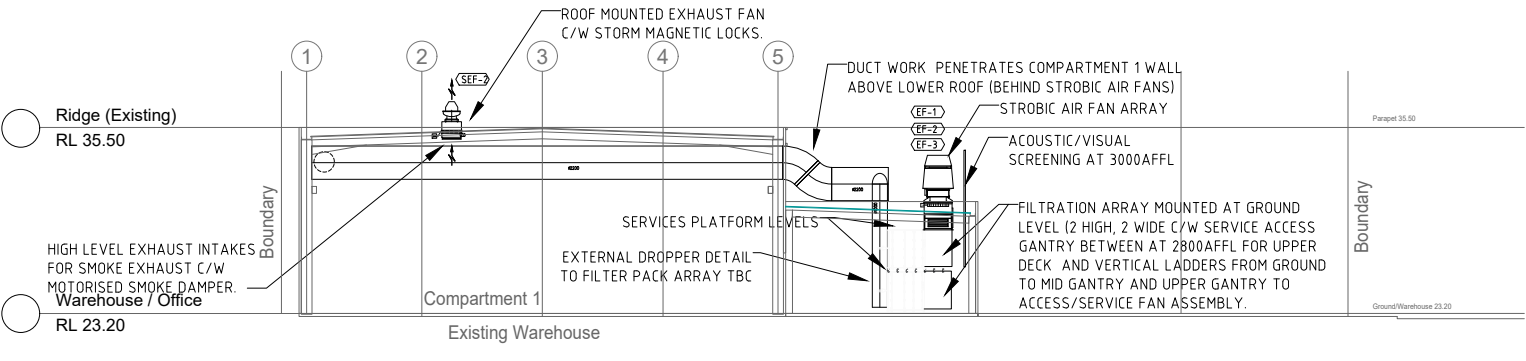
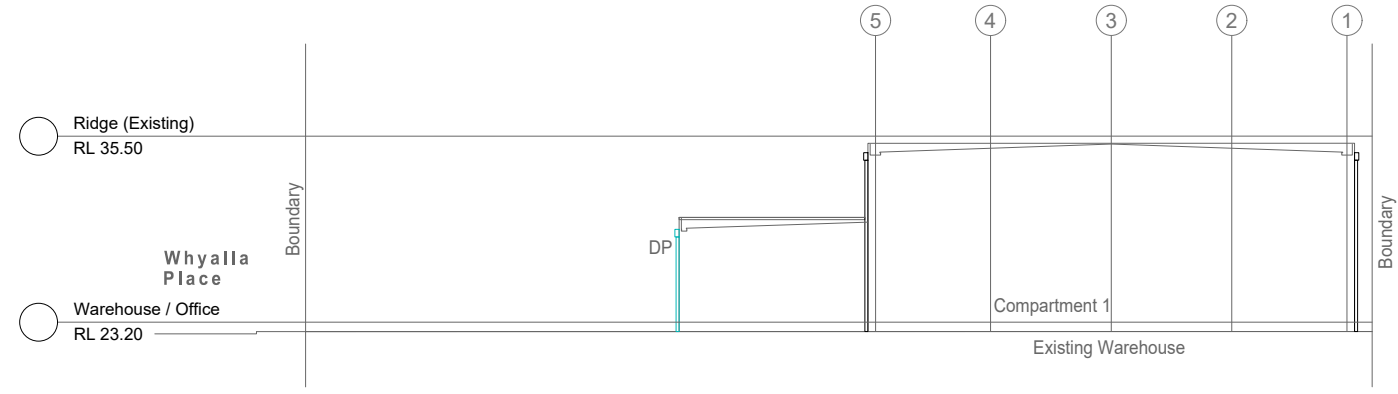
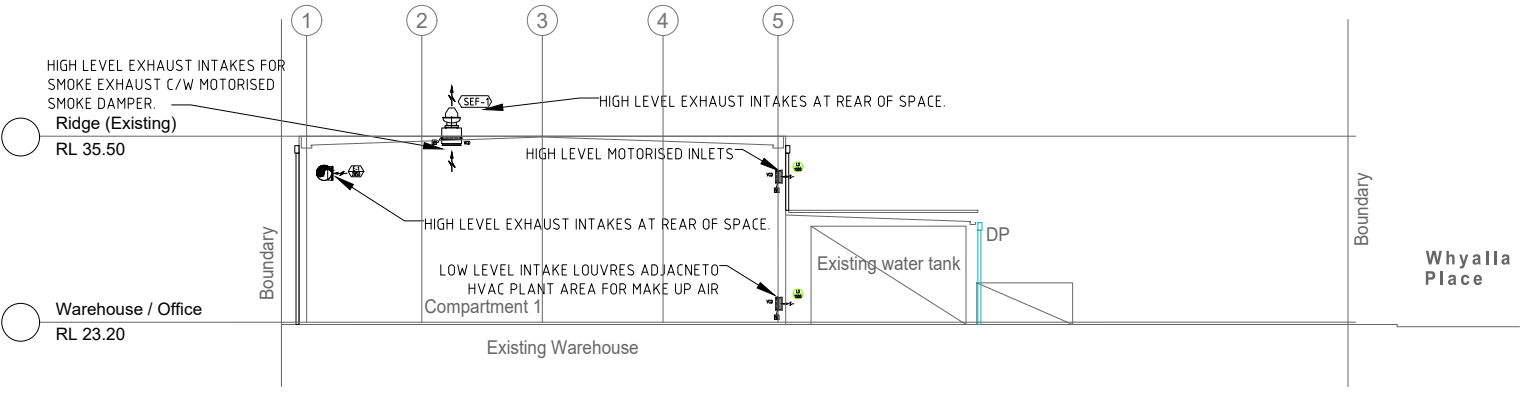
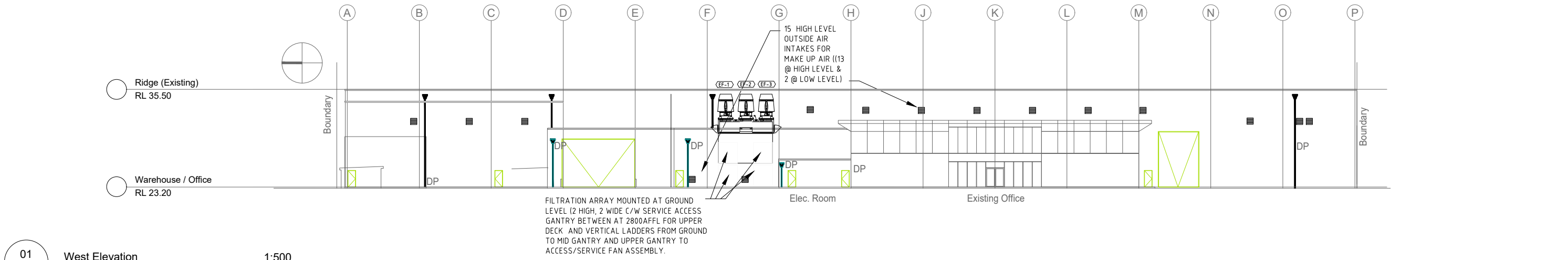
ENG: P.L DRAWN: P.L QA: P.L

PROJECT No: HVACA-HWQ-002

CADREF No: M004

SCALE 1:500 SHEET No. 2 OF 6 REV P1

STATE: NSW	REGION: PRESTON
ENG: P.L	QA: P.L
PROJECT No: HVACA-HWQ-002	
CADREF No: M004	
SCALE 1:500	SHEET No. 2 OF 6
REV P1	



REV	DATE	DRAFTER	DESCRIPTION	APPROVED
P1	06/06/2021	P.L	CONCEPT HVAC	P.L

STRICTLY CONFIDENTIAL

PROJECT STAGE:

SIGNATURE _____ DATE _____

CD
 DD
 TD
 IFC

QUALITY RECORD :

HVAC Alliance
ARN 44 612 366 006

HI-QUALITY GROUP

CLIENT

KEY PLAN

DRAWING TITLE:
MECHANICAL SERVICES
STAGE 1 - WASTE TREATMENT FACILITY
ELEVATIONS & SECTIONS
9 WHYALLA PL

STATE: NSW REGION: PRESTON

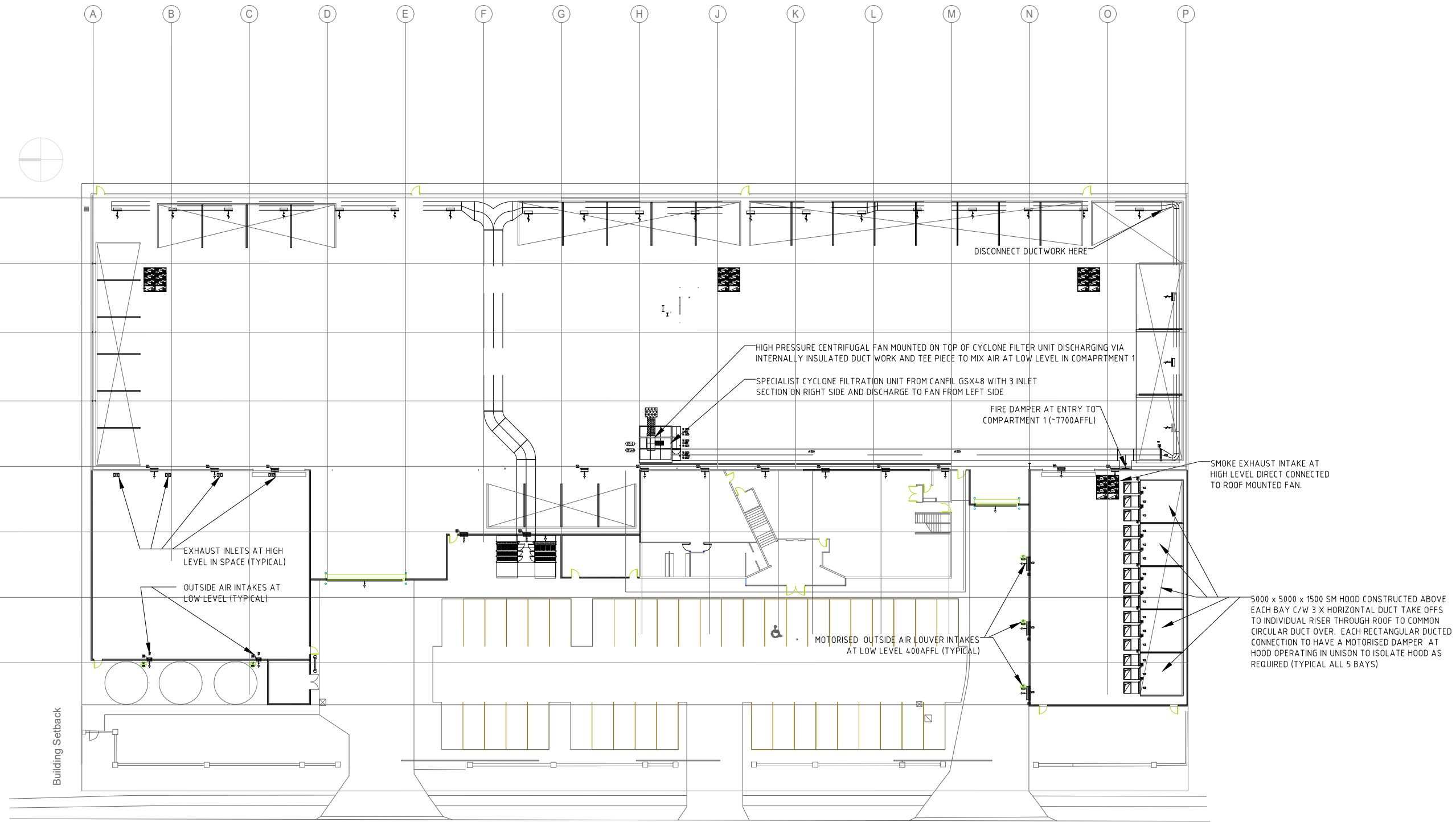
ENG: P.L DRAWN: P.L QA: P.L

PROJECT No: HVACA-HWQ-002

CADREF No: M005

SCALE 1:500 SHEET No. 3 OF 6 REV P1

1	2	3	4	5	6	7	8	9	10	11	12
---	---	---	---	---	---	---	---	---	----	----	----



DISCONNECT DUCTWORK HERE

HIGH PRESSURE CENTRIFUGAL FAN MOUNTED ON TOP OF CYCLONE FILTER UNIT DISCHARGING VIA INTERNALLY INSULATED DUCT WORK AND TEE PIECE TO MIX AIR AT LOW LEVEL IN COMPARTMENT 1

SPECIALIST CYCLONE FILTRATION UNIT FROM CANFIL GSX48 WITH 3 INLET SECTION ON RIGHT SIDE AND DISCHARGE TO FAN FROM LEFT SIDE

FIRE DAMPER AT ENTRY TO COMPARTMENT 1 (-7700AFL)

SMOKE EXHAUST INTAKE AT HIGH LEVEL DIRECT CONNECTED TO ROOF MOUNTED FAN.

5000 x 5000 x 1500 SM HOOD CONSTRUCTED ABOVE EACH BAY C/W 3 X HORIZONTAL DUCT TAKE OFFS TO INDIVIDUAL RISER THROUGH ROOF TO COMMON CIRCULAR DUCT OVER. EACH RECTANGULAR DUCTED CONNECTION TO HAVE A MOTORISED DAMPER AT HOOD OPERATING IN UNISON TO ISOLATE HOOD AS REQUIRED (TYPICAL ALL 5 BAYS)

EXHAUST INLETS AT HIGH LEVEL IN SPACE (TYPICAL)

OUTSIDE AIR INTAKES AT LOW LEVEL (TYPICAL)

MOTORISED OUTSIDE AIR LOUVER INTAKES AT LOW LEVEL 400AFL (TYPICAL)

Building Setback

1	2	3	4	5	6	7	8	9	10	11	12			
A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
1	2	3	4	5	6	7	8							

REV	DATE	DRAFTER	DESCRIPTION	APPROVED
P1	06/06/2021	P.L	CONCEPT HVAC	P.L

STRICTLY CONFIDENTIAL

PROJECT STAGE:

SIGNATURE _____ DATE _____

CD _____

DD _____

TD _____

IFC _____

QUALITY RECORD :

HVAC Alliance
44 612 366 006

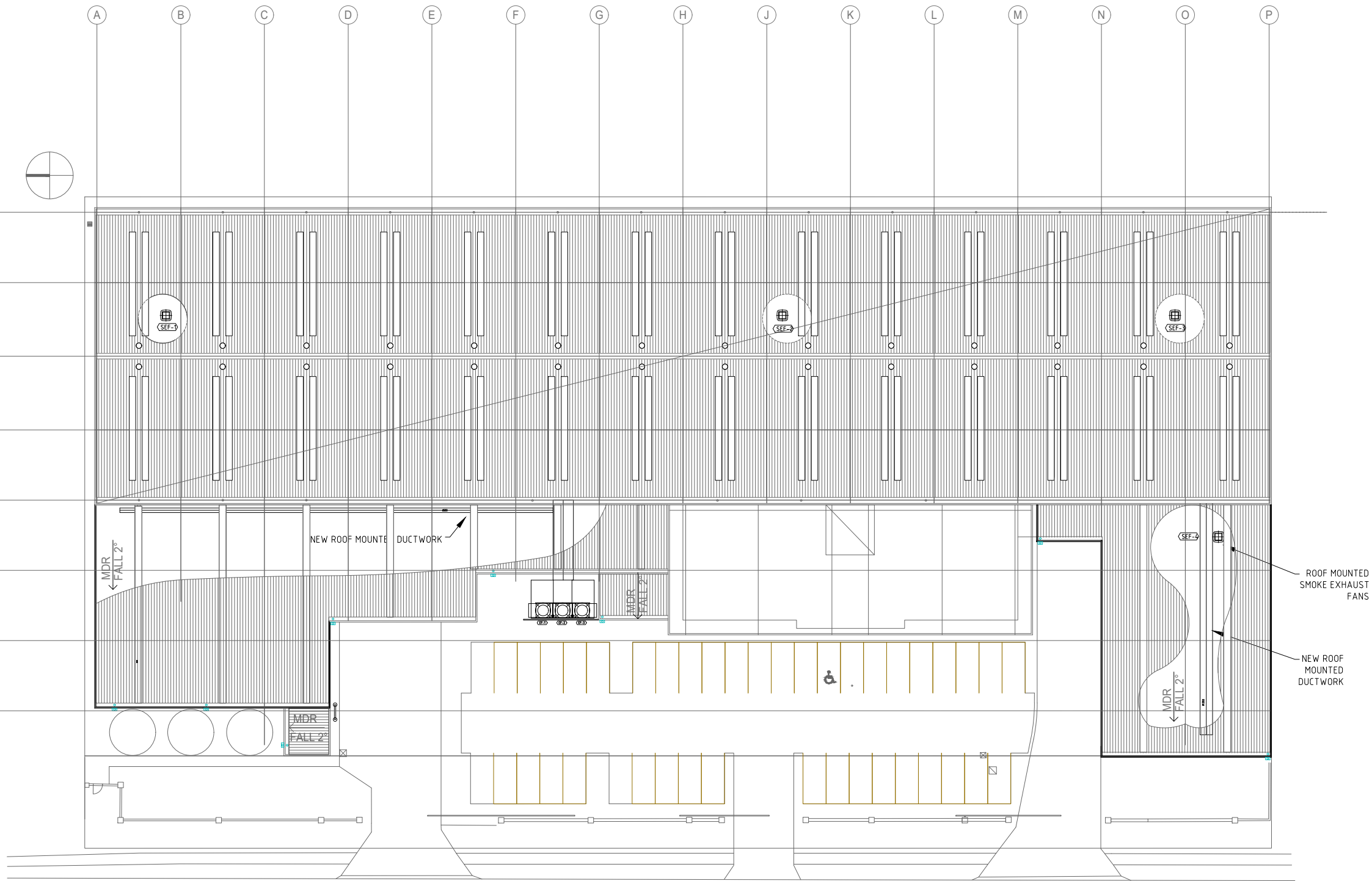
HI-QUALITY GROUP

CLIENT

N KEY PLAN

DRAWING TITLE:
**MECHANICAL SERVICES
STAGE 2 - WASTE TREATMENT FACILITY
GROUND LEVEL VENTILATION LAYOUT
9 WHYALLA PL**

STATE: NSW	REGION: PRESTON
ENG: P.L	DRAWN: P.L QA: P.L
PROJECT No: HVACA-HWQ-002	
CADREF No: M103	
SCALE: 1:500	SHEET No. 4 OF 6 REV. P1



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-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-

STRICTLY CONFIDENTIAL

PROJECT STAGE: _____

SIGNATURE _____ DATE _____

CD _____

DD _____

TD _____

IFC _____

QUALITY RECORD : _____

HVAC Alliance
ARN 44 612 366 006

HI-QUALITY GROUP

CLIENT

KEY PLAN

DRAWING TITLE:
MECHANICAL SERVICES
STAGE 2 - WASTE TREATMENT FACILITY
ROOF LEVEL VENTILATION LAYOUT
9 WHYALLA PL

STATE: NSW REGION: PRESTON

ENG: P.L DRAWN: P.L QA: P.L

PROJECT No: HVACA-HWQ-002

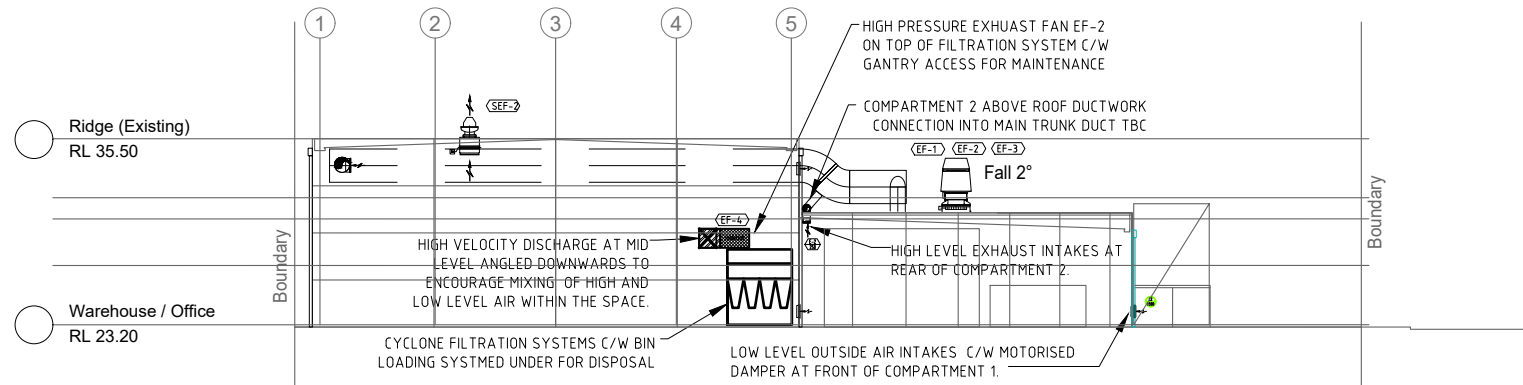
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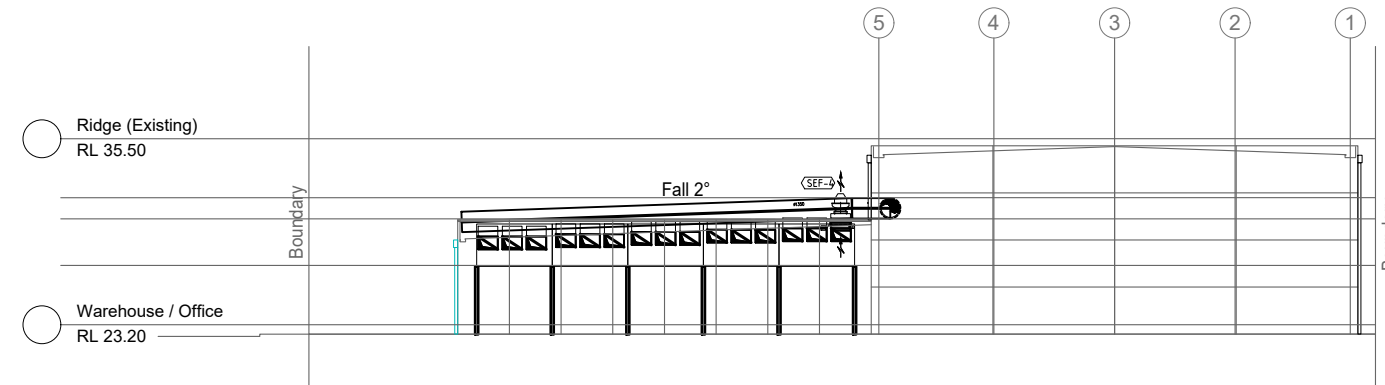
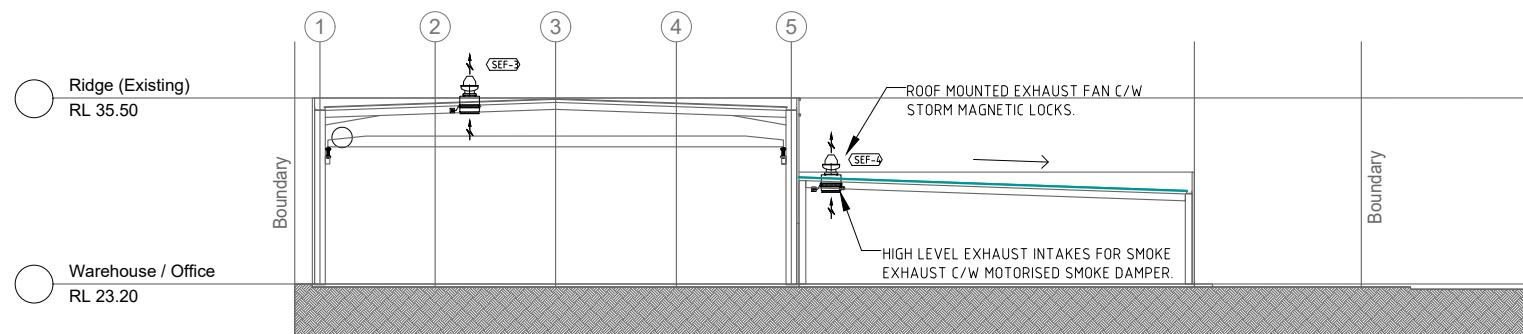
Ridge (Existing)
RL 35.50

Warehouse / Office
RL 23.20

01 West Elevation 1:500



02 North Elevation 1:500



03 South Elevation 1:500

REV	DATE	DRAFTER	DESCRIPTION	APPROVED
P1	06/06/2021	P.L	CONCEPT HVAC	P.L

STRICTLY CONFIDENTIAL

PROJECT STAGE:

<input type="checkbox"/> CD	SIGNATURE	DATE
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<input type="checkbox"/> TD	_____	_____
<input type="checkbox"/> IFC	_____	_____

QUALITY RECORD :

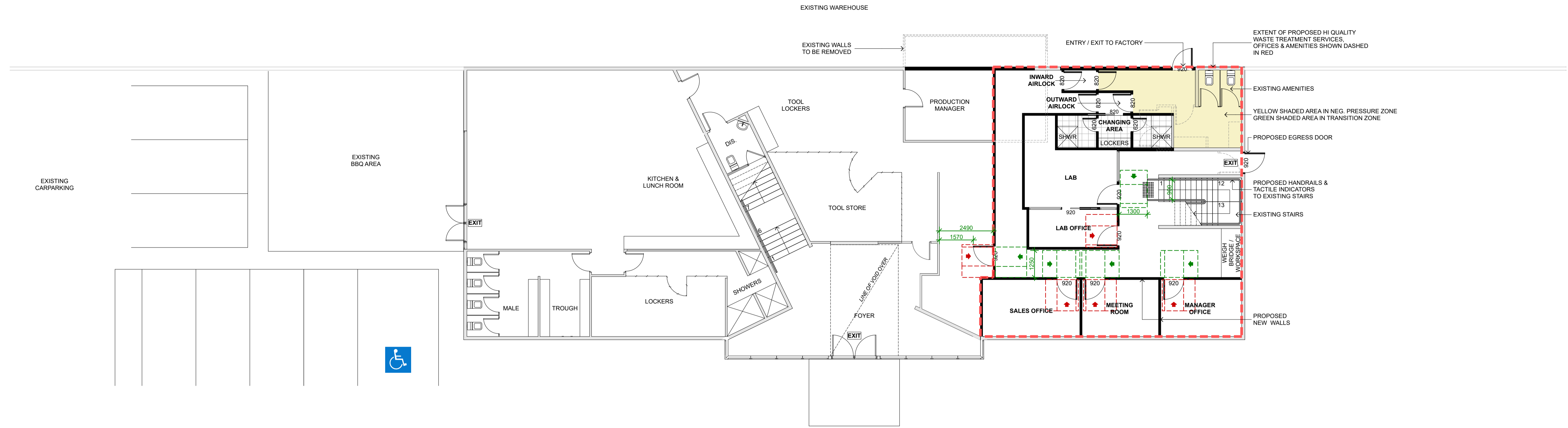


CLIENT

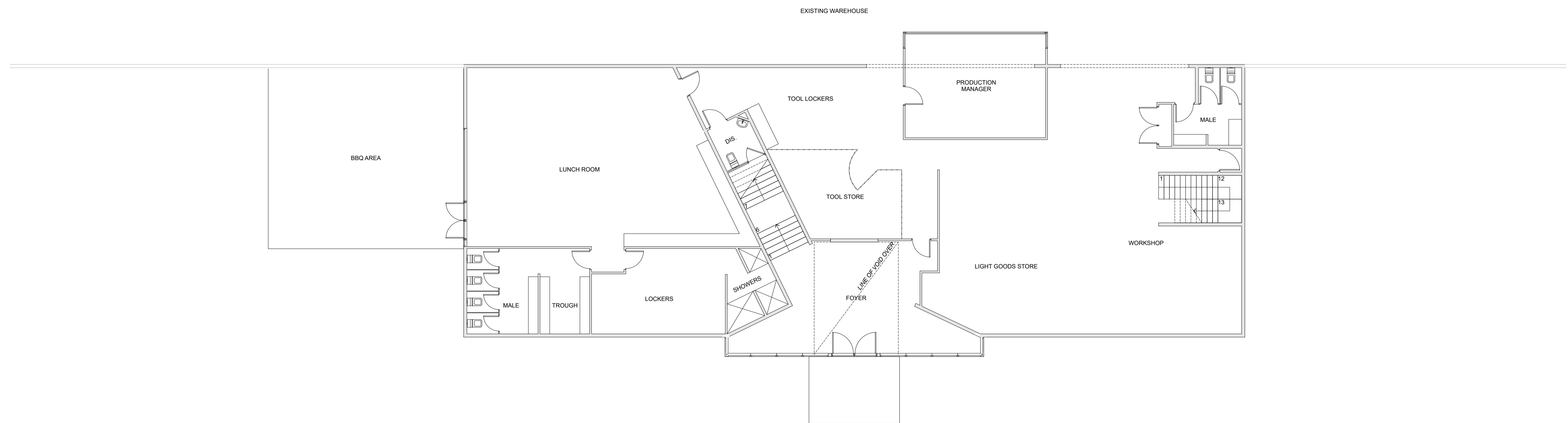
KEY PLAN

DRAWING TITLE:
MECHANICAL SERVICES
STAGE 2 - WASTE TREATMENT FACILITY
ELEVATIONS & SECTIONS
9 WHYALLA PL

STATE: NSW	REGION: PRESTON
ENG: P.L	DRAWN: P.L QA: P.L
PROJECT No: HVACA-HWQ-002	
CADREF No: M105	
SCALE 1:500	SHEET No. 6 OF 6 REV. P1



GROUND FLOOR PLAN - PROPOSED
Scale 1:100



GROUND FLOOR PLAN - EXISTING
Scale 1:100

Issue	Description	Date	Drawn	Issued
A	FOR EIS PER CLIENT INSTRUCTION	16.08.2021	VP	CZ

- General Notes:**
- 1) All dimensions and floor areas are to be verified by the Builder prior to the commencement of any building work. Any discrepancies are to be brought to the attention of the designer.
 - 2) Levels shown are approximate unless accompanied by reduced levels.
 - 3) Figured dimensions must be taken in preference to scaling.
 - 4) All boundary clearances must be verified by the surveyor prior to commencement of any building work.
 - 5) Where engineering drawings are required such must take preference to this drawing.
 - 6) Stormwater to be discharged to Councils' requirements and AS 3500.3-1990.
 - 7) All services to be located and verified by the Builder with relevant authorities before any building work commences.

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Consultants

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PTY. LTD.

ABN 43 064 952 692

Project
PROPOSED INTERNAL ALTERATIONS
LOT 103, DP 866530, N° 9 WHYALLA PLACE
PRESTONS

Client
HI QUALITY QUARRY GROUP

Title
GROUND FLOOR PLANS - EXISTING & PROPOSED

Drawn
VP

Checked
CZ

Date
AUGUST 2021

Activity type
SK

Job #
1120-21

Scale @ A1
AS SHOWN

Project #
P5921

Sheet #
A06

Issue
A

APPENDIX O

Greenhouse Gas Assessment



REPORT

Greenhouse Gas Emissions Assessment

Environmental Impact Statement, Resource Recovery Facility, Prestons

Submitted to:

Hi Quality Pty Ltd

9 Whyalla Place,
Prestons NSW 2170

Submitted by:

Golder Associates Pty Ltd

Level 8, 40 Mount Street, North Sydney, New South Wales 2060, Australia

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20142192-045-R-Rev0

August 2021



Distribution List

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APPENDICES

Appendix A

Important Information Relating to this Report

1.0 INTRODUCTION

Hi Quality Waste Treatment Services Pty Ltd (Hi Quality) engaged Golder Associates Pty Ltd (Golder) to complete a Greenhouse Gas Emission (GHG) Assessment to include in the Environmental Impact Statement (EIS) for the proposed Waste Treatment Facility (the Project) as required by the *Secretary's Environmental Assessment Requirements (SEARs) (SSD-9346594)*.

The Project proposes to utilise technologies for treating solid and liquid wastes to a level suitable for reuse, disposal to landfill or disposal to sewer.

The Waste Treatment Facility would process up to 270,000 tonnes of solid waste per annum primarily generated from industrial processes and contaminated sites and include treatment of:

- Contaminated Soils;
- Contaminated sludges; and
- Liquid Wastes.

This report summarises the background, methodology and results of the GHG emission assessment.

1.1 Scope of Work

The GHG emissions assessment considers the following:

- Scope 1 emissions due to operational fuel combustion.
- Scope 2 emissions due to operational electricity usage.
- The Project's projected contribution annual Australian / global GHG emissions.

1.2 Site Overview and Proposed Design

The Site (Lot 103/DP866530) is located within the Liverpool Local Government Area (LGA), approximately 5 km west of Liverpool CBD and is within the established heavy industrial area within the suburb of Prestons. The Site is approximately 9,000 sqm in total size. The Site is zoned IN3 Heavy Industrial under the provisions of *Liverpool Local Environmental Plan 2008* (the LEP) and is surrounded by industrial activities.

The Project proposes to construct and operate a Waste Treatment Facility at the Site that will include:

- Bulk Soils Treatment;
- Sediments and Sludges Treatment;
- Liquid Waste Treatment;
- Waste Storage and Transfer; and
- Ancillary infrastructure and activities including weighbridge and access.

The Project would receive waste 24 hours a day, while processing and dispatch operations are undertaken between 7:00 am and 6:00 pm Monday to Saturday and 8 am to 6 pm Sundays and Public Holidays.

2.0 GREENHOUSE GAS ASSESSMENT METHODOLOGY

2.1 Regulatory Guidance

The following regulatory guidance was used in preparing GHG emissions at the proposed waste treatment facility.

- *National Greenhouse and Energy Reporting (NGER) (Measurement) Determination 2008 as amended (2020).*
- *NGER (Measurement) Amendment (2019 update) Determination 2019.*
- *NGER Emissions and Energy Threshold Calculator 2019-20.*

Scope 1 emissions are generated directly from sources within the assessment boundary such as emissions from fuel combustion and waste. Scope 2 emissions are generated indirectly from sources outside the assessment boundary and include emissions from the consumption of grid electricity. The following sections discuss the quantification methods in the GHG Assessment, which are based upon the regulatory guidance above.

2.2 Assessment Boundary

The assessment boundary is confined to emissions resulting from the operation of the Project including emissions from:

- Fuel usage from vehicles and equipment; and
- Electricity usage from site office and all treatment processes mentioned in Section 1.2.

Emissions excluded from the assessment include Scope 3 emissions associated with the delivery of the waste to the Project. These emissions are excluded because the delivery trucks are not owned, nor operated, by the Proponent.

Emissions from the construction of the Project have not been quantified herein, the scale of the construction in comparison to the operation of the Project is considered insignificant. Construction of the Project comprises minor demolition, minor earthworks and minor building modifications completed over a duration of less than 4 months. Equipment necessary for the construction of the Project would include short-term use of compaction equipment, backhoes, excavators, rollers, truck, concrete pumping equipment, air compressors, concrete vibrators and saws, mobile cranes and welders.

2.3 GHG Emission Assessment

2.3.1 Emission sources

GHG emissions for the Project are categorised into Scope 1 and 2 emissions. Scope 1 emissions include GHG emissions from the following diesel operational machines:

- 1 x 12 tonne excavator used for sediment and sludge treatment and bulk soils treatment;
- 1 x front end loader used for chemical oxidation treatment;
- 1 x 6-8 tonne dump truck used for chemical oxidation treatment;
- 1 x high shear mixer (Roterra or similar) used for chemical oxidation treatment and bioremediation;
- 1 x mobile screen for waste separation;
- 1 x forklift for waste handling.

Scope 2 emissions include the following electric machines, equipment and staff:

- Bioremediation - pumping system and aeration equipment;
- 1 x mobile shredder;
- Wastewater treatment plant;
- Drill mud plant;
- 4 x ventilation fans;
- 1 x compressor;
- 30 x operational staff.

2.3.2 Emission factors

Emission factors used in the current assessment are sourced from Schedule 1, Part 3 of the NGER (Measurement) Determination 2008 (diesel fuel) and Part 6 of the NGER (Measurement) Amendment (2019 update) Determination 2019 (electricity, NSW). Table 1 and Table 2 outline the emission factors used herein.

Table 1: Emission factors for liquid fuel combustion for Scope 1 emissions.

Fuel combusted	Energy content factor (GJ/kL)	Emission factor (kg CO _{2-e} /GJ)		
		CO ₂	CH ₄	N ₂ O
Diesel oil	38.6	69.9	0.1	0.2

Table 2: Emission factor for purchased electricity from the grid for Scope 2 emissions.

State	Emission factor (kg CO _{2-e} /kWh)
New South Wales	0.81

2.3.3 Activity Levels

Table 3 summarizes fuel consumption by diesel-fueled vehicles and plant. Daily and annual fuel consumption by each source is based on a conservative estimate of 11 operating hours per day, 365 days per year. Total annual diesel fuel consumption is estimated at 285 kilolitres (kL). GHG emissions from the combustion of diesel fuel are based on the emissions factors summarized in Table 1.

Table 4 summarizes electricity consumption by plant and other Project support infrastructure. Each piece of electric equipment is assumed to consume its full power load (in kW) for 11 hours per day, 365 days per year (i.e., 4015 hrs/yr). The exception is the Strobic ventilation fans. One fan is assumed to run 24 hours per day, 365 days per year (8760 hr/yr), while the other fans are assumed to operate for 11 hours per day, 365 days per year (2 x 4015 hr/yr). GHG emissions from the consumption of electricity are based on the emissions factor summarized in Table 2.

Table 3: Scope 1 (diesel combustion) source activity level summary.

Vehicle/Plant	Daily Operating Hours (hours)	Annual Operating Hours (hours)	Fuel Consumption (L/hour)	Annual fuel consumption (kL)	Annual Emissions (t CO ₂ e)
1 x 12T excavator	11	4,015	28	112	305
1 x front end loader	11	4,015	9	36	98
1 x 6-8 T dump truck	11	4,015	6	24	65
1 x forklift	11	4,015	3	12	33
1 x Roterra	11	4,015	9	36	98
1 x mobile screen	11	4,015	16	64	174
Total				285	772

Table 4: Scope 2 (electricity) source activity level summary.

Vehicle/Plant	Unit Power (kW)	Annual Energy Consumption (kWh/year)	Annual Emissions (t CO ₂ e)
Bioremediation Pumping system and aeration equipment	5	20,075	16
1 x mobile shredder	20	80,300	65
Wastewater treatment plant	200	803,000	650
Drill Mud Plant	150	602,250	488
Dust Collector	110	441,650	358
Strobic Fans (3)	75 (each)	1,259,250	1020
Compressor	75	301,125	244
Business Operations (30 staff)		31,858*	26
Total		3,539,508	2,867

*scaled based on annual electricity consumption at Hi Quality's facility in Yatala, QLD.

2.3.4 Emissions Summary

NGER Emissions and Energy Threshold Calculator 2019-20 was used to calculate the total Scope 1 and Scope 2 emissions for the operational phase of the Project. Table 5 summarizes the Scope 1 and 2 emissions and their total.

Total annual GHG emissions for the proposed Project are less than 25,000 t CO₂e/hr and therefore do not meet the NGER facility-level reporting threshold; i.e., annual GHG reporting for this facility will not be required.

Table 5: Estimated annual GHG emissions by NGER Energy Threshold Calculator 2019-20

Type	GHG emissions (t CO ₂ -e)
Scope 1 (diesel combustion)	772
Scope 2 (NSW electricity consumption)	2,867
Total	3,639

3.0 GHG MITIGATION OPPORTUNITIES

Scope 1 and Scope 2 emissions estimated in this assessment are caused by operational machinery, plant and staff. Energy consumption can be limited by the following mitigation measures:

- Use of fuel-efficient machinery, equipment and plant.
- Consider energy rating when purchasing new machinery and equipment.
- Implementing a maintenance plan for fuel and electricity powered machinery and equipment.
- Training to and implementing energy conservation practices by all staff.
- Use of solar energy.

4.0 CONCLUSION

A GHG assessment has been undertaken for the project. The assessment considers Scope 1 emissions from the combustion of diesel fuel by equipment and plant owned and operated by the proponent. The assessment also considers Scope 2 emissions from the consumption of electricity sourced from the NSW grid. The assessment excludes Scope 3 emissions associated with the transport of waste to the Project.

Total annual GHG emissions from the Project are estimated at 3,639 t CO₂e/year. These emissions do not meet the NGER facility-level reporting threshold; i.e., annual GHG reporting for this facility will not be required.

Signature Page

Golder Associates Pty Ltd



Udeshini Pathirage
Geo-Environmental Engineer



Cameron S. McNaughton, PhD, CAQP, CPEng
Principal Air Quality Consultant

UP/CMc/up:jem

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APPENDIX A

**Important Information Relating to
this Report**

The document ("Report") to which this page is attached and which this page forms a part of, has been issued by Golder Associates Pty Ltd ("Golder") subject to the important limitations and other qualifications set out below.

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Having regard to the matters referred to in the previous paragraphs on this page in particular, carrying out the Services has allowed Golder to form no more than an opinion as to the actual conditions at any relevant location. That opinion is necessarily constrained by the extent of the information collected by Golder or otherwise made available to Golder. Further, the passage of time may affect the accuracy, applicability or usefulness of the opinions, assessments or other information in this Report. This Report is based upon the information and other circumstances that existed and were known to Golder when the Services were performed and this Report was prepared. Golder has not considered the effect of any possible future developments including physical changes to any relevant location or changes to any laws or regulations relevant to such location.

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By date, or revision, the Report supersedes any prior report or other document issued by Golder dealing with any matter that is addressed in the Report.

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APPENDIX P

Capital Investment Value Report



Mitchell Brandtman

5D Quantity Surveyors & Construction Expert Opinion

CIV Cost Estimate

**Preston Waste Treatment Facility
9 Whyalla Place Preston NSW**

Prepared for:

Hi-Quality Group

Contact:

Phone:

Email

Date:

Issue:

Adam Arden

02 9541 8000

aarden@mitbrand.com

1st June 2021

2.0



1 Introduction

As requested, we have prepared Capital Investment Value (CIV) Cost Estimates for the proposed 2 stage extension to the Preston Waste Treatment Facility located at 9 Whyalla Place Preston based upon the available documentation and advice from SBA Architects. The CIV estimate has been calculated in accordance with the clause 245(N) of the Environmental Planning and Assessment Regulation 2000 and NSW Government Planning Circular dated 10 May 2010.

CIV Cost Estimates (based on current market rates)

Description	Stage 1	Stage 2	Totals
Total Estimated Capital Investment Value as at May 2021 (Excl GST)	\$2,995,326.00	\$3,380,614.00	\$6,375,940.00
Total Estimated Capital Investment Value as at May 2021 (Incl GST)	\$3,294,859.00	\$3,718,675.00	\$7,013,534.00

This CIV cost estimates includes demolition and the following components of the proposed development which we have apportioned to the stages.

Stage 1	Stage 2
New Works Gross Floor Area (GFA) 423m²	New Works Gross Floor Area (GFA) 1,096m²
Extension to existing warehouse	Extension to existing warehouse
Wheel wash	New electrical and sprinkler valve room
3 no weighbridges	New water tanks
New gates and fencing	Mobile plant
Mobile plant	Waste water treatment plant

The Gross Floor Areas have been measured from the available drawings.



2 Main Summary of Construction Costs

As requested, we have reviewed the available documentation in order to express an opinion regarding an achievable construction budget for the works presented.

Description	Stage 1	Stage 2
Demolition	\$71,529.00	\$41,222.00
Building Structure	\$156,002.00	\$406,000.00
Building Envelope	\$125,500.00	\$213,038.00
Internal Walls & Doors	\$316,193.00	\$195,826.00
Finishes & Fitments	\$40,460.00	\$61,235.00
Building Services	\$1,064,934.00	\$775,140.00
Weighbridges	\$420,000.00	N/A
External Works & Fencing	\$131,820.00	\$33,250.00
Preliminaries	\$279,172.00	\$207,085.00
Subtotal	\$2,605,610.00	\$1,932,796.00
Overheads & Margin	\$130,280.00	\$96,641.00
Design & Development Application/ Construction Certificate & Professional Fees	\$109,436.00	\$81,177.00
Total Construction Cost	\$2,845,326.00	\$2,110,614.00
Mobile Plant	\$150,000.00	\$270,000.00
Waste Water Treatment Plant	N/A	\$1,000,000.00
Total Estimated Capital Investment Value as at April 2021 (Excl GST)	\$2,995,326.00	\$3,380,614.00
GST	\$299,533.00	\$338,061.00
Total Estimated Capital Investment Value as at April 2021 (Incl GST)	\$3,294,859.00	\$3,718,675.00



The above CIV estimates of the project includes all costs necessary to estimate and operate the project, including the design and construction of infrastructure and fixed or mobile plant equipment (but excludes land cost).

The costs are inclusive of builders work, labour, materials and plant, preliminaries, profit and overheads and consultant's fees.

We note that the estimate should be considered as indicative only at this stage for the purposes of preparing the CIV for a submission of a DA to the Department of Planning, Industry and Environment.

Refer to Attachments for further details of our cost estimates.

3 Documentation

The following documents/drawings have been used in the preparation of this cost estimate:

The following drawings prepared SBA Architects;

Drawing No	Description	Revision
DA 100	Site Plan	P7
DA110	Roof Plan	P4
DA200	Elevations & Sections	P4

- Email from Hi-Quality Group dated 15 March 2021
- Golder Conceptual Layout drawing F001

4 Exclusions

The following exclusions have been made in the preparation of this CIV estimate

- Escalation from May 2021
- Leased mobile plant
- Loose furniture, equipment & fitout.
- Land costs including legal fees and stamp duty.
- Interest, holding costs & finance costs.
- Works beyond site boundaries.
- Decontamination or remediation works.
- Long service levy.
- Statutory fees and charges and contributions.
- Contingency



5 Assumptions

The following assumptions have been made in the preparation of this CIV estimate:

- The estimate is also based on a reasonable construction period and standard working hours, with no allowances made for acceleration costs, overtime and the like.
- No allowance has been made for fit-out works to occupant's requirements.
- The estimate is based on unrestricted access to the site
- Work will be tendered on a competitive basis

6 Qualifications

We note that the above estimate is based on preliminary design information and other information including floor areas supplied by Hi-Quality Group and therefore have made a number of assumptions in respect of the project requirements which may change as the design develops. We recommend a full detailed assessment be carried out as the design documentation progresses.

This budget has been prepared for the purposes of a CIV submission only. The use of this budget for Sales or Marketing purposes is strictly prohibited.

Yours Sincerely

MITCHELL BRANDTMAN

Adam Arden
Senior Consultant

Member Australian Institute of Quantity Surveyors
Membership No 7476

Attachment 1 – CIV Cost Estimate Stage 1

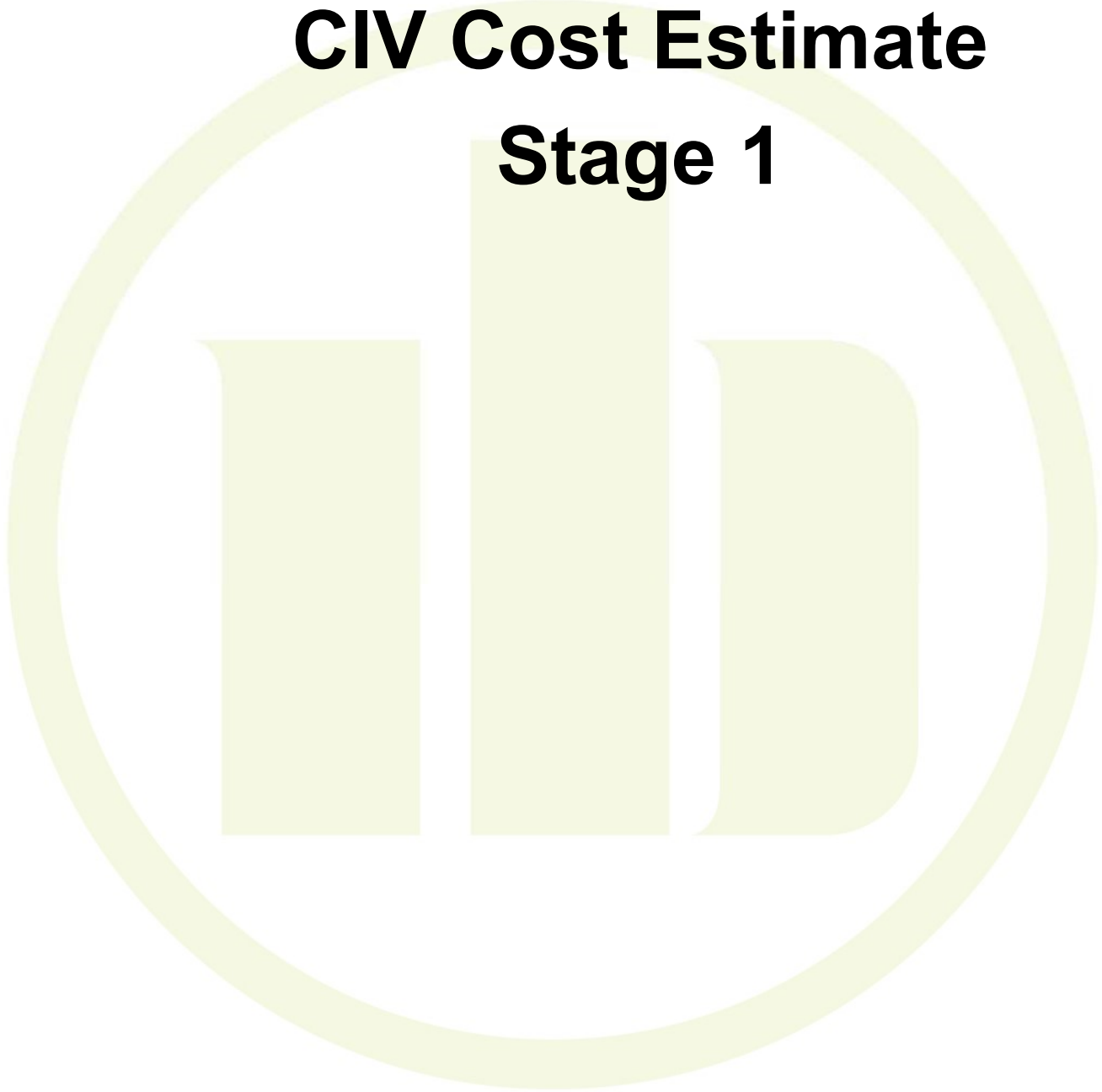
Attachment 2 – CIV Cost Estimate Stage 2



Attachment 1

CIV Cost Estimate

Stage 1



Trade Summary

Project: 29140 - 9 Whyalla Place, Preston

Details: 29140 - 9 Whyalla Place, Preston - Stage 1

Building: 29140 - 9 Whyalla Place, Preston

Code	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Construction Cost Summary Stage 1							
SB	Substructure	423	m2	105	44,352		44,352
CL	Columns	423	m2	50	21,150		21,150
UF	Upper Floors	423	m2	0	0		Excl
SC	Staircases	423	m2	0	0		Excl
RF	Roof	423	m2	236	100,000		100,000
EW	External Walls	423	m2	214	90,500		90,500
WW	Windows - Included in EW	423	m2	0	0		Excl
ED	External Doors	423	m2	60	25,500		25,500
NW	Internal Walls	423	m2	740	313,000		313,000
NS	Internal Screens	423	m2	8	3,192		3,192
ND	Internal Doors	423	m2	0	0		Excl
WF	Wall Finishes	423	m2	66	27,770		27,770
FF	Floor Finishes	423	m2	15	6,345		6,345
CF	Ceiling Finishes	423	m2	0	0		Excl
FT	Fitments, Fittings & Joinery	423	m2	15	6,345		6,345
SFT	Weighbridges	423	m2	993	420,000		420,000
SF	Sanitary Fixtures - Included in PD	423	m2	0	0		Excl
PD	Hydraulics	423	m2	218	92,300		92,300
VE	Ventilation	423	m2	2,012	851,259		851,259
AC	Air Conditioning	423	m2	0	0		Excl
FP	Fire Protection	423	m2	65	27,495		27,495
LP	Electric Light and Power	423	m2	222	93,880		93,880
XP	Demolition & Site Preparation	423	m2	169	71,529		71,529
XR	Roads, Footpaths, Paved Areas	423	m2	120	50,851		50,851
XL	Landscaping & Improvements	423	m2	24	10,000		10,000
XN	Boundary Walls, Fencing, Gates	423	m2	168	70,969		70,969
PR	Preliminaries	423	m2	660	279,172		279,172
	Subtotal	423	m2	6,160	2,605,610		2,605,610
BM	Builder's Overheads & Margin	423	m2	308	130,280		130,280
YY	Design & Development Application/ Construction Certificate & Professional Fees	423	m2	259	109,436		109,436
	Total Construction Cost	423	m2	6,727	2,845,326		2,845,326
	Mobile Plant	1	item		150,000		150,000
	Total Estimated Capital Investment Value as at May 2021 (Excl GST)	423	m2	7,081	2,995,326		2,995,326
	GST	1	item		299,533		299,533
	Total Estimated Capital Investment Value as at May 2021 (Incl GST)	423	m2	7,789.26	3,294,859		3,294,859



Attachment 2

CIV Cost Estimate

Stage 2



Trade Summary

Project: 29140 - 9 Whyalla Place, Preston

Details: 29140 - 9 Whyalla Place, Preston - Stage 2

Building: 29140 - 9 Whyalla Place, Preston

Code	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Construction Cost Summary Stage 2							
SB	Substructure	1,096	m2	94	103,488		103,488
CL	Columns	1,096	m2	50	54,800		54,800
UF	Upper Floors	1,096	m2	0	0		Excl
SC	Staircases	1,096	m2	0	0		Excl
RF	Roof	1,096	m2	182	200,000		200,000
EW	External Walls	1,096	m2	231	252,750		252,750
WW	Windows - Included in EW	1,096	m2	0	0		Excl
ED	External Doors	1,096	m2	7	8,000		8,000
NW	Internal Walls	1,096	m2	162	177,250		177,250
NS	Internal Screens	1,096	m2	8	8,576		8,576
ND	Internal Doors	1,096	m2	9	10,000		10,000
WF	Wall Finishes	1,096	m2	26	28,355		28,355
FF	Floor Finishes	1,096	m2	15	16,440		16,440
CF	Ceiling Finishes	1,096	m2	0	0		Excl
FT	Fitments, Fittings & Joinery	1,096	m2	15	16,440		16,440
SF	Sanitary Fixtures - Included in PD	1,096	m2	0	0		Excl
PD	Hydraulics	1,096	m2	126	137,880		137,880
VE	Ventilation	1,096	m2	375	411,000		411,000
AC	Air Conditioning	1,096	m2	0	0		Excl
FP	Fire Protection	1,096	m2	86	94,740		94,740
LP	Electric Light and Power	1,096	m2	120	131,520		131,520
XP	Demolition & Site Preparation	1,096	m2	38	41,222		41,222
XR	Roads, Footpaths, Paved Areas	1,096	m2	21	23,250		23,250
XL	Landscaping & Improvements	1,096	m2	9	10,000		10,000
XN	Boundary Walls, Fencing, Gates	1,096	m2	0	0		Excl
PR	Preliminaries	1,096	m2	189	207,085		207,085
	Subtotal	1,096	m2	1,764	1,932,796		1,932,796
BM	Builder's Overheads & Margin	1,096	m2	88	96,640		96,640
YY	Design & Development Application/ Construction Certificate & Professional Fees	1,096	m2	74	81,177		81,177
	Total Construction Cost	1,096	m2	1,926			2,110,614
	Mobile Plant	1	item		270,000		270,000
	Waste Water Treatment Plant	1	item		1,000,000		1,000,000
	Total Estimated Capital Investment Value as at May 2021 (Excl GST)	1,096	item	3,085	3,380,614		3,380,614
	GST	1	item		338,061		338,061
	Total Estimated Capital Investment Value as at May 2021 (Incl GST)	1,096	m2	3,392.95	3,718,675		3,718,675