CARNARVON
PILOT HORTICULTURAL PROCESSING FACILITY
CONCEPT DESIGN

5 September 2018

FUNDAMENTAL DESIGN PRINCIPLES

1. A standalone operation also capable of being integrated to the Gascoyne Gold existing grading operation subject to a suitable arrangement between the GDC, the Gascoyne Primary Producers and GG.

2. A clear traffic and access separation between staff/visitors and logistics supplying or dispatching products in and out.

3. The committed aspiration to rely on an off-grid carbon-free energy supply based on roof mounted photovoltaic panels and lithium battery storage.

4. A flexible construction system allowing for the cost-effective adaptation to a range of processes and equipment together with the expansion of the facility over time.

5. Compliance with health and food standards and regulations in force and the ability for the out-going products to suitably access domestic, national and international markets.

6. Sufficient capacity to handle existing and prospective supply of selected seconds products

OFF-GRID SOLAR POWER SUPPLY

BENEFITS

- Maximum "decarbonisation" of the operation from the outset;

- Solar equipment CapEx partly offset again Horizon Power connection costs;

- Energy cost neutral within approximately seven years;

- Significant reduction of operating costs that can be passed on to growers and

- Measurable demonstrated energy savings for other Carnarvon businesses.

SYSTEM CHARACTERISTICS

- 900 x 330 Watts roof-mounted photovoltaic panels – 297 kW output

- 9 x 48 kW Tesvolt lithium batteries – 432 kW capacity

SUPPORTING DESIGN FEATURES

- Maximum 200mm thermal insulation (R 9.1) for freezers & cool rooms

- 150mm thermal insulation (R 7.1) for all other walls

- Systematic capture of natural lighting with high vacuum double blazed windows

- East & West facades set 7m inward from roof line to minimise direct sun heat load

GASCOYNE GOLD SITE
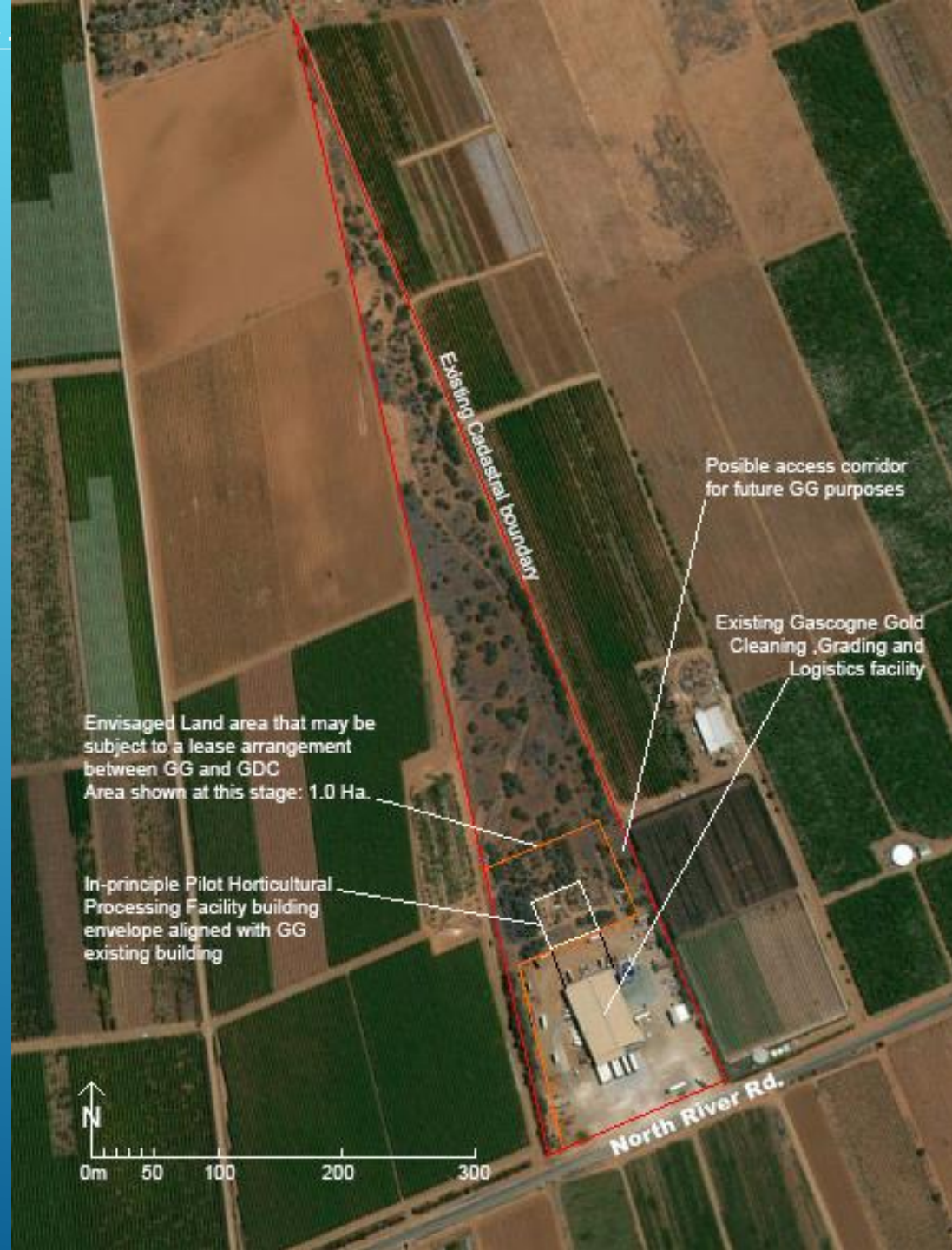
ACCESS, PARKING & GENERAL LAYOUT

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Gascogne Gold property boundary

N

Scale

0m | 10 | 20 | 30 | 40 | 50

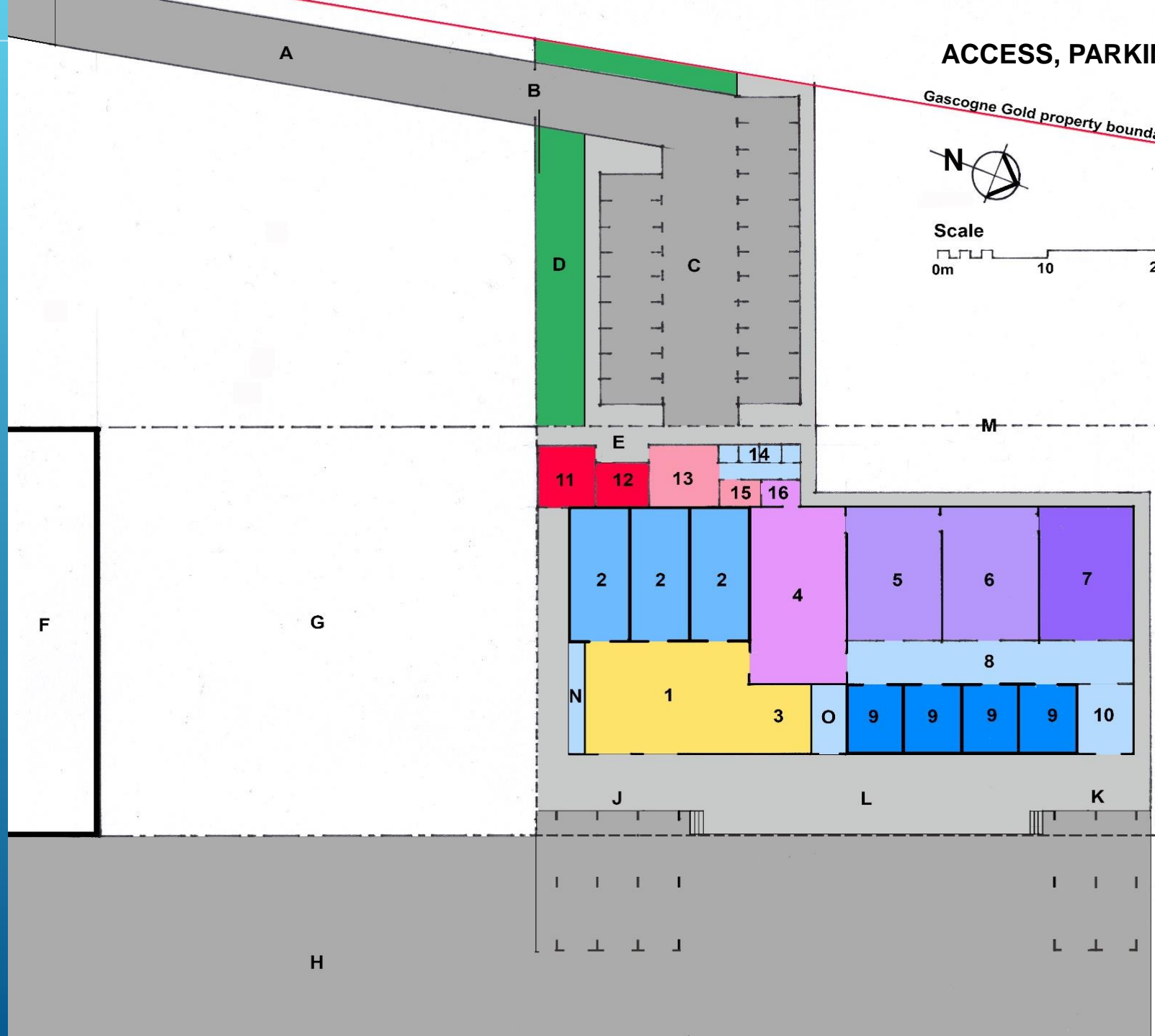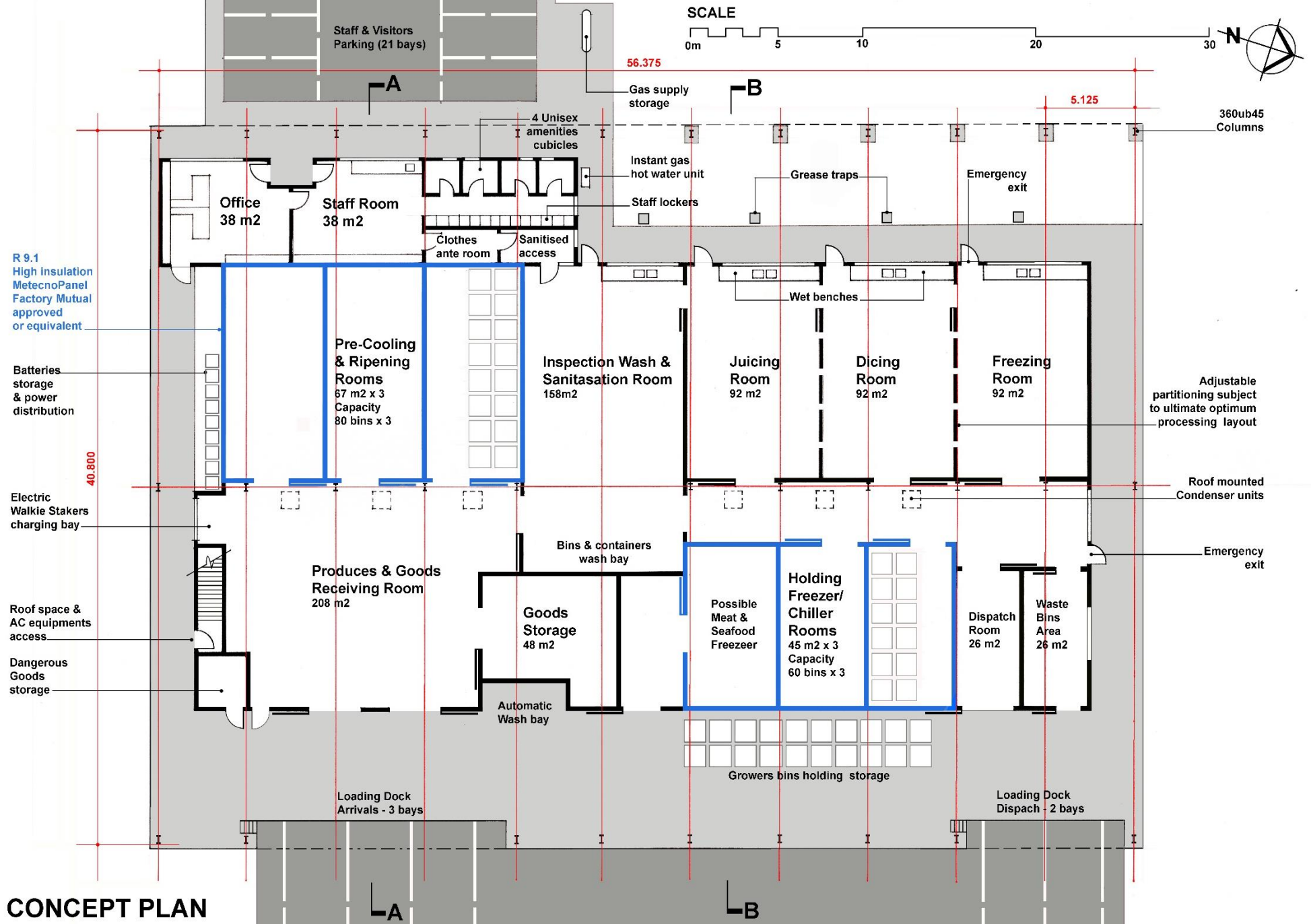**Legend**

A Light vehicles access
B Controlled gate
C Carpark - Staff & Visitors - 21 bays
D Landscaping
E Staff & visitors entry
F Gascoyne Gold existing shed
G Gascoyne Gold possible shed extension
H Heavy vehicles access
J Off loading - 3 bays
K On loading - 2 bays
L External bins storage
M Edge of roof
N Electrical storage & roof space access
O Dangerous goods store

1 Receiving rom
2 Pre-cooling & ripening rooms - (3 Nos)
3 Dry goods & packaging storage
4 Inspection & wash/sanitasation room
5 Processing module - Juicing & purees
6 Processing module - Dicing
7 Freezing, weighing, X ray & labelling
8 Circulation
9 Holding freezers - (4 Nos)
10 Dispatch room

11 Office
12 Meeting rom
13 Staff room
14 Unisex cubicles with shower - (4 Nos)
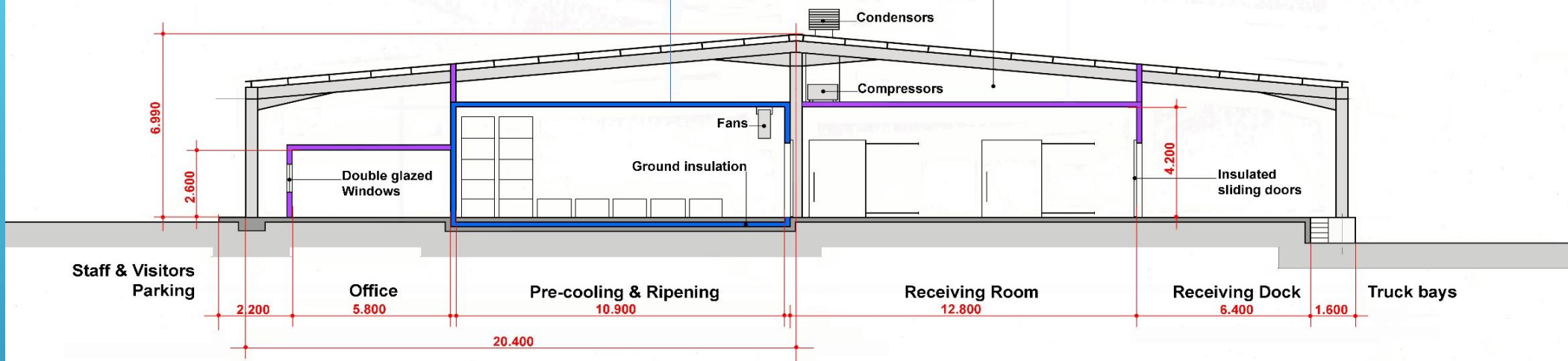15 Shoes & clothes ante room
16 Sanitised access room

CONCEPT PLAN

SCALE
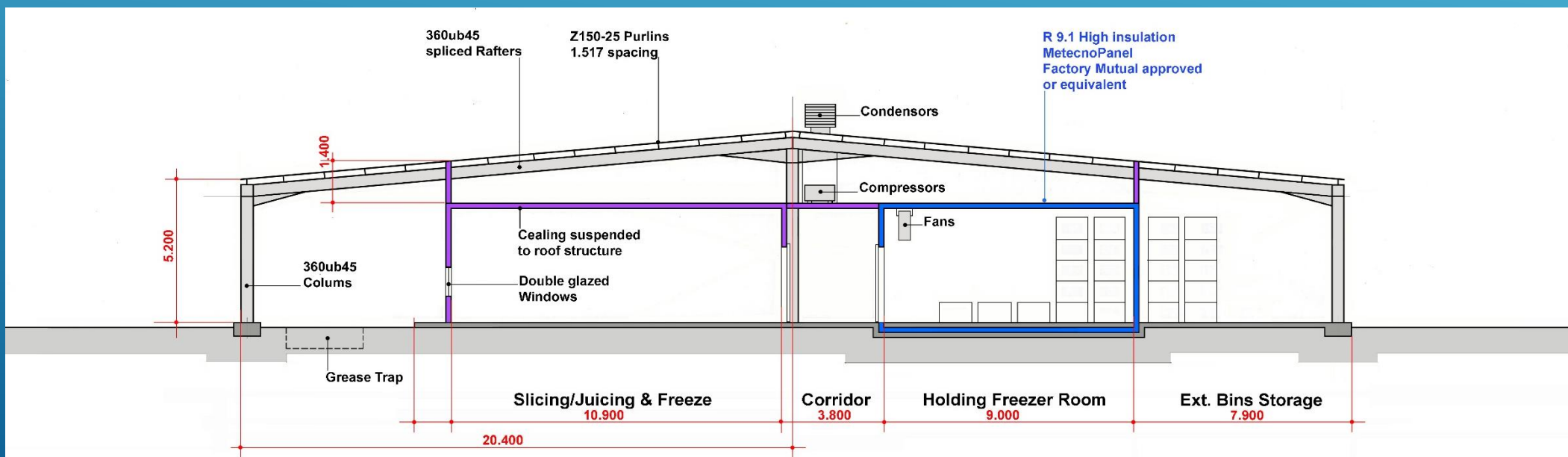0m   5   10   20   30

N

56.375

5.125

360ub45 Columns

Staff & Visitors Parking (21 bays)

A

B

Gas supply storage

4 Unisex amenities cubicles

Instant gas hot water unit

Grease traps

Emergency exit

Staff lockers

Office 38 m2

Staff Room 38 m2

Clothes ante room

Sanitised access

Wet benches

R 9.1 High insulation MetecnoPanel Factory Mutual approved or equivalent

Batteries storage & power distribution

Pre-Cooling & Ripening Rooms 67 m2 x 3 Capacity 80 bins x 3

Inspection Wash & Sanitasation Room 158m2

Juicing Room 92 m2

Dicing Room 92 m2

Freezing Room 92 m2

Adjustable partitioning subject to ultimate optimum processing layout

40.800

Electric Walkie Stakers charging bay

Roof mounted Condenser units

Emergency exit

Bins & containers wash bay

Produces & Goods Receiving Room 208 m2

Goods Storage 48 m2

Possible Meat & Seafood Freezeer

Holding Freezer/ Chiller Rooms 45 m2 x 3 Capacity 60 bins x 3

Dispatch Room 26 m2

Waste Bins Area 26 m2

Roof space & AC equipments access

Dangerous Goods storage

Automatic Wash bay

Growers bins holding storage

Loading Dock Arrivals - 3 bays

Loading Dock Dispach - 2 bays

A

B

SECTION AA

SECTION BB

EAST ELEVATION

Dangerous Goods | Loading Dock - ARRIVALS | Bins wash bay | Ext. Freezer access | Holding Freezers/Chillers 3(Nos) | Loading Dock - DISPATCH

WEST ELEVATION

Freezing Room | Dicing Room | Juicing Room | Sanitasation Room | Staff amenities | Staff Room | Staff /Visitors access | Office

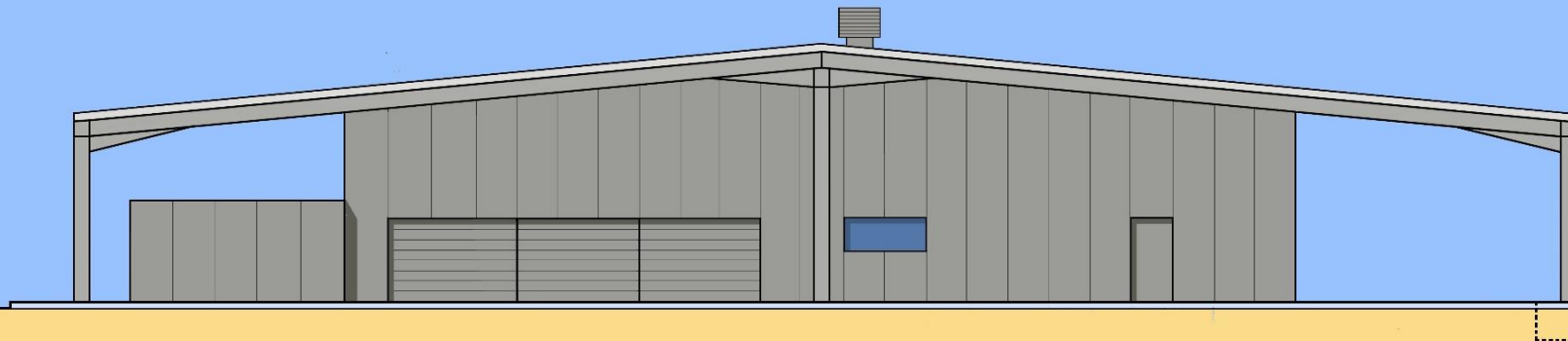Calmy Planning & Design

NORTH ELEVATION

Dispatch Dock &
Growers Bins holding storage

Waste Bins Cubicle

Emergency Exit
Central corridor

Freezing Room

SOUTH ELEVATION

Office

Batteries bank &
Power Distribution

Walking Stakers
charging bay

Roof space
access

Arrivals Dock

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