Edmiston Jones

VISUAL IMPACT ASSESSMENT

Statement of Visual Impact for
Ethanol Distillery Heat Recovery Project
Bomaderry

Date: 9 March 2026

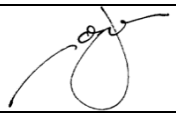
Reference: 25-0022

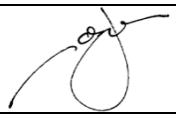
Address and property description:
171 Bolong Road, Bombaderry NSW 2541
Lot 243 DP1309744

Prepared By:
Mark Jones of Edmiston Jones

For:
Allen Price

REVISION	DATE	DESCRIPTION
A	6 March 2026	• Final Draft for Client Review
B	9 March 2026	• Final Copy Following AP Review

Prepared By:	Mark Jones	Signed:
Position:	Executive Director	
Date:	9 March 2026	

Updated and Approved By:	Mark Jones	Signed:
Position:	Executive Director	
Date:	9 March 2026	

WOLLONGONG
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NOWRA
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BATEMANS BAY
T 02 4472 7388

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1. INTRODUCTION

Edmiston Jones has been engaged by Allen Price to prepare a Visual Impact Assessment (VIA) for a proposed Ethanol Distillery Heat Recovery Facility and associated works at Bolong Road, Bomaderry NSW. The VIA supports Allen Price's Modification Report (September 2025) for the proposed Modification Application (Mod 31) to MP06_0228 Shoalhaven Starches Expansion Project.

To understand what the visual impact of the Ethanol Distillery Heat Recovery Facility is likely to be, this assessment has considered the Development Application (DA) drawings prepared Manildra by (Appendix A) and the base Revit model prepared by Edmiston Jones that those drawings have been generated from. Photomontages of the proposed development within the existing context are included as Appendix B. Appendix C documents the Terms and Definitions used in this assessment.

Figure 1. Development Site and Gantry Location (Nearmap image)

1.1 Background

Allen Price in conjunction with Shoalhaven Starches is seeking development consent to construct an Ethanol Distillery Heat Recovery Project and associated works including a gantry bridge for services. Importantly, the bridge also eliminates a current safety risk providing a safe route for Manildra Workers to cross Bolong Road.

1.2 The Project

As noted in the Allen Price Modification (Mod 31) Report (dated September 2025), Shoalhaven Starches Expansion Project will increase ethanol production at the Bomaderry plant in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, this project required a series of plant upgrades and increase in throughput of raw materials, principally flour and grain.

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The modification to the current approval seeks to undertake a suite of heat recovery upgrades enabling infrastructure that will deliver a transformative, immediate and ongoing reduction in Scope 1 emissions of 95,226t CO2-e/pa (~25% based on 2023 emissions) and introduce mechanical vapour recompression technology enabling infrastructure to the beverage-grade ethanol distillery. In addition, reconfiguring and consolidating the distillation column for increased efficiency, including replacing an aging heat exchanger, will provide heat recovery for fuel grade ethanol. The modification proposal will not result in increases in production rates from the site.

The Modification Application is supported by drawing prepared by Manildra Appendix A. and renders prepared by Edmiston Jones included as Appendix B.

1.3 Purpose of This Report

The purpose of this report is to determine the visual impact, if any, of the proposed Ethanol Distillery Heat Recovery plant when viewed from the assessed receptor points within a reasonable visual catchment. This report is intended to be used as a reference document in the development assessment process to determine if this development meets the relevant objectives of the Shoalhaven DCP (Development Control Plan) and NSW State Planning Guidelines in terms of its anticipated visual impact as a State Significant Development (SSD).

The VIA process is a tool used to identify and assess how development changes affect both the landscape and people's visual experiences, including their visual amenity and views. It helps determine the significance of these impacts on the surrounding environment and community. Where appropriate, the report recommends mitigation methods if a visual impact is found to be in the medium-high or high range of the assessment.

1.4 Methodology

The VIA for this Industrial development proposal is based on the following methodology.

1. Site assessment and analysis of existing conditions including history, views, visual catchments and landscape values.
2. Background review and understanding of the proposed development with an analysis of built form and relationship to the DCP/SEPP in terms of visual impact considerations.
3. Contextual analysis of the site in relation to its community connection and history.
4. Analysis and evaluation of existing landscape/ streetscape character values and the proposal's impact on those values including the sensitivity and magnitude of change.

The visual impact from adjacent road corridors is assessed considering static (generally long term) and mobile (generally short term) receptors. The impact varies based on the type of receptor.

- Static receptors are people with views from their dwellings or places of work.
- Mobile receptors include commuters, shoppers, pedestrians.

This assessment was based on site visits during December 2025 which allowed evaluation of the site from varying receptor viewpoints and from within the site outward to identify potential impacted receptors. A desktop analysis followed as part of the site assessment.

Photography for photomontages was undertaken using a Canon EOS R8 full frame mirrorless camera with a 50mm lens.

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2. CONTEXTUAL ANALYSIS

2.1 Landscape Context

The adjacent landscape is open paddocks of remnant dairy farmland with distant views of the escarpment beyond. There is a distributed backdrop of mature trees within the subject site.

The landscape context for the proposed development is an irregular placement of street trees within the road verge in the approach to the site from the east. The southern side of Bong Road, just to the east of the development site, benefits from a line of mature trees providing a green screen to the industrial structures. Scattered trees on the northern side of Bolong Road provide intermittent visual relief.

Approaching a site from Bomaderry to the west, the visual landscape is dominated by industrial structures with intermittent mature trees interspersed amongst the low-level buildings.

2.2 Built Form Character

The built form character of the existing context is that of a large industrial buildings, processing plant, storage structures and associated infrastructure. Heights of the various constructed elements vary significantly across the complex. The cylindrical built forms with exposed pipework, all in a reflective metal, provide a level of detail to the industrial complex that has an appealing visual aesthetic. There is an honesty in the dramatic structures that display their function.

2.3 Network Context

The site is bordered by Bolong Road to the south which is a dual lane asphalt route that takes travellers and commuters towards the coast from Nowra or alternatively from the Kiama region along the coast towards Nowra. Bolong road has a 60km/hr speed limit adjacent to the site.

To the east of the site a railway line servicing the Manildra group crosses Bolong Road.

2.4 Land Use & Regulatory Context

The current land use of the proposed site, as noted in the Allen Price Modification Report, is that:

The Shoalhaven Starches factory complex is situated upon various allotments of land along Bolong Road, Bomaderry, within the Shoalhaven local government area. The Shoalhaven Starches factory site is located on the southern side of Bolong Road on the northern bank of the Shoalhaven River with some operations located on the northern side of Bolong Road. The Shoalhaven Starches factory site (excluding the former Dairy Farmers and former Australian Paper Mill (APM) sites) has an area of approximately 12.5 hectares. ….. This Modification Proposal primarily involves works to be carried out on the Shoalhaven Starches Factory site.

Allen Price note that, *the regulatory context of this proposal is primarily based on its state significant development status however a review of the Shoalhaven DCP – Industrial Section 5.3 Building & Site Design, notes that visual elements should be introduced to reduce the bulk, height and scale of the building. The acceptable Solution for achieving this performance criteria is to provide landscaping that softens the building/site when viewed from public roads and provides a landscaping buffer where an industrial area is adjacent to residential areas.*

In addition, landscaping should be provided between the front boundary and the building line and be a minimum of 1m in width not including kerbs or borders. This should be made up of deep soil plantings, low maintenance planting and low water use species. The existing mature vegetative screen of Eucalyptus and Casuarina species already meets these criteria and therefore satisfies the DCP requirements in relation to the visual bulk and scale of the proposal.

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2.5 Historical context

Major development phases of the site are early agricultural processing (1900–1912); Industrial (paper mill in 1950s–2015) and Food and bio-industries (Manildra Group from 1960, ethanol in 1991).

The following key points in history illustrate the changes in the immediate area from indigenous habitation and management to colonial habitation and management. The name Bomaderry is derived from the Aboriginal word for "fighting ground" or "running water".

1858: Alexander Berry built a road from the Coolangatta Estate, incorporating Bomaderry into his Shoalhaven Estates.

1882: Bomaderry township formally established.

1889: David Berry dies; Shoalhaven Estate divided.

1892: Hundreds of blocks west of the railway offered for sale.

1893: Railway extension from Sydney via Kiama opens, spurring town growth and attracting businesses.

1900: Denham Bros. build a bacon and ham factory.

1901: Condensed milk factory opens (first near railway, later moved near Shoalhaven River/Bolong Road).

1912: Nowra Co-op Dairy Company opens milk depot.

1950s: £10 million paper mill begins operating, making security-grade paper (e.g. passports, birth certificates). Mill closes August 2015; site bought by Manildra Group.

1960: Manildra Group establishes Shoalhaven Starches site: Starch and gluten plant, glucose plant, and flour mill

1991: Ethanol production begins at Shoalhaven Starches. Manildra builds railway siding for product transportation.

The historical air photo below shows the site being used for agricultural purposes in 1969.

Figure 2. The site shown in red outline 1969 Air Photo (NSW Government Historical Imagery)

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3. ASSESSMENT OF PROPOSAL

3.1 Viewpoints

Eight (8) viewpoints have been identified as the key receptor locations for this assessment and are identified on the plan below. Six (6) are based along Bolong Road (Mobile receptors) as no adjacent residences are judged as being potentially impacted by the proposal and the immediate area is rural paddocks or industrial structures. (Receptor Points B1-W, B2-W, B3-W, B1-E, B2-E and B3-E). Two (2) are located within Bomaderry at vantage points noted as Meroo and Birriley. Each location has a photographic image taken looking towards the site. The existing view is compared to a photomontage showing the proposed development.

Figure 3. Viewpoint Locations

3.2 Measuring Impact

The RMS Guideline for Landscape Character & Visual Impact Assessment 2018 is one resource by which the visual impact is assessed. Impact is measured by assessing its sensitivity and the magnitude of change which is expressed as per the rating table below.

Sensitivity	Magnitude: High	Moderate	Low	Negligible
High	High	High-Moderate	Moderate	Negligible
Moderate	High-Moderate	Moderate	Moderate-low	Negligible
Low	Moderate	Moderate-low	Low	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Figure 4. Visual impacts rating table (RMS Guideline for Landscape Character & Visual Impact Assessment 2018)

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The Australian Institute of Landscape Architects Guidance Note for Landscape and Visual Assessment 2018 (AILA), has the following definitions for Sensitivity and Magnitude.

Sensitivity Level:
"Sensitivity refers to the qualities of an area, the number and type of receivers and how sensitive the existing character of the setting is to the proposed nature of change. For example, a pristine natural environment is likely to be more sensitive to a change of the nature of a four-lane motorway than a built-up industrial area. The design quality of the proposed development does not make the area less sensitive to change but instead affects the magnitude of the impact."

Magnitude of Impact:
"Magnitude refers to the physical scale of the project, how distant it is and the contrast it presents to the existing condition. For example, a large interchange would have a very different impact on landscape character than a localised road widening in the same area. A more distant bridge would have a lesser magnitude than one nearer to residents. A vegetated embankment facing a parkland would have less contrast than a retaining wall in the same location. Magnitude will also need to consider cumulative impact, which is a consideration of the result of the incremental impact of the proposal when added to other past, current and known likely future activity."

3.3 Assessment of the Proposed Works

Appendix B includes the photomontages of the proposed Heat Recovery Facility, and associated gantry bridge, from the eight (8) viewpoints noted in 3.1 above. The images of the proposed development are compared to the photograph of the existing context on which the montage is based. The following commentary assesses each viewpoint.

a) Birriley (Birriley Street)

Sensitivity Level: Low
The suburban area of Bomaderry is comprised of predominantly single storey residential dwellings. The landform in the vicinity of the viewpoint has a gentle slope to the east. The road network is dual carriageway asphalt surface with no street trees in this vicinity.
The only receptors are likely to be pedestrians as vehicles will not see the proposed facility.

Magnitude of Impact: Negligible
The images of the outlook from Birriley Street viewpoint demonstrate that the proposed heat recovery facility will have negligible visual impact when viewed from the township of Bomaderry. As illustrated by the photo montage, the proposed development is difficult to discern in the far distance.

Landscape Character Impact: Negligible
From Birriley Street, a glimpse of the heat recovery building seen through foliage and maintains a backdrop of existing trees. From this viewpoint the proposed structure does not break the skyline of the existing tree cover.

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b) Meroo (Meroo Street)

Sensitivity Level: Low

The Bomaderry commercial precinct is predominantly single storey buildings with some two-storey including the hotel behind this viewpoint. The landform in the vicinity of the viewpoint has a flat grade. The road network is dual carriageway asphalt surface with substantial, established trees in the street and the park across Meroo Street.

Pedestrians are the main receptors as vehicles in this vicinity will not see the proposed facility. Residents in the upper level of the hotel may get a distant view of the development.

Magnitude of Impact: Negligible

The view from Meroo Street provides a glimpse of the proposed structure sitting in scale with the existing industrial complex. The heat recovery unit is well below the height of existing industrial towers which focus a receptors attention on this view catchment.

The images of the outlook from this viewpoint demonstrate that the proposed heat recovery facility will have negligible visual impact when viewed from the township of Bomaderry. As illustrated by the photo montage from each vantage point, the proposed development is difficult to discern in the far distance.

Landscape Character Impact: Negligible

The established trees in the vicinity of this viewpoint will not be impacted by the development.
The character of the local streetscape will remain unchanged.

c) B3 - E Bolong Road – Looking West

Sensitivity Level: Low

Viewpoint B3-E is taken at a distance on the Bolong Road approach to the development site from the east. The context of this location is the transition from 100 km/h speed limit to the 60 km/h. The landform in the vicinity has a flat grade and the road network is dual carriageway asphalt surface with substantial, established street trees on the southern side of the road and to the north, pastures leading to an open car park.

The main receptors at this location are the drivers and passengers in vehicles as the verges do not have pedestrian paths and while joggers/dog walkers may use this route, they would be low in number. There are no residences in the vicinity that would constitute static receptors impacted by the proposed development.

Magnitude of Impact: high

The proposed Heat Recovery Building is dominant in the context rising above existing low level industrial buildings on the southern site of Bolong Road.

Landscape Character Impact: Moderate

While the established trees in the vicinity of this viewpoint will not be impacted by the development in the distance, the existing character will be changed by the proposed works as the new building is monolithic in form, lacking the detail and articulation of the industrial towers on the southern side of Bolong Road.

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d) B3 - W Bolong Road – Looking East

Sensitivity Level: Low

Viewpoint B3-W is taken at the railway crossing on the Bolong Road approach to the development site from the west and the adjacent context is single level industrial and commercial development. The landform in the vicinity has a flat grade and the road network is dual carriageway asphalt surface with paths in grassed verges and an absence of street trees. Substantial established trees are visible within the industrial complex on the southern side.

The receptors at this location are the drivers and passengers in vehicles travelling at 60km/hour. While the grassed verges have paths, pedestrian ae likely to be local workers and joggers/dog walkers would be low in number. There are no residences in the vicinity that would constitute static receptors impacted by the proposed development.

Magnitude of Impact: Moderate

The proposed facility is largely in character with the existing built environment positioned within the context of existing industrial structures. The gantry bridge across Bolong Road has the backdrop of storage silos as it is approached from the west.

As shown in photomontage, the proposed gantry will have a significant visual presence however this is also seen against the backdrop of existing industrial buildings. The proposed structure sits well below adjacent industrial infrastructure which visually dominates this view corridor.

Landscape Character Impact: Low

The established trees in the vicinity of this viewpoint will not be impacted by the development in the distance.
The streetscape will be changed by the introduction of the gantry bridge however it is in character with the industrial context.

e) B2 - E Bolong Road – Looking West

Sensitivity Level: Moderate

Viewpoint B2-E brings the Heat Recovery Facility and gantry into focus with the proposed building dominating skyline. The landform in the vicinity has a flat grade and the road network is dual carriageway asphalt surface with substantial, established trees on the southern side.

The absence of footpaths and the busyness of the road is not conducive to foot traffic so the main receptors will be drivers and passengers. The drivers travelling at 60km/hour will have their attention on the road moving from the open pastures and entering the industrial precinct. There are no residences in the vicinity that would constitute static receptors impacted by the proposed development.

Magnitude of Impact: High

The proposed Heat Recovery Building is dominant in the context rising above existing low level industrial buildings on the southern site of Bolong Road.

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Landscape Character Impact: High

The existing character will be changed by the proposed works as the new building is monolithic in form, lacking the detail and articulation of the industrial towers on the southern side of Bolong Road. The development will have a significant visual impact for drivers familiar with the area until the new construction is visually absorbed into the industrial environment.

Established trees in the vicinity of this viewpoint will not be impacted.

f) B2 - W Bolong Road – Looking East

Sensitivity Level: Low

This viewpoint is taken at the pedestrian refuge on the western approach to the development site and the adjacent context is the Manildra industrial complex on the southern side of the road. The landform in the vicinity has a flat grade and the road network is dual carriageway asphalt surface with substantial, established trees within the industrial area.

Again, receptors at this location are the drivers and passengers in vehicles travelling at 60km/hour in a congested area. The grassed verges have paths however, pedestrians are likely to be local workers and there would be few other pedestrians.

Magnitude of Impact: Moderate

A proposed services gantry is seen in the foreground. The open design of this structure allows it to be absorbed into the industrial landscape with minimal visual intrusion. This structure will partly obscure and distracts from the larger gantry bridge associated with the Heat Recovery Facility in the middle distance.

Landscape Character Impact: Moderate

The proposed gantry bridge is a substantial structure seen from this viewpoint however the construction is absorbed into the busyness of the industrial context. The larger heat recovery building is only partially revealed as vehicles approach the bend in the road.

g) B1 - E Bolong Road – Looking West

Sensitivity Level: Moderate

The adjacent context is the Manildra industrial complex on the southern side of the road and low-level industrial buildings on the northern side. There is substantial, established street trees on the southern side of the road and grassed verges with scattered trees amongst the buildings to the north.

The landform in the vicinity has a flat grade and the road network is dual carriageway asphalt surface.

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Magnitude of Impact: Moderate to High

The magnitude of the proposed Ethanol Distillery Heat Recovery Facility is moderate to high as the proposed building is substantial in scale and will be close to Bolong Road. At this juncture, drivers are almost upon the gantry bridge with only fractions of a second to absorb the impression passing under yet another overhead structure, one of many bridges they would have passed enroute from Wollongong and Kiama.

The associated gantry bridge is visibly dominant as it is a bulky structure due to the physical requirements of the infrastructure it will carry across the road. The pedestrian access on the bridge, at the lower level, adds to the bulk although this has been mitigated in the design.

Landscape Character Impact: Moderate

The existing character will be changed by the proposed works as the new building is monolithic in form, lacking the detail and articulation of the industrial towers on the southern side of Bolong Road. The development will have a significant visual impact for drivers familiar with the area until the new construction is visually absorbed into the industrial environment.

The established trees in the vicinity of this viewpoint will not be impacted by the development in the distance.

h) **B1 - W** Bolong Road – Looking East

Sensitivity Level: Moderate

The context is the Manildra industrial complex on the southern side of the road and the open carpark on the northern side. established street trees are seen in the distance on the southern side of the road. Both roadsides have grassed verges with footpaths and no street trees.

The landform is relatively flat. The road network is dual carriageway asphalt surface with footpaths in grassed verges.

Receptors are drivers and passengers in vehicles travelling at 60km/hour in a congested area.

Magnitude of Impact: Moderate to High

The gantry bridge is visibly dominant as it is a bulky structure due to the physical requirements of the infrastructure it will carry across the road. The pedestrian access on the bridge, at the lower level, adds to the bulk although this has been mitigated in the design.

The proposed Heat Recovery building is partially obscured by the gantry building however is still seen as substantial in scale..

Landscape Character Impact: Moderate

The established trees in the vicinity will not be impacted by the development in the distance.

As with viewpoint B1-E, the gantry bridge is visually dominant cutting the skyline previously uninterrupted by any existing structures. At this point, the Heat Recovery building comes into a driver's peripheral vision adding to the impact of the development.

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4. CONCLUSION

The visual impact of the proposed Heat Recovery Plant and Gantry has been assessed following an inspection of the site and its visual catchment followed by a desktop analysis. RMS and AILA guidelines have been considered and applied in the assessment methodology.

The observations above on the visual impact on receptors from the selected viewpoints are summarise as follows. .1

1. Visual impact is negligible at a distance, either within the township of Bomaderry or along by Bolong Road, at a distance of, say, 200m in either direction.
2. The impact increases significantly, not surprisingly, as the development site is approached from either direction along Bolong Road.

The scale and bulk of the proposed structures is determined by their function and the services they need to accommodate. The footprint and cross section of the proposed building and the gantry bridge is fixed by these utilitarian requirements, restricting opportunities to mitigate visual impact to the facade of the building and perimeter of the gantry.

Mitigation measures have been considered during the development of the design and implemented, wherever possible.

- The Heat Recovery building utilises the required ventilation louvres to provide a visual break in the facade that is further accentuated by a lighter colour at the upper level. The darker blue at the base grounds the building and visually links the structure to the bridge.
- The gantry bridge design has rationalised the structure to separate the services at the upper level from the pedestrian access below. Recognising the need to limit future maintenance, pre-coloured metal is proposed as a cladding material: to screen services at upper level and transparent below to give visual relief and provide glimpses of the workers crossing the bridge.

In our opinion all reasonable mitigation measures have been implemented and it is considered that the proposed development creates negligible visual impact when viewed at a distance and an acceptable level when viewed in proximity due to the expansive industrial context in which it is located.

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APPENDIX A

MN7462-000 P08 - Site Elevation

MN7462-001 P10 - Overall Site Plan

MN7994-001 P11 - Site Plan

MN7994-002 P07 - Site Elevation

MN7994-003 P05 - Gantry Sectional Elevation

MN7994-004 P05 - Distillery Heat Recovery Building

MN7994-005 P07 - Distillery Heat Recovery Evaporators

MN7994-006 P16 - Control Room Additions

MN7994-007 P03 - Overhead Electrical Bridge

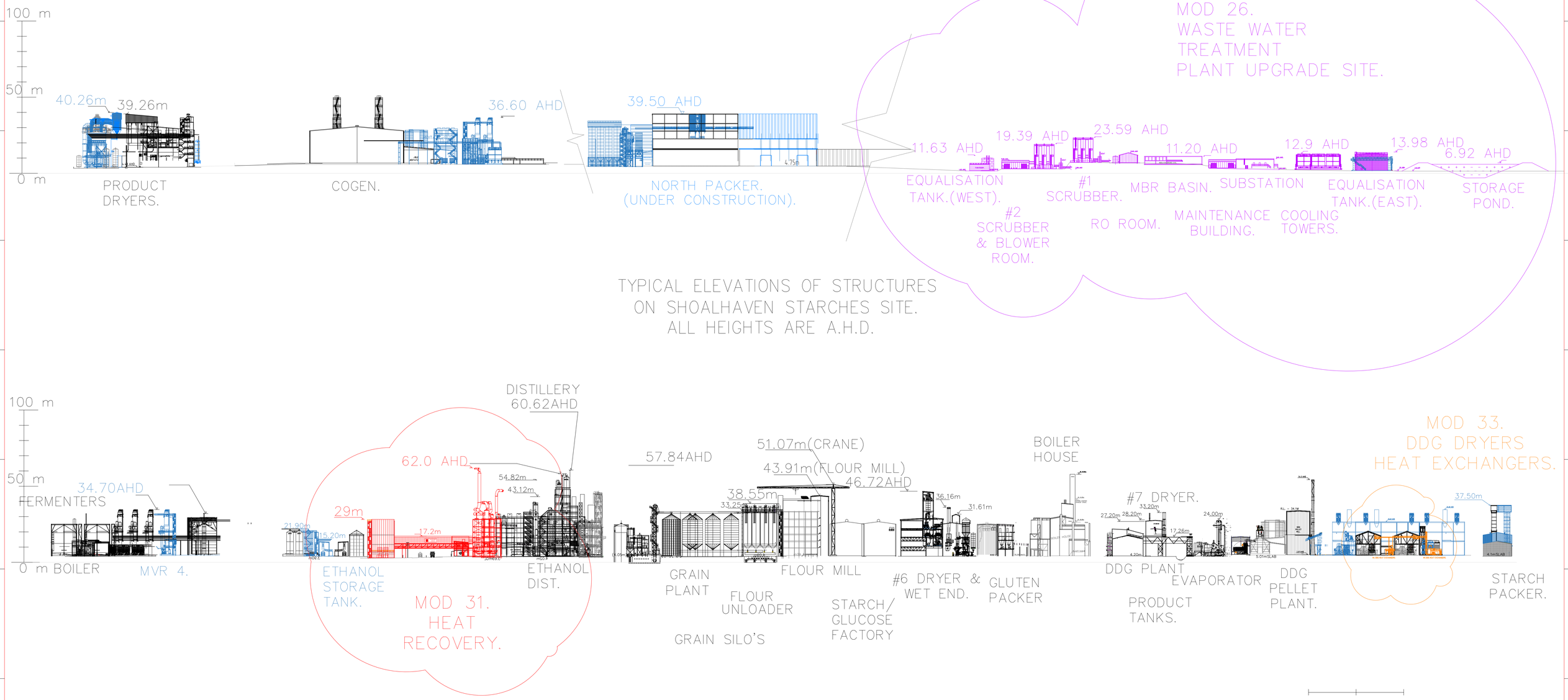
EXISTING APPROVED PLAN.

APPROVED PLANT YET TO BE CONSTRUCTED OR UNDER CONSTRUCTION.

MOD 31.

MOD 26.

MOD 33.



TYPICAL ELEVATIONS OF STRUCTURES ON SHOALHAVEN STARCHES SITE. ALL HEIGHTS ARE A.H.D.

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P08	All	DDG Dryers Moved to Mod 33	B.M.	21-07-25	All	JS
P07	All	Waste Water Treatment Plant moved to Mod 26	B.M.	21-07-25	All	JS
P06	All	Changed to match engineers design.	B.M.	28-05-25	All	JS
P05	All	Was Mod 30.	P.C.	07-05-25	All	JS
P04	All	Changed to match engineers design.	P.C.	25-11-24	All	JS
P03	All	Starch dryers ect removed.	P.C.	15-11-24	All	JS
P01	All	Latest revision.	P.C.	05-09-24	All	B.H.

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PC Drafting 0439 436508 Est. 2001

DRAWN P.C.	DATE 05/09/24	JOB TITLE	SHOALHAVEN STARCHES.BOMADERRY. NSW
CHKD JS	DATE	DWG TITLE	MOD 31. SITE ELEVATIONS GA.
APPD	DATE		
	SCALE 1:2500	PROJECT No. 7462-000	DWG No. MN7462-000

SHT SIZE A3

REV. P08

EXISTING APPROVED PLANT.

MOD 31.

APPROVED PLANT YET TO BE CONSTRUCTED OR UNDER CONSTRUCTION.

MOD 26 CAR PARK .

MOD 25 PENDING APPROVAL.

MOD 33.

OVERHEAD ELECTRICAL BRIDGE. Drw-MN7994-007.

OVERHEAD ELECTRICAL ROUTE.

UNDERGROUND ELECTRICAL ROUTE.

HEAT RECOVERY WORKS. Drws-MN7994-001 to MN7994-005.

RELOCATE 78 CAR PARKING SPACES.

DDG HEAT EXCHANGERS. Drw-MN7462-017 & MN7462-025.

RAILWAY STREET

APPROVED EXIT.

MANILDRA LAND

SWALE

PRIVATE

CONTAINER STORAGE AREA.

TRUCK BYPASS LANE

BOLONG ROAD

GATE 13

GATE 11

GATE 9

GATE 4

GATE 7

GATE 2

GATE 5

GATE 3

GATE 1

NEW ENTRY.

MANILDRA COMPLEX

FORMER DAIRY FARMERS FACTORY

CAR PARKING

LOT 143 DP 1069758

(DP 638246)

Shoalhaven River

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P10	ALL	DDG Heat Exchangers moved to Mod 33	B.M.	04-08-25	J.S.	
P09	ALL	Distillation and Reboiler Columns removed.	B.M.	28-05-25	MP	
P08	E4	Electrical Bridge Amended.	P.C.	23-05-25	MP	
P07	E5	Electrical route adjacent to creek above ground.	P.C.	21-05-25	DJ	
P06	All	Was mod 30,car park mods,electrical route added.	P.C.	08-05-25	MP	
P04	All	To match engineers.	P.C.	25-11-24	MP	
P03	All	Starch dryers ect. & packer extension removed.DDG heat exch. relocated.	P.C.	11-11-24	CJ	
P01	All	First issue.	P.C.	12-07-24	J.S.	

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PC Drafting.
0439 436508
Est 2003

DRAWN PC	DATE 25-06-24	SITE MANILDRA-SHOALHAVEN STARCHES PTY LTD.	SHT SIZE A3
DESIGNED. AT	DATE	JOB TITLE NOWRA PLANT.	SHEET
CHKD SR	DATE	DWG TITLE MOD 31. OVER ALL SITE PLAN.	OF
APPD BH	DATE		REV. P10
	SCALE 1:3000	PROJECT No. 7462-001	DWG No. MN7462-001

EXISTING APPROVED PLANT.

MOD 31.

MOD 26 APPROVAL CAR PARK.

APPROVED PLANT YET TO BE CONSTRUCTED OR UNDER CONSTRUCTION.

TOTAL CAR PARKING SPACES- 434.
Existing- 64.
Mod 26- 276.
Mod 31- 94.

6.6M SETBACK

UNDERGROUND ELECTRICAL CABLES.

EXISTING FENCE

ABOVEGROUND ELECTRICAL CABLES.

Abernethys Drain

BRIDGE

147.37

METAL TANK

METAL TANK

PUMP HOUSE

15.5M

GAS FACILITY
MANILDRA GAS STATION

INTEGRAL ENERGY GAS NATURAL GAS INSTALLATION

MANILDRA LAND

CO2 GAS INSTALLATION

APPROVED CAR PARK

DISTILLERY HEAT RECOVERY BUILDING.

GATE 2

NEW ENTRY.

5.7M MINIMUM SETBACK

DECELERATION LANE.

MINIMUM WIDTH OF 90° ANGLE PARKING IS 2.4M x 5.4M LONG. MINIMUM WIDTH OF ROAD IS 6.2M. (AS/NZS 2890.1:2004) AREAS USED FOR CAR PARKS.

LIGHT TOWERS(12). AHD 16M.

WALKWAY

NEW EXIT.

UNDERGROUND ELECTRICAL CABLES.

OVERHEAD ELECTRICAL BRIDGE.

GATE 7

BOLONG

8.2M

PEDESTRIAN REFUGE ISLAND. OPENING IN CENTRE FENCE.

ROAD

GATE 5

GATE 3

10.5M MIN. SETBACK

BUNDED EVAPORATORS.

DRYER #6

No.1 FERMENTER

No.2 FERMENTER

No.3 FERMENTER

STAGE 3 ETHANOL

DISTILLERY

LABORATORY

FERMENTATION AREA

ETHANOL DRIVEWAY

LOADING BAY

DENATURANT STORE

ETHANOL RECOVERY AREA

COOLING TOWERS

No.13 FERMENTER

No.12 FERMENTER

No.16 FERMENTER

MVR #4

Evaporator

Substation

Cooling Towers

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P11	ALL	Distillation and Reboiler Column Removed	B.M	24-06-25	M.P	
P10	ALL	Note Removed	B.M	24-06-25	JS	DJ
P09	ALL	Electrical Bridge Amended	P.C.	23-05-25	MPoole	DJ
P08	ALL	Electrical route adjacent to creek now above ground.	P.C.	1-05-25	DJ	
P07	ALL	Layout mods to engineers design.Car park extension.Electrical route.	P.C.	2-05-25	DJ	
P06	ALL	Car park now included in mod 26.	P.C.	6-02-25	DJ	
P05	ALL	Car park now included in mod 30.	P.C.	22-01-25	DJ	

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PC Drafting
0439 436508

P.C.		SHOALHAVEN STARCHES.BOMADERRY. NSW	SHT SIZE A3
CHKD	DATE	DWG TITLE MOD 31.BG1 & BG2 HEAT RECOVERY. O/A SITE PLAN.	
APPD	DATE		REV. P11
	SCALE 1:1000	PROJECT No. 7994-001	DWG No. MN7994-001

EXISTING APPROVED PLANT.

MOD 31.

62.0 AHD

DISTILLERY HEAT RECOVERY EVAPORATORS.

DISTILLERY HEAT RECOVERY BUILDING.

29.0m

BGD1

BGD2

SWITCH ROOM

SWITCH ROOM EVCAV.

OVERHEAD GANTRY.

17.2m

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EXISTING CONTROL ROOM

3.33m

3.74m

BOLONG ROAD

5M(Nom)

2.96m

2.67m

5.7M Min. SETBACK

16.05M

EASTERN ELEVATION.

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P07	ALL	Distillation and Reboiler Columns Removed	B.M.	28.07.25	MPoole	
P06	ALL	Changes to match engineers design.	B.M.	28.05.25	MPoole	
P05	ALL	Changes to match engineers design.Fan build/bridge width & height increased.	P.C.	05-05-25	MPoole	
P04	ALL	Changes to match engineers design.	P.C.	22-11-24	MPoole	
P01	ALL	Construction layout.	P.C.	16-05-24	D.J.	

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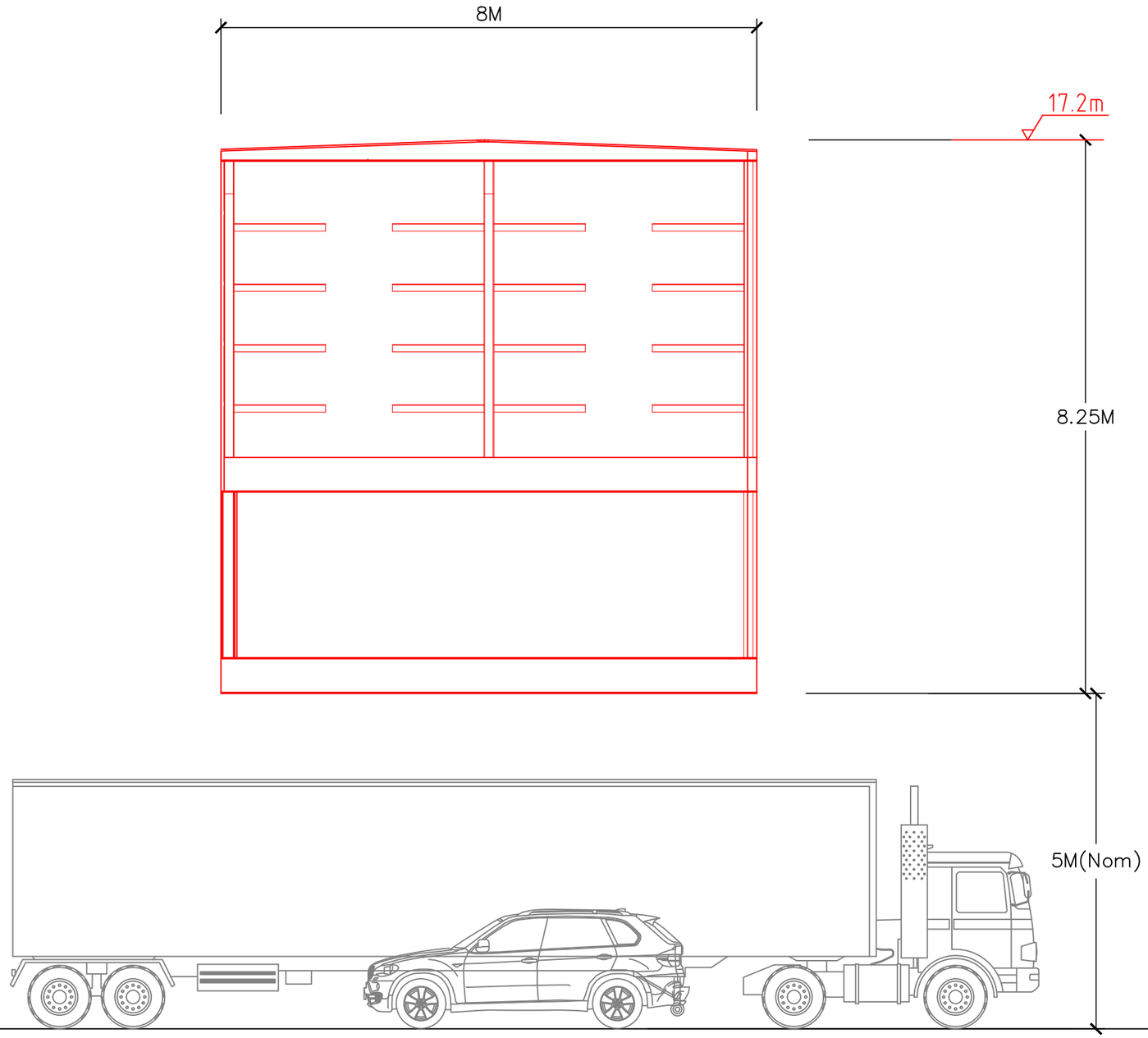
P.C.		SHOALHAVEN STARCHES.BOMADERRY. NSW	SHT SIZE A3
CHKD	DATE	DWG TITLE MOD 31.BG1 & BG2 HEAT RECOVERY. SITE ELEVATION.	
APPD	DATE		REV. P07
	SCALE 1:250	PROJECT No. 7994 WAE	DWG No. MN7994-002



REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P04	ALL	Changes to match engineers design.Width & height increased.	P.C.	05-05-25	MPoole	
P04	ALL	Changes to match engineers design.	P.C.	22-11-24	MPoole	
P01	ALL	Construction layout.	P.C.	16-05-24	D.J.	

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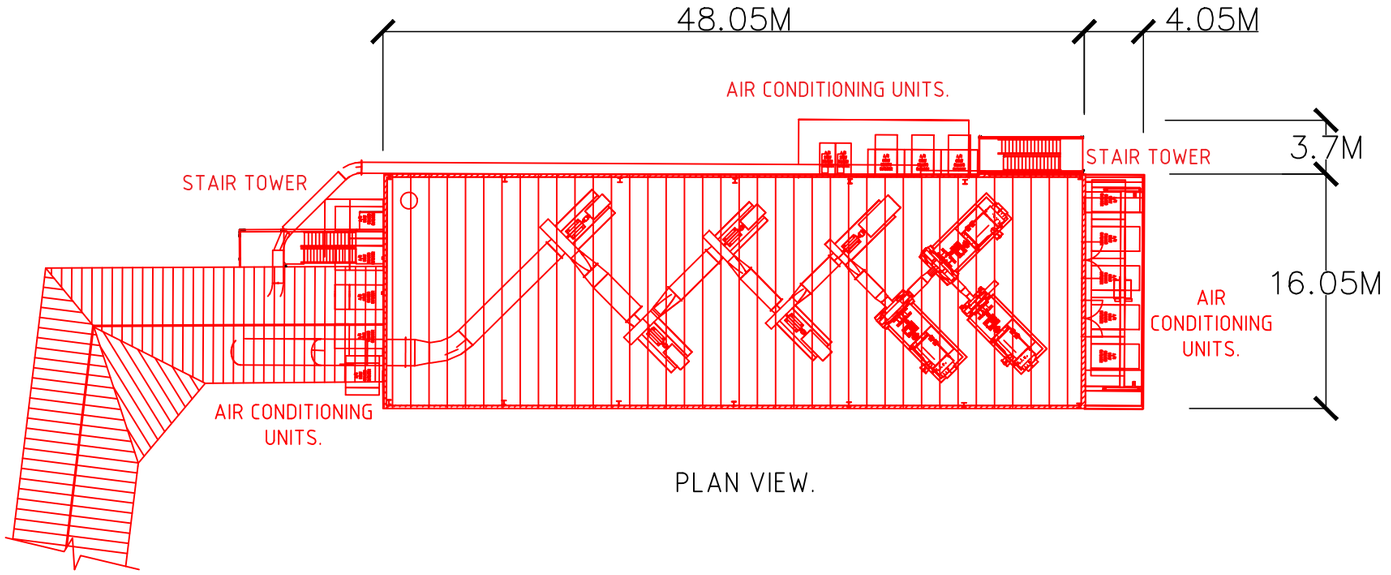
P.C. Drafting 0439 436508

P.C.
CHKD DATE
APPD DATE
SCALE 1:75

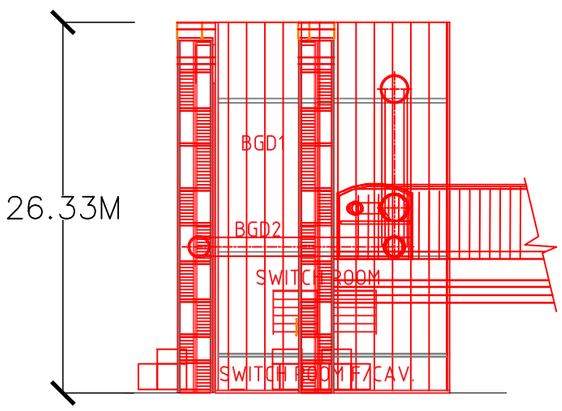
DWG TITLE
SHOALHAVEN STARCHES.BOMADERRY. NSW
MOD 31.BG1 & BG2 HEAT RECOVERY.
GANTRY SECTIONAL ELEVATION.

PROJECT No. 7994 WAE
DWG No. MN7994-003

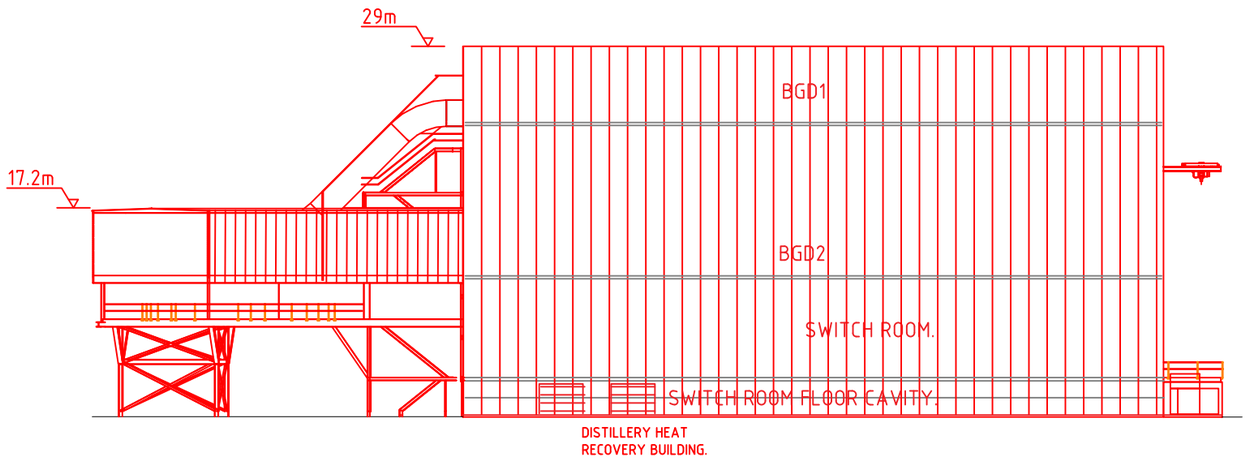
SHT SIZE A3
REV. P05



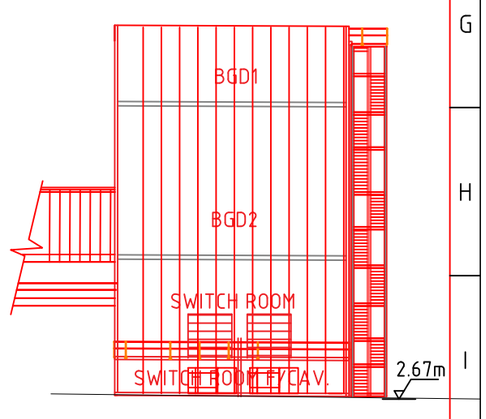
PLAN VIEW.



BACK ELEVATION.



SIDE ELEVATION.



FRONT ELEVATION.

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P05	ALL	Changes to match engineers design.Width & height increased.	P.C.	05-05-25	MPoole	
P04	ALL	Changes to match engineers design.	P.C.	22-11-24	MPoole	
P01	ALL	Construction layout.	P.C.	16-05-24	D.J.	

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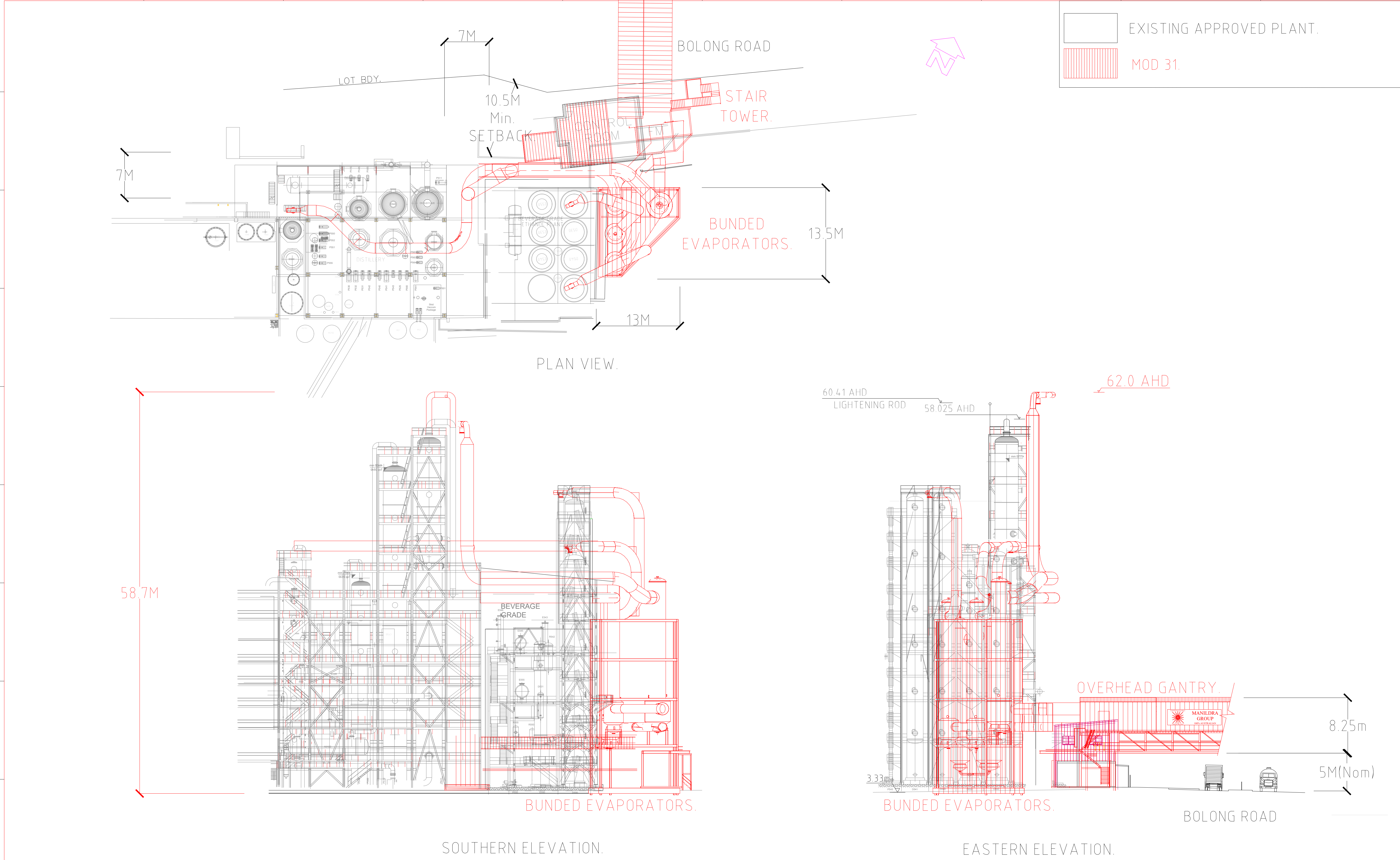
P.C.		SHOALHAVEN STARCHES.BOMADERRY. NSW	SHT SIZE A3
CHKD	DATE	DWG TITLE MOD 31.BG1 & BG2 HEAT RECOVERY. DISTILLERY HEAT RECOVERY BUILDING.	
APPD	DATE		REV. P05
	SCALE 1:400	PROJECT No. 7994 WAE	DWG No. MN7994-004



	EXISTING APPROVED PLANT.
	MOD 31.

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P07	ALL	Distillation and Reboiler Columns removed	B.M.	28-07-25	MPoole	
P06	ALL	Changes to match engineers design.	B.M.	28-05-25	MPoole	
P05	ALL	Changes to match engineers design.	P.C.	06-05-25	MPoole	
P04	ALL	Changes to match engineers design.	P.C.	22-11-24	MPoole	
P01	ALL	Construction layout.	P.C.	16-05-24	D.J.	

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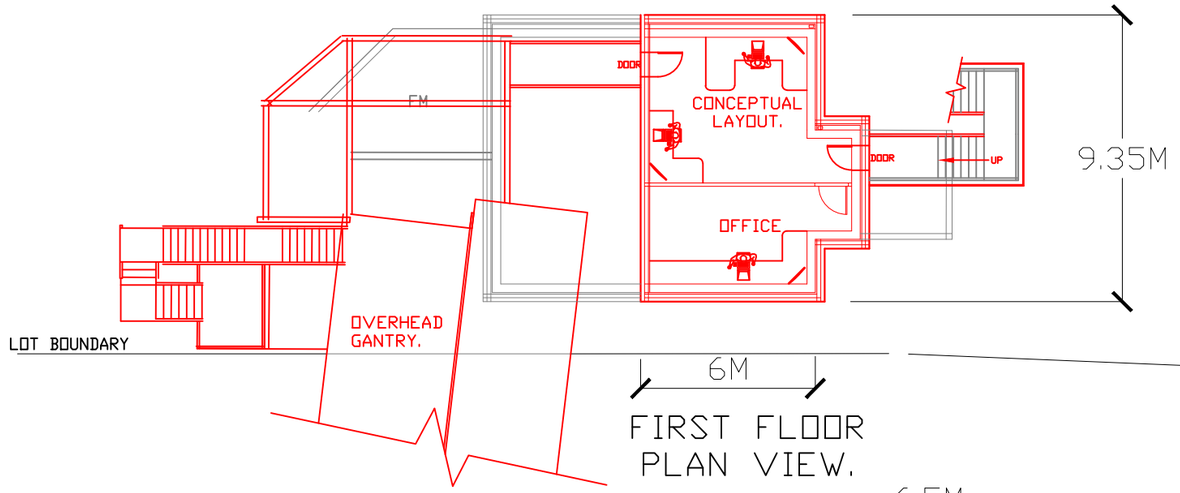
CHKD	DATE	DWG TITLE	SHOALHAVEN STARCHES.BOMADERRY. NSW
APPD	DATE		MOD 31.BG1 & BG2 HEAT RECOVERY.
			DISTILLERY HEAT RECOVERY EVAPORATORS.
	SCALE 1:500	PROJECT No. 7994 WAE	DWG No. MN7994-005

SHT SIZE A3

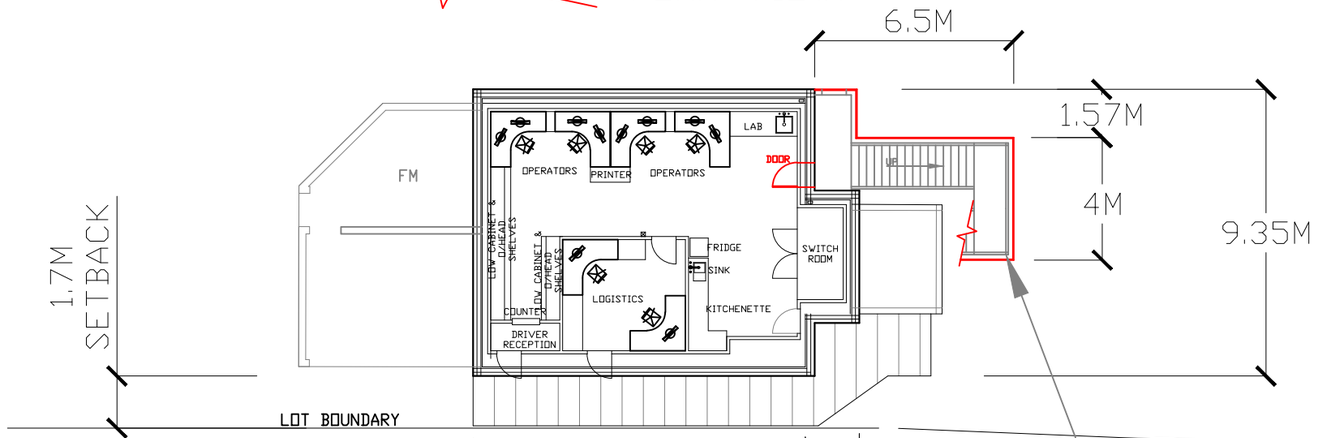
REV. P07

EXISTING APPROVED PLANT.

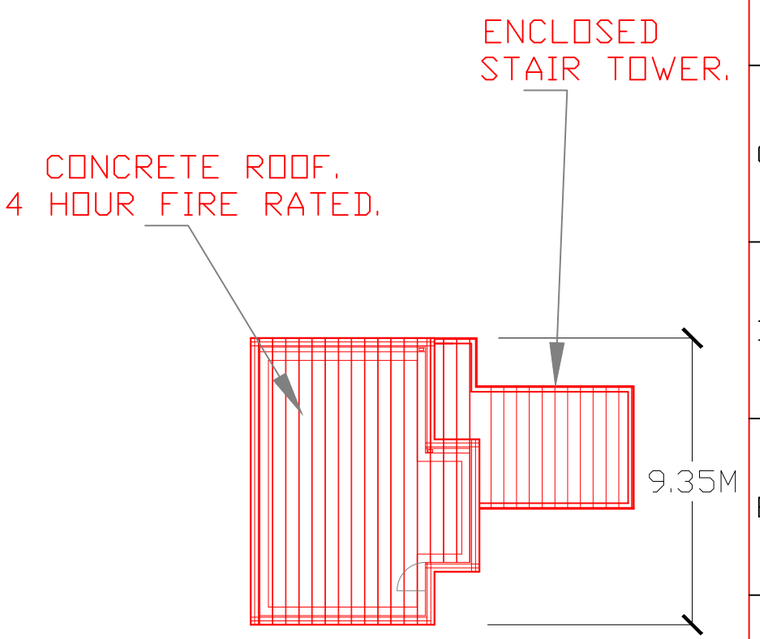
MOD 31.



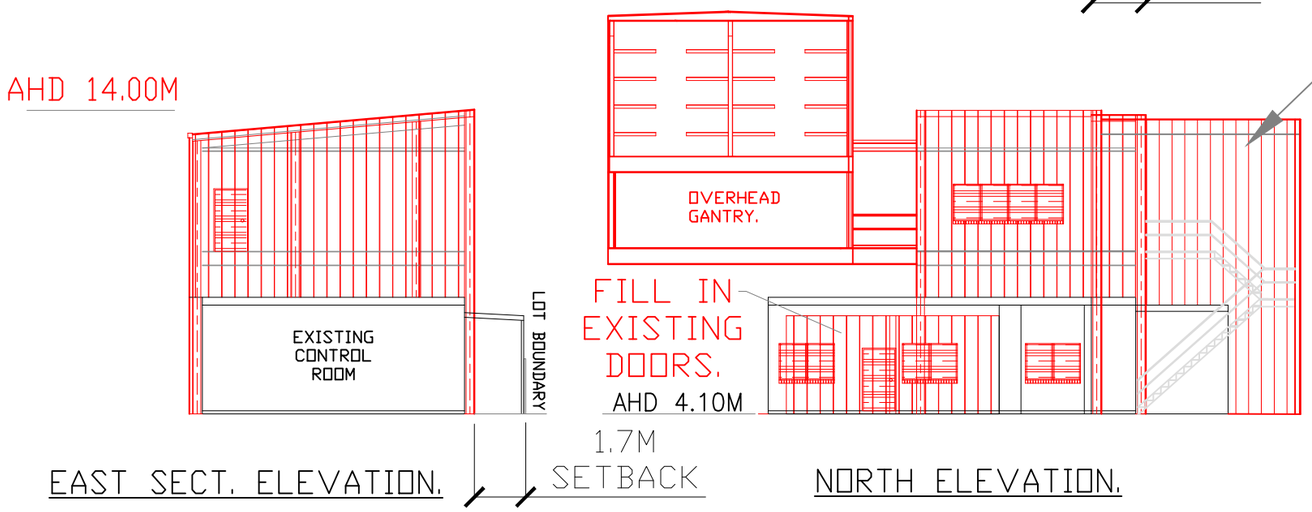
FIRST FLOOR PLAN VIEW.



GROUND FLOOR.

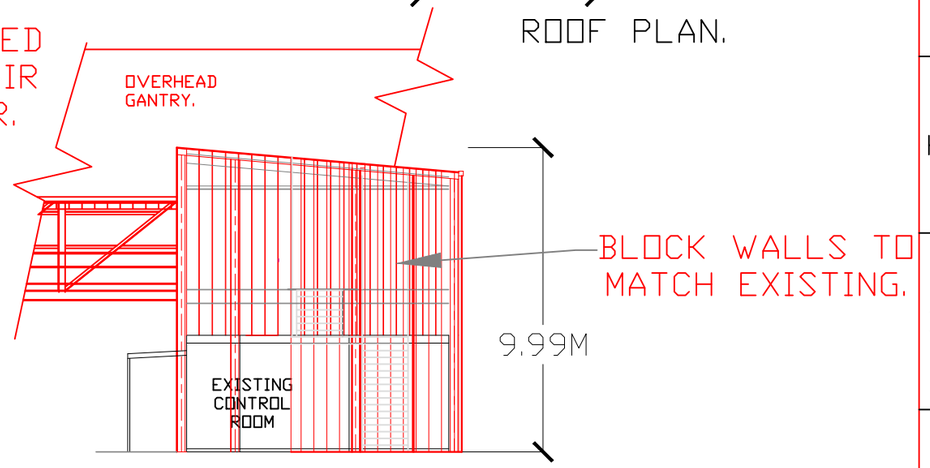


ROOF PLAN.



EAST SECT. ELEVATION.

NORTH ELEVATION.



WEST ELEVATION.

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P16	ALL	Southern door removed.Egress to gantry shown in plan view.	P.C.	07-05-25	J.S.	
P15	ALL	Was Mod 22, was full length.	P.C.	07-05-25	J.S.	
P14	I7	Western window removed.	P.C.	20-09-23	A.T.	
P13	ALL	Some building details added for fire rating.	P.C.	06-09-23	A.T.	
P12	ALL	Existing veranda shown.	P.C.	01-8-22	BH	
P11	ALL	Was Mod 23.	P.C.	04-5-21	BH	
P10	ALL	Now Mod 23.	P.C.	25-03-21	BH	

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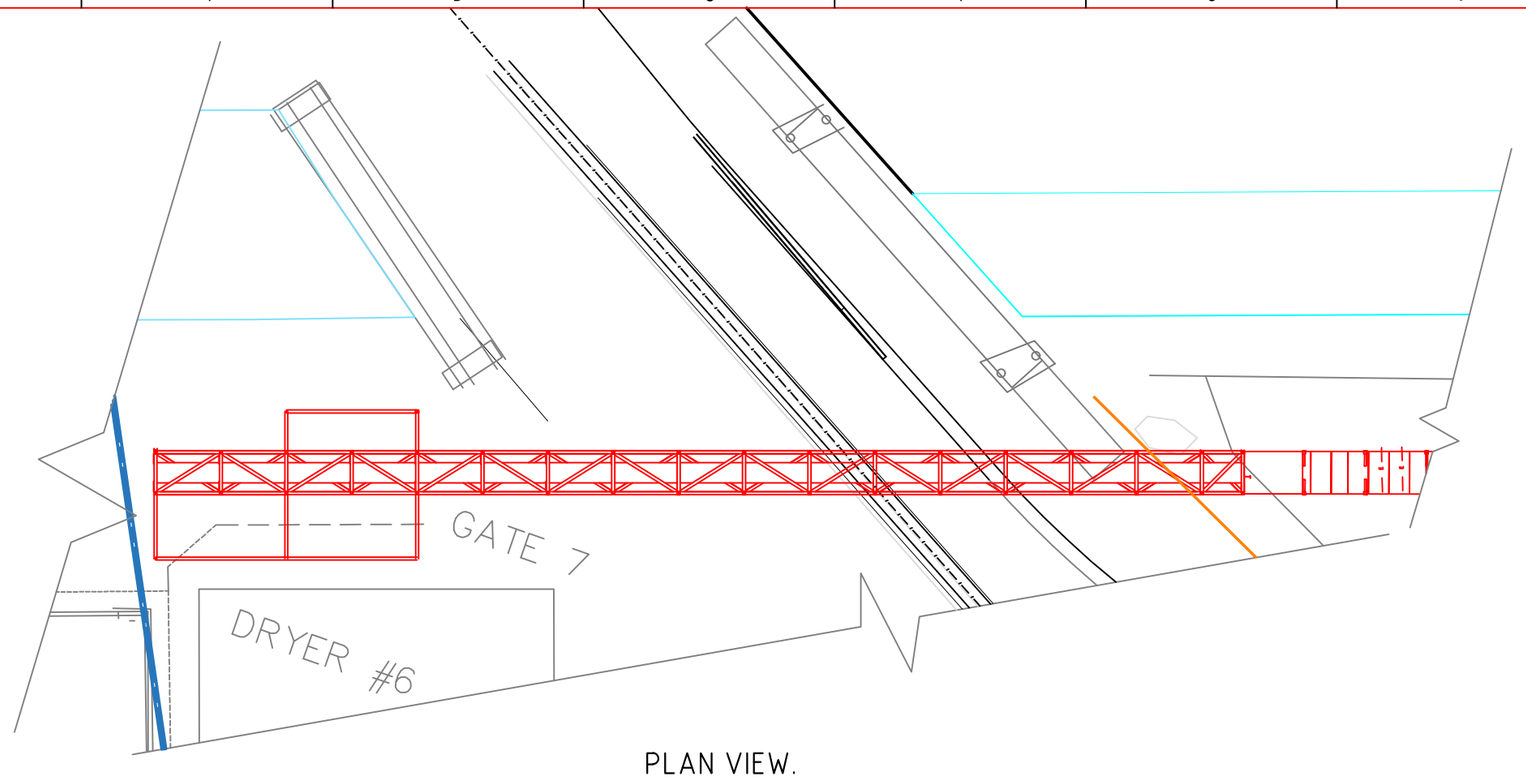
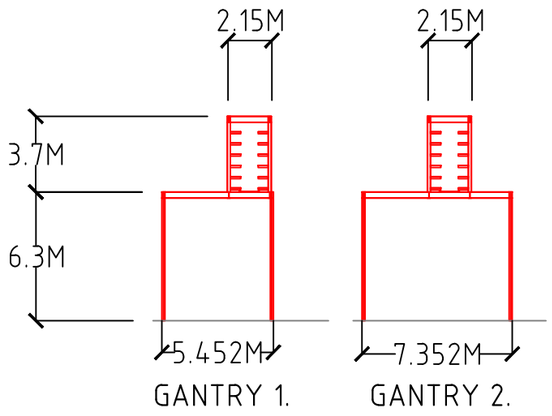
P.C Drafting 0439 436508

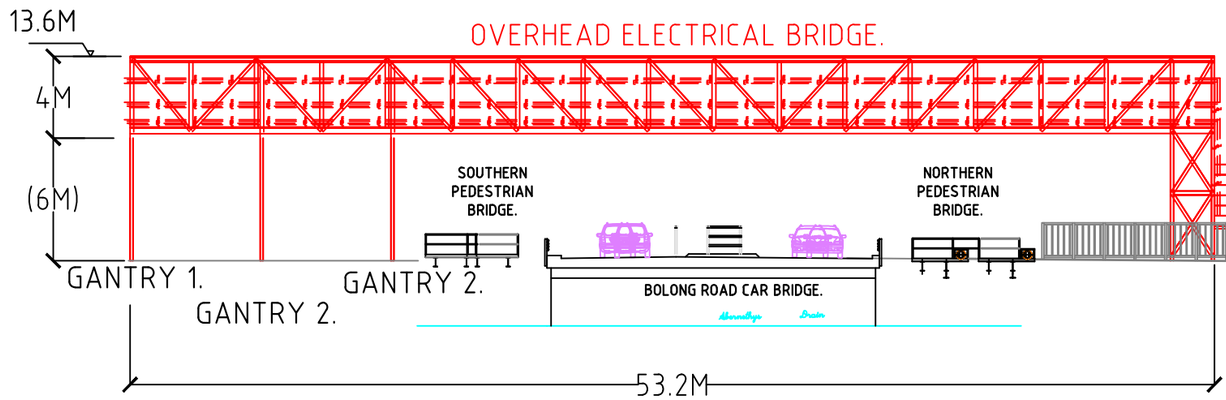
DRAWN P.C.	DATE 25/06/19	JOB TITLE SHOALHAVEN STARCHES.BOMADERRY. NSW	SHT SIZE A3
CHKD T.J.	DATE	DWG TITLE MOD 31. CONTROL ROOM ADDITIONS.	
APPD	DATE		REV. P16
	SCALE 1:200	PROJECT No. 7193WAE	DWG No. MN7994-006



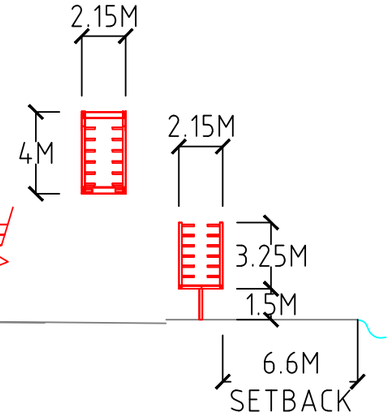
PLAN VIEW.



END ELEVATION.



EASTERN ELEVATION.



END ELEVATION.

REV	ZONE	DETAILS	DRN	DATE	CHKD	APPD
P03	ALL	Bridge design changed by MP.	P.C.	23/05/25	MP	DJ
P02	ALL	Electrical now above ground.End els added.	P.C.	21/05/25	DJ	
P01	ALL	First issue.	P.C.	09/05/25	MP	

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P.C.

CHKD | DATE

APPD | DATE

SCALES 1:300

SHOALHAVEN STARCHES.BOMADERRY.NSW.

DWG TITLE
MOD 31.ELECTRICAL ROUTE.
OVERHEAD ELECTRICAL BRIDGE.
EASTERN ELEVATION.

PROJECT No. MN7994-007

DWG No. MN7994-007

SHT SIZE A3

REV. P03

APPENDIX B

Viewpoint images of the existing view and photomontage of the proposed development.

- Birriley - Birriley Street
- Meroo - Meroo Street
- B3 - E Bolong Road – Looking West
- B3 - W Bolong Road – Looking East
- B2 - E Bolong Road – Looking West
- B2 - W Bolong Road – Looking East
- B1 - E Bolong Road – Looking West
- B1 - W Bolong Road – Looking East

WOLLONGONG
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NOWRA
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BATEMANS BAY
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Nom. Architect: Mark Jones Reg. No. 4474 | Edmiston Jones Pty Ltd | ABN 67 003 163 451

Birriley - Birriley Street

Meroo - Meroo Street

B3 – E Bolong Road 3 East – Looking West

B3 – W Bolong Road 3 West – Looking East

B2-E Bolong Road 2 East – Looking West

B2-W Bolong Road 2 West – Looking East

B1-E Bolong Road 1 East – Looking West

B1-W Bolong Road – Looking East

APPENDIX C

Terms & Definitions (Source: Australian Institute of Landscape Architects – June 2018)

TERMS AND DEFINITIONS

Amenity

The pleasantness of a place as conveyed by desirable attributes including views, noise, odour etc.

Artist's impression

An indicative visual representation illustrating the appearance of a proposal. Typically used to communicate a concept when photomontages are not available and / or when accuracy cannot be assured.

Character

A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, and often conveys a distinctive 'sense of place'. This term does not imply a level of value or importance.

Effect

The landscape or visual outcome of a proposed change. It may be the combined result of sensitivity together with the magnitude of the change.

Impact

The categorisation of effects. Legislative context should be considered in defining 'impacts' and their significance.

Landscape

Landscape is an all-encompassing term that refers to areas of the earth's surface at various scales. It includes those landscapes that are: urban, peri-urban, rural, and natural; combining bio-physical elements with the cultural overlay of human use and values.

Magnitude of change

The extent of change that will be experienced by receptors. This change may be adverse or beneficial. Factors that could be considered in assessing magnitude are: the proportion of the view / landscape affected; extent of the area over which the change occurs; the size and scale of the change; the rate and duration of the change; the level of contrast and compatibility.

Mitigation

Measures to avoid, reduce and manage identified potential adverse impacts.

Receptor

A place, route, viewer audience or interest group which may receive an effect and require assessment.

Scenic amenity

A measure of the relative contribution of each place to the collective appreciation of the landscape. The term scenic amenity has a specific meaning and application in GIS mapping (a combination of visual exposure and scenic preference) and has been incorporated into several local planning schemes across Queensland.

Sensitivity

Capacity of a landscape or view to accommodate change without losing valued attributes. Includes the value placed on a landscape or view by the community through planning scheme protection, and the type and number receivers.

Values

Any aspect of landscape or views that people consider to be important. Landscape and visual values may be reflected in local, state or federal planning regulations, other published documents or be established through community consultation and engagement, or as professionally assessed.

View

Any sight, prospect or field of vision as seen from a place, and may be wide or narrow, partial or full, pleasant or unattractive, distinctive or nondescript, and may include background, mid ground and/or foreground elements or features.

Viewpoint

The specific location of a view, typically used for assessment purposes.

Visual absorption capacity

The potential for the physical attributes (landform, vegetation and built form) of a scene to absorb a particular change.

Visual amenity

The attractiveness of a scene or view.

Visual catchment

Areas visible from a combination of locations within a defined setting (may be modelled or field validated)

Visual representation

Graphic representation of a proposal in context showing its likely appearance and scale.