

ANNEXURE 8

Traffic Impact Assessment

**prepared by
Bitzios Consulting**

**22, 24, 171 and 220
Bolong Road, Bomaderry**

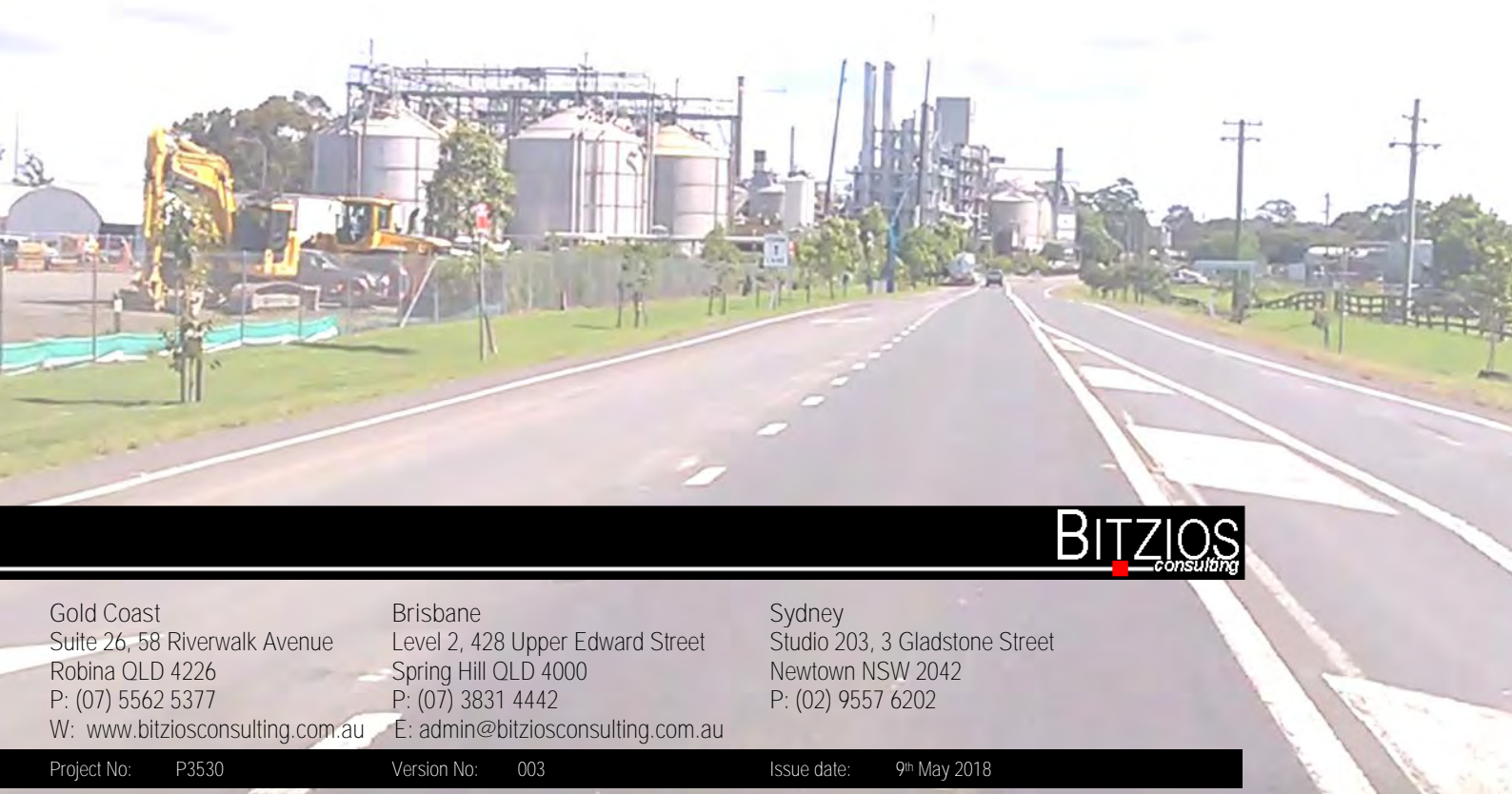


PROPOSED MODIFICATION APPLICATION TO MP06-0228 SHOALHAVEN STARCHES EXPANSION PROJECT TRAFFIC IMPACT ASSESSMENT

PROPOSED NEW SPECIALITY PROCESSING FACILITY, NEW GLUTEN DRYER AND
OTHER ASSOCIATED WORKS AT 22, 24 AND 171 BOLONG ROAD, BOMADERRY

FOR

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1. INTRODUCTION

1.1 BACKGROUND

Bitzios Consulting has been engaged by Shoalhaven Starches Pty Ltd to prepare a traffic impact assessment (TIA) for the proposed Modification 16 of the Shoalhaven Starches Expansion Project (SSEP) Approval (MP 06_0228). The existing development is located at 22 & 24 and No. 171 Bolong Road, Bomaderry as shown in Figure 1.1.



Source Nearmap

Figure 1.1: Site Location

1.2 SCOPE

The scope for the proposed development expansion assessment is as follows:

- **estimation of the development's traffic generation and the distribution onto the external road network** (noting that heavy vehicle volumes will be influenced by the changes in input and output quantities);
- car parking assessment considering the car parking spaces required to be relocated and the number of additional car parking spaces needed to support the proposed expansion;
- assessment of on-site pedestrian and cycling facilities and connectivity to the surrounding network within the vicinity of the site; and
- preparation of a traffic impact assessment to accompany the Modification 16 request.

2. APPROVAL HISTORY

2.1 SHOALHAVEN STARCHES EXPANSION PROJECT MP 06_0028

A TIA report was prepared by ARC Traffic and Transport in May 2017 to accompany the Modification 13 application. Section 1.2.1 *Shoalhaven Starches Expansion Project (SSEP) Approval MP06-0228* of the report detailed the following information on the previous site approvals:

The SSEP Approval was granted by the Minister for Planning on the 28th January 2009 and encapsulated previous approvals **into one overall approval. The SSEP is a 'transitional Part 3A Project' for the purposes** of Schedule 6A of the Environmental Planning & Assessment Act.

The SSEP provides for an increase in ethanol production at Shoalhaven Starches in a staged manner from 126 million litres per year to 300 million litres per year. To accomplish the increase in ethanol production, the SSEP required a series of plant upgrades and increases in throughput of raw materials, principally flour and grain. The SSEP included the following alterations and additions:

- the provision of an additional product dryer;
- additional equipment and storage vessels for the ethanol plant including additional fermenters, additional cooling towers and molecular sieves;
- upgrades to the Stillage Recovery Plant, including additional DDG Dryers, Decanters, chemical storage, evaporators
- and the installation of a DDG Pellet Plant; and
- the establishment of a new Packing Plant, container loading area and rail spur line on the northern side of Bolong Road.

As outlined, the SSEP Approval also consolidates all previous approvals (up to that time) into a single Project Approval.

Following the SSEP Approval, Manildra acquired the Dairy Site, and commenced investigations into relocating the Packing Plant from the approved PP Site north of Bolong Road to the Dairy Site; as an interim measure during these investigations, approval was provided in 2012 for the Interim Packing Plant operations at their current location.

In 2015, Manildra submitted modification proposals to the DP&E in regard to the demolition of an industrial building on the Moorehouse Site (Modification 6) and for the construction of the No.5 Starch Dryer on the Moorehouse Site (Modification 7); and for minor design amendments to the Packing Plant (Modification 9). These Modifications have all been approved by the DP&E.

More recently (2016) Manildra submitted the following additional Modification proposals, all of which are currently before the DP&E: -

- 06_0228 Modification 10 for a new Flour Mill (B);
- 06_0228 Modification 11 for a reduction in the number of DDG dryers on the SS Site and associated works; and
- 06_0228 Modification 12 for modifications to the existing Ethanol Distillation Plant to provide Beverage Grade Alcohol.

The Modification 13 application itself was for modifications to a number of boilers located within the factory site. Specifically, the modifications would:

- convert Boiler #4 from gas-fired to coal-fired;
- convert Boiler #6 from woodchip-fired to coal-fired; and
- provide a new bag house at Boiler #6.

It is understood that Modification 14 Environmental Assessment is on public exhibition at the time of this report. Modification 14 proposes the use of the former Australian Paper Mill Site in conjunction with primary Shoalhaven Starches site. The proposed uses for the site include:

- the use of the existing on-site buildings for the storage of finished product, as well as engineering plant;
- the use of the existing on-site storage tanks for the storage of syrups;
- the use of the external on-site areas to lay down plant and materials that are to be used in the construction of approved projects within the primary Shoalhaven Starches Site (the Starches Site) to the west of the Mill Site, as well as for temporary or overflow shipping container storage;
- the use of existing on-site administration buildings for office staff; and
- the use of the workshop areas for maintenance purposes.

It is understood that the Modification 15 application has been submitted but is yet to be approved. This modification proposes that establishment of a CO₂ Plant on the former Dairy Farmers Site (now Argyle Meats). This Plant will process CO₂ generated by Shoalhaven Starches operations into food grade quality CO₂ for the food and beverage market.

2.2 INVINCIBLE COAL MINE – SOUTHERN EXTENSION 07_0127

The New South Wales (NSW) Planning Assessment Commission (PAC) received from the NSW Department of Planning and Environment (DPE) a modification application (MOD 5) from Castlereagh Coal Pty Ltd to develop the Invincible Coal Mine Southern Extension Project accessed via the Castlereagh Highway south of Cullen Bullen. The modification application proposes to recommence mining operations and extend the life of the mine by 8 years, through the development of a new open cut pit, known as the Southern Extension Area.

The modification application proposes that the coal extracted from the mine expansion would be transported by road to Shoalhaven Starches plant in Bomaderry and the Mount Piper Power Station.

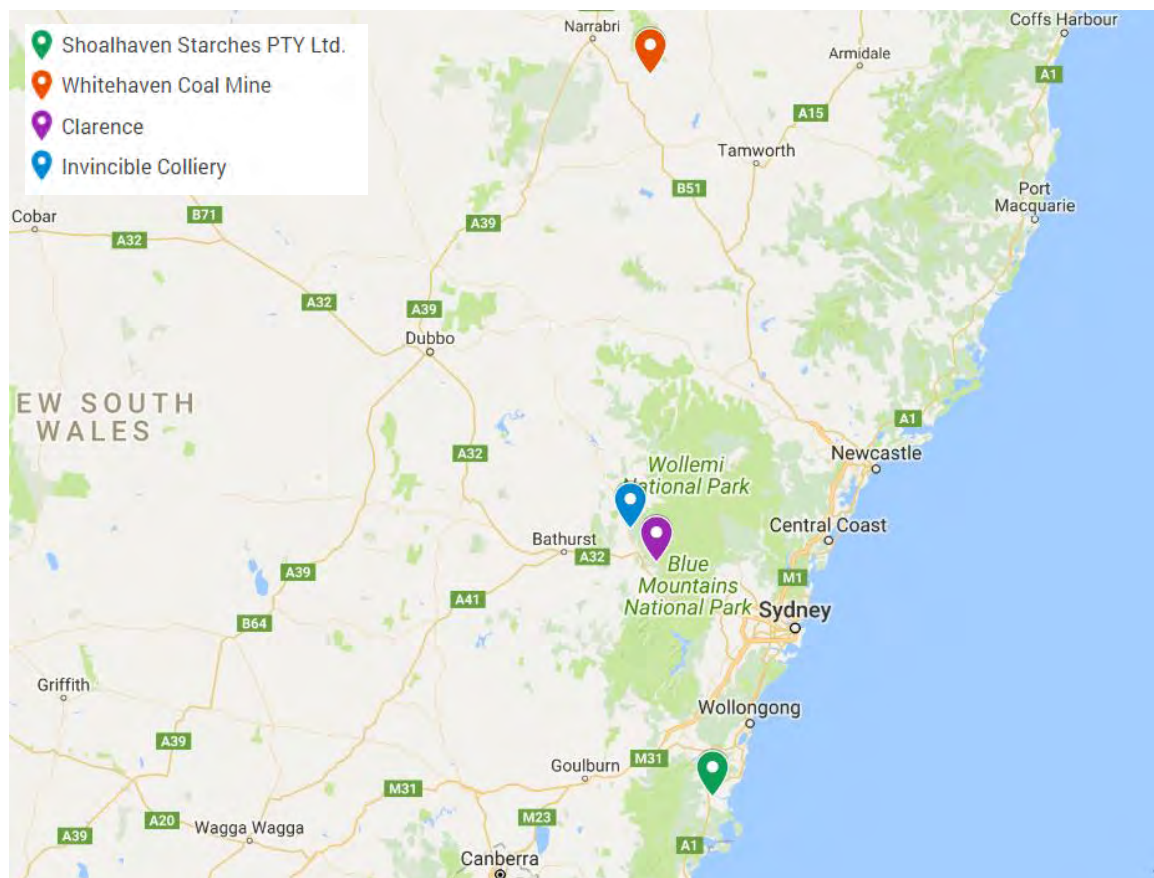
3. EXISTING CONDITIONS

3.1 EXISTING SITE

The Shoalhaven Starches factory presently receives wheat, grain and flour which is processed to produce a variety of products including gluten, glucose, starch, ethanol and dried **distiller's** grains with solubles (DDGS). The existing plant infrastructure for these processes includes:

- two (2) flour mills (Flour Mill A & B);
- a starch plant and a grain plant;
- gluten, starch and DDGS dryers;
- a packing plant;
- silos, tanks and other storage areas
- a number of fermentation tanks and a distillery; and
- decanters, cooling towers and an evaporation plant;

The factory also has a very high energy use and currently includes several boilers for on-site power generation. The coal used in these boilers is currently sourced from the Centennial Clarence Colliery located in the western coalfields near Clarence and the Whitehaven Coal Mine in the Gunnedah Basin near Maules Creek. However, it is noted that coal is planned to be sourced in the future from the Invincible Colliery in the western coalfields south of Cullen Bullen, significantly reducing the **plant's energy production** costs. The locations of all mine sites are shown in Figure 3.1. It is expected that heavy vehicles delivering coal to Shoalhaven Starches will take the same route in and out of the Illawarra / Shoalhaven region regardless of which source of coal is used.



Source: Google Maps

Figure 3.1: Shoalhaven Starches Coal Sources

An existing nearby environmental farm located on Hanigans Lane is also owned and operated by Shoalhaven Starches. This location contains a wastewater treatment plant, storage ponds and an irrigation system for treating and discharging wastewater from the factory. A portion of the environmental farm area

is also used to stockpile coal for power generation use at the factory. Fly ash generated from coal-fired power generation is also transported to the environmental farm for use in road maintenance. It is noted that a packing plant facility north of Bolong Road, and additional infrastructure located on the south-west corner of the subject site, has been approved by Council however is yet to be constructed.

3.2 EXISTING ROAD NETWORK

Details of the road network surrounding the subject site is show in Table 3.1.

Table 3.1: Surrounding Road Network Hierarchy

| Road Name | Jurisdiction | Hierarchy | No. Lanes | Divided | Speed Limit | Comments |
|-----------------|-------------------------|----------------|-----------|---------|-------------|--|
| Bolong Road | Shoalhaven City Council | Rural Arterial | 2 | No | 60km/h | East / west rural arterial connecting the Princes Highway, Bomderry and Shoalhaven Heads. |
| Meroo Street | Shoalhaven City Council | Local Street | 2 | No | 50km/h | North / south street connecting Bolong Road and Cambewarra Road via Bomaderry Train Station. |
| Princes Highway | RMS | Highway | 4 | Yes | 70km/h | Major north / south highway servicing the east coast of NSW south of Wollongong. |

3.3 ACTIVE TRANSPORT

No dedicated cycle facilities are provided within the vicinity of the site. Existing pedestrian footpaths are present on Bolong Road fronting the subject site and on the eastern side of Meroo Street. Pedestrian refuges are also provided at two (2) locations along Bolong Road. Pedestrian facilities fronting the site are illustrated in Figure 3.2.



Source: Nearmap

Figure 3.2: Pedestrian Facilities

3.4 PUBLIC TRANSPORT

Bomaderry Train Station is located approximately 600m from the southern side of the subject site and as such is considered to be within reasonable walking distance. Heavy rail services depart from this station hourly during peak periods or every second hour outside peak hours.

Two (2) bus stops are also within walking distance with a stop located at the Bomaderry Train Station and a second stop on Meroo St opposite Bunberra Street. Both bus stops service Route 721, Nowra to Bomaderry via Bomaderry Station (Loop Service). Services at each stop run hourly during peak periods and every second hour outside of peak between 7:30am and 6:00pm.

4. PROPOSED DEVELOPMENT

Modification 16 proposes a new speciality product processing facility, new gluten dryer, modifications to flour mills and on-site power generation facilities and other associated works. Specifically, it includes the development of the following:

- one (1) additional flour mill (Flour Mill C);
- modifications to Mills A and B Ventilation;
- conversion of Gluten Dryers No. 1 & 2 to starch dryers;
- installation of one (1) new gluten dryer;
- installation of a 15MW coal-fired co-generation plant;
- construction of hydrated lime silos
- construction of a speciality-products building;
- installation of a new bag house filter for Starch Dyer No.5;
- construction / installation of a rail intake pit;
- construction of a sifter room;
- installation of a High Voltage (HV) Substation; and
- extension of the existing electrical sub-station that is located within the main factory site.

As a part of the modification, it is also proposed that the existing Boiler #7 will be relocated to the northern side of the overall Boiler House complex to accommodate the new coal fired co-generation plant.

The 26-existing off-street car parking spaces located on the northern side of Bolong Road (adjacent to the BOC CO₂ Plant) will be relocated to the east to accommodate the new indoor HV substation. The proposed expansion is illustrated in Figure 4.1 with detailed plans provided in Appendix A.

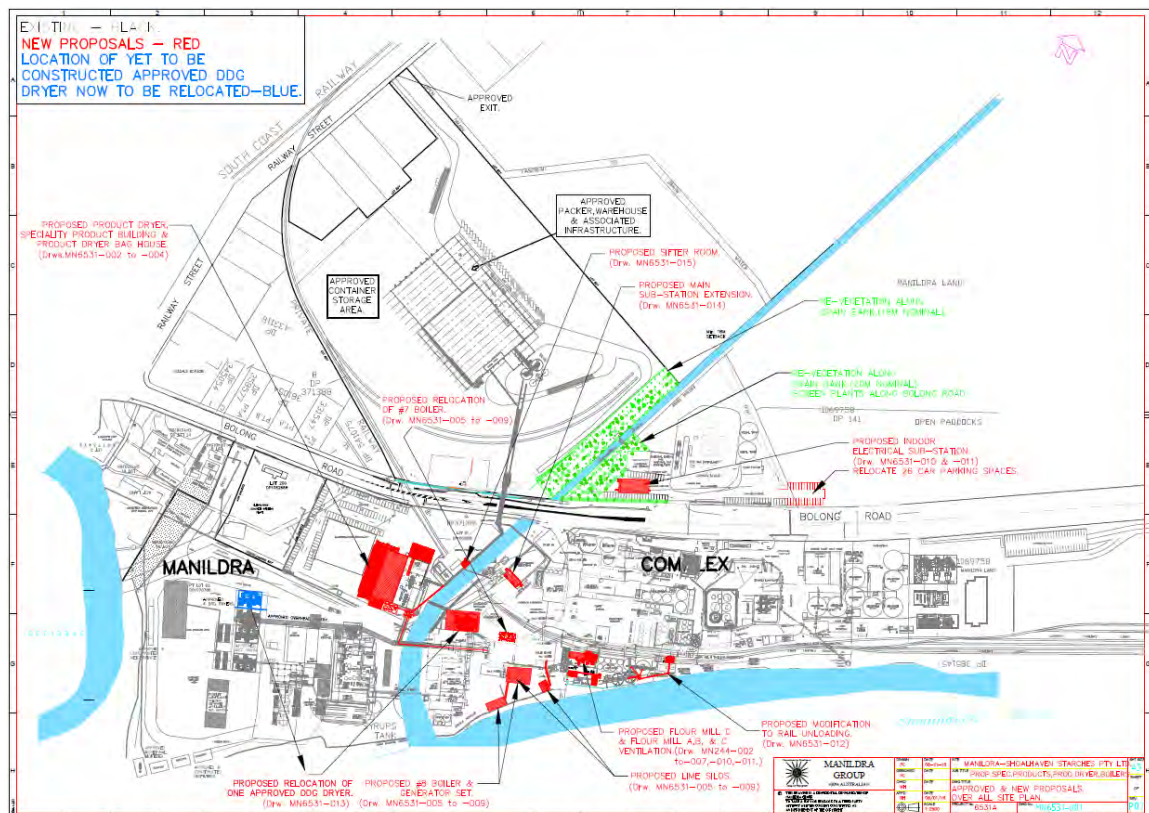


Figure 4.1: Proposed Development

The primary purpose of the proposed development is to utilise grain, currently approved to be used in the ethanol production process, to increase flour and therefore starch and gluten production on-site. Information provided by Manildra regarding changes to heavy vehicles movements and employee numbers as a result of the modification is shown in Attachment B, with impacts to be assessed as follows.

5. SITE ACCESS ASSESSMENT

The Shoalhaven Starches factory and supporting facilities are accessed via several points off Bolong Road. Heavy rail access is also available to the site via a private rail spur line extending from Bomaderry Train Station. Figure 5.1 illustrates the location of all accesses.



Source: Nearmap

Figure 5.1: Site Access Locations

As a result of the proposed Modification 16, there is to be no change in the method or location of delivery / removal of resources, products or waste. As such, any additional heavy vehicles continually accessing the site as a result of the proposed Modification 16 will use existing accesses approved for use by each relevant vehicle type.

It is noted that some additional heavy vehicles may be temporarily required to access the site for construction works. It is expected that existing access locations would be sufficient to accommodate all construction traffic, however it is recommended that construction traffic operations be subject to a Construction Traffic Management Plan (CTMP).

6. PARKING ASSESSMENT

6.1 EXISTING CAR PARKING PROVISION

In accordance with the *Shoalhaven Starches, Bomaderry, Access & Parking Assessment (SSBAPA)* completed by ARC in April 2017, existing parking demand is accommodated by several car parks across the site. The capacity of these existing car parks is as follows:

- Western car park: 52 spaces
- Moorehouse car park: 110 spaces
- Eastern car park: 60 spaces
- BOC car park: 58 spaces

As such, existing permanent car parking provision for use by Shoalhaven Starches staff totals 280 bays. The location of these existing car parks is illustrated in Figure 6.1.



Source: Nearmap

Figure 6.1: Car Park Locations

It is noted that there is also potential throughout the site for some vehicles to park at informal parking locations. However, the number of parking spaces available cannot be quantified and thus for the purposes of this assessment informal parking has been disregarded. It is also noted that Modification 16 proposes the relocation of 26 car parking spaces located on the BOC site. These bays will be relocated to the east of the BOC site access and no impact on parking provision or access is expected as a result of this change.

6.2 EXISTING CAR PARKING DEMAND

In accordance with the SSBAPA, 311 staff are employed across the Shoalhaven Starches site. However, as the factory operates 24 hours a day with varying shift times, there are typically a maximum of 157 employees on-site during the period between 8:00am and 2:00pm. However, it is noted that this can increase to 185 employees on-site for short, peak periods typically coinciding with new infrastructure coming on-line. Information provided by Manildra indicates that an additional 30 contract staff can also be on-site at any one time. As such, permanent parking provision shall accommodate the demand of a total of 215 current staff.

The SSBAPA indicated that permanent staff car occupancy is very low. Furthermore, access to the site by alternate transport means is limited. As such, for a conservative assessment, it is assumed that permanent parking provision must accommodate for one (1) parking bay for each of the Shoalhaven Starches permanent employees and contract staff.

The applicant has indicated that construction works for the previously approved packing plant may occur simultaneously to construction works related to the proposed Modification 16. In accordance with the *Shoalhaven Starches Packing Plant Construction Traffic Management Plan* prepared by ARC in May 2016, a temporary car park is to be constructed on the packing plant site with access of Railway Street. As such, construction vehicles for works other than Modification 16 will have no impact on existing Shoalhaven Starches parking.

6.3 MODIFICATION 16 CAR PARKING DEMANDS

The applicant has provided information regarding additional permanent and construction personnel requiring parking provision. This supplied information is attached in Appendix B. The proposed Modification 16 will result in up to an additional five (5) Manildra personnel on-site simultaneously requiring permanent car parking.

As per the information provided by Manildra, Modification 16 construction works may involve up to a total of 160 employees over the construction period. However, the number of construction staff on-site will change each month as different works are completed. Figure 6.2 illustrates the number of construction staff expected to be on-site simultaneously for each month of the 12-month construction period.

| | Construction Manpower | Construction Duration (month) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------------------------|-----------------------|-------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Flour Mill Ventilation | 5 | 1 | 5 | | | | | | | | | | | |
| Flour Mill C | 30 | 4 | | | | | | | | | 30 | 30 | 30 | 30 |
| GD 1&2 to Starch | 5 | 1 | | | | | | | | | | 5 | | |
| GD8 | 30 | 6 | | | | 30 | 30 | 30 | 30 | 30 | 30 | | | |
| Modified Starch | 20 | 6 | 20 | 20 | 20 | 20 | 20 | 20 | | | | | | |
| SD5 Baghouse | 10 | 2 | 10 | 10 | | | | | | | | | | |
| Boiler 8 Cogen | 30 | 6 | | | 30 | 30 | 30 | 30 | 30 | 30 | | | | |
| HV Substation | 10 | 3 | 10 | 10 | 10 | | | | | | | | | |
| Grain Rail Intake | 10 | 3 | 10 | 10 | 10 | | | | | | | | | |
| Sifter Room | 5 | 1 | | | | | | | | | 5 | | | |
| Hydrated Lime | 5 | 2 | 5 | 5 | | | | | | | | | | |
| | 160 | | 60 | 55 | 70 | 80 | 80 | 80 | 60 | 60 | 65 | 35 | 30 | 30 |

Figure 6.2: Construction Manpower Timing

As shown in Figure 6.2, construction staff numbers will range between 30 and 80 over the 12-month period with the maximum 80 construction staff on-site for a 3-month period. As such, parking provision for a total of 80 construction staff is required. In accordance with Section 1.3.3 of the SSBAPA it is estimated that 50 construction staff would generate a formal parking demand of up to 30 spaces or 0.6 parking spaces per construction employee. This rate is considered appropriate as:

- it is unlikely that all personnel for all construction works taking place simultaneously will be on-site at the same time;
- it is expected that some vehicles for construction works would park in informal locations near the works locations; and
- a small amount of car pooling by construction employees is expected.

As such, the provision of 48 parking spaces is required for Modification 16 construction employees.

6.4 CAR PARKING SUMMARY

The car parking demand and provision for the Shoalhaven Starches site is outlined in Table 6.1.

Table 6.1: Car Parking Demand and Provision

| Car Parking Type | Existing Staff | Modification 16 Staff | Parking Rate | Total Demand | Provision | Excess / Shortfall |
|------------------|----------------|-----------------------|---------------|--------------|-----------|--------------------|
| Permanent | 215 | 5 | 1 per staff | 220 | 280 | +60 |
| Construction | - | 80 | 0.6 per staff | 48 | 100 | +52 |
| Total | 215 | 85 | - | 268 | 380 | +112 |

As shown in Table 6.1, the existing car parking provision exceeds the parking demands of permanent employees by 60. The existing temporary car parking provision also exceeds the parking demands of construction employees by 52 spaces. As such, the existing carparking is considered to be sufficient to cater for both permanent and temporary car parking demand with or without the proposed Modification 16.

7. TRAFFIC ASSESSMENT

7.1 PERMANENT TRAFFIC

The information provided by Manildra, as attached in Appendix B, outlines the additional heavy vehicle trips generated by the proposed Modification 16. With the majority of product transported by rail, the expanded operations are not expected to generate significant additional permanent heavy vehicle traffic. The construction of the proposed coal fired, co-generation plant will result in additional heavy vehicles transporting coal, fly ash and hydrated lime entering / exiting the site via the western access (Gate 13). On occasion, the conversion of Gluten Dryers 1 and 2 to starch is expected to result in heavy vehicle movements transporting the product to storage. The additional heavy vehicle trips generated by the development are quantified in Table 7.1.

Table 7.1: Modification 16 Additional Heavy Vehicle Trips

| Material / Product | Additional Weekly Heavy Vehicles | Additional Daily Heavy Vehicles | Additional Heavy Vehicle Trips |
|--------------------|----------------------------------|---------------------------------|--------------------------------|
| Coal | 34 | 5 | 10 |
| Fly Ash | 9 | 2 | 4 |
| Hydrated Lime | 2 | 1 | 2 |
| Starch | - | 5 | 10 |
| Total | | 13 | 26 |

As shown in Table 7.1, the proposed modification is expected to generate up to 13 additional vehicles accessing the site per day. This correlates to a total of 26 vehicle trips. Assuming approximately 10% of daily trips occur during peak hours, it is expected that Modification 16 will generate a maximum of three (3) additional heavy vehicle trips during peak hours.

Manildra has also indicated that, as a result of the proposed modification, an additional five (5) permanent personnel will be on-site simultaneously. As such, conservatively assuming all staff arrive and depart during peak hours, an additional five (5) light vehicle trips will be generated in the AM and PM peak periods. Permanent traffic generated by the proposed modification is therefore expected to have no adverse impacts on the surrounding road network with approximately one (1) heavy vehicle every 20 minutes and one (1) light vehicle every 12 minutes being added to the peak hour.

7.2 TEMPORARY CONSTRUCTION TRAFFIC

As stated in the expected Project Manpower Timing provided in Appendix B, for the proposed Modification 16, Manildra anticipates a maximum of 80 construction personnel will be involved in construction works at one time over a 3-month period with all construction works occurring over a 12-month period.

In accordance with the *Shoalhaven Starches, Bomaderry, Access & Parking Assessment*, light vehicle traffic generated by Shoalhaven Starches is equal to 0.5 peak hour trips per parking space. As such, construction traffic for Modification 16 is estimated to generate approximately 24 peak hour light vehicle trips. This is considered a conservative assessment as:

- it is unlikely that all construction works will be occurring simultaneously;
- construction traffic peak may not align with the commuter / network peak; and

As a result of the construction works, some additional heavy vehicles are also expected to access the site. Construction activities are expected to generate heavy vehicle traffic related to concrete pours and delivery of material or machinery. However, the volume of this traffic is not expected to be significant and will not regularly coincide with network peak traffic times.

Considering the traffic volumes outlined above, construction traffic volumes are not expected to have an adverse impact on the surrounding road network considering the following:

- in accordance with SIDRA analysis conducted by ARC, as outlined in the *Shoalhaven Starches, Bomaderry, Access & Parking Assessment* (2017) and the *Shoalhaven Starches, Bomaderry MP 06_0028 Modification Traffic Impact Assessment* (2017), the Bolong Road / Railway Street intersection and all accesses operate well within acceptable performance limits in terms of LOS, delay and queuing;
- increases in queuing at accesses as a result of development or construction traffic will be contained on-site and thus have no impact on the surrounding road network; and
- the proposed construction works are expected to occur over a 12-month period and as such construction traffic will have no lasting impact on the network.

7.3 RAILWAY CROSSING IMPACTS

It is noted that the site is accessed by heavy rail freight services via a private rail spur crossing Bolong Road. However, the proposed Modification 16 is not expected to generate additional heavy rail movements to and from the site. As such, Modification 16 is not expected to have any adverse impacts on the surrounding road network in relation to the Bolong Road railway crossing at the heavy rail site access. Improvements to the rail intake pit modifications are also expected to result in a reduction in tipping time for the grain intake. As such, Modification 16 may result in more reliable rail movements to and from the site with Shoalhaven Starches more likely to meet planned rail possession windows.

8. CONCLUSION

The key findings of the traffic impact assessment for the proposed Shoalhaven Starches expansion located at 22 & 24 and 171 Bolong Road, Bomaderry are as follows:

- the proposed expansion (Modification 16) proposes a new speciality product processing facility, new gluten dryer, a co-generation plant with a new coal-fired boiler, a high-voltage substation, modifications to flour mills A and B and other associated works;
- public transport access to the site is limited with a single bus and rail service approximately 600m from the subject site with services every 1-2 hours;
- pedestrian footpaths fronting the site and two (2) pedestrian refuges provide active transport connectivity between areas of the subject site, however active transport connectivity to Bomaderry is limited;
- the subject site is accessed via several existing accesses off Bolong Road. As such, it is expected that heavy vehicles proposed to access the site as a result of Modification 16 can use existing accesses suitable to accommodate movements of heavy vehicles equal in size or larger than development vehicles;
- the existing Shoalhaven Starches site provides a total of 280 permanent car parking bays across four (4) location and a temporary car park with capacity for 100 vehicles. This existing carparking is considered to be sufficient to cater for both permanent and temporary car parking demand with or without the proposed Modification 16;
- the proposed modification is expected to generate an additional 26 daily or three (3) peak hour heavy vehicle trips;
- additional permanent employees are expected to generate up to five (5) peak hour vehicle trips and construction employees are estimated to generate approximately 24 peak hour vehicle trips;
- the existing Bolong Road / Railway Street intersection and all access locations operate well within acceptable limits and traffic increases as a result of Modification 16 are not expected to have any adverse impact on the road network in the vicinity of the site; and
- Modification 16 is not expected to have any adverse impacts on the surrounding road network in relation to the Bolong Road railway crossing at the heavy rail site access.

Based on the above assessment we conclude that there are no significant traffic or transport impacts associated with the proposed development expansion to preclude its approval and relevant conditioning on traffic or transport planning grounds.

APPENDIX A

DEVELOPMENT PLANS

See Annexure 2 - Plan Details of Proposed Modifications

EXISTING — BLACK.
NEW PROPOSALS — RED
LOCATION OF YET TO BE
CONSTRUCTED APPROVED DDG
DRYER NOW TO BE RELOCATED—BLUE.

PROPOSED PRODUCT DRYER,
SPECIALITY PRODUCT BUILDING &
PRODUCT DRYER BAG HOUSE.
(Drws.MN6531-002 to -004)

APPROVED
CONTAINER
STORAGE
AREA.

APPROVED
PACKER,WAREHOUSE
& ASSOCIATED
INFRASTRUCTURE.

PROPOSED SIFTER ROOM.
(Drw. MN6531-015)

PROPOSED MAIN
SUB-STATION EXTENSION.
(Drw. MN6531-014)

RE-VEGETATION ALONG
DRAIN BANK.(18M NOMINAL).

RE-VEGETATION ALONG
DRAIN BANK.(20M NOMINAL).
SCREEN PLANTS ALONG BOLONG ROAD.

PROPOSED RELOCATION
OF #7 BOILER.
(Drw. MN6531-005 to -009)

PROPOSED INDOOR
ELECTRICAL SUB-STATION.
(Drw. MN6531-010 & -011)
RELOCATE 26 CAR PARKING SPACES.

MANILDRA

COMPLEX

APPROVED 4 DDG DRYERS.

APPROVED OVERHEAD TRY.


PROPOSED RELOCATION OF
ONE APPROVED DDG DRYER.
(Drw. MN6531-013)

PROPOSED #8 BOILER &
GENERATOR SET.
(Drw. MN6531-005 to -009)

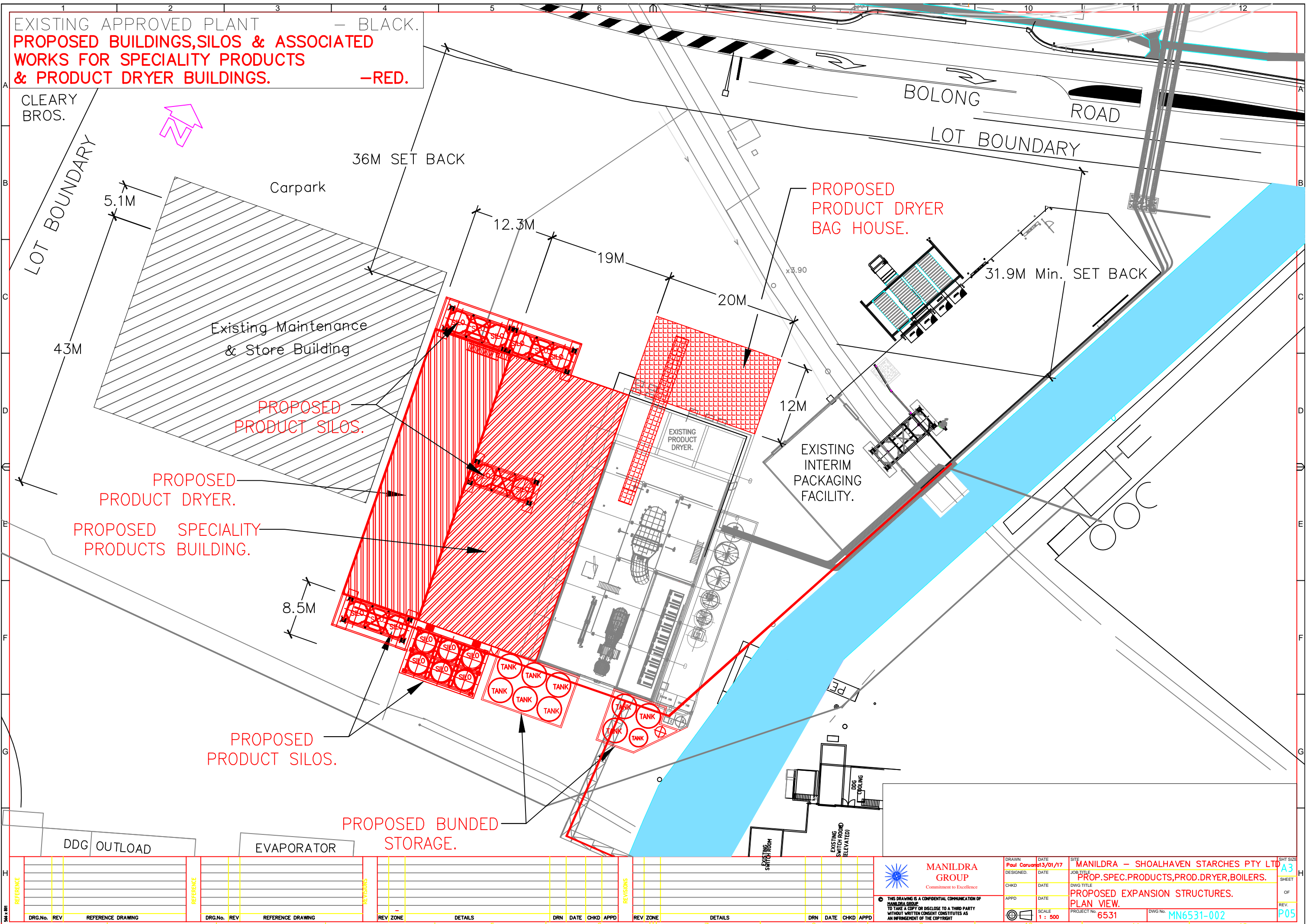
PROPOSED FLOUR MILL C
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to-007,-010,-011.)

PROPOSED LIME SILOS.
(Drw. MN6531-005 to -009)

PROPOSED MODIFICATION
TO RAIL UNLOADING.
(Drw. MN6531-012)

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|  MANILDRA GROUP 100% AUSTRALIAN | | DRAWN PC DESIGNED PC CHKD MH APPD BH | DATE 08-01-18 DATE 08-01-18 DATE 08-01-18 SCALE 1:2500 | SITE MANILDRA-SHOALHAVEN STARCHES PTY LTD. JOB TITLE PROP.SPEC.PRODUCTS,PROD.DRYER,BOILERS DWG TITLE APPROVED & NEW PROPOSALS. OVER ALL SITE PLAN. PROJECT No. 6531A DWG No. MN6531-001 | SHEET A3 OF P07 |
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PROPOSED BUILDINGS,SILOS & ASSOCIATED
WORKS FOR SPECIALITY PRODUCTS
& PRODUCT DRYER BUILDINGS. —RED.

CLEARY
BROS.
LOT BOUNDARY

BOLONG
ROAD
LOT BOUNDARY

36M SET BACK

31.9M Min. SET BACK

Carpark

PROPOSED
PRODUCT DRYER
BAG HOUSE.

Existing Maintenance
& Store Building

EXISTING
INTERIM
PACKAGING
FACILITY.

PROPOSED
PRODUCT SILOS.

PROPOSED
PRODUCT DRYER.


PROPOSED SPECIALITY
PRODUCTS BUILDING.

PROPOSED
PRODUCT SILOS.

PROPOSED BUNDED
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DDG OUTLOAD

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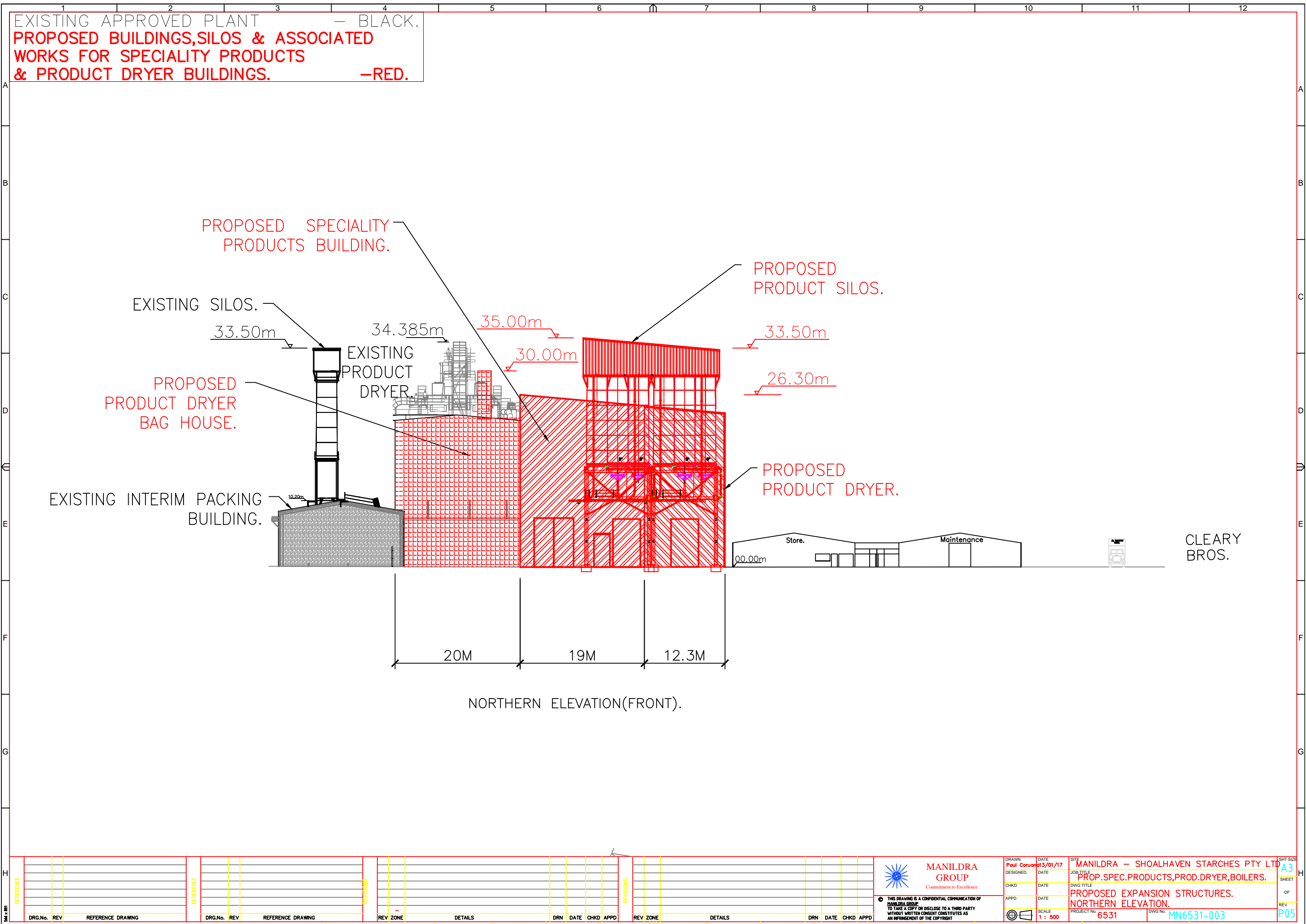


MANILDRA GROUP
Commitment to Excellence

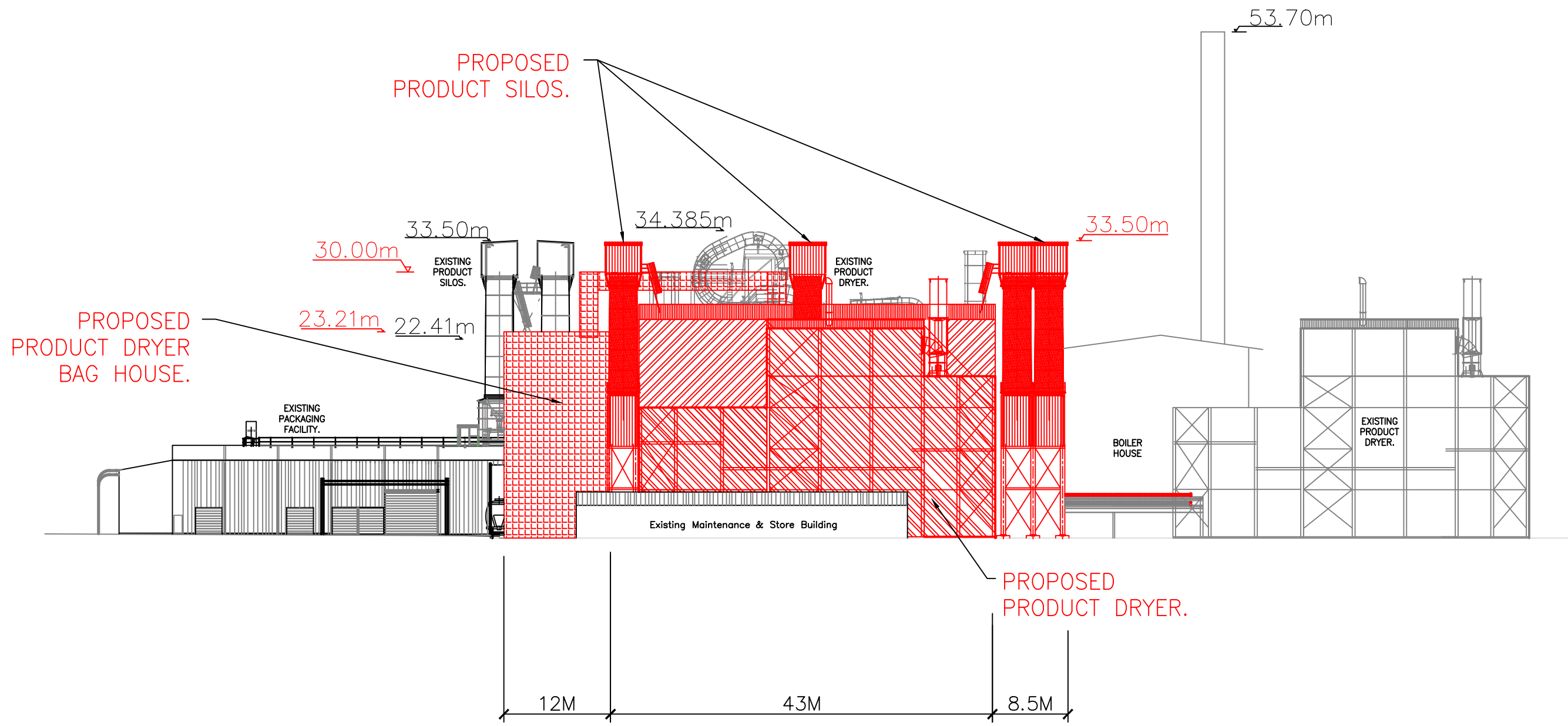
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| Paul Caruana | 3/01/17 | MANILDRA — SHOALHAVEN STARCHES PTY LTD |
| DESIGNED | DATE | JOB TITLE |
| | | PROP.SPEC.PRODUCTS,PROD.DRYER,BOILERS. |
| CHKD | DATE | DWG TITLE |
| | | PROPOSED EXPANSION STRUCTURES. |
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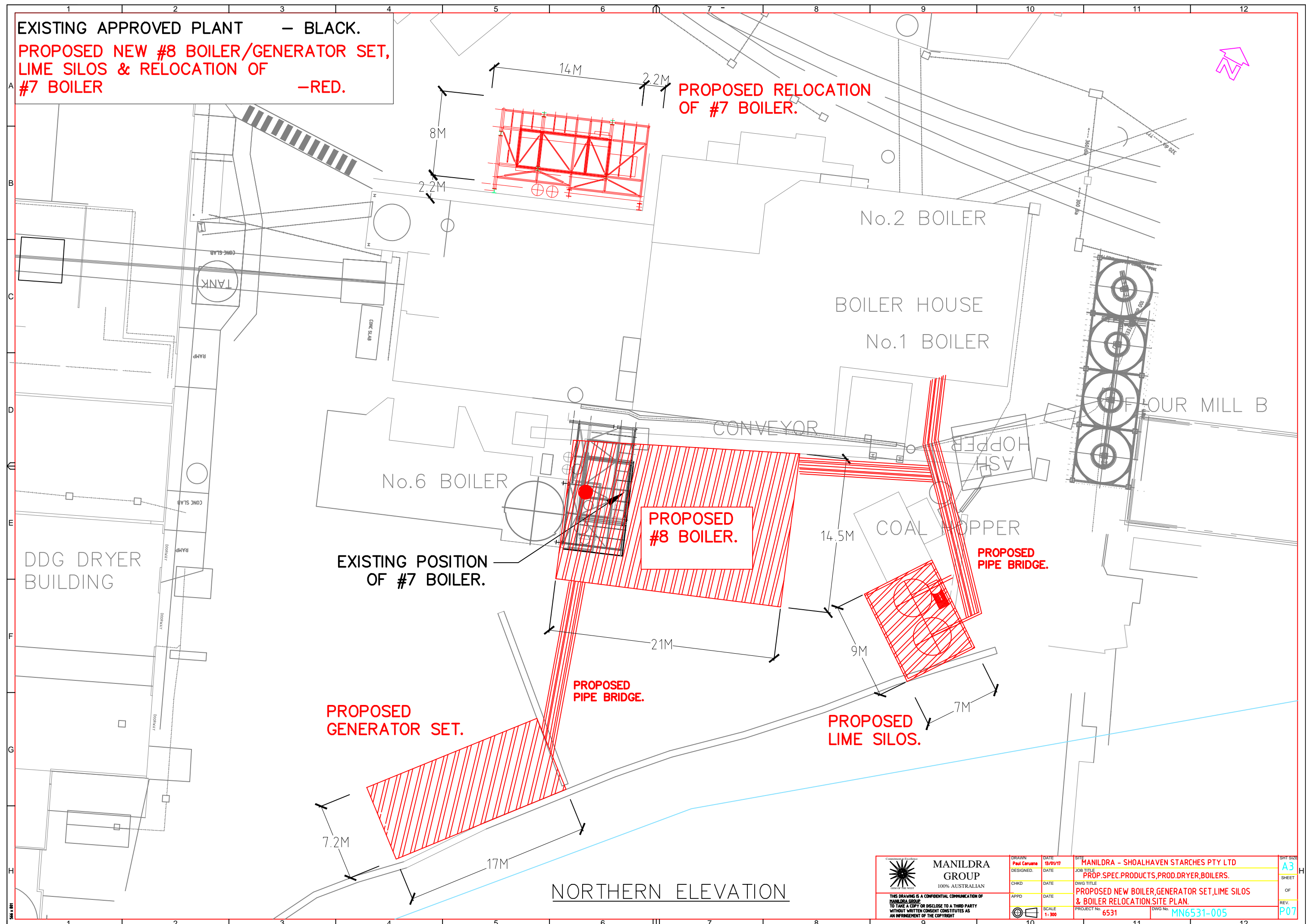



EXISTING APPROVED PLANT — BLACK.
PROPOSED BUILDINGS,SILOS & ASSOCIATED
WORKS FOR SPECIALITY PRODUCTS
& PRODUCT DRYER BUILDINGS. —RED.



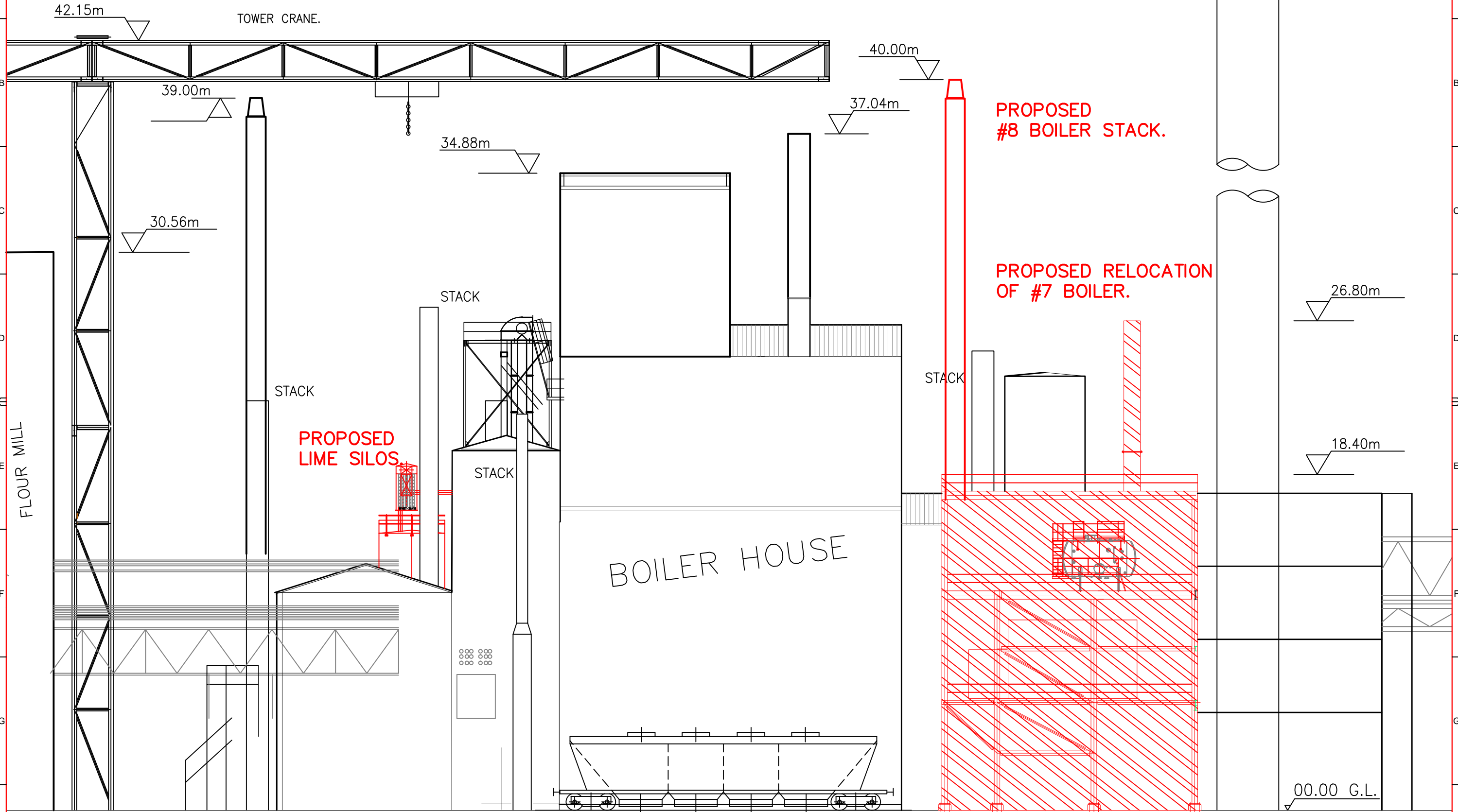
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| DRG.No. REV REFERENCE DRAWING | | | | | | | | | | DRG.No. REV REFERENCE DRAWING | | | | | | | | | | REV ZONE DETAILS DRN DATE CHKD APPD | | | | | | | | | | REV ZONE DETAILS DRN DATE CHKD APPD | | | | | | | | | | 13/01/17 | | | | | | | | | | MANILDRA – SHOALHAVEN STARCHES PTY LTD PROP.SPEC.PRODUCTS,PROD.DRYER,BOILERS. PROPOSED EXPANSION STRUCTURES. WESTERN ELEVATION. | | | | | | | | | | A3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 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EXISTING APPROVED PLANT — BLACK.
PROPOSED NEW #8 BOILER/GENERATOR SET,
LIME SILOS & RELOCATION OF
#7 BOILER —RED.




| | | | | |
|---|----------------------------------|----------------------------|--|--------------------------|
|  MANILDRA GROUP 100% AUSTRALIAN <small>THIS DRAWING IS A CONFIDENTIAL COMMUNICATION OF MANILDRA GROUP. TO TAKE A COPY OR DISCLOSE TO A THIRD PARTY WITHOUT WRITTEN CONSENT CONSTITUTES AN INFRINGEMENT OF THE COPYRIGHT.</small> | DESIGNED: Paul Caruana | DATE: 13/01/17 | SITE: MANILDRA - SHOALHAVEN STARCHES PTY LTD | SHEET SIZE: A3 |
| | CHKD: | DATE: | JOB TITLE: PROP.SPEC.PRODUCTS,PROD.DRYER,BOILERS. | SHEET OF |
| | APPD: | DATE: | DWG TITLE: PROPOSED NEW BOILER,GENERATOR SET,LIME SILOS & BOILER RELOCATION SITE PLAN. | REV. P07 |
| | SCALE: 1:300 | PROJECT NO: 6531 | DWG No: MN6531-005 | |

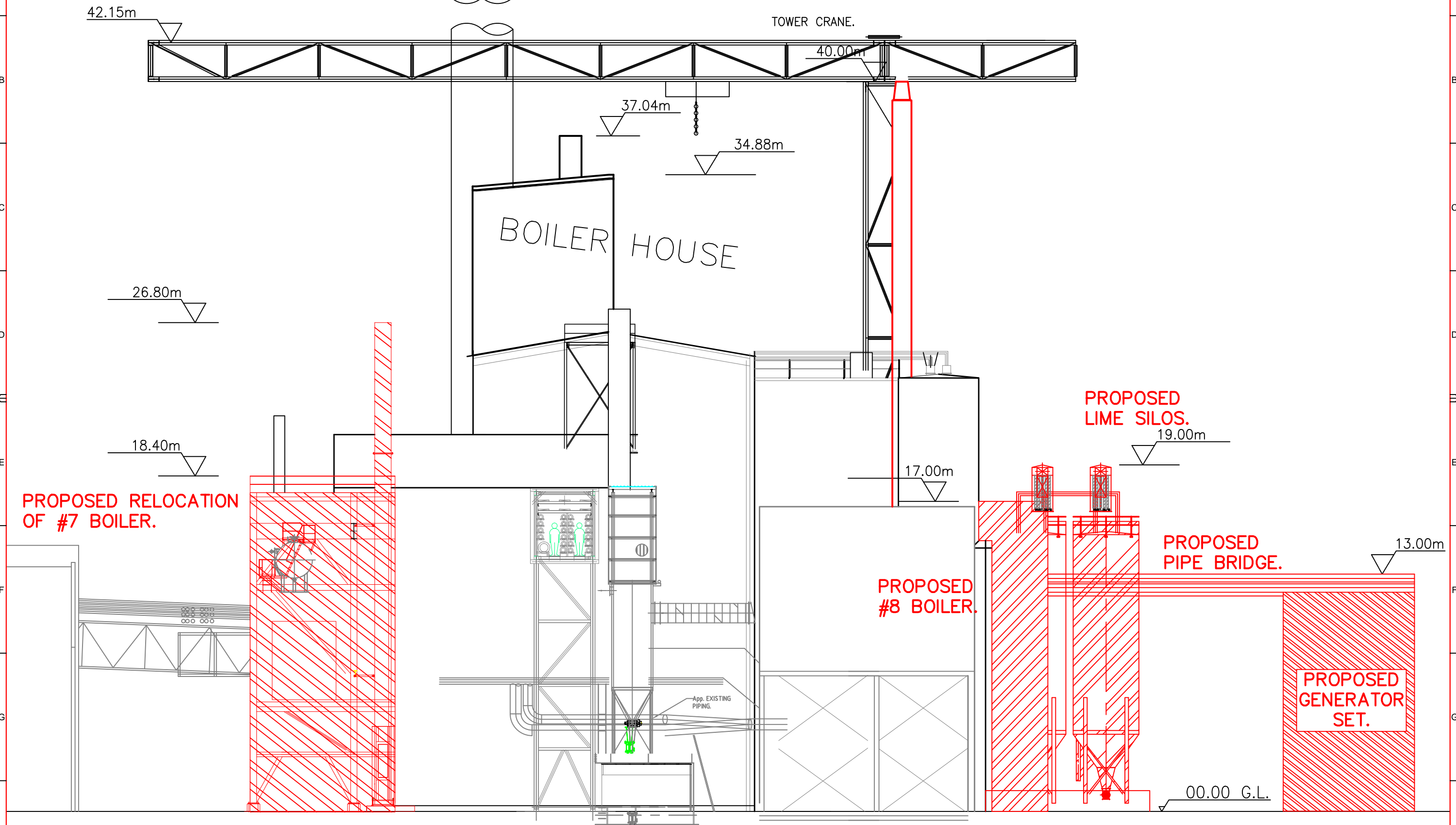
EXISTING APPROVED PLANT — BLACK.
PROPOSED NEW #8 BOILER,
GENERATOR SET,LIME SILOS &
RELOCATION OF #7 BOILER —RED.




NORTHERN ELEVATION

| | | | | |
|---|-------------------------------|-----------------------|--|--|
|  MANILDRA GROUP 100% AUSTRALIAN <small>THIS DRAWING IS A CONFIDENTIAL COMMUNICATION OF MANILDRA GROUP. TO TAKE A COPY OR DISCLOSE TO A THIRD PARTY WITHOUT WRITTEN CONSENT CONSTITUTES AS AN INFRINGEMENT OF THE COPYRIGHT</small> | DESIGNED: Paul Caruana | DATE: 13/01/17 | SITE: MANILDRA - SHOALHAVEN STARCHES PTY LTD | SHT SIZE: A3 SHEET: OF REV: P07 |
| | CHKD: | DATE: | JOB TITLE: PROP.SPEC.PRODUCTS,PROD.DRYER,BOILERS. | |
| | APPD: | DATE: | DWG TITLE: PROPOSED NEW BOILER,GENERATOR SET,LIME SILOS & BOILER RELOCATION.NORTHERN ELEVATION. | |
| | SCALE: 1:200 | | PROJECT No: 6531 | |
| | DWG No: MN6531-006 | | | |

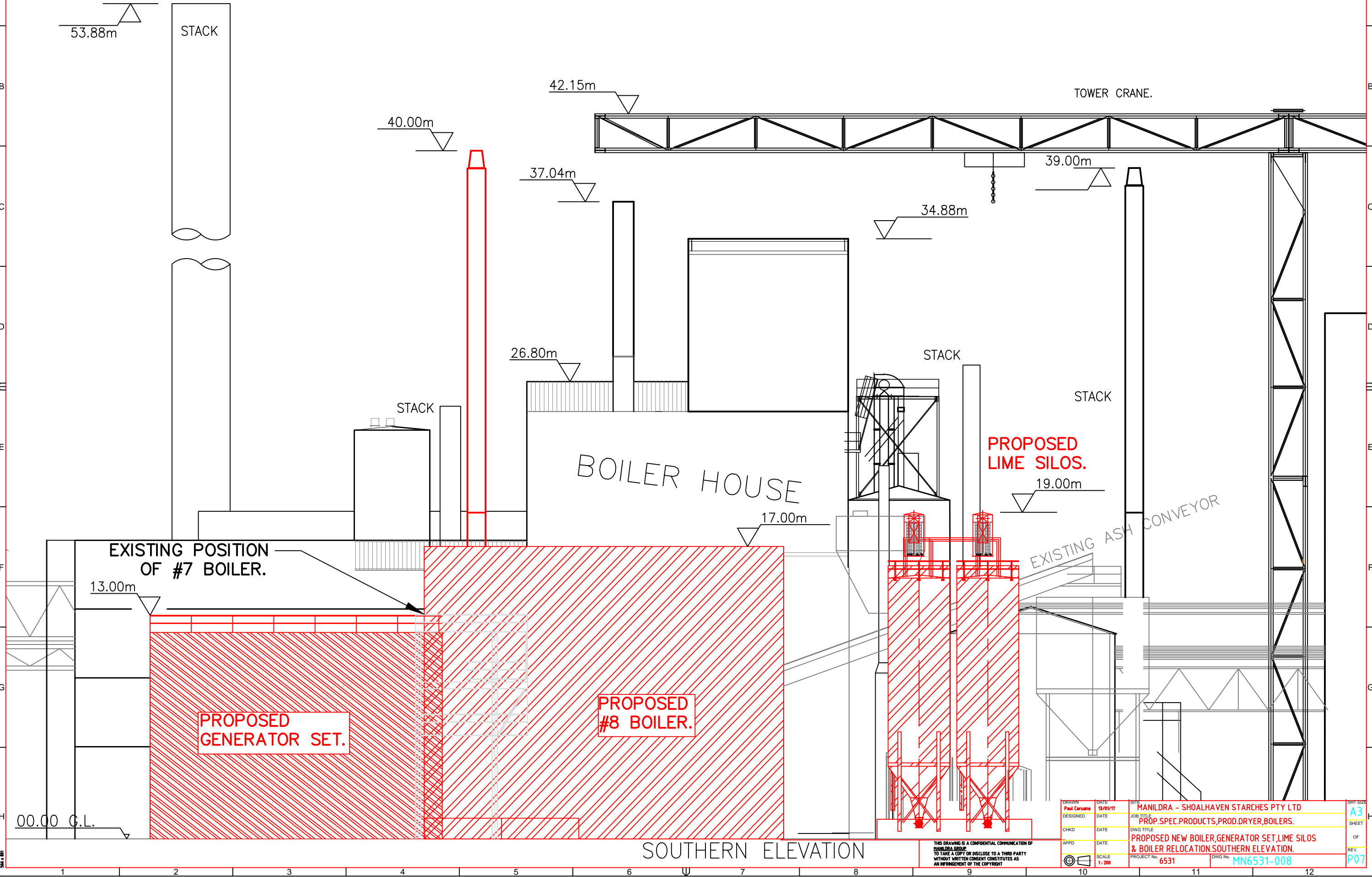
EXISTING APPROVED PLANT — BLACK.
PROPOSED NEW #8 BOILER,
GENERATOR SET,LIME SILOS
& RELOCATION OF #7 BOILER —RED.



WESTERN ELEVATION

| | | | | |
|--|-------------------------------|-------------------------|---|--|
|  MANILDRA GROUP 100% AUSTRALIAN <small>THIS DRAWING IS A CONFIDENTIAL COMMUNICATION OF MANILDRA GROUP. TO TAKE A COPY OR DISCLOSE TO A THIRD PARTY WITHOUT WRITTEN CONSENT CONSTITUTES AS AN INFRINGEMENT OF THE COPYRIGHT.</small> | DESIGNED: Paul Caruana | DATE: 13/01/17 | SITE: MANILDRA - SHOALHAVEN STARCHES PTY LTD | SHT SIZE: A3 SHEET: OF REV: P07 |
| | CHKD: | DATE: | JOB TITLE: PROP. SPEC. PRODUCTS, PROD. DRYER, BOILERS. | |
| | APPD: | DATE: | DWG TITLE: PROPOSED NEW BOILER #8, GENERATOR SET, LIME SILOS & BOILER RELOCATION. WESTERN ELEVATION. | |
| | SCALE: 1:200 | PROJECT No: 6531 | DWG No: MN6531-007 | |

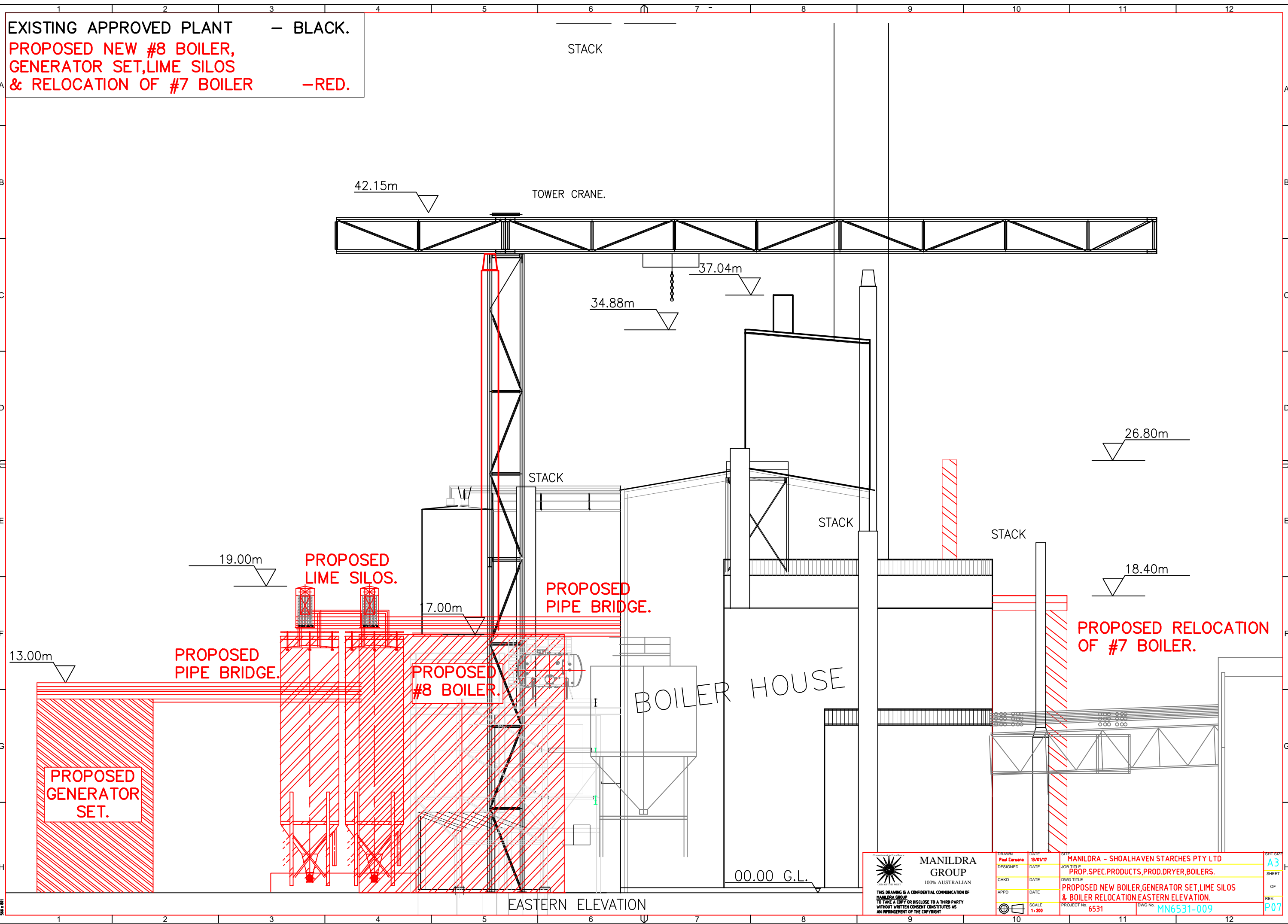
EXISTING APPROVED PLANT — BLACK.
PROPOSED NEW #8 BOILER,
GENERATOR SET,LIME SILOS
& RELOCATION OF #7 BOILER —RED.




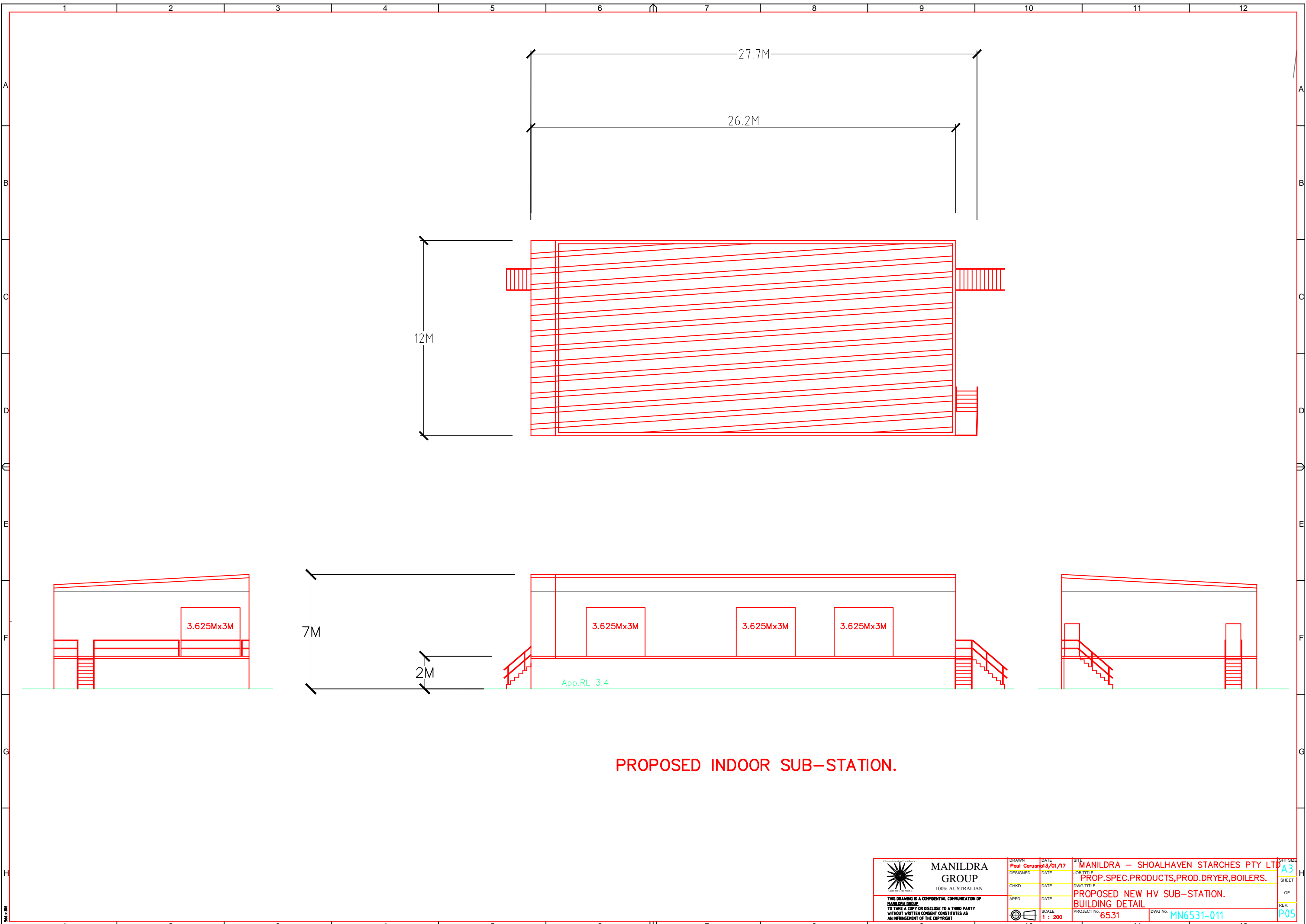
THIS DRAWING IS A CONFIDENTIAL COMMUNICATION OF
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WITHOUT WRITTEN CONSENT CONSTITUTES AS
AN INFRINGEMENT OF THE COPYRIGHT

| | | | |
|-----------------------|------------------|---|-----------------------|
| DRAWN Paul Caruana | DATE 13/01/17 | SITE MANILDRA - SHOALHAVEN STARCHES PTY LTD | SHY SIZE A3 |
| DESIGNED | DATE | JOB TITLE PROP. SPEC. PRODUCTS, PROD. DRYER, BOILERS. | SHEET OF |
| CHKD | DATE | DWG TITLE PROPOSED NEW BOILER, GENERATOR SET, LIME SILOS & BOILER RELOCATION. SOUTHERN ELEVATION. | REV. P07 |
| APPD | DATE | PROJECT No. 6531 | DWG No. MN6531-008 |
| | SCALE 1:200 | | |


EXISTING APPROVED PLANT — BLACK.
PROPOSED NEW #8 BOILER,
GENERATOR SET,LIME SILOS
& RELOCATION OF #7 BOILER —RED.



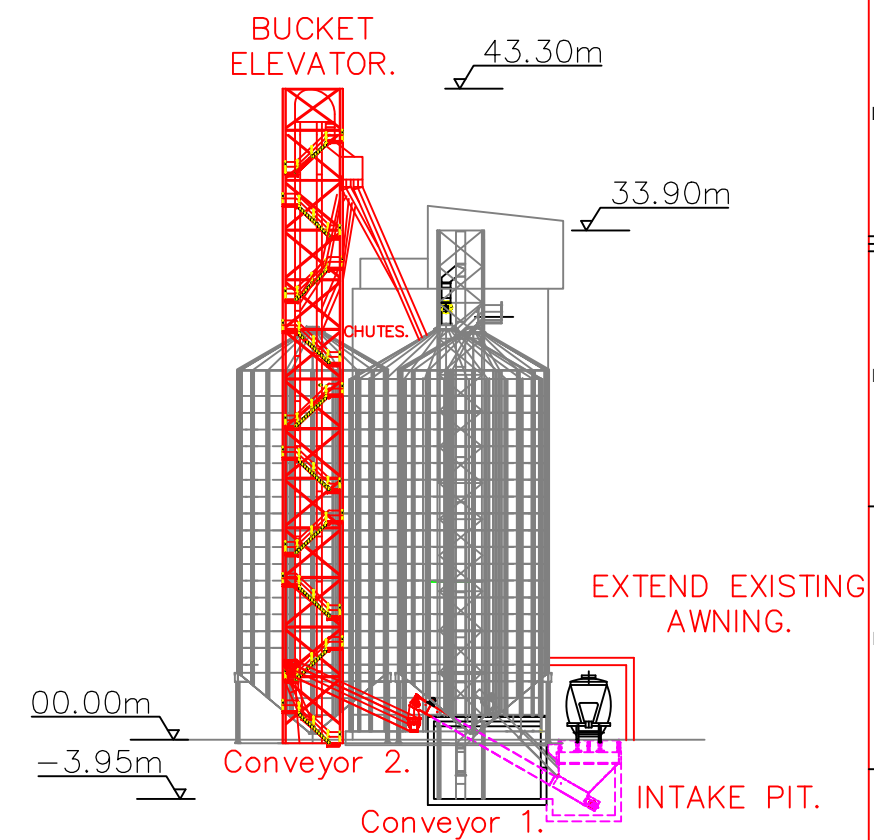
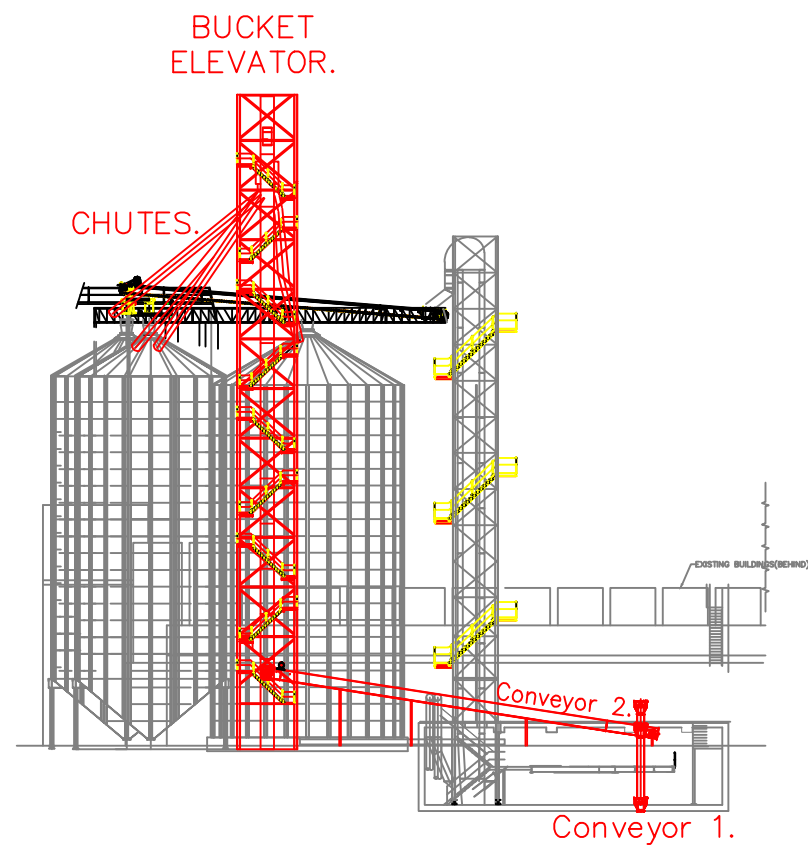
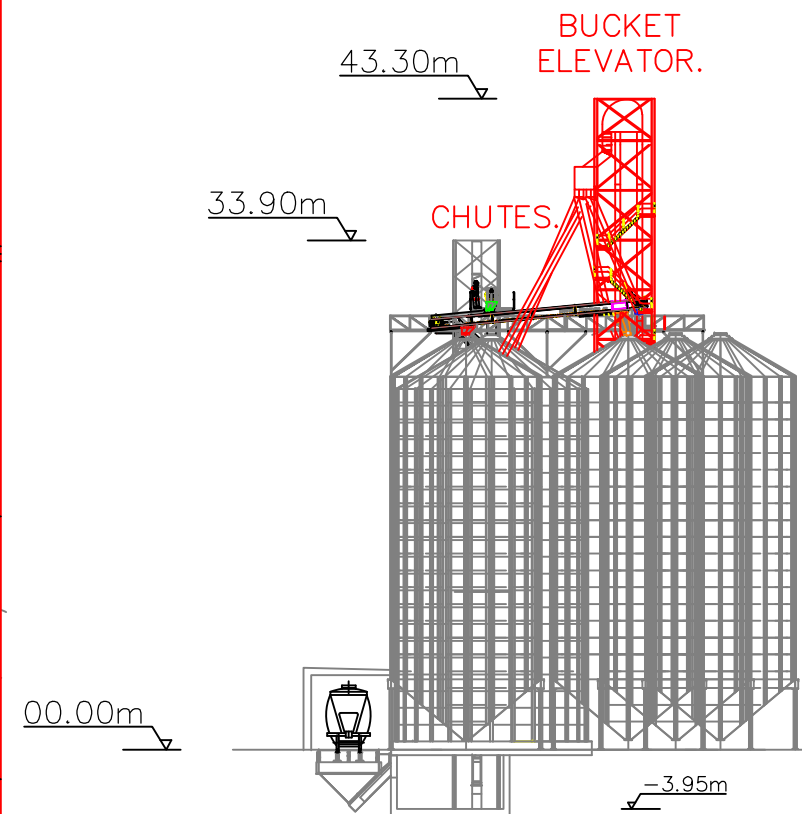
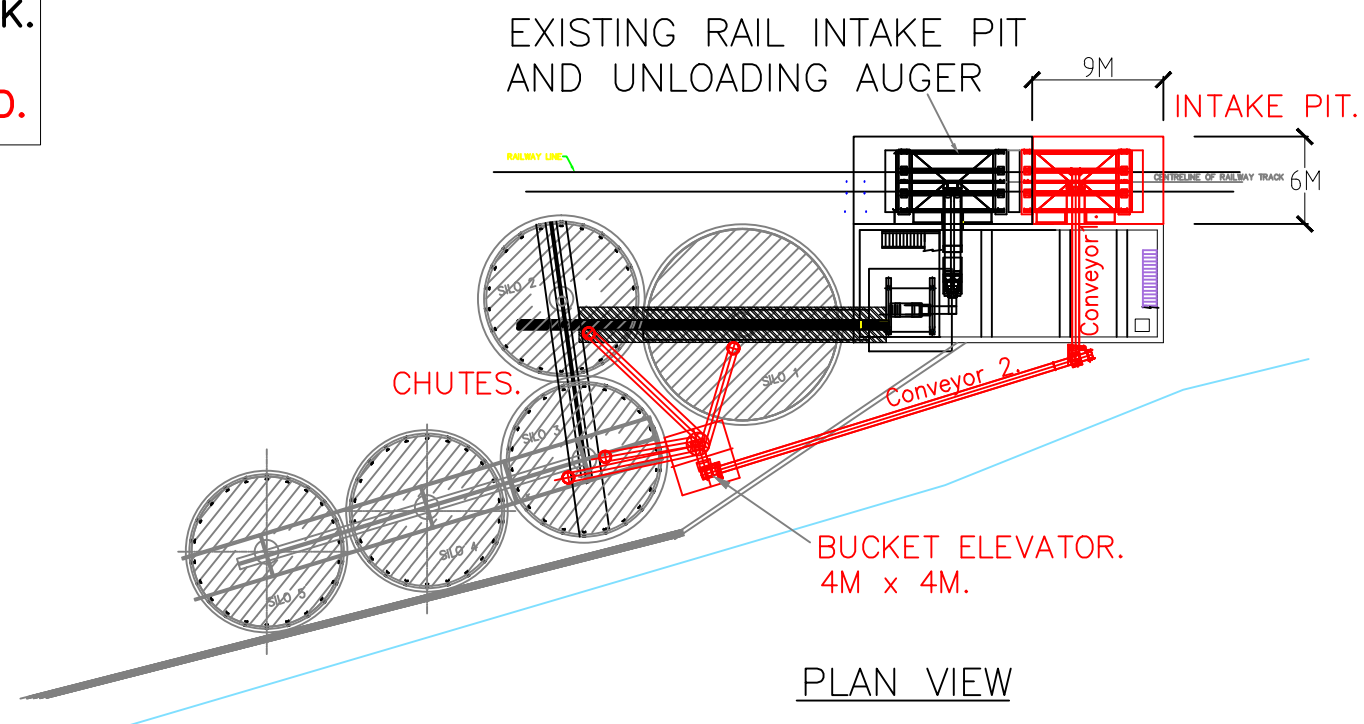
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|  MANILDRA GROUP 100% AUSTRALIAN <small>THIS DRAWING IS A CONFIDENTIAL COMMUNICATION OF MANILDRA GROUP. TO TAKE A COPY OR DISCLOSE TO A THIRD PARTY WITHOUT WRITTEN CONSENT CONSTITUTES AS AN INFRINGEMENT OF THE COPYRIGHT.</small> | DATE DESIGNED 13/01/17 | SITE MANILDRA - SHOALHAVEN STARCHES PTY LTD | SHEET A3 OF P07 |
| | DATE CHKD | JOB TITLE PROP. SPEC. PRODUCTS, PROD. DRYER, BOILERS. | |
| | DATE APPD | DWG TITLE PROPOSED NEW BOILER, GENERATOR SET, LIME SILOS & BOILER RELOCATION, EASTERN ELEVATION. | |
| | SCALE 1:200 | PROJECT No. 6531 | |
| | | DWG No. MN6531-009 | |





PROPOSED INDOOR SUB-STATION.

| | | | | |
|--|------------------------------|----------------------------|--|-------------------------|
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| | DESIGNED | DATE | JOB TITLE PROP.SPEC.PRODUCTS,PROD.DRYER,BOILERS. | SHEET 05 |
| | CHKD | DATE | DWG TITLE PROPOSED NEW HV SUB-STATION. | OF |
| | APPD | DATE | BUILDING DETAIL | REV. |
| | SCALE 1 : 200 | PROJECT No. 6531 | DWG No. MN6531-011 | P05 |

EXISTING APPROVED PLANT — BLACK.
PROPOSED MODIFICATION TO RAIL UNLOADING —RED.



| REV | ZONE | DETAILS | DRN | DATE | CHKD | APPD |
|------|------|-----------|------|----------|------|------|
| REV1 | ALL | PROPOSAL. | P.C. | 22/02/18 | M.H. | |

| | | | | | |
|--|----------|------|---|--|------------|
|  MANILDRA GROUP 100% AUSTRALIAN | DRAWN | DATE | SITE | SHEET A3 OF 05 REV. P05 | |
| | DESIGNED | DATE | JOB TITLE | | |
| | CHKD | DATE | DWG TITLE | | |
| | APPD | DATE | PROPOSED MODIFICATION TO RAIL UNLOADING PLAN & ELEVATIONS. | | |
| THIS DRAWING IS A CONFIDENTIAL COMMUNICATION OF MANILDRA GROUP. TO TAKE A COPY OR DISCLOSE TO A THIRD PARTY WITHOUT WRITTEN CONSENT CONSTITUTES AS AN INFRINGEMENT OF THE COPYRIGHT. | | | SCALE | PROJECT No | DWG No |
|  | | | 1 : 500 | 6531 | MN6531-012 |
| 9 | | | 10 | 11 | 12 |

EXISTING APPROVED PLANT — BLACK.
PROPOSED RELOCATION OF
ONE APPROVED DDG DRYER. —RED.

17M

29M

REMOVE EXISTING
STRUCTURE.

PLAN VIEW

REMOVE EXISTING
STRUCTURE.

TANK

EASTERN ELEVATION

21.20m


16.00m

00.00m

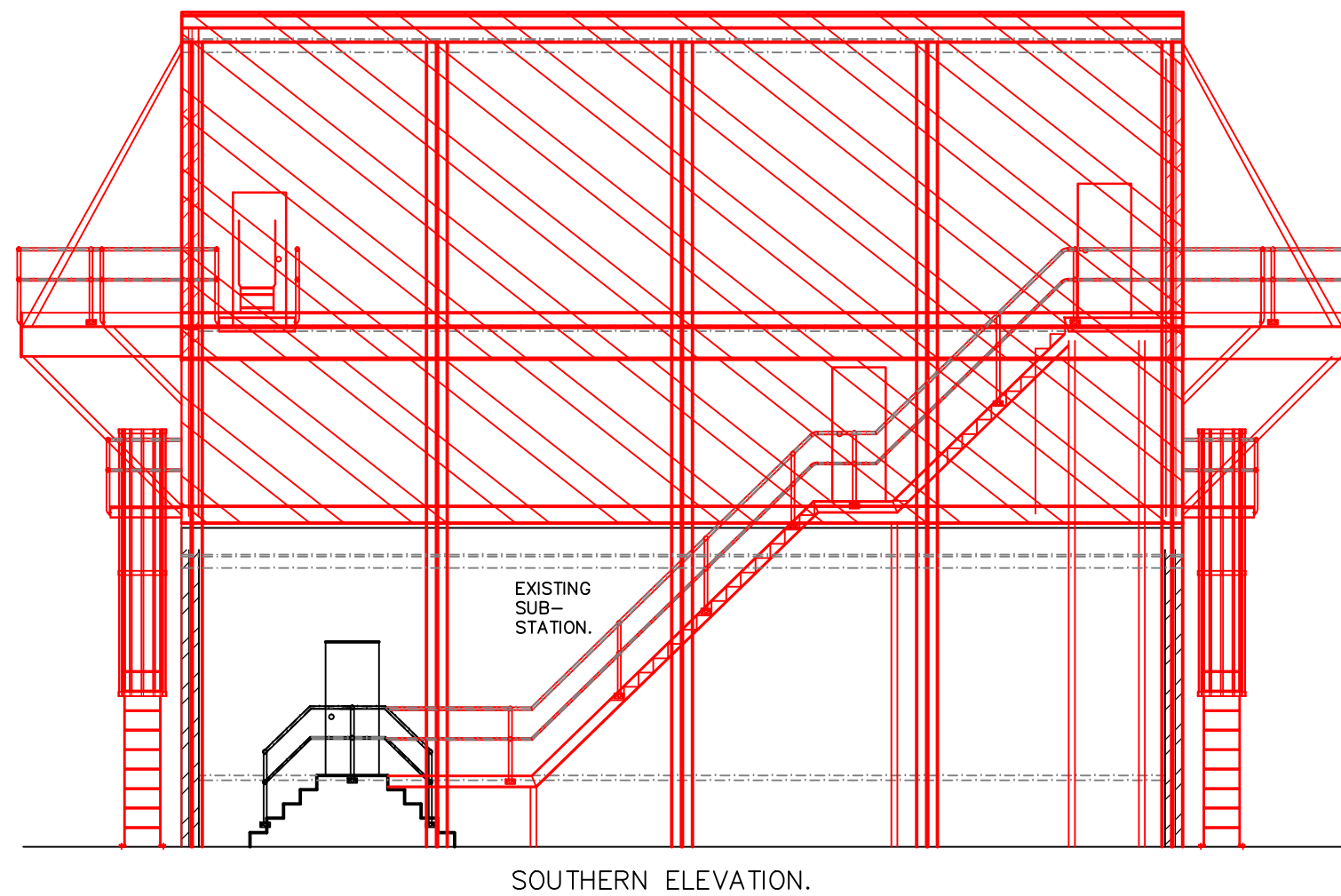
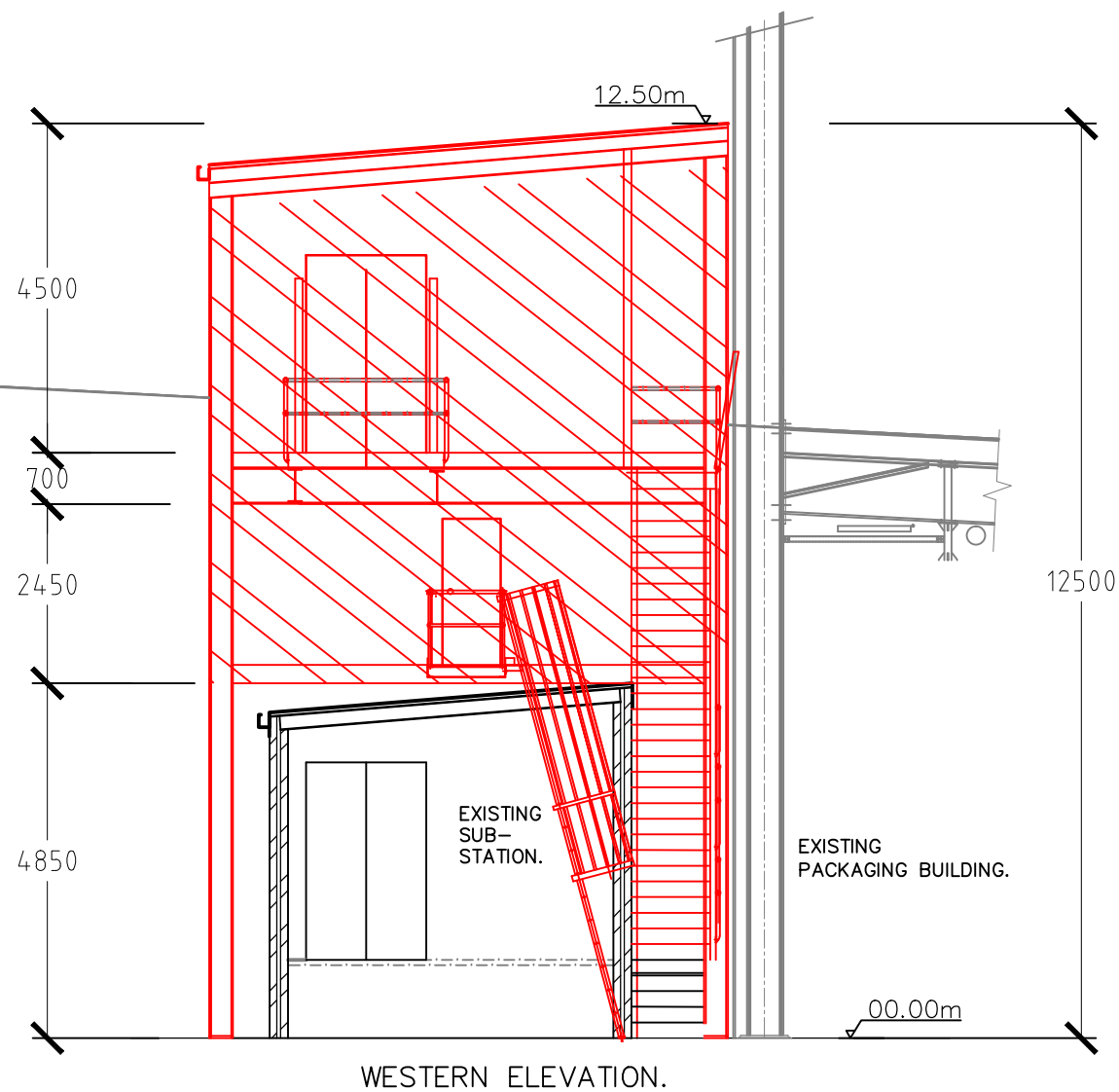
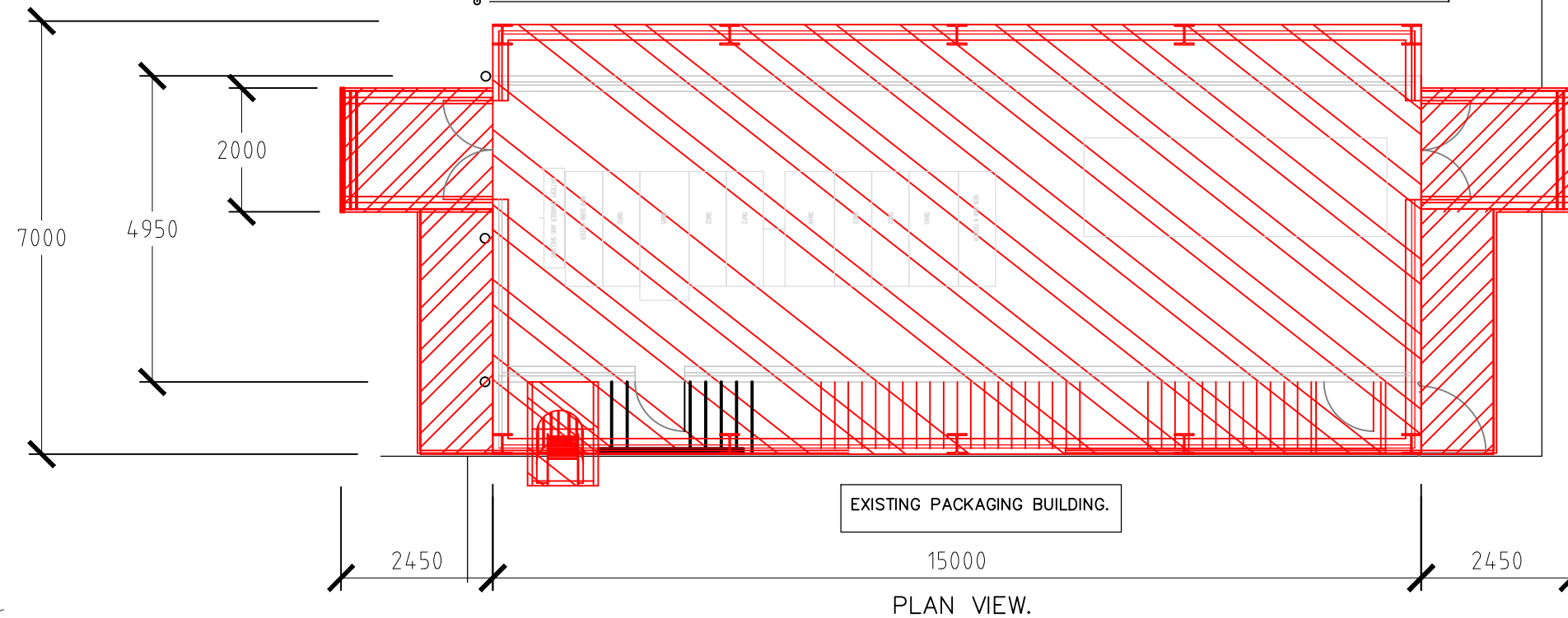
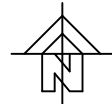
NORTHERN ELEVATION


RELOCATE EXISTING
DDG COOLING UNITS.

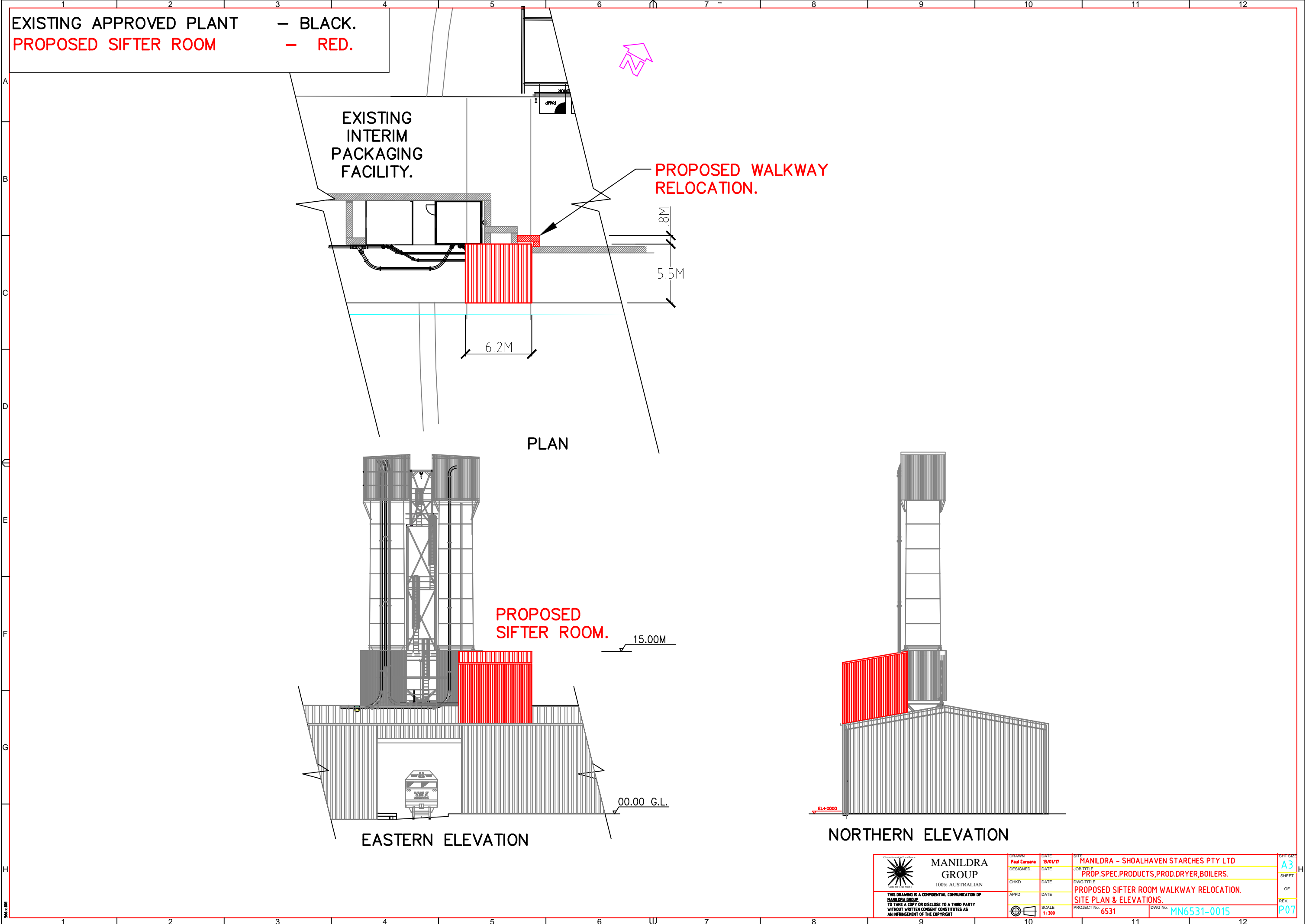
| REV | ZONE | DETAILS | DRN | DATE | CHKD | APPD |
|------|------|-----------|------|----------|------|------|
| REV1 | ALL | PROPOSAL. | P.C. | 22/02/18 | M.H. | |



| | | | | | |
|---|----------|------|------------------|-------------------------|------|
|  MANILDRA GROUP 100% AUSTRALIAN | DRAWN | DATE | SITE | SHEET SIZE A3 | |
| | DESIGNED | DATE | JOB TITLE | | |
| | CHKD | DATE | DWG TITLE | | |
| | APPD | DATE | PROJECT NO | | |
| THIS DRAWING IS A CONFIDENTIAL COMMUNICATION OF MANILDRA GROUP. TO TAKE A COPY OR DISCLOSE TO A THIRD PARTY WITHOUT WRITTEN CONSENT CONSTITUTES AS AN INFRINGEMENT OF THE COPYRIGHT | | | SCALE 1 : 500 | DWG No. | REV. |
| | | | | MN6531-013 | P05 |

EXISTING APPROVED PLANT — BLACK.
PROPOSED 2ND STOREY EXTENSION
TO EXISTING MAIN SUB STATION. — RED.



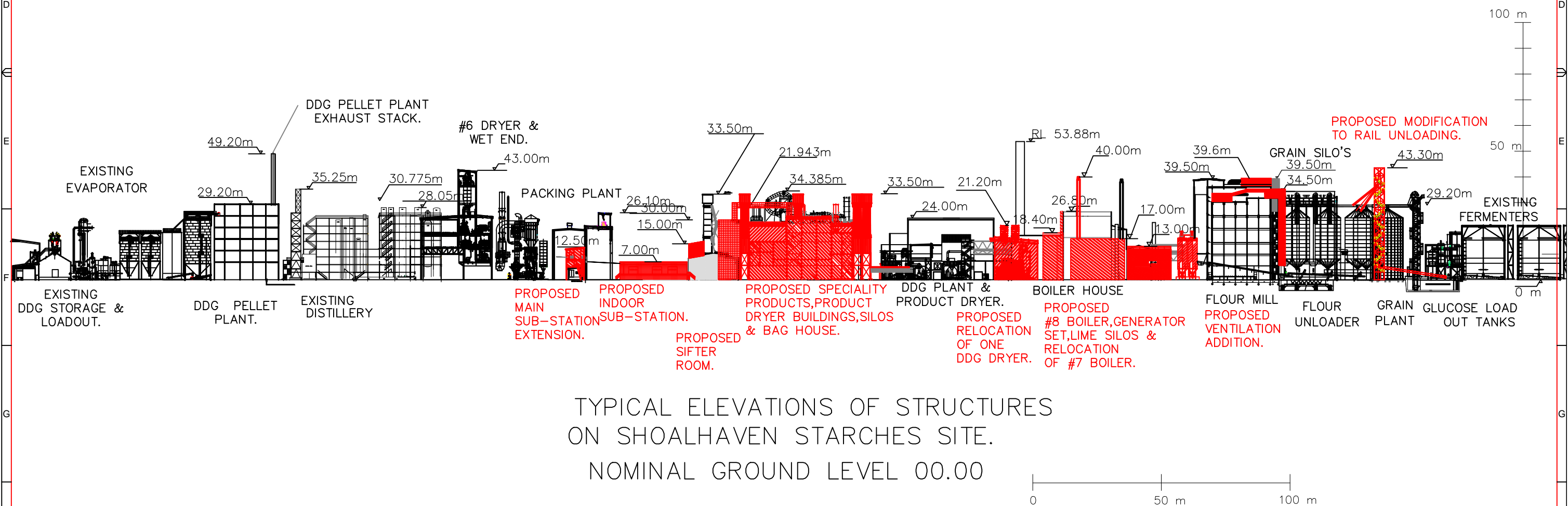
| | | | | |
|---|--|----------------|---|---|
|  MANILDRA GROUP 100% AUSTRALIAN | DESIGNED: Paul Caruso | DATE: 02/03/18 | SITE: MANILDRA - SHOALHAVEN STARCHES PTY LTD JOB TITLE: PROP.SPEC.PRODUCTS,PROD.DRYER,BOILERS. DWG TITLE: PROPOSED 2nd STOREY EXTENSION TO MAIN SUB-STATION,PLAN VIEW & ELEVATIONS. PROJECT No: 6531 DWG No: MN6531-014 | SHEET SIZE: A3 SHEET: 06 OF: 06 REV: P06 |
| | CHKD: | DATE: | | |
| | APPD: | DATE: | | |
| | SCALE: 1 : 100 | | | |
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| | | | | |
|--|------------------------------|-------------------------|--|-------------------------------|
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| | DESIGNED | DATE | JOB TITLE PROP. SPEC. PRODUCTS, PROD. DRYER, BOILERS. | SHEET OF |
| | CHKD | DATE | DWG TITLE PROPOSED SIFTER ROOM WALKWAY RELOCATION. SITE PLAN & ELEVATIONS. | REV. |
| | APPD | DATE | PROJECT No. 6531 | DWG No. MN6531-0015 |
|  | | SCALE 1:300 | | |

EXISTING APPROVED PLANT.

PROPOSED BUILDINGS,SILOS,BOILERS,
SUB-STATIONS,FLOUR MILLS VENTILATION,MODIFICATION
TO RAIL UNLOADING,RELOCATION OF ONE APPROVED
DDG DRYER & ASSOCIATED WORKS FOR
SPECIALITY PRODUCTS & PRODUCT DRYER. -RED.



| | | | | | | | | | | | | | | | |
|-----------|-----|-----------|-----|-----------|------|---------|------|------|------|------|------|------|------|------|------|
| REFERENCE | | REFERENCE | | REVISIONS | | DETAILS | | DRN | | DATE | | CHKD | | APPD | |
| DRG.No. | REV | DRG.No. | REV | REV | ZONE | DATE | DATE | DATE | DATE | DATE | DATE | DATE | DATE | DATE | DATE |
| 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |

**MANILDRA GROUP**
Commitment to Excellence

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| | | |
|--------------|----------|-----------------------------|
| DRAWN | DATE | SITE |
| Paul Caruana | 3/01/17 | SHOALHAVEN STARCHES PTY LTD |
| DESIGNED | DATE | JOB TITLE |
| CHKD | DATE | DWG TITLE |
| APPD | DATE | PROJECT No. |
| SCALE | 1 : 1500 | DWG No. |

PROP. SPEC. PROD. PROD. DRYER, BOILERS.

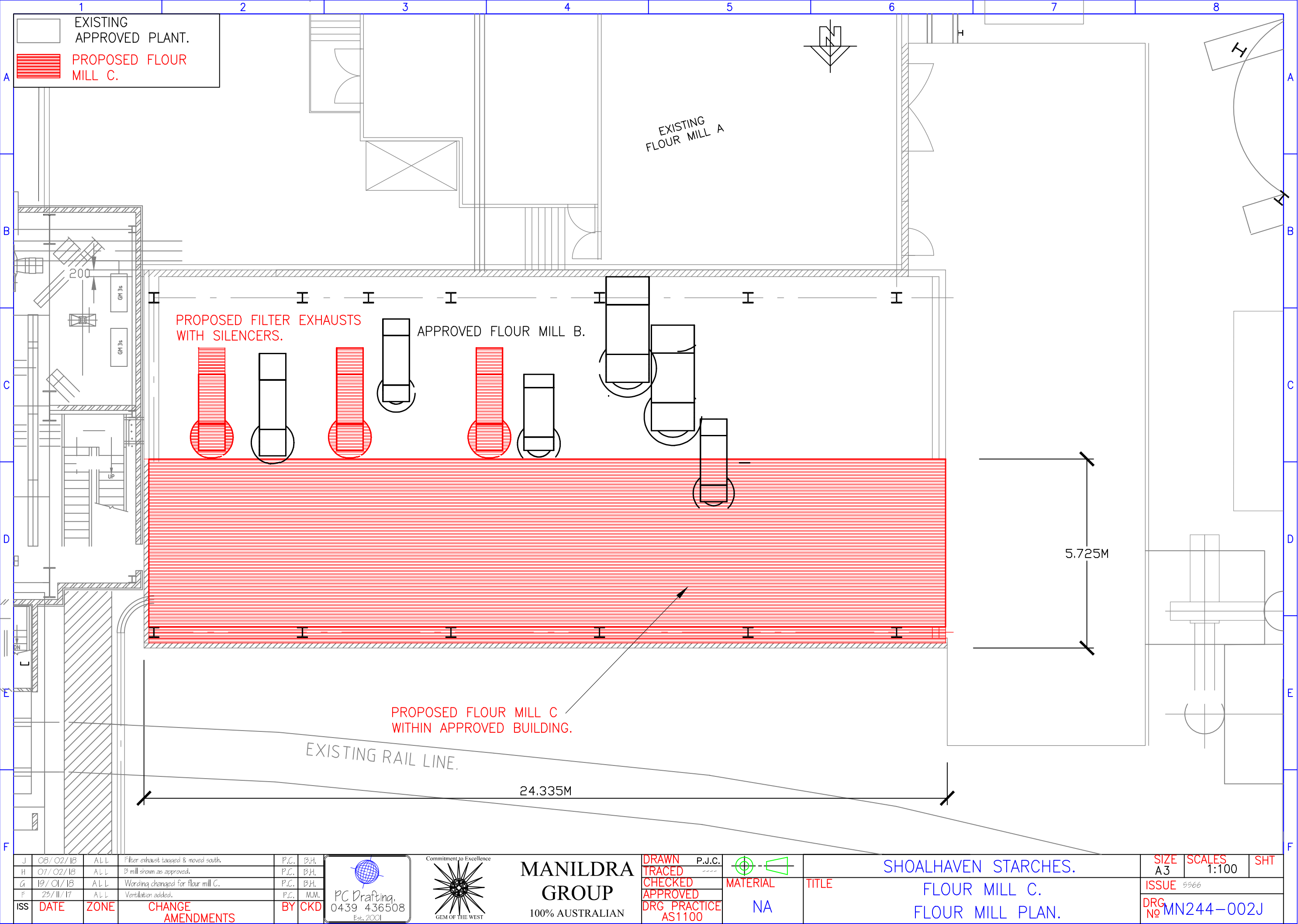
PRODUCT DRYERS, SILOS, BOILERS, SUB-STATION RAIL UNLOADING & DDG DRYER. SITE ELEVATION

6531

MN6531-016

A3

P07



| | | | | | |
|-----|----------|------|--------------------------------------|------|------|
| J | 08/02/18 | ALL | Filter exhaust tagged & moved south. | P.C. | B.H. |
| H | 07/02/18 | ALL | B mill shown as approved. | P.C. | B.H. |
| G | 19/01/18 | ALL | Wording changed for flour mill C. | P.C. | B.H. |
| F | 25/11/17 | ALL | Ventilation added. | P.C. | M.M. |
| ISS | DATE | ZONE | CHANGE AMENDMENTS | BY | CKD |




PC Drafting
0439 436508
Est. 2001



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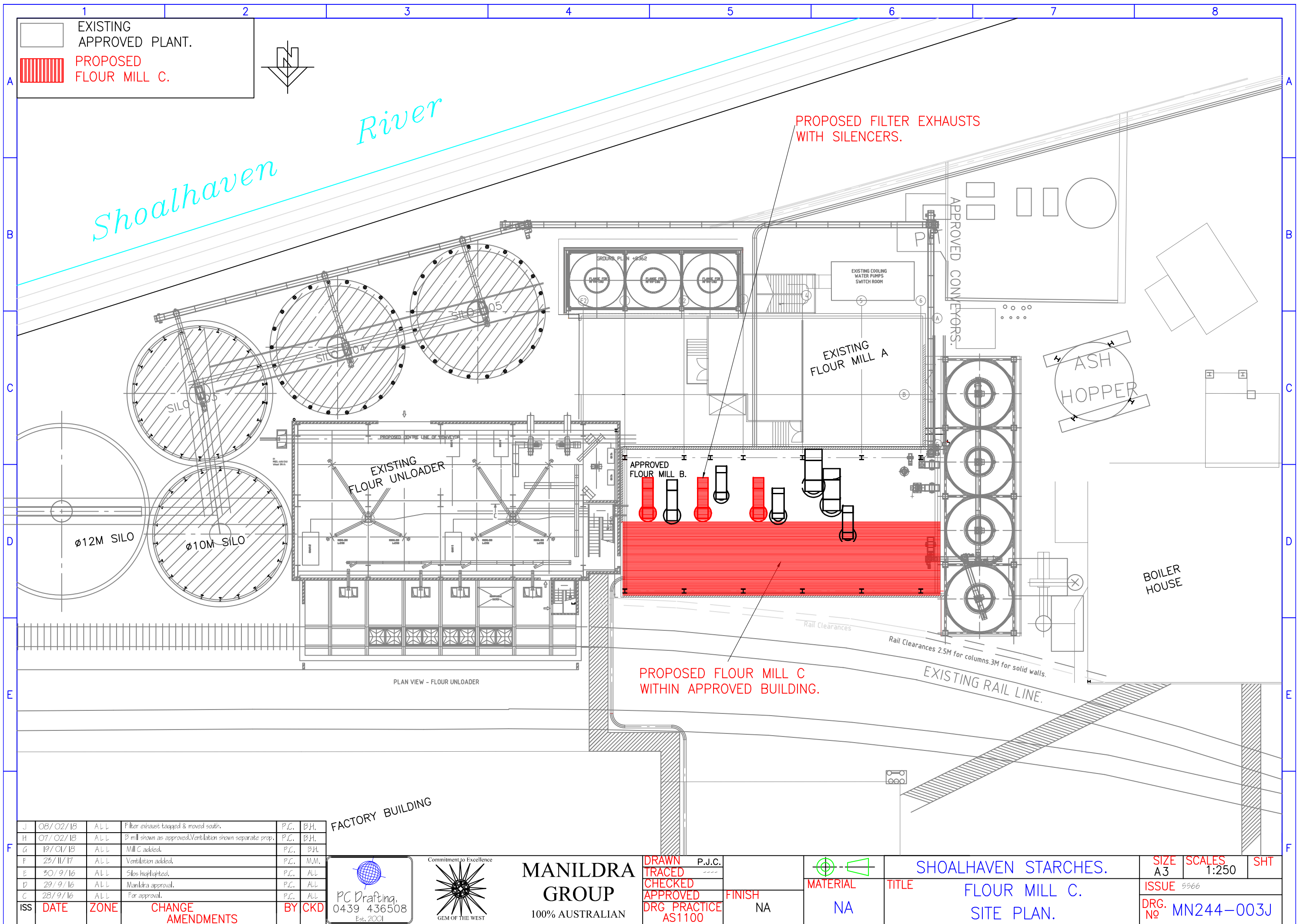
DRAWN
TRACED
CHECKED
APPROVED
DRG PRACTICE
AS1100



P.J.C.
MATERIAL
NA

TITLE
SHOALHAVEN STARCHES.
FLOUR MILL C.
FLOUR MILL PLAN.

| | | |
|-------------------|-----------------|-----|
| SIZE A3 | SCALES 1:100 | SHT |
| ISSUE 5566 | | |
| DRG No MN244-002J | | |



| | | | | | |
|-----|----------|------|--|------|------|
| J | 08/02/18 | ALL | Filter exhaust tagged & moved south. | P.C. | B.H. |
| H | 07/02/18 | ALL | B mill shown as approved. Ventilation shown separate prop. | P.C. | B.H. |
| G | 19/01/18 | ALL | Mill C added. | P.C. | B.H. |
| F | 23/11/17 | ALL | Ventilation added. | P.C. | M.M. |
| E | 30/9/16 | ALL | Silos highlighted. | P.C. | ALL |
| D | 29/9/16 | ALL | Manidra approval. | P.C. | ALL |
| C | 28/9/16 | ALL | For approval. | P.C. | ALL |
| ISS | DATE | ZONE | CHANGE AMENDMENTS | BY | CKD |

FACTORY BUILDING



MANILDRA GROUP
100% AUSTRALIAN

DRAWN
TRACED
CHECKED
APPROVED
DRG PRACTICE
AS1100

P.J.C.
FINISH
NA

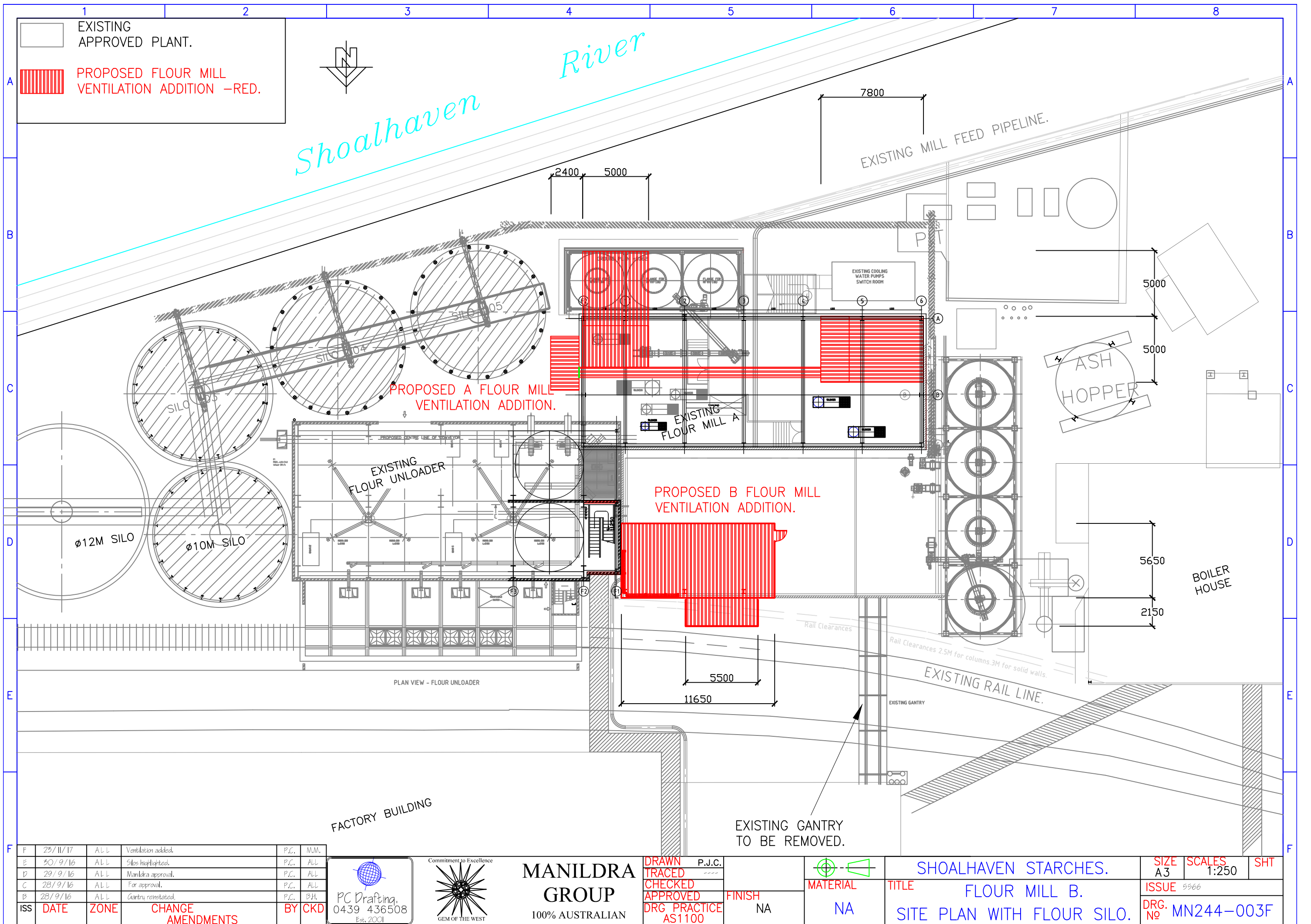
MATERIAL
NA

SHOALHAVEN STARCHES.
FLOUR MILL C.
SITE PLAN.

SIZE
A3
ISSUE
5566
DRG. No
MN244-003J

SHT

1:250



| | | | | | |
|-----|----------|------|--------------------|------|------|
| F | 25/11/17 | ALL | Ventilation added. | P.C. | M.M. |
| E | 30/9/16 | ALL | Silos highlighted. | P.C. | ALL |
| D | 29/9/16 | ALL | Manindra approval. | P.C. | ALL |
| C | 28/9/16 | ALL | For approval. | P.C. | ALL |
| B | 28/9/16 | ALL | Gantry reinstated. | P.C. | B.H. |
| ISS | DATE | ZONE | CHANGE AMENDMENTS | BY | CKD |



MANILDRA GROUP
100% AUSTRALIAN

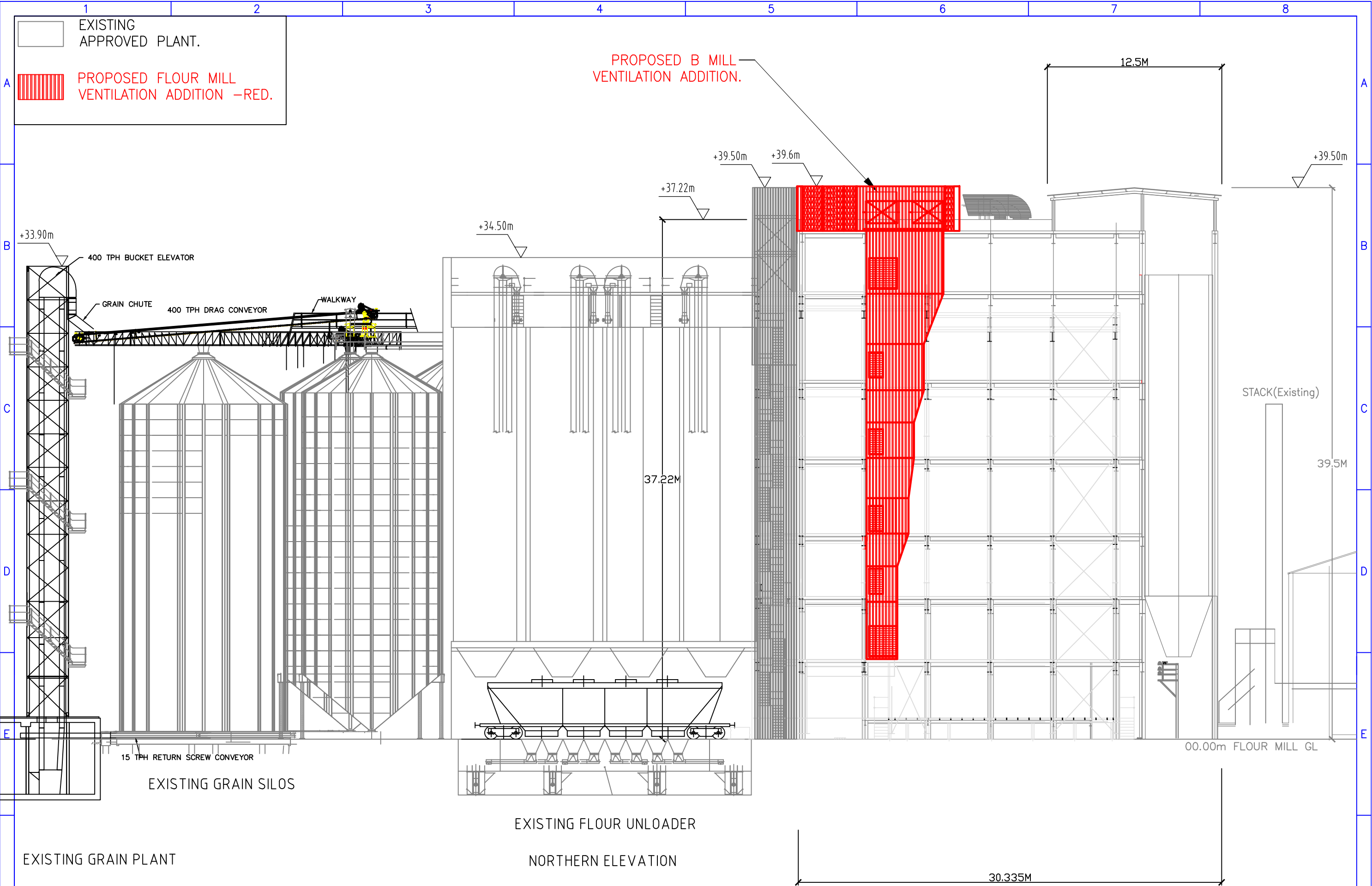
DRAWN
TRACED
CHECKED
APPROVED
DRG PRACTICE
AS1100

P.J.C.
FINISH
NA

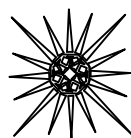
MATERIAL
NA

SHOALHAVEN STARCHES.
FLOUR MILL B.
SITE PLAN WITH FLOUR SILO.

SIZE
A3
SCALE
1:250
SHT
ISSUE
5566
DRG. No
MN244-003F



| | | | | | | |
|---|-----|----------|------|----------------------|---------|------|
| F | P | 23/11/17 | ALL | Ventilation added. | P.C. | M.M. |
| | E | 30/9/16 | ALL | Wording added. | P.C. | ALL |
| | D | 29/9/16 | ALL | Manidra approval. | P.C. | ALL |
| | C | 28/9/16 | ALL | For approval. | P.C. | ALL |
| | I | 15-08-16 | ALL | Draft. | Paul C. | M.M. |
| | ISS | DATE | ZONE | CHANGE AMENDMENTS | BY | CKD |



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GROUP
100% AUSTRALIAN

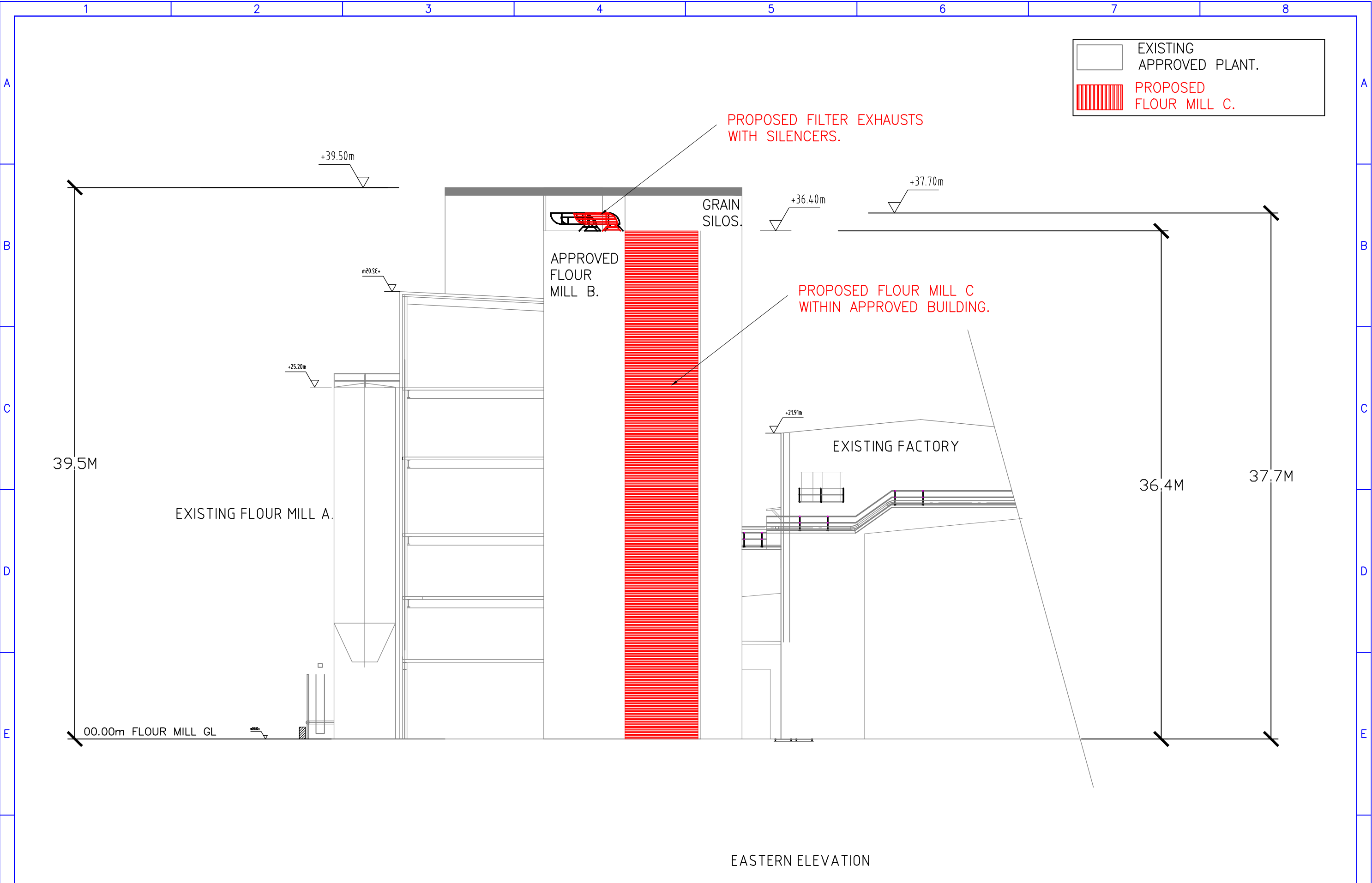
DRAWN
TRACED
CHECKED
APPROVED
DRG PRACTICE
AS1100

P.J.C.

MATERIAL
NA

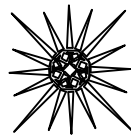
SHOALHAVEN STARCHES.
FLOUR MILL B.
SITE NORTHERN ELEVATION

SIZE
A3
SCALES
1:250
SHT
ISSUE 5566
DRG. No MN244-004F



EASTERN ELEVATION

| | | | | | |
|-----|----------|------|--|------|------|
| J | 08/02/18 | ALL | Filter exhaust tagged & moved south. | P.C. | B.H. |
| H | 07/02/18 | ALL | B mill shown as approved. Ventilation shown separate prop. | P.C. | B.H. |
| G | 19/01/18 | ALL | Mill C added. | P.C. | B.H. |
| E | 30/9/16 | ALL | Wording added. | P.C. | ALL |
| D | 29/9/16 | ALL | Manikra approval. | P.C. | ALL |
| ISS | DATE | ZONE | CHANGE AMENDMENTS | BY | CKD |



MANILDRA
GROUP
100% AUSTRALIAN

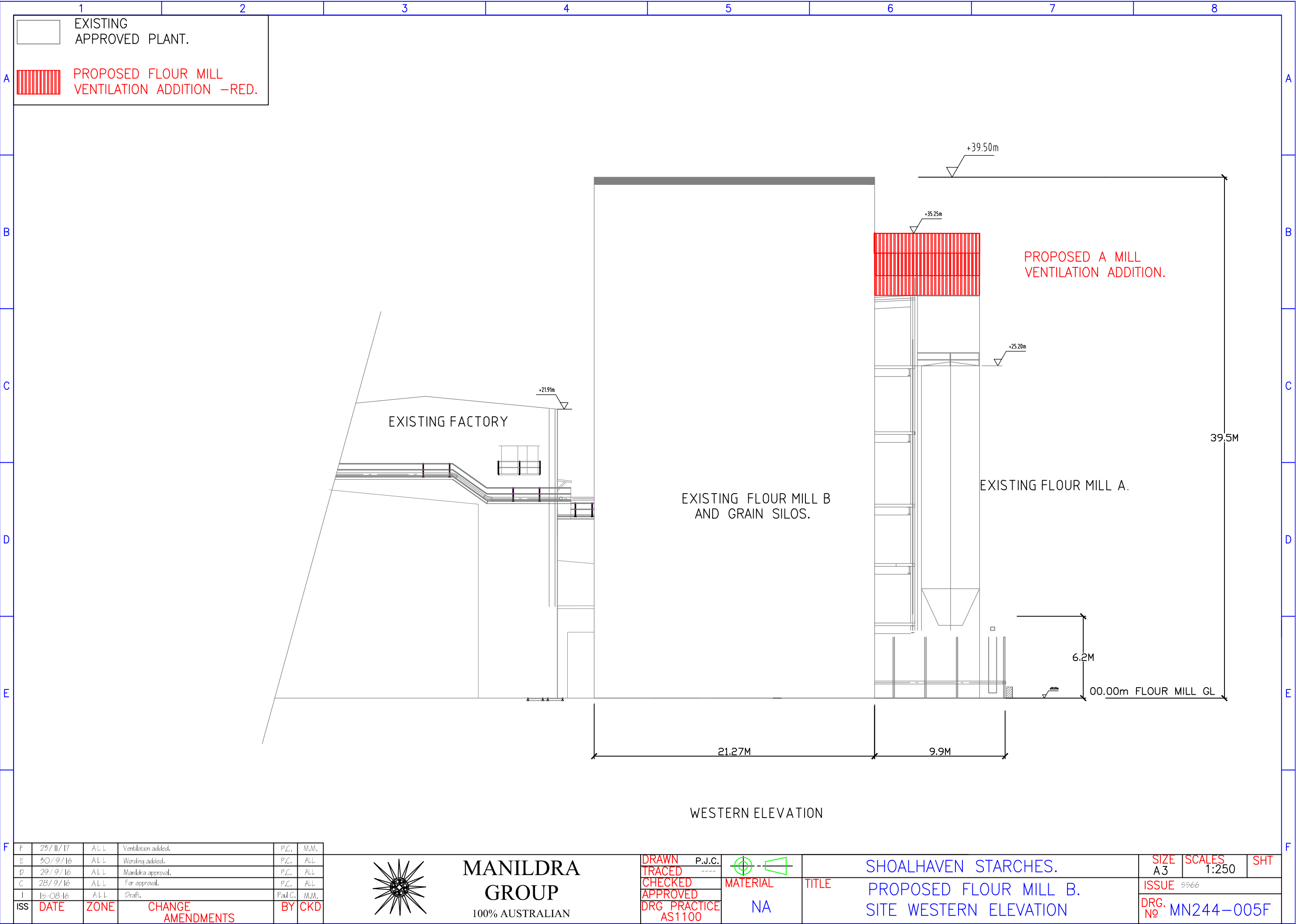
DRAWN
TRACED
CHECKED
APPROVED
DRG PRACTICE
AS1100

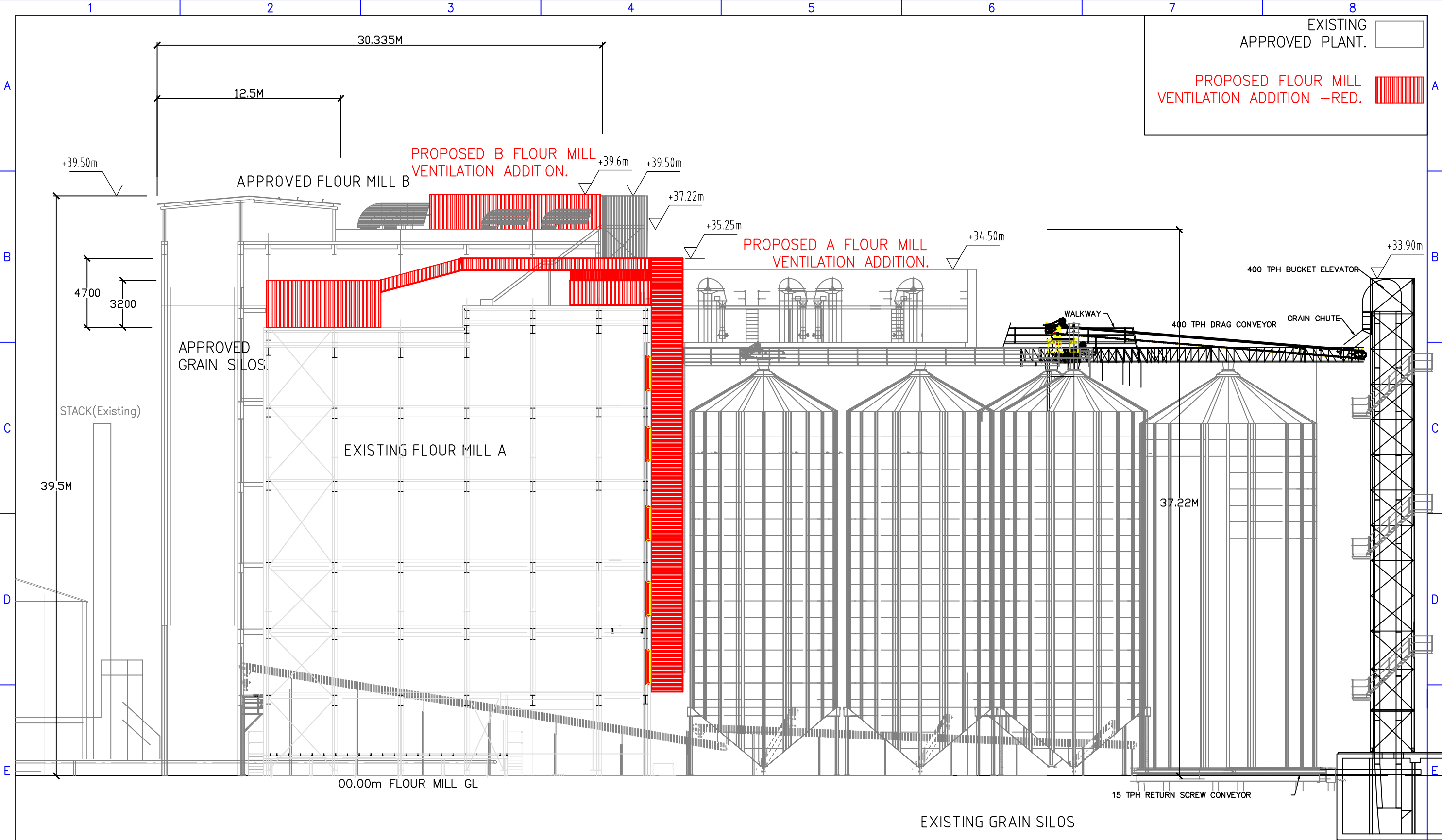
P.J.C.

MATERIAL
NA

SHOALHAVEN STARCHES.
PROPOSED FLOUR MILL C.
SITE EASTERN ELEVATION

| | | |
|--------------------|-----------------|-----|
| SIZE A3 | SCALES 1:250 | SHT |
| ISSUE 5566 | | |
| DRG. No MN244-005J | | |

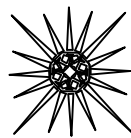




SOUTHERN ELEVATION

EXISTING GRAIN PLANT

| | | | | | |
|-----|----------|------|--------------------|---------|------|
| F | 25/11/17 | ALL | Ventilation added. | P.C. | M.M. |
| E | 30/9/16 | ALL | Wording added. | P.C. | ALL |
| D | 29/9/16 | ALL | Manildra approval. | P.C. | ALL |
| C | 28/9/16 | ALL | For approval. | P.C. | ALL |
| I | 15-08-16 | ALL | Draft. | Paul C. | M.M. |
| ISS | DATE | ZONE | CHANGE AMENDMENTS | BY | CKD |



MANILDRA
GROUP
100% AUSTRALIAN

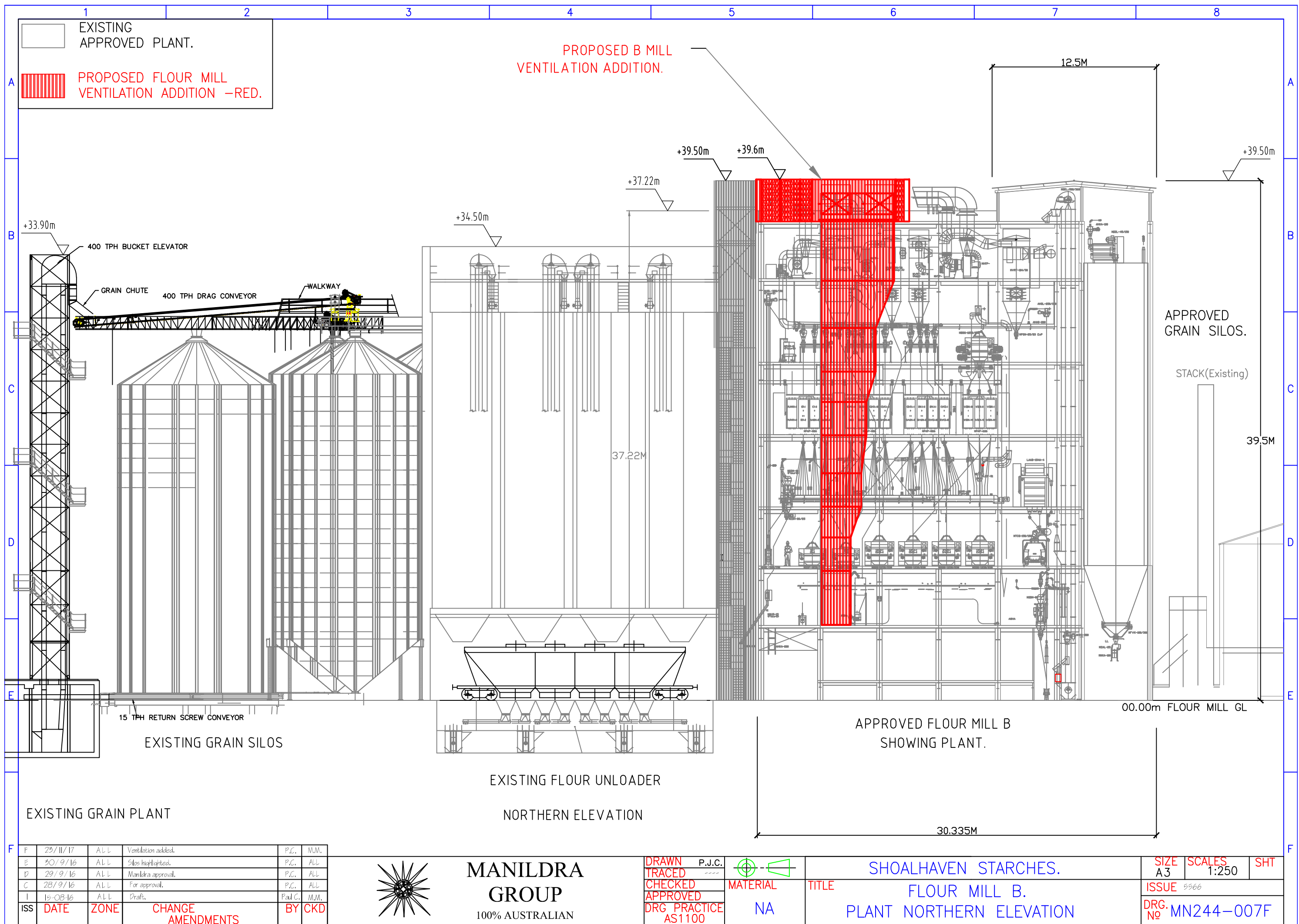
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APPROVED
DRG PRACTICE
AS1100

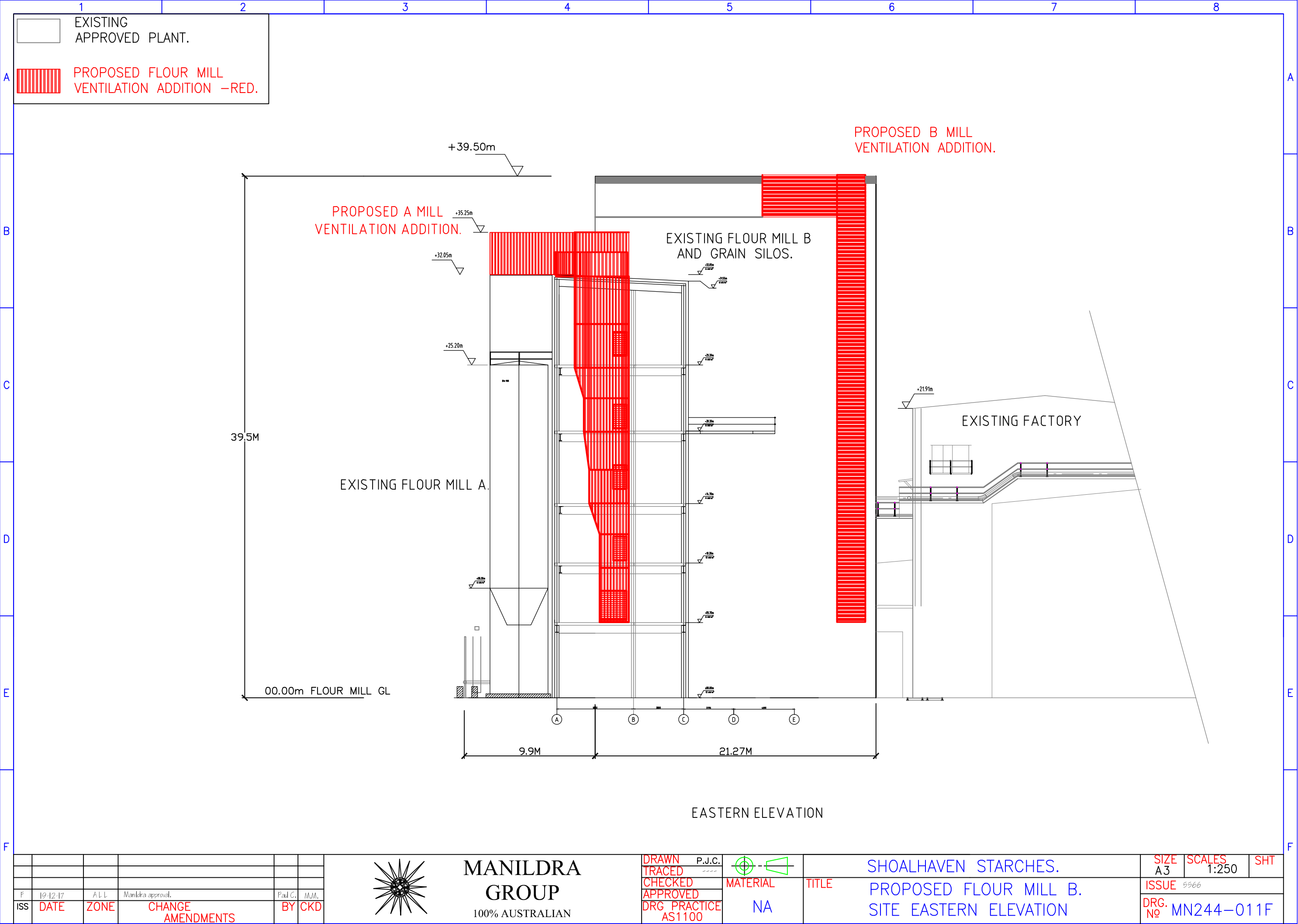
P.J.C.

MATERIAL
NA

SHOALHAVEN STARCHES.
FLOUR MILL B.
SITE SOUTHERN ELEVATION

SIZE
A3
SCALE
1:250
SHT
ISSUE 5566
DRG. No MN244-006F





APPENDIX B

MODIFICATION STAFF & HEAVY VEHICLE MOVEMENTS

Shoalhaven Starches Expansion Project Mod – Traffic, Heavy Vehicle Movements

| Scope | Project / Design Manager | Traffic and Heavy Vehicle Movements |
|---|--------------------------|--|
| Installation of equipment associated with Mill C (within the Mill B building) | Peter Gerber/Mark Manion | <ol style="list-style-type: none">1. This modification allows for rail importing of flour to be replaced with rail importing of grain and onsite milling of this grain to flour. No related Heavy Vehicle movements.2. There will be 1 additional Manildra personnel on dayshift creating continuing parking requirement.3. The construction works would involve 30 persons over a 4-month period. Temporary car parking would need to be provided |
| Modifications to Mills A and B ventilation | Peter Gerber/Mark Manion | <ol style="list-style-type: none">1. No Heavy vehicle movements2. There are no additional Manildra personnel creating continuing parking requirement.3. These works will be completed by Approved Mill B construction personnel |
| Conversion of Gluten Dryers 1 and 2 to starch | Aaron Ticehurst | <ol style="list-style-type: none">1. Drier capacity same, different product. Majority of product exported by Rail. Some movements to storage. Assume 5 Heavy vehicle movements per day occasionally.2. There will be 1 additional Manildra personnel on dayshift creating continuing parking requirement.3. The construction works would involve 5 persons over a 1-month period. Temporary car parking would need to be provided |

| Scope | Project / Design Manager | Traffic and Heavy Vehicle Movements |
|--|--------------------------|--|
| Installation of a new Gluten Dryer | Aaron Ticehurst | <ol style="list-style-type: none"> 1. Additional export (rail) product produced. No Heavy vehicle movements 2. There will be 1 additional Manildra personnel per shift parking requirement. 3. The construction works would involve 30 persons over a 6-month period. Temporary car parking would need to be provided |
| Installation of a new process for producing modified gluten and starch | Aaron Ticehurst | <ol style="list-style-type: none"> 1. Will further process Starch Drier 5 product. Majority of product exported by Rail. Some movements to storage at Paper Mill. No change in Heavy Vehicle movements. 2. There will be 1 additional Manildra personnel per shift creating continuing parking requirement. 3. The construction works would involve 20 persons over a 6-month period. Temporary car parking would need to be provided |
| Installation of a new baghouse filter for Starch Dyer 5 | Aaron Ticehurst | <ol style="list-style-type: none"> 1. Additional process for Starch Drier 5. No change in Heavy Vehicle movements. 2. There will be no additional Manildra personnel creating continuing parking requirement. 3. The construction works would involve 10 persons over a 2-month period. Temporary car parking would need to be provided |
| Installation of a new coal-fired co-generation plant | Mark West | <ol style="list-style-type: none"> 1. Additional truck movements of coal to site. Trucks will deliver to 1 of two places, farm stockpile or directly to factory site via gate 13. Heavy vehicle movements include approximately 34 (Truck and Dog) truckloads of coal inbound to site per week, and 9 (Single tipper) truck loads of ash moved from factory site (gate x) to Farm (Hannigans Lane gate) per week. 2. There will be up to 1 additional Manildra personnel per shift creating continuing parking requirement. 3. The construction works would involve 30 persons over a 6 month period. Temporary car parking would need to be provided |

| Scope | Project / Design Manager | Traffic and Heavy Vehicle Movements |
|---|--------------------------|--|
| Installation of a new Motor Control Centre High Voltage Substation at the BOC carbon dioxide plant | Lou Reali/Paul Whisson | <ol style="list-style-type: none"> 1. No product. No Heavy Vehicle movements. 2. Unmanned. There will be no additional Manildra personnel creating continuing parking requirement. 3. The construction works would involve 10 persons over a 3-month period. Temporary car parking would need to be provided |
| Rail intake pit | Matt Handicott | <ol style="list-style-type: none"> 1. Flour intake by rail is replaced with grain intake and fed into flour mill. No Heavy vehicle movements 2. There will be no additional Manildra personnel per shift parking requirement. 3. The construction works would involve 10 persons over a 3-month period. Temporary car parking would need to be provided |
| Sifter Room | Aaron Ticehurst | <ol style="list-style-type: none"> 1. Additional Process equipment. No additional product. No Heavy vehicle movements 2. There will be no additional Manildra personnel per shift parking requirement. 3. The construction works would involve 5 persons over a 1-month period. Temporary car parking would need to be provided |
| Hydrated Lime Silos | Faris Nasir | <ol style="list-style-type: none"> 1. Hydrated lime is imported to site (Gate 13) by truck. Heavy vehicle movements estimated to be 2 trucks per week 2. There will be no additional Manildra personnel per shift parking requirement. 3. The construction works would involve 5 persons over a 2-month period. Temporary car parking would need to be provided |