

RAIR - FAIRY MEADOW AMBULANCE STATION

SQUIRES WAY, WOLLONGONG, NEW SOUTH WALES

TRAFFIC IMPACT ASSESMENT

PREPARED BY: ROADNET ENGINEERING PTY LTD

For: GeoLINK 15/09/2022

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RAIR – Fairy Meadow Ambulance Station Squires Way, Wollongong, New South Wales TRAFFIC IMPACT ASSESMENT

Prepared By: RoadNet Engineering Pty Ltd For: GeoLINK

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1 INTRODUCTION

RoadNet has been engaged by GeoLINK to undertake a traffic impact assessment (TIA) for the proposed new Fairy Meadow Ambulance Station located on land described as Lot 1 on DP1172135, on Innovation Way, Fairy Meadow. The land is owned and occupied by the University of Wollongong.

Health Infrastructure is delivering new, rebuilt or updated NSW Ambulance stations as part of the Rural Ambulance Infrastructure Reconfiguration (RAIR) program to provide local paramedics with modern, fit-for-purpose infrastructure to better meet the emergency medical care needs of communities in regional and rural NSW.

This traffic impact assessment will be submitted in behalf of Health and Infrastructure (HI) Planning Department as part of a Development Application (DA) to Wollongong City Council.

The location of the subject site is shown in Figure 1.1 below.



Figure 1.1- Site location (Source: OpenStreetMap Aug.2022)

The purpose of this report is to document the assessment of the proposed car park, vehicular access and internal circulation arrangements and its compliance with the relevant Australian Standards, Wollongong City Council and Transport for New South Wales (TfNSW) standards.

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1.1 Scope of the report

The scope of this TIA includes the following tasks:

- Reviewing existing conditions surrounding the subject site, including public and active transport provisions and connections to the surrounding road network.
- Estimating the development's traffic generation for qualitative assessment of the surrounding road network.
- Assessing the on-site parking provisions and geometric layout against Wollongong City Council Development Control Plan (DCP) and Australian Standards AS2890 requirements.
- Reviewing the refuse and service vehicle operations in accordance with Council's DCP.

2 BACKGROUND

2.1 Development Proposal

The proposal involves the construction of a new ambulance station on Squires Way adjacent to the University of Wollongong, New South Wales (NSW). The development comprises part of a Heath Infrastructure (HI) program referred to as the Rural Ambulance Infrastructure Reconfiguration (RAIR) program, which includes the delivery of upgraded, rebuilt or construction of new regional and rural ambulance stations across rural NSW.

The key transport elements of the proposed ambulance station are outlined in Table 2-1.

Table 2-1 – Development Components

Component	Proposed Ambulance Station
Hours of operation	24/7 morning shift / night shift
No. of full time equivalent (FTE) staff	24
No. of Directorate Of Management (DOM)	1
Maximum number of staff on site at any one time	10 (As advised by NSW Health)
No. of car parking spaces (internal)	Five (5) x ambulance spaces One (1) Wash Bay
No. of car parking spaces (external)	Ten (10) car parking spaces → Seven (7) x car parking spaces → One (1) accessible bay → One (1) DOM parking → One (1) Relief Bay
Access	Two (2) Station accesses: → One (1) all movements access on Innovation Way → One (1) egress only on Innovation Way for Ambulance vehicles only.

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Details of the proposal are presented on the architectural drawings prepared by DJRD Architects provided in Appendix A.

2.2 Site Context

The subject site is located on Innovation Way, Fairy Meadow, NSW, which is described as Lot 1 on DP1172135. Within this lot owned by the University of Wollongong (UOW), primary structures currently on site include a series of buildings including the UOW Used Books/The Alumni Bookshop and the Kids Uni Innovation Campus. See Figure 2.1.

The site is currently an empty open grass area used for passive recreation. and has a frontage of approximately 72m onto Innovation Way and an area of over 3,200m².



Figure 2.1- Aerial view of Site and surrounds (Source: Nearmap Aug. 2022)

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2.3 Land Uses

As indicated by the following map from the Wollongong City Council Interactive Maps, the subject site is currently zoned SP1 'Special Activities' under the Wollongong Local Environmental Plan 2009.

Nearby land uses surround the site by a range of residential and public recreation uses as detailed below:

- To the south, a large SP1 'Special Activities" area including the 'Innovation Campus';
- To the east, a E2 'Environmental Conservation' area including the Puckeys Estate Reserve; and
- To the north and west, a large R3 'Medium Density Residential' area.



Figure 2.2- Land Use Zoning Map – Wollongong City Council Local Environmental Plan 2009.

3 Existing Transport Conditions

3.1 Surrounding Road Network

To manage the extensive network of roads for which councils are responsible under the Roads Act 1993, TfNSW in partnership with local governments established an administrative framework of State, Regional, and Local Road categories summarized below:

 State Roads: State Roads are the major arterial links through NSW and within major urban areas. State Roads are managed and financed by TfNSW.

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- Regional Roads: Regional Roads are routes of secondary importance between State and Local Roads which together with State Roads, provide the main connections to and between smaller towns and districts and perform an intermediate function between the main arterial network of State Roads and council controlled Local Roads.
 - Regional Roads are managed and financed by councils. Due to their network significance RMS provides financial assistance to councils for the management of their Regional Roads. The Regional Road category comprises two subcategories: those Regional Roads that are classified pursuant to the Roads Act 1993, and those Regional Roads that are unclassified.
- **Local Roads**: Local Roads comprise the remaining council controlled roads which provide for local circulation and access. Local Roads are managed and financed by councils.

The subject site, located in North Wollongong and is bound by Innovation Way to the North and East. Access to the site is proposed of Innovation Way. The road network immediately surrounding the subject site is predominantly comprised of Local Roads, under the jurisdiction of Wollongong City Council. (Refer to Figure 3.1)

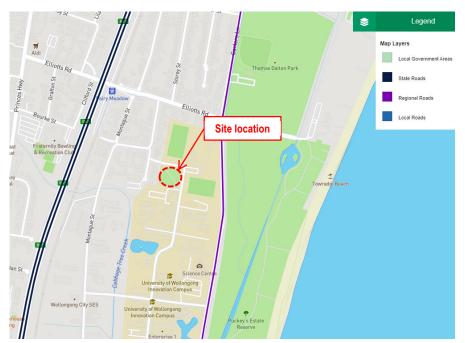


Figure 3.1- Transport for NSW Road Network Classifications Transport for NSW Road Network Classifications adjacent to the subject site.

Details of the surrounding road network adjacent to the subject site have been provided below.

Table 3-1 – Existing Conditions – Innovation Way

Innovation Way	
Road classification	Local Road
Jurisdiction	Wollongong City Council
Number of lanes	One (1) lane in each direction
Carriageway type	Undivided
Carriageway width	7m
Speed Limit	10km/hr "SHARED ZONE" for access to 'Kids Uni, Innovation Campus'



Figure 3.2- Streetview Innovation Way Eastbound – Site to the right. Source: Google Streetview June 2022



Figure 3.3- Streetview Innovation Way Westbound – Site to the left. Source: Google Streetview June 2022



Figure 3.4- Streetview Innovation Way Southbound – Site to the right. Source: Google Streetview June 2022



Figure 3.5- Streetview Innovation Way Northbound – Site to the left. Source: Google Streetview June 2022

3.2 Crash History

Crash data obtained from Transport for New South Wales (TfNSW) *Centre for Road Safety* indicates that within the five (5) year period from 2016 to 2020, a total of 3 minor, 3 serious and 1 moderate casualties/crashes were recorded within areas surrounding the subject site. The location of the recorded crashes is shown below in Figure 3.6.

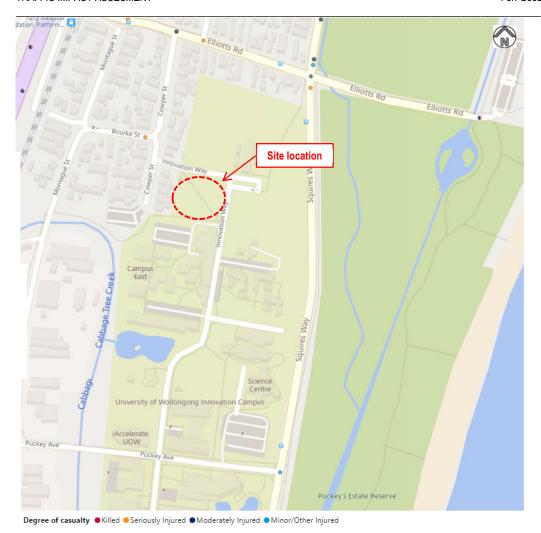


Figure 3.6- TfNSW Crash and Casualty Statistics adjacent to subject site. (Source: TfNSW Centre for Road Safety)

From the recorded crash data, it is noted that crash and casualties on Squires Way within the immediate vicinity to the subject site, correspond to 1 minor and 1 serious casualty/crash. No crashes or casualties have been recorded on Innovation Way.

3.3 Public Transport

The subject site area has been assessed in regards to the available forms of public transport within a comfortable walking distance of 400-800m (As suggested by the NSW Guideline to Walking & Cycling-2004), that can potentially be used by the proposed Ambulance Station staff members as well as the wider community.

3.3.1 Bus Services

A free public bus service runs along Squires Way as part of the 'Gong Shuttle" operating every 10 to 20 minutes in both directions on a loop from Wollongong Station to Wollongong University. The route numbers for the Gong Shuttle are 55A and 55C.

Four (4) bus stops have been identified on Squires Way and are highlighted in red in Figure 3.7 below.



Figure 3.7- Extract bus timetable free Gong Shuttle. (Source: Premier Illawarra website)

The two (2) bus services closest to the site are located within 120-200 walking distance from the subject site.

The signalised intersection on Elliotts Road provides a safe pedestrian crossing for 55C bus users. A footpath adjacent to the bus stop on Squires Way for 55A bus users provides direct connection to the site.

3.3.2 Train - South Coast Line

A train line in proximity to the site is also available within 500m from the site. The Fairy Meadow Station connects to Elliots Road. A footpath on the southern side provides connection all the way to the subject site. The location of the train station in relation to the site is shown in Figure 3.8.

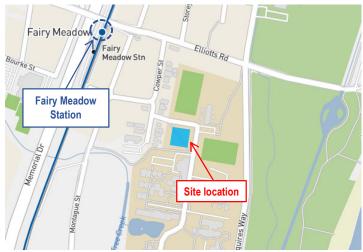


Figure 3.8- Extract bus timetable free Gong Shuttle. (Source: Premier Illawarra website)

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3.3.3 Active Transport

The subject site is also assessed for its active transport potential. Active Transport is the most basic form of travel, relying on human power, primarily walking and cycling.

An off-road path along Squires Road eastern side is available for use by pedestrians and cyclist. This formal path runs along the coast providing connectivity between the coastal localities within the Wollongong area. A bicycle route has also been identified by Wollongong City Council from the Fairy Meadow train station to Elliotts Road/Squires Way intersection. Refer to the map extract below.



Figure 3.9- Extract cycling map (Source: Wollongong City Council website)

It is apparent that active travel modes such as walking, cycling combined with the availability of public transport form an important part of the travel behavior associated with existing land used in the immediate area (i.e., University of Wollongong campus). Based on the foregoing assessment, the site is highly accessible by active travel modes and therefore expected to be used by the Ambulance station staff.

4 Traffic Assessment

4.1 Development Traffic Generation

The Roads and Maritime Services *Guide to Traffic Generating Developments* does not specify trip generation rates for ambulance station land use. Therefore, traffic generation for the proposed development has been estimated based on a first principles analysis of provided information.

4.1.1 Ambulance Traffic Generation

To estimate the traffic generated by the proposed development, NSW Ambulance has estimated that approximately 4,000 P1 and P2 incidents per year are to be responded by Fairy Meadow crews. Based on the mobilization data for Wollongong Stations, where 44.8% of responses in Wollongong TA are from the station, the estimate is that

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1,700 per incidents would be responded to/from the station whilst the remainder would be responded to/from the hospital and other locations.

Based on the above advise, and assuming that the trip generation has a 50/50 split between AM and PM peaks, the following peak hour trip generation has been estimated for 2023.

Table 4-1 – Traffic volumes generated by the development.

Time Period	Annual call outs during peak hour	Average daily call out during peak hour
AM Peak	850	2
PM Peak	850	2

To estimate the traffic volumes generated by the development for a 10-year design condition, the North Wollongong estimated population for 2011 and 2016 and the average annual change percentage (published in Wollongong City Council website), has been used to calculate the forecasted 2023 and 2033 population for the area. See below.

Table 4-2 – Forecast 2031 Woy Woy-Blackwall population

	2011	2016	Avg. annual % change	Forecasted 2023	Forecasted 2033
Population	2,216	2,926	1.3	2,543	2,816

From the 2023 population data above and the provided AM and PM peak ambulance call outs, a percentage has been calculated and applied to the 2033 forecasted population.

Table 4-3 – Traffic volumes generated by the development 2033

Time Period	Forecast Ambulance annual call out 2033	Average daily call out during peak hour 2033
AM Peak	941	3
PM Peak	941	3

Based on the above, a trip generation of three (3) trips per hour during the AM peak period and three (3) trips per hour during the PM peak hour has been adopted. Note that for the purpose of the analysis, it has been assumed that there is a trip in an out of the proposed ambulance station for each daily call, thereby assuming that the ambulances return to the station after each call out.

4.1.2 Staff Traffic Generation

To estimate traffic generated by the staff component of the proposed development, the following details are recalled from Table 2-1:

The number of full-time equivalent (FTE) staff at the station will be 24

- The number of Directorate of Management (DOM) will be 1.
- The maximum number of staff on site at any one time will be 10.

With respect to this, it has been assumed that:

- Three shifts occur each day: day, afternoon and night shift (i.e., three double crews as a minimum) with the possibility of expanding to 2 day shifts.
- Based on the availability and proximity of public transport, a conservative approach has been applied to the staff trip generation and it has been assumed that approximately 2/3 of the full-time staff (not roster staff) will commute to work in a private vehicle, while 1/3 will commute to work using public transport. However, the number of parking spaces provided as part of the proposed development (9 parking bays), can limit the number of car trips that can be made to and from the development although informal onstreet parking is also available.

Based on the above, traffic generation for staff component of the proposed ambulance station is detailed in Table 4-4.

Table 4-4 – Traffic generation

Trip Generation	Number of staff	AM and PM trip rate	AM trips	PM trips
Staff	10 staff *2/3 ~7	One (1) trip per staff	7	7
Emergency Responses	N/A		3	3
TOTAL		10	10	

4.2 Traffic Impact

With reference to the above, the proposed ambulance station is estimated to generate in the order of 10 trips during the peak hour, equating to approximately two (2) vehicles every twelve (12) minutes during the peak hour periods. The addition of development traffic is not expected to result in any significant adverse impacts on the operation or safety of the surrounding road network.

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5 Parking Assessment

5.1 Proposed Parking Provisions

The following table summarizes the total number of parking spaces proposed to be provided for the development.

Table 5-1 – Proposed parking provision.

Parking Allocation	Proposes number of spaces
Ambulance parking	Five (5)
Wash Bay	One (1)
Staff parking	Seven (7)
DOM parking	One (1)
Accessible parking	One (1)
Relief Bay	One (1)

With respect the above, an assessment has been undertaken to determine the appropriateness of the proposed parking provisions.

5.2 Emergency Vehicle Provisions

As part of the Fairy Meadow RAIR ambulance station return brief (Appendix C), it has been determined that five (5) ambulance bays, one (1) wash bay and (1) DOM parking bays are appropriate the cater for the estimated demand.

5.3 Staff Car Parking

Wollongong City Council Development Control Plan does not specify a parking rate for an ambulance station land use. As such, the *Regional Ambulance Infrastructure Reconfiguration (RAIR) Program* ratio of full-time equivalent staff versus station requirements as detailed on the return brief has been adopted the assess the car parking requirements for the proposed development. In this regard, the minimum staff car parking requirements for the proposed development are as follows:

Five (5) staff car parking spaces for 24 full-time equivalent staff.

With respect to this requirement, the architectural drawings provided in Appendix A show that seven (7) car parking spaces will be provided for staff, thereby exceeding the RAIR requirements.

As indicated in Section 4.1.2, forms of public and active transport is available for this site. It has been assumed that approximately 2/3 of the full-time staff (not roster staff) will commute to work in a private vehicle, while 1/3 will commute to work using public transport. Therefore, the provision of seven (7) parking bays and one (1) DOM parking spaces is sufficient.

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6 Access and Design Review

6.1 Off-Street Car Parking

The access and car parking layout arrangements of the proposed development, as shown within the architectural plans (see Appendix A) have been reviewed against the relevant sections of Australian Standards AS2890 and Wollongong City Council Development Control Plan (DCP), with key requirements summarized below in Table 6-1 and

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Table 6-2.

Table 6-1 – Off-Street Car Parking Requirements

Design Element	AS2890/DCP requirement	Compliance
Class 1A car parking space	2.4m wide x 5.4m long	Yes
Class 6 car parking space	2.4m wide x 5.4m long plus a shared area of equal dimensions	Yes
Service bay	3.5m wide x 6.4m long	Shall comply
Height clearance (general traffic)	2.2m minimum to overhead structures and services	Yes
Height clearance (PWD)	2.5m minimum above parking spaces	Yes
Height clearance (service bay)	5.0m above service bay and path of travel	Yes
Parking aisle width	5.8m minimum plus clearances to vertical obstructions	Yes
Blind aisle extension	1.0m	Yes
Internal roadway width	5.5m minimum plus clearances to vertical obstructions	Yes
Grades (entry)	1:20 maximum for the first 6m into the site from the property boundary	Yes
Grades (car parking modules)	1:20 maximum measured parallel to the angle of the bay	Yes
Grades (ramps)	1:4 maximum plus transitions	Yes
Grades (ramp transitions)	1:8 maximum – summit 1:6.7 maximum – sag	Yes

6.2 Access

6.2.1 Access Design

The proposed ambulance station provides one (1) all movements access on Innovation Way and one (1) egress only on Innovation Way dedicated for ambulance vehicles access only. Details of the proposed accesses are detailed in

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Table 6-2 below.

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Table 6-2 – Access Details

Design Element	Details
Innovation Way (all movements access)	
Access facility category	Type 1 as per AS2890.1 (i.e., User Class 1/1A, less than 25 car parking spaces and local road frontage)
Crossover form	Crossover shall be designed in accordance with Wollongong City Council Standard Drawing 7000-C32
Pedestrian sight triangle	Pedestrian sight triangles shall be made available on both sides of the driveway at 2m along the property boundary and 2.5m into the site. In accordance with AS2890.1 the areas within the triangles is to remain clear of all obstructions to visibility.
Innovation Way (Ambulance access only)	
Access facility category	Type 1 as per AS2890.1 (i.e., User Class 1/1A, less than 25 car parking spaces and local road frontage)
Crossover form	Crossover shall be designed in accordance with Wollongong City Council Standard Drawing 7000-C32
Pedestrian sight triangle	Pedestrian sight triangles shall be made available on both sides of the driveway at 2m along the property boundary and 2.5m into the site. In accordance with AS2890.1 the areas within the triangles is to remain clear of all obstructions to visibility.

6.2.2 Sight Distance

A review of sight distance at the access on Innovation Way has been undertaken in accordance with AS2890.1 and is detailed in Table 6-3.

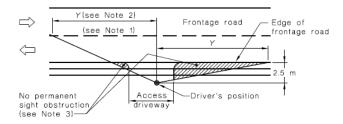
Table 6-3 – Innovation Way Access – Sight Distance

Access	Direction	Posted speed limit	AS2890.1 Requirement	Available sight distance	Compliance
Innovation Way	East	10km/hr 35-55m @ 40km/h	35-55m @	55m	Yes @ 40 km/h
Eastern Access	West		40km/h	<35	Yes @ 10km/h
Innovation Way	East	10km/hr	35-55m @	35m	Yes @ 40 km/h
Western Access West 40km/h	55m	Yes @ 40 km/h			

In regards to the above results, it is noted that the AS2890.1 section 3.2. includes the requirements for sight distance at access driveways, however the minimum requirement listed is for frontage road speeds of 40km/h. See below extract from AS2890.1.

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AS/NZS 2890.1:2004



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Frontage road speed	Dista	Distance (Y) along frontage road m								
(Note 4)		eways other stic (Note 5)	Domestic property							
	Desirable 5 s gap	Minimum SSD	access (Note 6)							
40	55	35	30							
50	69	45	40							
60	83	65	55							
70	97	85	70							
80	111	105	95							
90	125	130	a and							
100	139	160	Use values from 2 nd and 3 rd columns							
110	153	190	and a columns							

Figure 6.1- Extract AS2890.1- Section 3.2- Figure 3.2

All approaches sigh distance are compliant at 40km/h for both accesses, except the western approach for the eastern driveway, however since the posted speed is 10km/h, it is assumed that the sigh distance is compliant due to the low speed environment.

7 Site Servicing and Waste Collection

7.1 Servicing

The proposal includes a service bay for maintenance and delivery vehicles and is suitable for a Small Rigid Vehicle (SRV). A swept path analysis has been undertaken demonstrating the ability for the vehicle to access and maneuver through the site.

7.2 Waste Collection

Waste collection activities are proposed to be conducted kerbside, consistent with the surrounding environment. Waste bins will be wheeled from the waste storage area, within the site, to the kerb by staff prior to collection day/time and wheeled back to the storage area following collection

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8 Conclusion

Key findings from this traffic impact assessment are as follows:

- The proposed ambulance station at Fairy Meadow is estimated to generate 10 trips during both peak
 hours, equating to approximately two (2) vehicles every twelve (12) minutes during the peak hour periods.
 The additional traffic generated by the proposed development is not expected to result in any substantial
 impact on the operation or safety of the surrounding road network.
- The Fairy Meadow ambulance station proposes to provide seven (7) staff car parking spaces, one (1) accessible parking, two (2) DOM parking bays and five (5) ambulance parking bays, satisfying the requirements of the Fairy Meadow RAIR Ambulance Station Return Brief.
- The Fairy Meadow ambulance station proposes to provide one (1) service bay, compliant with the requirements of Wollongong City Council Development Control Plan (DCP).
- The off-street geometric layout is generally provided in accordance with the relevant requirements of Wollongong City Council DCP and Australian Standard AS2890.1 Parking Facilities – Part 1: Off-street car parking.
- The proposed Fairy Meadow Ambulance Station includes a driveway on Innovation Way to allow for all
 movements access for both staff and ambulance vehicles as well as a egress driveway for Ambulances
 only. Sight distance requirements for both accesses have been assessed to be in accordance with the
 requirements of AS2890.1.
- A swept path analysis for the ambulance internal movements using an off-street commercial vehicle Small
 Rigid Vehicle (SRV), which most closely resembles the size of the existing larger ambulances within the
 NSW Ambulance fleet was undertaken demonstrating that the ambulance vehicles are able to access the
 provided parking bays and maneuver through the site.

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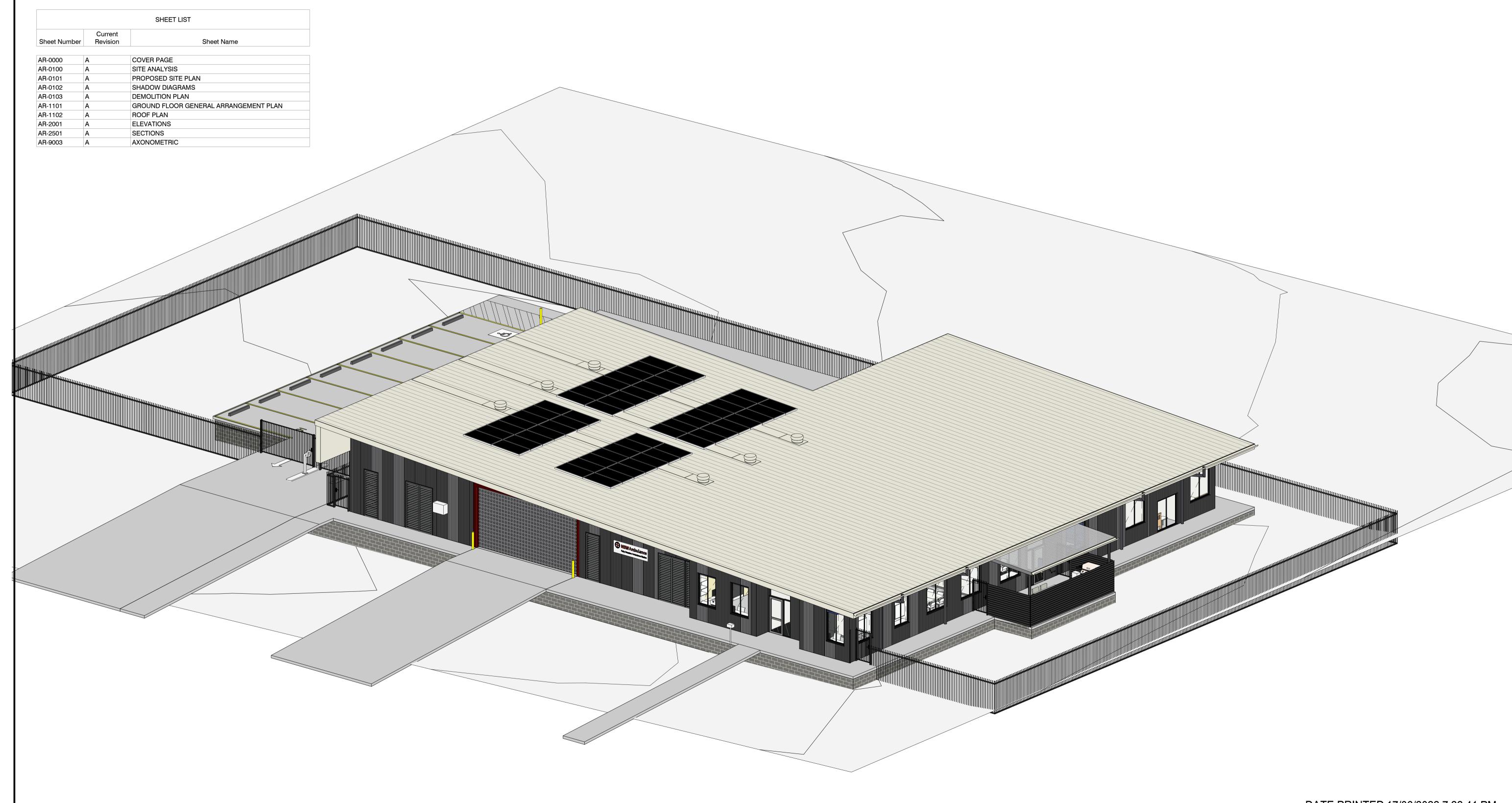
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APPENDIX A – Architectural Drawings

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RAIR - RURAL AMBULANCE INFRUSTRUCTURE RECONFIGURATION PROGRAM

R23 FAIRY MEADOW - INNOVATION WAY FAIRY MEADOW



ISSUE DATE SUBJECT A 17.06.22 BASE ARCHITECTURE SET	MR Rural Ambulance Infrastructure Reconfiguration Building the future response for our state	LEVEL 16	This drawing should be read in conjunction with all relevant contracts, specifications and drawings. Dimensions are in millimetres. Levels are metres. Do not scale off drawings. Use figured dimensions only. Check dimensions on Site. Report discrepancies immediately.	RURAL AMBULANCE INFRASTRUCTURE PROGRAM (RAIR)	Health Infrastructure NSW Ambulance
	SERVICES	STRUCTURE & CIVIL		/	PROJECT ADDRESS
	23/101 MILLER ST NORTH SYDNEY NSW 2060	LEVEL 4 66 CLARENCE STREET DONA COL		FAIRY MEADOW	INNOVATION WAY, FAIRY MEADOW, NSW



, NSW, 2519

Sydney Australia

Andrew Hipwell 6562 Daniel Beekwilder 6192 Chippendale NSW 2008

DATE PRINTED:17/06/2022 7:22:41 PM

DRAWING No REVISION R23- AR-0000

FAIRY MEADOW CLIMATE

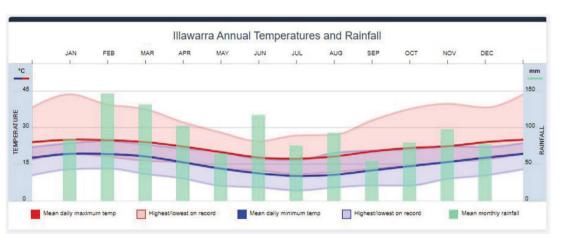
ong Term Av	/erage	S											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC	ANNUAL
Mean Max (°C)	25.0	24.8	24.0	22.2	19.9	17.7	17.2	18.1	20.2	21.6	22.3	24.0	21.4
Mean Min (°C)	19.2	19.1	18.1	15.7	13.1	11.2	10.1	10.6	12.4	14.1	15.8	17.6	14.7
Mean Rain (mm)	84.5	146.3	131.1	102.0	64.2	116.8	75.1	92.6	54.1	79.1	97.3	76.8	1123.1
Median Rain (mm)	54.6	113.6	73.7	87.9	51.0	71.8	61.0	35.6	57.6	60.0	78.2	52.6	958.0
Mean Rain Days	12.3	13.4	14.0	10.8	8.2	10.3	8.5	7.8	8.8	11.4	12.6	12.3	128.9

Daily Records

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC	ANNUAL
High Max (°C)	43.7	39.5	37.6	32.2	28.0	24.4	26.8	27.1	33.0	37.7	39.8	38.3	43.7
Low Max (°C)	19.4	18.0	16.3	15.6	13.0	12.4	10.8	11.7	13.0	14.3	15.9	16.8	10.8
High Min (°C)	23.6	24.5	23.0	21.4	20.1	17.1	16.6	19.6	20.6	21.0	22.4	22.0	24.5
Low Min (°C)	12.8	13.1	10.9	9.0	6.0	5.4	4.1	5.3	6.2	6.1	8.9	10.3	4.1
High Rain (mm)	139.0	137.4	118.0	179.2	180.0	164.2	110.0	240.0	64.8	100.4	80.8	71.6	240.0

Monthly Records

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC	ANNUAL
High Max (°C)	26.9	27.5	25.8	24.0	21.6	19.1	19.0	20.8	22.4	23.9	24.4	26.4	22.1
Low Max (°C)	23.4	23.3	22.4	20.0	18.5	16.5	16.1	16.3	18.0	19.3	20.1	20.8	20.7
High Mean (°C)	20.5	20.4	19.3	17.3	14.7	12.4	11.5	12.8	14.0	16.4	17.3	18.7	15.3
Low Mean (°C)	17.0	17.7	16.7	13.9	11.9	9.9	9.1	8.8	11.0	12.6	14.0	15.8	14.1
High Rain (mm)	241.0	399.6	368.6	304.6	188.0	436.6	223.0	682.0	180.6	219.4	253.6	159.6	1657.0
Low Rain (mm)	16.8	6.4	21.8	4.4	4.0	18.0	1.6	2.4	0.4	6.2	9.8	6.2	744.8



Average Number of Days with Temperatures

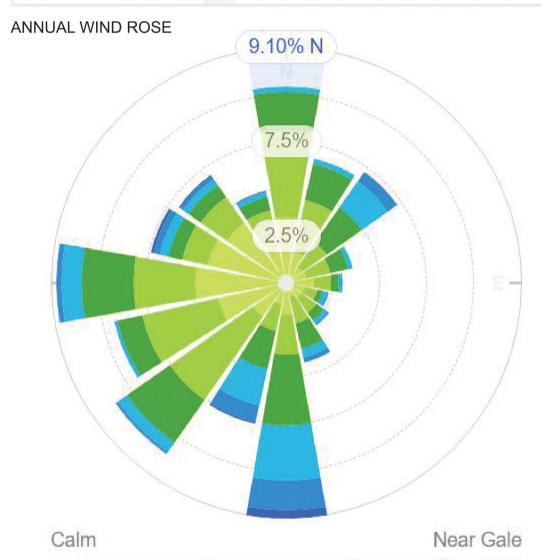
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC	ANNUAL
≥ 40.0°C	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
≥ 35.0°C	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.3	2.0
≥ 30.0°C	2.1	1.1	8.0	0.4	0.0	0.0	0.0	0.0	0.6	1.8	1.4	2.1	10.0
≤ 2.0°C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
. 0.010	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Per Week Values (14th/86th Percentile)

ISSUE DATE SUBJECT

A 17.06.22 BASE ARCHITECTURE SET

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ост	NOV	DEC	ANNUAL
High Max (°C)	27.0	27.0	26.0	24.8	22.0	20.0	19.0	20.8	24.0	25.5	25.0	27.1	25.2
Low Max (°C)	22.0	22.0	21.0	19.3	17.1	15.6	15.0	15.0	16.5	17.5	18.5	21.0	17.0
High Min (°C)	21.0	21.1	20.1	18.0	15.5	13.5	12.0	12.7	15.4	16.6	18.0	19.9	19.0
Low Min (°C)	16.7	17.0	15.8	13.1	10.8	8.9	8.0	8.0	9.9	11.0	13.0	15.1	10.0







JUNE 21ST - 12PM SUN PATH



SEPTEMBER 23RD - 12PM SUN PATH

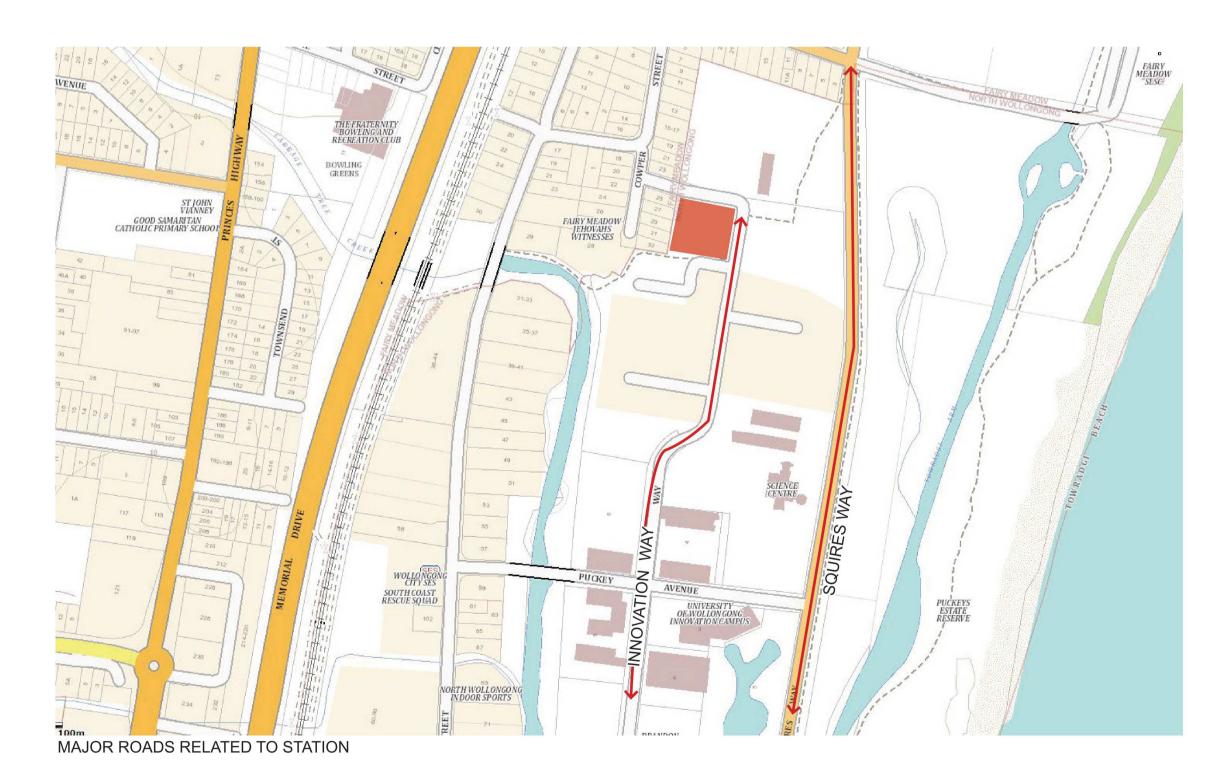


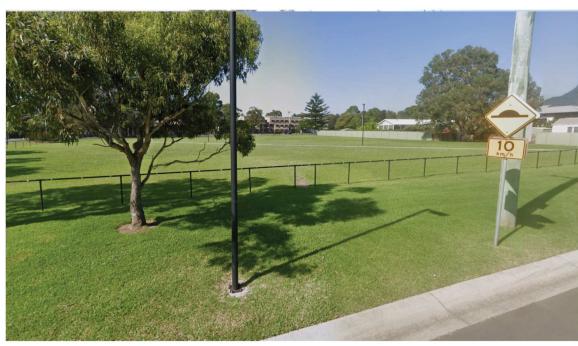
DECEMBER 21ST - 12PM SUN PATH

AUTHORISED

23/101 MILLER ST NORTH SYDNEY NSW 20 T +61 2 9437 1000







VIEW 1 - INNOVATION WAY



VIEW 2 - INNOVATION WAY



VIEW 3 - COWPER ST



VIEW 4 - INNOVATION WAY

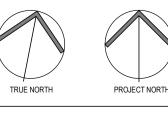
DATE PRINTED:17/06/2022 7:23:00 PM

ARCHITECT T + 610 0010 0055	DRAWN BY SCALE AT A1
T +612 9319 2955 ABN: 48 942 921 969	SM
Nominated Architects: Andrew Hipwell 6562 Daniel Beekwilder 6192	DESCRIPTION SITE ANALYSIS

63 Myrtle Street Chippendale NSW 2008 Sydney Australia DRAWING No REVISION R23- AR-0100

SOUTH	PROJECT MANAGER	This drawing should
Rural Ambulance Infrastructure Reconfiguration Building the future response for our state	LEVEL 16 44 MARKET STREET SYDNEY NSW 2000 T +61 2 9299 3555	all relevant contracts drawings. Dimension are metres. Do not s figured dimensions of Site. Report discrepa
SERVICES	STRUCTURE & CIVIL	

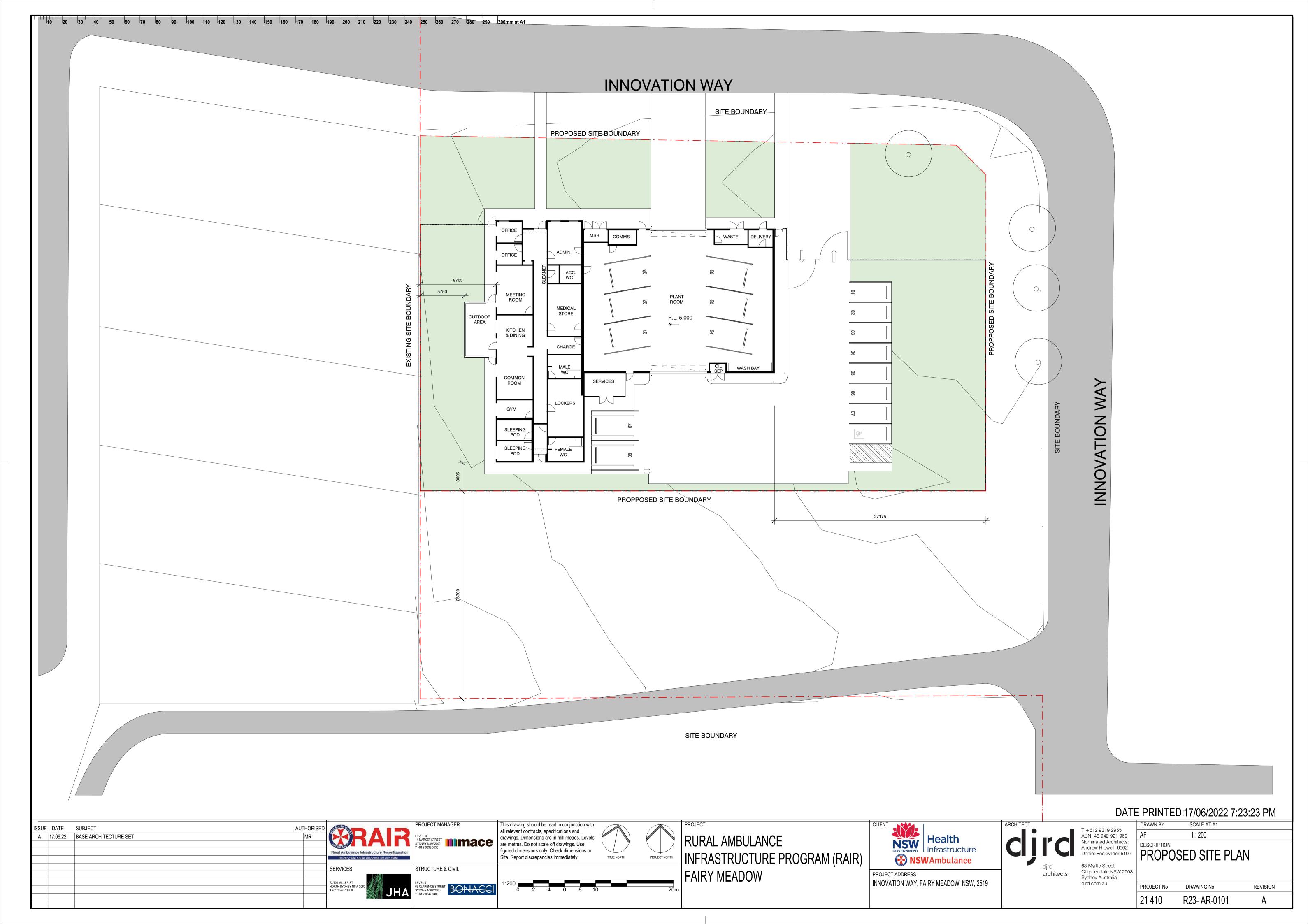
lld be read in conjunction with acts, specifications and sions are in millimetres. Levels ot scale off drawings. Use ns only. Check dimensions on pancies immediately.

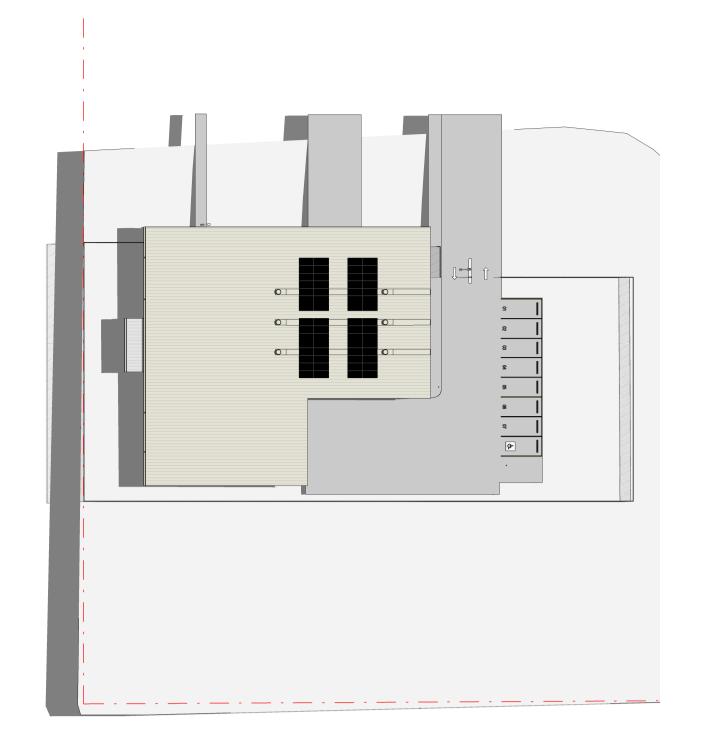


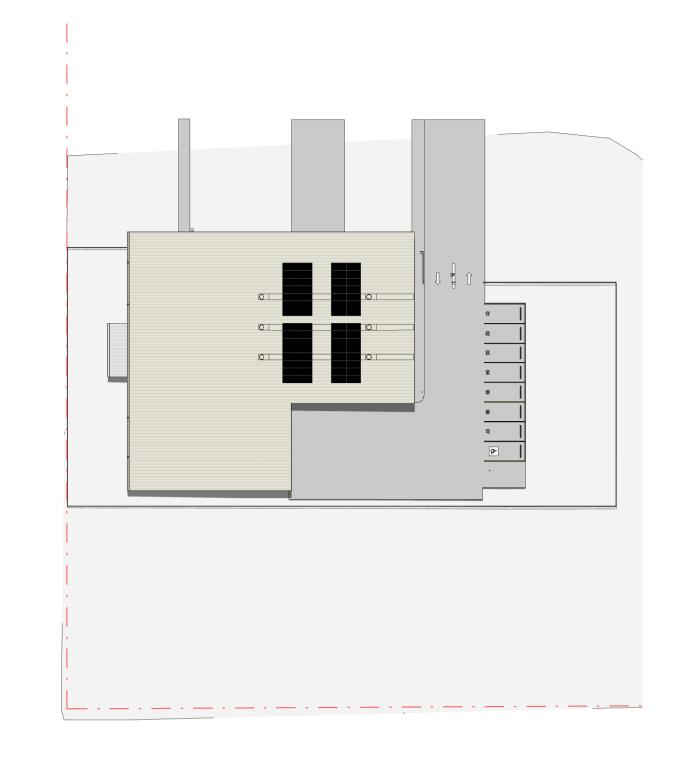
RURAL AMBULANCE INFRASTRUCTURE PROGRAM (RAIR) FAIRY MEADOW

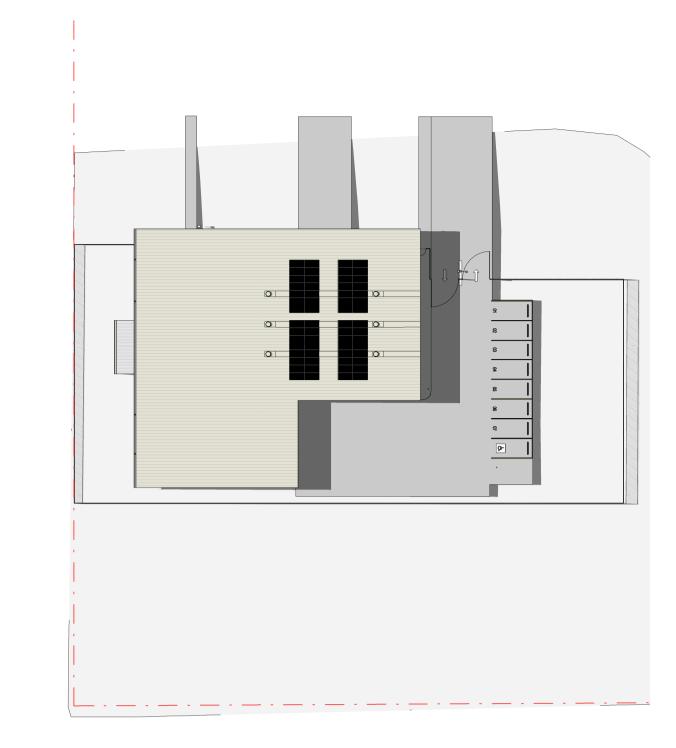
Health Infrastructure **NSW** Ambulance

PROJECT ADDRESS INNOVATION WAY, FAIRY MEADOW, NSW, 2519





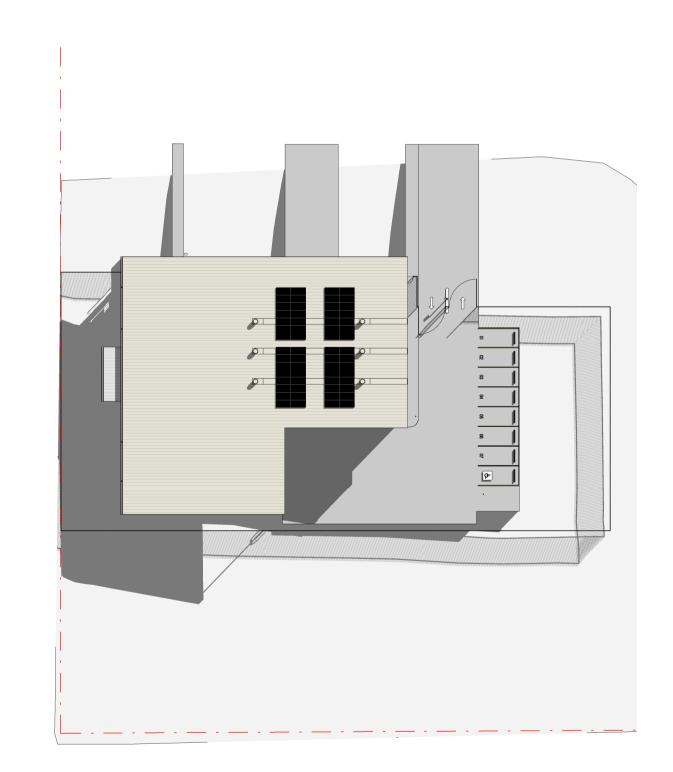


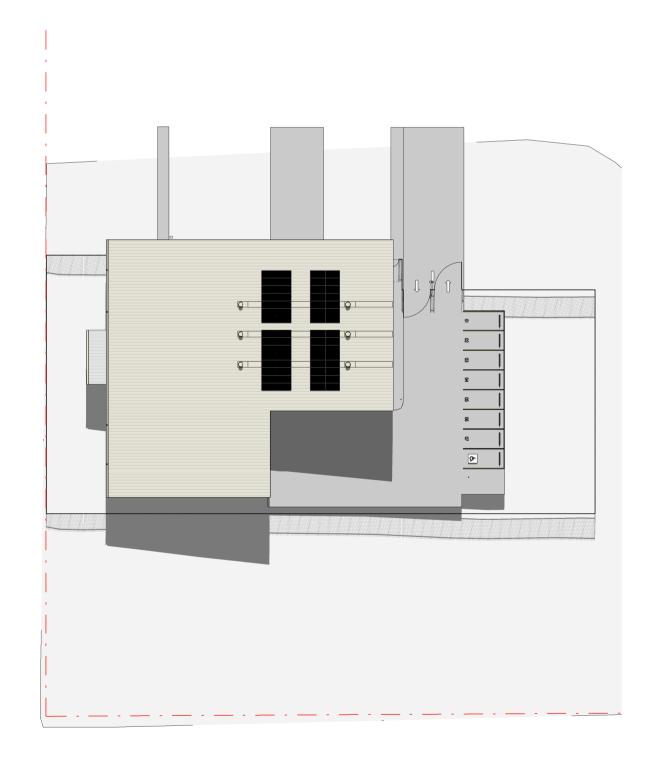


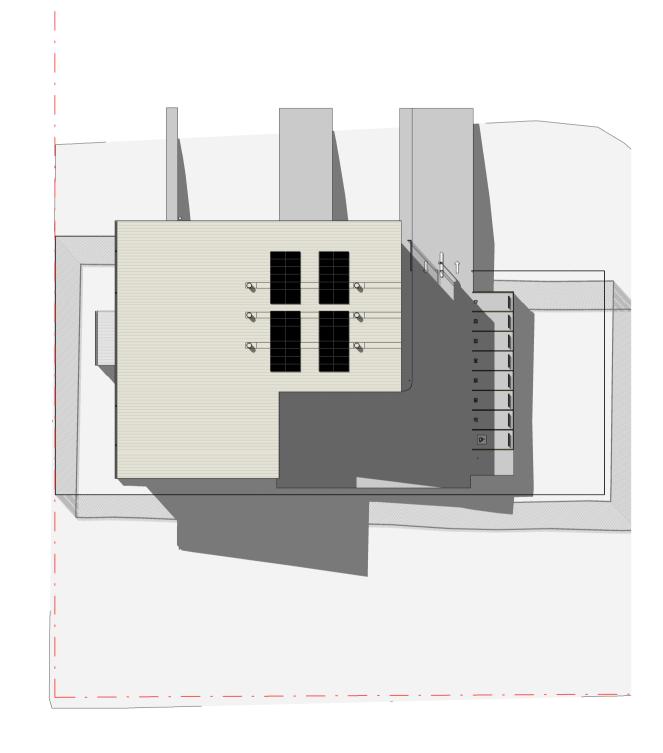
9AM SUMMER SOLSTICE
1:500

2 12PM SUMMER SOLSTICE 1:500

3 3PM SUMMER SOLSTICE
1:500







9AM WINTER SOLSTICE
1:500

ISSUE DATE

A 17.06.22

5 12PM WINTER SOLSTICE
1:500

6 3PM WINTER SOLSTICE
1:500

SUBJECT BASE ARCHITECTURE SET	AUTHORISED MR	Rural Ambulance Infrastructure Reconfiguration Building the future response for our state	LEVEL 16 44 MARKET STREET SYDNEY NSW 2000 11.61 9 2000 2556	This drawing should be read in conjunction with all relevant contracts, specifications and drawings. Dimensions are in millimetres. Levels are metres. Do not scale off drawings. Use figured dimensions only. Check dimensions on Site. Report discrepancies immediately.
		SERVICES	STRUCTURE & CIVIL	
		23/101 MILLER ST NORTH SYDNEY NSW 2060 T+61 2 9437 1000 JHA	LEVEL 4 66 CLARENCE STREET SYDNEY NSW 2000 T+612 8247 8400	1:500 0 5 10 15 20 25





DATE PRINTED:17/06/2022 7:24:51 PM SCALE AT A1 T +612 9319 2955
ABN: 48 942 921 969
Nominated Architects:
Andrew Hipwell 6562
Daniel Beekwilder 6192

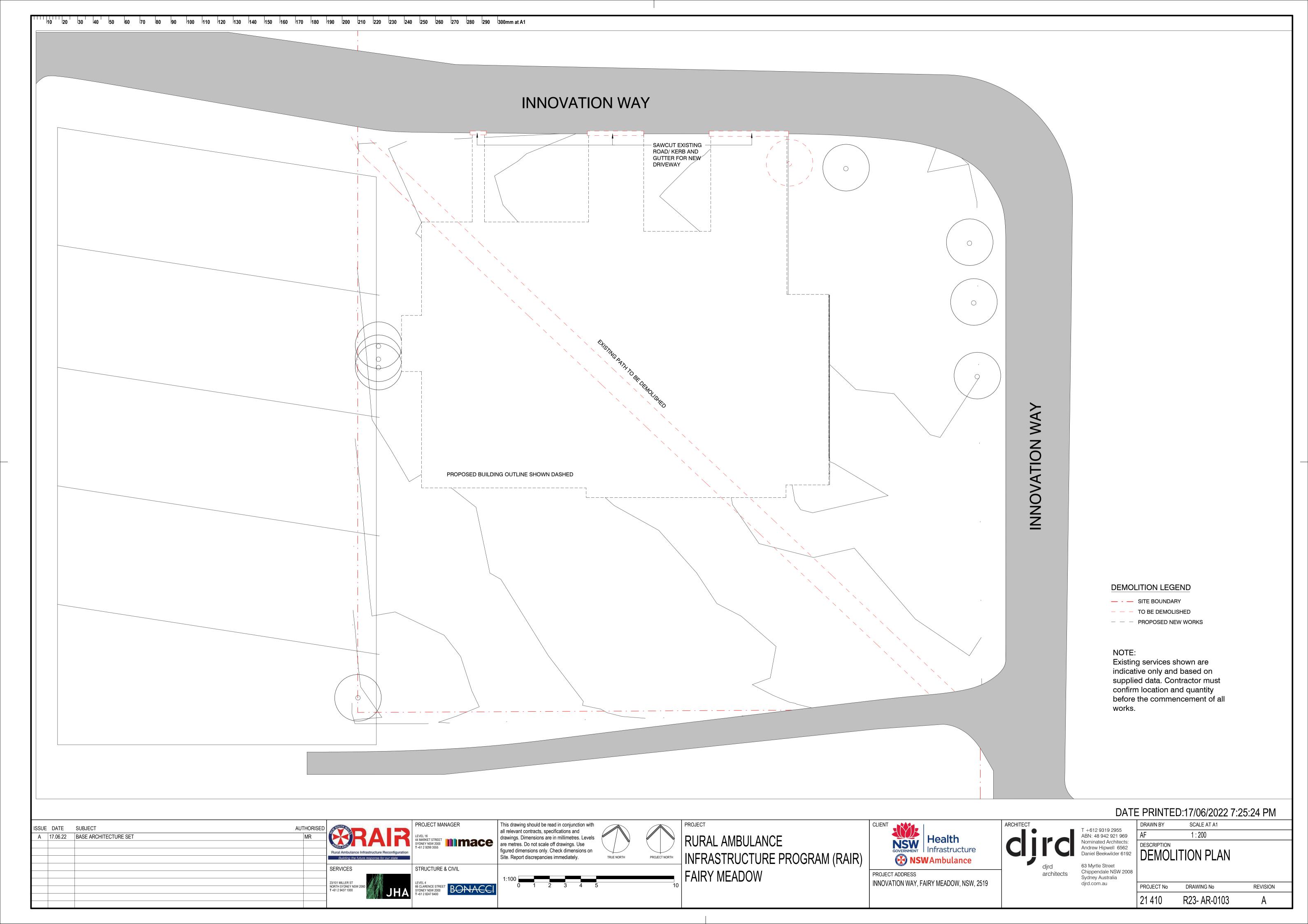
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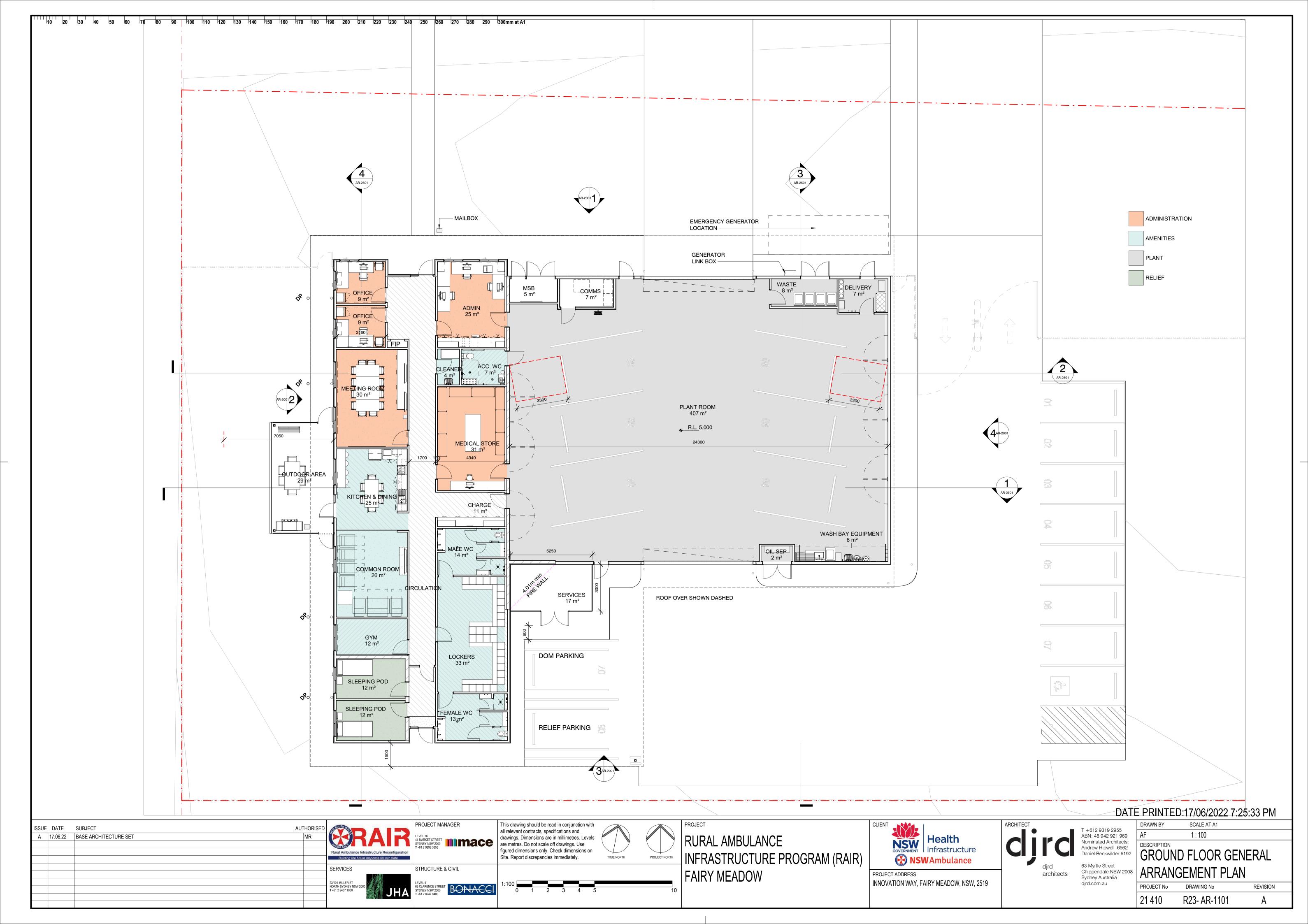
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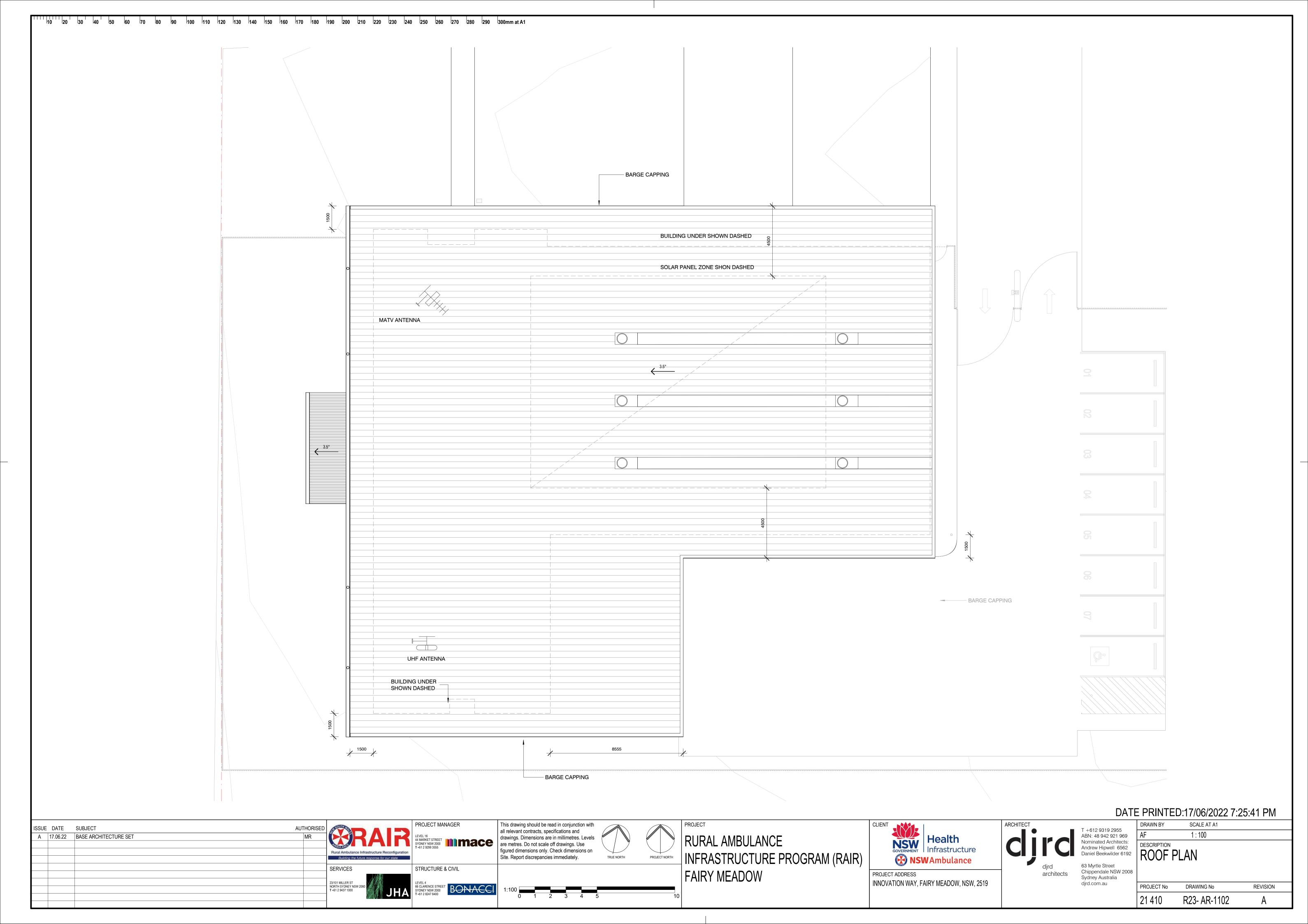
DESCRIPTION
SHADOW DIAGRAMS

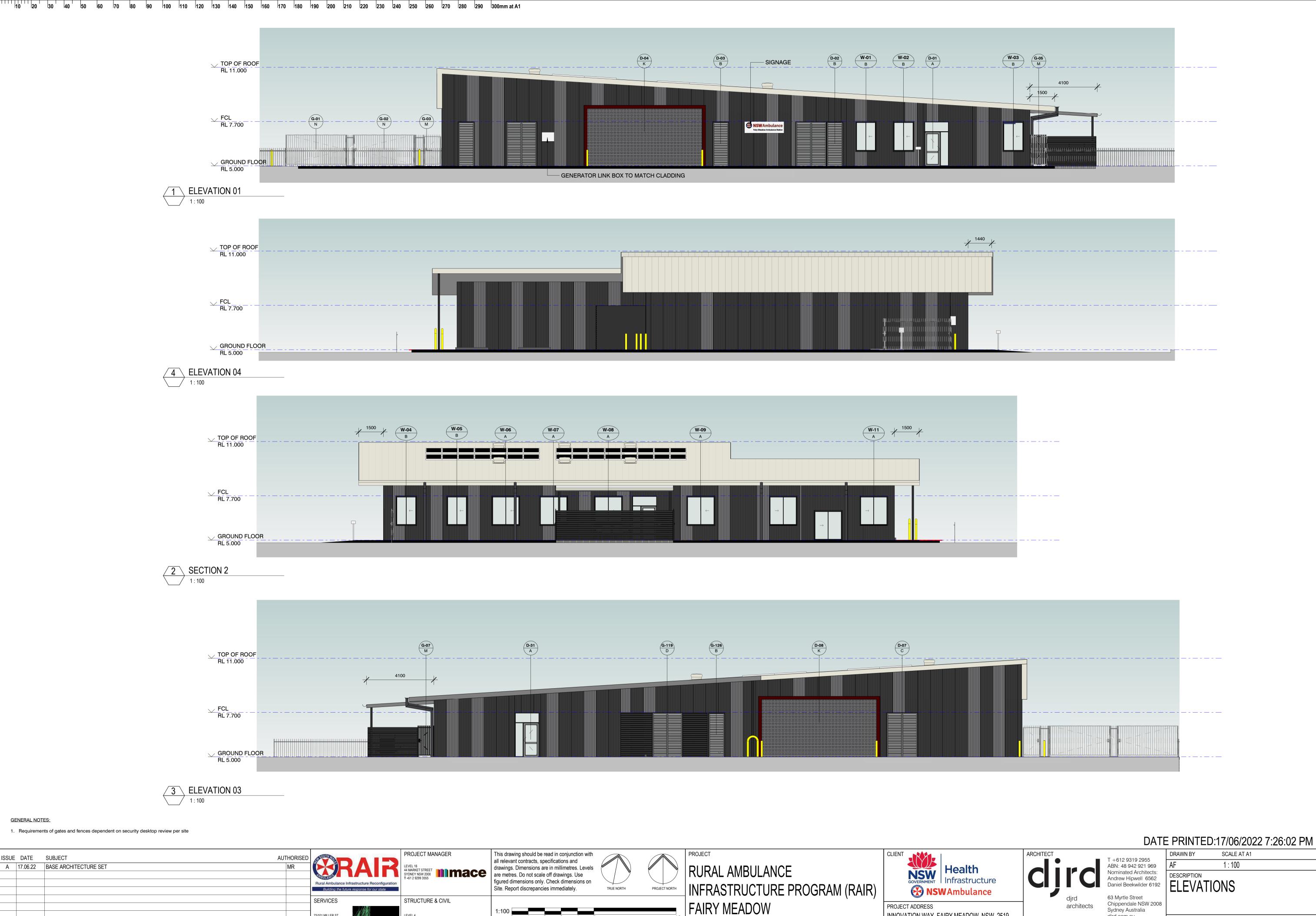
63 Myrtle Street Chippendale NSW 2008 Sydney Australia djrd.com.au DRAWING No REVISION

R23- AR-0102







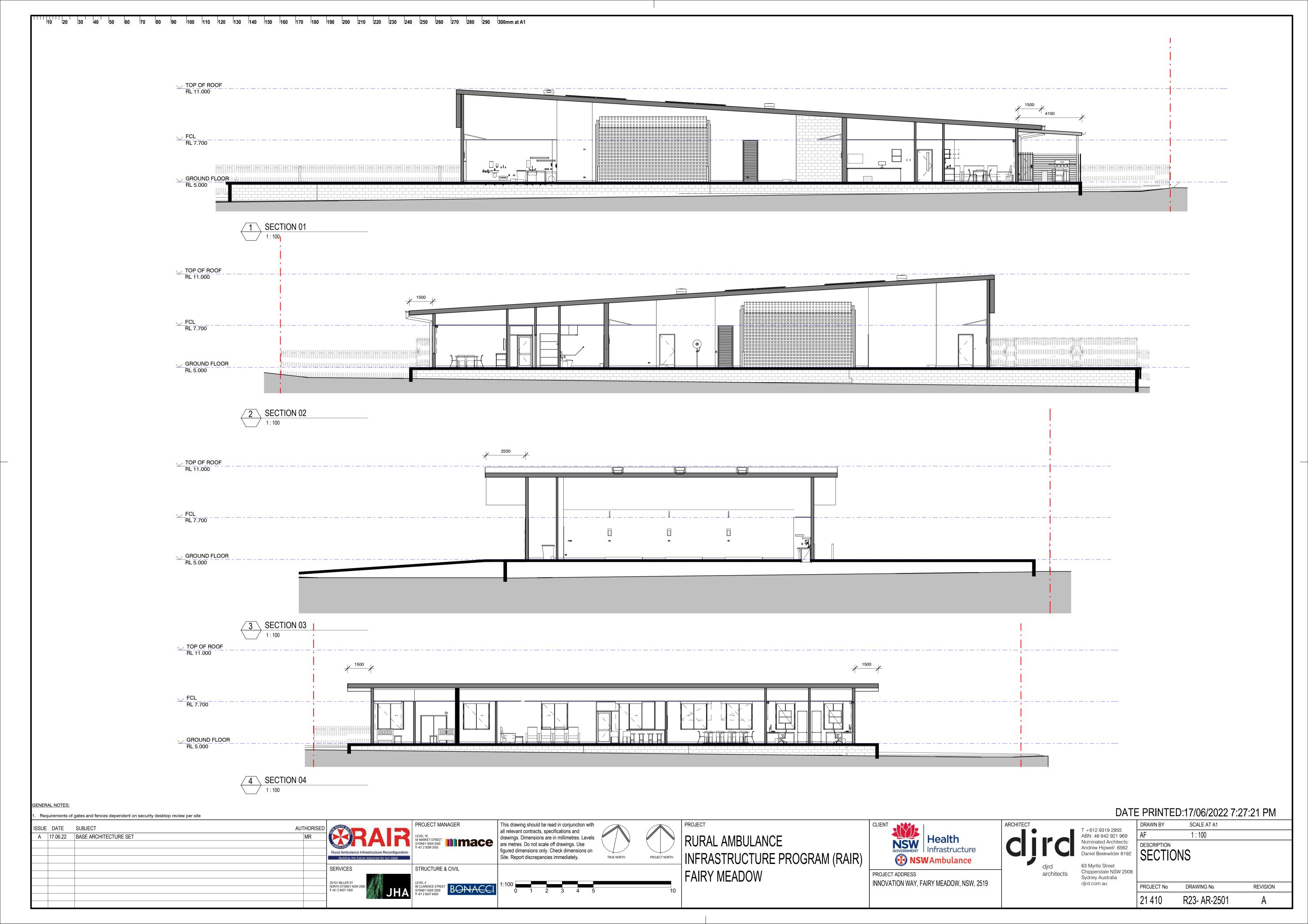


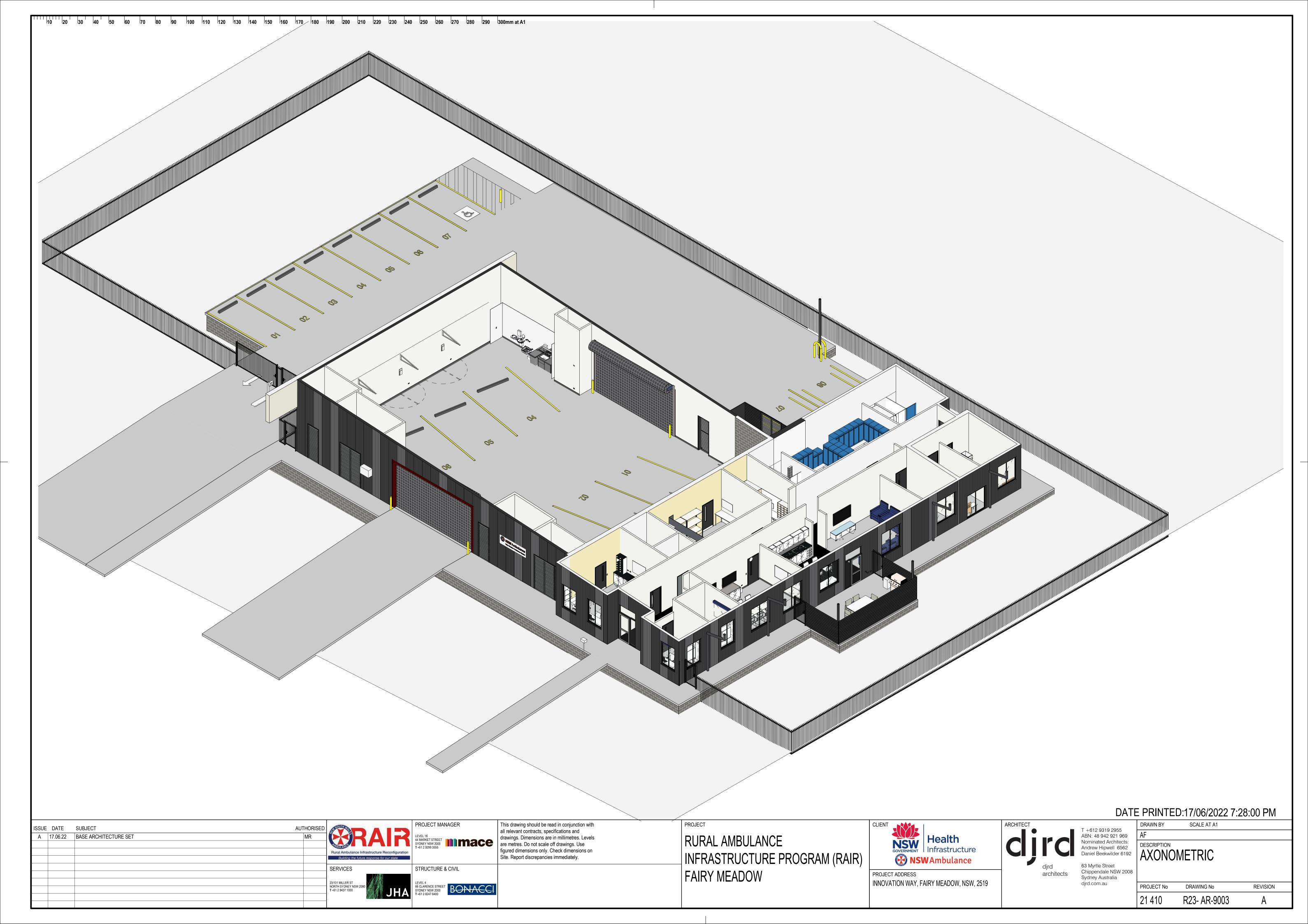
PROJECT No DRAWING No REVISION 21 410 R23- AR-2001

djrd.com.au

PROJECT ADDRESS

INNOVATION WAY, FAIRY MEADOW, NSW, 2519





Prepared By: RoadNet Engineering Pty Ltd For: GeoLINK

APPENDIX B – Return Brief

FINAL

Fairy Meadow RAIR Ambulance Station ~ Return Brief

1. Reference Documents

This return brief has been prepared to suit the targeted staffing capacity & outlined for year 2031 based on the following Reference Documents;

- a. Email correspondence from NSW Ambulance
- b. RAIR Staff Ratio Appendix FTE vs Station Requirements

2. Outline of Requirements

Ambulance Station

To be typically based on the Rural Ambulance Station Facilities Design Guidelines / Revision J / Medium Station Template M-01 / 02.1AR1101 - modified to suit required FTE staff levels in accordance with RAIR Staff Ratio Appendices Spreadsheet V2

Staffing

	Full Time Equivalent Staff	24	As per NSWA Correspondence
	DOM	1	
Provision for Staff			As per RAIR Staff Ratio Appendix
	Locker Room – provision for	30	Lockers (24x 1.23 FTE)
	Common Area Lounge – provision for	8	Staff
	Common Area Dining – provision for	10	Staff
	Admin Space (Peak by half) – provision for	3	staff
Equipment			As per RAIR Staff Ratio Appendix
	Computers – provision for	3	pcs in admin area
	Basic Printer – provision for	1	Basic printer in admin area
Amenities Male			As per RAIR Staff Ratio Appendix
	WC	1	
	Shower	1	
	Change Cubicle	1	
Amenities Female			As per RAIR Staff Ratio Appendix
	WC	1	
	Shower	1	
	Change Cubicle	1	
Accessible Amenities	.		As per RAIR Staff Ratio Appendix
	Combined Accessible WC + Shower	1	in accordance with AS1428



Additional Modules		As per RAIR Design Guidelines
Zone & Sector Management Module	1	Tier 1 – 1 x shared DOM office – 12m2 and 1 x 9m2 S/O office
Fleet Maintenance		Tier 1 as noted in Plant Room below
Relief Quarters Module	1	Required 1 bed
Education Module	1	Tier 2 –30m ²
Gym Space Module	1	Approx. 12m2 – may be internal or external protected from the elements

Plant Room

To be typically based on the Rural Ambulance Station Facilities Design Guidelines / Revision J / Medium Station Template M-01 / 02.1AR1101 - modified to suit site as follows;

- 1. to suit required # of parking bays as outlined on the RAIR Endorsement sheet
- 2. to suit endorsed schedule of accommodation in approved Return Brief
- 3. to suit site size & geometry

Internal Vehicles			As per NSWA Correspondence
	Ambulance	5	Internal bays
	Fleet Maintenance Bay	Included	Tier 1
	Wash Bay	1	Internal bay
	Total Internal Vehicles	(6) 5 ambulance bays + 1 Wash Bay	
External Vehicles (Covered)			As per RAIR Design Guidelines
	DOM Bay	1	Operation Frontline Vehicle (Car) – 2.7x5.4m Large Car Park
	Relief	1	
	Total External (Covered) Vehicles	(2) 1 DOM bay + 1 Relief bay	
Other Parking (Not Covered)			Standard Car Parking Bay size: 5.4x2.4m
Access	sible Parking Bay + Circulation Area	1	statutory requirement in accordance with AS2890.6
	Parking bays Total	5 (6) 1 acc. + 5 parking bays	As per RAIR Staff Ratio Appendix



mbulance Ctat:	ule of Areas			
Ambulance Stati		3 staff	Admin	To suit required number of staff
1	X	30 m ²	Combined Medical Equipment Store	As per RAIR Staff Ratio Appendix
1	Х	> 7m ²	Comms Cupboard	To suit NSWA ITC Regs
I	X	> / IIIF	Commis Cupboard	TO SUIL NO WATTO NEQS
1	x	4m²	Cleaner's Sink / Store	
1	x	9m²	Office	
1	x	12m ²	DOM Office	Shared Office
		-	Circulation	
			Amenities	
1	X	8 staff	Common Room	To suit required number of staff
1	X	10 staff	Meals	To suit required number of staff
1	x	7 m ²	Accessible WC with shower	
1	x	14 m ²	Male WC	
1	x	incl	Male Shower	
1	X	incl	Male Change	
1	x	14 m ²	Female WC	
1	x	incl	Female Shower	
1	x	incl	Female Change	
1	x	30 lockers	Locker Room	To suit required number of lockers
1	x	11 m ²	Charge	
1	х	12m2	Gym	
Bolt On Module:	T2 Education			
1 Bolt On Module:	X Poliof Ouari	30m ²	Multi-purpose Classroom	
Soft Off Woodule.			5 " (
1 Associated Exte	X rnal Snaces	29m²	Relief incl. WC	
1	-	28m²	Outdoor Area	Adjacent to common room
1	Х	7m ²	Services	Confirm if Bolton Modules require
'	Х	7111	Convices	this to be larger
1	X	6m²	Waste	Confirm if Bolton Modules require
/ehicle Plant Ro				this to be larger
1	X	Variable	Plant Room	Drive through configuration to suit
4	^	02	D.F.	SEV
1	X	8m ²	Delivery	
1	Х	4m ²	Main Switchboard	
1	Х	2m ²	Oil Separator	
1	Х	50m2	Wash Bay	Internal Wash Bay
Parking Allocation			Relief Bay	2.7x5.4m Large Car Park
1	X		DOM Bay	2.7x5.4m Large Car Park TBC
Parking Allocation	X on Not Cove	rad	DOM Day	E.T.A. IIII Large Our Fark TDO
arking Anocalic		IEU	Accessible Parking Bay + Circulation	Standard Car Parking Bay size:
	Х			5.4x2.4m
5			Parking Bays – Ambulance Station	Standard Car Parking Bay size:



APPENDIX C - Swept Path Diagram

FINAL

