
P90 ESTIMATE REPORT REV02

AUGUST 2022

BAE F-35 AV MRO&U UPGRADE SOUTH HANGAR

55, 55A & 55C SLADES ROAD, WILLIAMTOWN
RPS GROUP

PROJECT ID: 17556



jf:17556.5.ES-Rpts-Rev02.jb.mwh

19 August 2022

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CARRINGTON NSW 2294Attention: David Mattiussi
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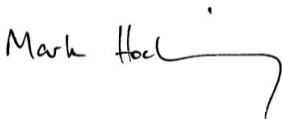
Dear David

**BAE F-35 AV MRO&U UPGRADE SOUTH HANGAR
P90 ESTIMATE REPORT REV02 REV02**

We have pleasure in enclosing our P90 Estimate Report Rev02 Rev 02 for the proposed South Hangar Upgrade located at 55, 55A & 55C Slades Road, Williamtown, NSW.

We trust that our report is of assistance and will be pleased to provide any further information, which you may require upon request.

Yours sincerely

Mark Hocking
Director
Rider Levett Bucknall
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REPORTS ISSUED

Revision	Date	Title Description	Released By
001	25 November 2020	Option Analysis Report – DRAFT	Director
002	02 December 2020	Rough Order of Magnitude Report – DRAFT	Director
003	04 December 2020	Rough Order of Magnitude Report	Director
004	26 March 2021	SOR Estimate Report	Director
005	24 September 2021	South Hangar P90 Estimate Report	Director
006	10 August 2022	South Hangar P90 Estimate Report Rev01	Director
007	19 August 2022	South Hangar P90 Estimate Report Rev02	Director

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1 EXECUTIVE SUMMARY

This report estimates a total cost of \$19,410,000 excluding GST for the South Hangar, Support Areas, Administration, GSE Storage Building works and External Works and Services. Additionally, there is \$7,490,000 excluding GST of scope Departures separate to the Hangar estimate, which we understand to be under review at the time of this report. The Hangar and associated area works are based on 50% design documentation issued on 09 August 2021 and the scope variation dated 24 August 2021 issued by BAE Systems.

The project comprises five key locations being the Hangar, Support areas, Administration areas, GSE Storage, as well as External Works. Based upon the total Gross Floor Area of 6,177m² the project is currently \$3,142/m² GFA.

The areas associated with the Departures have not been measured and the Departures have not been measured and rated in detail. These are broad Order of Cost Estimates only and are based on the description of the scope of work within the Departures Schedule.

Rates used in the formulation of this estimate are current as at August 2022. Our estimate is inclusive of escalation to the end of the tender period planned for July 2023. We have prepared this estimate based upon a fixed price construct only procurement methodology.

We refer you to the body of the report for the full summary, assumptions, clarifications, and detailed basis of the above estimate.

2 INTRODUCTION

2.1 PURPOSE OF REPORT

This South Hangar P90 Estimate report has been prepared for RPS Group and is based on the 50% design documentation issued on 09 August 2021 as well as the scope variation dated 24 August 2021 issued by BAE Systems. The report has been prepared to forecast the total cost of the project as currently detailed.

The areas associated with the Departures have not been measured and the Departures have not been measured and rated in detail. These are broad Order of Cost Estimates only and are based on the description of the scope of work within the Departures Schedule dated 19 August 2021, which we understand to be under review at the time of this report.

As the project progresses, the developing design should be reviewed against the allowances made within this report. The costs should be considered in the context of the current stage of the design.

This estimate is an order of cost for budget purposes only, as instructed, and is based on 50% design information only. The estimate should be updated when more detailed information becomes available. The actual cost of the development will vary depending on numerous matters including but not limited to the method of contractual procurement, phasing, quality of finishes and fitments, method of construction, calibre of contractor, timing and implementation of the works, utility provisions outside site boundaries and the like.

2.2 PROJECT DESCRIPTION

The project is the proposed F35 AV MRO&U South Hangar upgrade, located in Williamstown NSW.

The Estimate indicates the likely costs for the proposed development and will be further developed and refined as the project progresses through the design stages.

The project comprises the following:

- South Hangar upgrade comprising 4,312m² GFA
- South Hangar Support Areas upgrade comprising 1,118m² GFA
- South Hangar Administration refurbishment comprising 531m² GFA
- Upgrade of the Ground Servicing Equipment Storage area, including HV and Battery Storage areas comprising 216m² GFA
- Upgrade of external services in line with the scope of the South Hangar

2.3 STATEMENT OF RELIANCE

This report is prepared for the reliance of the party/parties for whom it is prepared. Rider Levett Bucknall accepts no responsibility, or liability, to any other party who might use or rely upon this report without the prior knowledge and written consent of Rider Levett Bucknall.

No portion of this report (including without limitation any conclusions which may affect value, the identity of Rider Levett Bucknall or its Sub-Contractors, or any individuals signing or associated with this report, or the Professional Associations or Organisations with which they are affiliated) shall be copied or disseminated to third parties, by any means, without the prior written consent and approval of Rider Levett Bucknall.

3 PROJECT COSTS

3.1 COST ESTIMATE SUMMARY

The costs can be summarised as follows:

Description	Cost	Cost/m2	% Cost
External Works	\$2,548,559		13%
South Hangar	\$8,971,193	\$2,081	46%
South Support Building	\$2,259,749	\$2,021	12%
South Administration Building	\$353,601	\$666	2%
Existing GSE Storage	\$1,111,033	\$5,144	6%
TOTAL CONSTRUCTION COST	\$15,244,135	\$2,468	79%
Design Fees	\$1,236,233		6%
Management Fees	\$153,148		1%
Authority Fees and Charges	\$154,689		1%
P ₉₀ Contingency (11.9%)	\$1,992,955		10%
Land and Legal Fees	Excl.		0%
Finance Cost and Interest Charges	Excl.		0%
Staging / Phasing Costs	Excl.		0%
Escalation to February 2023	\$628,840		3%
Goods and Services Tax	Excl.		0%
Rounding	Incl.		0%
TOTAL OTHER PROJECT COSTS	\$4,165,865		21%
TOTAL HANGAR ESTIMATE	\$19,410,000	\$3,142	100%

Description	Cost	Cost/m2	% Cost
Departures	\$6,180,688	\$1,001	83%
TOTAL CONSTRUCTION COST	\$6,180,688		83%
Design Fees	\$508,272		7%
Management Fees	\$62,975		1%
Authority Fees and Charges	\$63,607		1%
Contingency (10%)	\$674,458		9%
Land and Legal Fees	Excl.		0%
Finance Cost and Interest Charges	Excl.		0%
Staging / Phasing Costs	Excl.		0%
Escalation	Incl.		0%
Goods and Services Tax	Excl.		0%
Rounding	Incl.		0%
TOTAL OTHER PROJECT COSTS	\$1,309,312	\$212	17%
TOTAL DEPARTURES ESTIMATE	\$7,490,000	\$1,213	100%

A further breakdown of cost can be found in the Estimate in Appendix A of this report.

3.2 RECONCILIATION WITH PREVIOUS ESTIMATE

The previous estimates completed in September 2021 includes the same scope for South Hangar works. All differences shown below are related to escalation from September 2021 to August 2022, escalation to July 2023 as per the revised programme and the P90 Contingency pricing from the latest risk modelling.

Description	Sep-21 Estimate	Aug-22 Estimate	Difference
External Works	\$2,322,543	\$2,548,559	\$226,016
South Hangar	\$7,913,886	\$8,971,193	\$1,057,307
South Support Building	\$1,980,707	\$2,259,749	\$279,042
South Administration Building	\$307,366	\$353,601	\$46,235
Existing GSE Storage	\$959,146	\$1,111,033	\$151,887
Other Project Costs	\$3,616,352	\$4,165,865	\$549,513
Departures Costs	\$5,480,983	\$6,180,688	\$699,705
Other Project Costs	\$1,189,017	\$1,309,312	\$120,295
Total	\$23,770,000	\$26,900,000	\$3,130,000

3.3 COST RISKS

In preparing this Estimate, we have considered the following potential risks that could lead to cost impacts and which will require careful management.

- Ground conditions – rock, water table, contamination
- Presence of hazardous materials in existing buildings or ground
- Scope definition and management
- Stakeholder management
- Market conditions leading to material or labour shortages
- Compressed design and approval programme
- Planning risk leading to programme delays
- Live environment interface with construction operations
- Procurement methodology
- Currency exchange rate fluctuations

These risks have been considered as part of the Inherent and Probabilistic P₉₀ Risk Modelling exercise, through analysis of the quantities and rates within the estimate as well as the risk register that was discussed and refined during the risk workshop on 08 August 2022.

The above is not an exhaustive list of project risks and we recommend further consideration by the Project Team as the project progresses.

4 AREAS

4.1 AREA SCHEDULE

The current design is made up of the following areas.

Building	Gross floor Area (m2)
South Hangar	4,312
South Support Building	1,118
South Administration Building	531
Existing GSE Storage	216
TOTAL AREA	6,177

5 BASIS OF ESTIMATE

5.1 BASIS OF QUANTIFICATION & PRICING

This estimate is based upon:

- Measured elemental quantities priced with rates current as at August 2022.

This cost estimate is based on the documentation listed below and in Appendix B and does not, at this stage, provide a direct comparison with the tenders to be received at a future date. To enable monitoring of costs, this estimate should be updated regularly during the design phases of this project.

The following information was used in the preparation of this estimate:

Document Title	Reference	Date
Architectural Drawings	A20-0059-00-AR	05-Aug-21
Communication Drawings	A20-0059-00-CM-DRG	10-Aug-21
Electrical Drawings	A20-0059-00-EL-DRG	06-Aug-21
Fire Drawings	A20-0059-00-FI-DRG	06-Aug-21
HV Design Drawings	1246-01-DEP-EL-DWG	30-Jul-21
Hydraulic Drawings	A20-0059-00-HY-DRG	06-Aug-21
Mechanical Drawings	A20-0059-00-ME-DRG	06-Aug-21
Security Drawings	A20-0059-S1-SE-DRG	10-Aug-21
Structural Drawings	A20-0059-00-ST-DRG	06-Aug-21
Hazardous Drawings	A20-0059-S1-HA-DRG	
Look and Feel Precedent Images		28-Jul-21
Furnitures, Fixtures and Equipment Schedule		30-Jul-21
F-35 AV MRO&U Preliminary Design Departures Schedule	Rev01	19-Aug-21
AV MRO&U Facilities RDC Risk Register	Version 6.2 dated	08-Aug-22
Change Request issued by BAE Systems		24-Aug-21

A full record of the information used can be found in Appendix B of this report.

5.2 BASIS OF PROCUREMENT

We have prepared this estimate based on the project being procured via a single stage competitive tender and as part of a fully documented, construct only contract methodology.

5.3 PROGRAMME

We have been provided with *BAES F35 Program_Indicative Detailed Schedule_Master (All Schedules)_220719* from RPS Group. This programme forecasts a construction commencement date of May 2023 and a construction duration of 15 months, which we have considered as part of our estimate.

5.4 ESCALATION

This estimate is based on fixed price market rates as at August 2022. We have included an allowance for escalation from the date of this estimate until the forecast closing of tenders in July 2023. Should the project commencement date be delayed, we recommend that escalation calculations be reviewed.

The construction industry is currently experiencing significant price fluctuations in both materials and labour. Due to this market volatility escalation is difficult accurately and we recommend this is reviewed regularly.

5.5 CONTINGENCY

The estimate includes the following contingency.

Contingency Type - South Hangar Scope	Value
Design Development Contingency	Excl.
Construction Contingency	Excl.
Client Contingency	Excl.
P ₉₀ Contingency (11.9%)	\$1,992,955
TOTAL CONTINGENCY	\$1,992,955
Contingency Type - Departures Scope	Value
Design Development Contingency	Excl.
Construction Contingency	Excl.
Client Contingency	Excl.
Project Contingency (10%)	\$674,458
TOTAL CONTINGENCY	\$674,458

Risk Simulation

A provision has been included for inherent and contingent risk that is deemed appropriate for the current South Hangar stage of the project. A Monte Carlo simulation has been run to P₉₀ confidence on the inherent and contingent risks within the South Hangar scope cost estimate, excluding the Departures. The 11.9s% result is included in the estimate. A 10% Contingency allowance has been included for the Departures scope of work.

A probabilistic evaluation of the contingency has been completed for this project. This involved reviewing risks which may or may not occur during the project. The possible cost associated with each risk has been considered, along with the probability of each risk. This evaluation has formed the inputs to the risk modelling, the outcome of which is P₉₀ in this instance.

A P₉₀ estimate gives a level of confidence that there is a 90% probability that the final cost of the project will be at or below the estimate amount.

5.6 CLARIFICATIONS AND ASSUMPTIONS

- Specifications generally
- Specification of mechanical, hydraulic, electrical, security, communications installations
- Details of FF&E, fittings and equipment
- Exact requirements for and suitability of incoming services
- Ground and geotechnical conditions
- No inclusion has been made for any out-of-hours work, penalty rates or site restrictions
- AECOM has provided indicative cost estimates for hydraulics, mechanical, electrical, security, communications and fire services. These were received on 17 August 2021. Escalation has been applied to these rates, as per section 5.4 of this report.

5.7 ITEMS SPECIFICALLY EXCLUDED

Site Works

- Removal and / or remediation of hazardous materials
- Works outside site boundary, with the exception of documented HV electrical infrastructure

Temporary Works

- Temporary staging space and decanting works
- Standby power generation

Structure

- Structural transfers

Fit-out and Interiors

- Operating supplies and equipment
- Artwork

Building Services

- Specialised equipment, computer equipment, business machines (copiers, printers, etc.) or other 'plug-in' equipment

Sustainability

- Greenstar or NABERS certification

Authority Fees and Requirements

- Destructive testing
- Environmental impact studies

Other

- Items of scope removed from documentation as part of Change Request
- Phasing costs
- Client direct costs
- Finance and interest charges
- Prototypes
- Relocation costs
- Work at penalty rates for "out of hours" or program acceleration
- Changes in law, standards and codes
- Goods and Services Tax

Risk Register and P90 Contingency

The following items have been excluded from the estimate, but these items that been considered as part of the Risk Register and P90 Contingency modelling.

- Rock excavation
- Piled foundations
- Active ICT equipment
- Decontamination and removal of hazardous materials
- Diverting existing services, with the exception of documented HV electrical infrastructure
- Escalation after July 2023
- Effect of foreign exchange currency fluctuations

5.8 COVID-19 IMPACTS

Our estimate has been prepared to reflect the anticipated changed market conditions due to the impact of COVID-19.

Our estimate makes provisions for amended site requirements and head contractor preliminaries including items such as:

- Additional worker shed facilities
- Additional regular site cleaning of facilities
- Longer site operating times to facilitate movement of workers with restricted numbers in lifts and hoists

RLB note that whilst our estimate does not specifically account for exacerbated risks such as imported material delivery delays, further tightening of social distancing rules impacting on programme and exchange rate fluctuations, these risks have been addressed and included on the Risk Register and as such an allowance has been included in the P90 Contingency included.

RLB anticipate that the impact on the estimate may only be in the short to medium term and that long-term impacts may revert to normal circumstances hence this will be subject to ongoing monitoring.

APPENDIX A(i): Estimate

BAE F-35 AV MRO UPGRADE

SOUTH HANGAR P90 - AUGUST 2022 UPDATE

LOCATION SUMMARY

GFA: Gross Floor Area
Rates Current At August 2022

Ref	Location	GFA m ²	GFA \$/m ²	Total Cost \$
EX	EXTERNAL WORKS AND SERVICES			2,548,559
S1	SOUTH HANGAR (ADAPTIVE REUSE)			
S1A	SOUTH HANGAR	4,312	2,081	8,971,193
S1B	SOUTH SUPPORT BUILDING	1,118	2,021	2,259,749
S1C	SOUTH ADMIN BUILDING	531	666	353,601
	S1 - SOUTH HANGAR (ADAPTIVE REUSE)	5,961	1,943	11,584,543
X1	EXISTING GSE STORAGE	216	5,144	1,111,033
ESTIMATED NET COST		6,177	2,468	15,244,135
MARGINS & ADJUSTMENTS				
	Design Fees - Fully Documented	8.8%		1,236,233
	Management Fees	1.0%		153,148
	Authority Fees and Charges	1.0%		154,689
	P90 Contingency	12.1%		1,992,955
	Land and Legal Fees			Excl.
	Finance Cost and Interest Charges			Excl.
	Staging / Phasing Costs			Excl.
	Escalation to end of tender period July 2023	3.4%		628,840
	Goods and Services Tax			Excl.
ESTIMATED TOTAL COST		6,177	3,142	19,410,000

BAE F-35 AV MRO UPGRADE

SOUTH HANGAR P90 - AUGUST 2022 UPDATE

LOCATION SUMMARY

GFA: Gross Floor Area
Rates Current At August 2022

Ref	Location	GFA m ²	GFA \$/m ²	Total Cost \$
D0	DEPARTURES			
D01	HANGAR GANTRY ARMS			580,024
D02	AIRCRAFT OVERNIGHT PURGING			94,090
D04	380V TRANSFORMERS			-66,699
D05	FIXED PCA SYSTEMS			2,528,422
D06	GSE CANOPY EXTERNAL POWER			17,211
D09	GSE ROLLER SHUTTER			21,562
D12	W24 STRUCTURES WORKSHOP			1,740,458
D13	W34 AST/LO TRAINING WORKSHOP			434,968
D17	HANGAR PENETRATIONS			57,825
D18	HANGAR MAINTENANCE BAYS			72,332
D21	HANGAR BAYS 1 AND 2 ISOLATORS			29,641
D22	W21 ANTISTATIC EXTENSION			44,556
D24	W49 TOOL STORE SECURITY			44,557
D27	W24 STRUCTURES WORKSHOP SECURITY			238,482
D28	ROLLER SHUTTER ASTLO TRAINING WORKSHOP			0
D30	W15 WALL			-7,383
D31	W21 AVIONICS WORKSHOP			231,890
D32	W21 AVIONICS WORKSHOP SOLDERING			44,557
D49	EXTERNAL OUTLET FOR 380V TRANSFORMERS			22,180
D50	ICT PROVISIONS			52,015
D0 - DEPARTURES				6,180,688
ESTIMATED NET COST				6,180,688
MARGINS & ADJUSTMENTS				
Design Fees - Fully Documented		8.9%		508,272
Management Fees		1.0%		62,975
Authority Fees and Charges		1.0%		63,607
Contingency (not subject to P90 model)		10.1%		674,458
Land and Legal Fees				Excl.
Finance Cost and Interest Charges				Excl.
Staging / Phasing Costs				Excl.
Goods and Services Tax				Excl.
ESTIMATED TOTAL COST				7,490,000

APPENDIX A(ii): Departures

Note: These Cost Estimates are of scope items that depart from the Statement of Requirements (SOR) design for the South Hangar facility. These items have not been subjected to a P90 assessment, and a 10% Contingency has been applied to these items.

APPENDIX B: Schedule of Information

Architectural drawings prepared by DesignInc Adelaide Pty Ltd dated 06-Aug-2021:

- A20-0059-00-AR-1000 – Cover Sheet and Location Plan
- A20-0059-00-AR-1001 – Proposed Site Plan – South Hangar Scope
- A20-0059-S1-AR-8501 – Room Scope – W01 Outdoor GSE Storage – Rev 00
- A20-0059-S1-AR-8502 – Room Scope – W01 Outdoor GSE Storage – Rev 00
- A20-0059-S1-AR-8503 – Room Scope – W24 Proposed Plan/RCP/Demo – Rev 00
- A20-0059-S1-AR-8504 – Room Scope – W02 GSE Workshop Plan/Elv – Rev 00
- A20-0059-S1-AR-8505 – Room Scope – W02 RCP/Demolition Plan – Rev 00
- A20-0059-S1-AR-8506 – Room Scope – W83 Multi Purpose Office – Rev 00
- A20-0059-S1-AR-8507 – Room Scope – W05 Avionics Workshop – Rev 00
- A20-0059-S1-AR-8508 – Room Scope – W34 AST/LO Training Workshop – Rev 00
- A20-0059-S1-AR-8509 – Room Scope – W21 Avionics Workshop – Rev 00
- A20-0059-S1-AR-8511 – Room Scope – W88 Multi Purpose Office – Rev 00
- A20-0059-S1-AR-8512 – Room Scope – W49 Tool Store Plan/Elv – Rev 00
- A20-0059-S1-AR-8514 – Room Scope – W59 Multi Purpose Office – Rev 00
- A20-0059-S1-AR-8515 – Room Scope – W71 Comms Room – Rev 00
- A20-0059-S1-AR-8516 – Room Scope – W73 Zone 4 Office – Rev 00
- A20-0059-S1-AR-8517 – Room Scope – W73 Zone 4 Office – Rev 00
- A20-0059-S1-AR-8518 – Room Scope – W73 Zone 4 Office – Rev 00
- A20-0059-S1-AR-8519 – Room Scope – W85 Multi Purpose Office – Rev 00
- A20-0059-S1-AR-8520 – Room Scope – W87 LV Room – Rev 00
- A20-0059-S1-AR-8521 – Room Scope – A04 Zone 2 Office GA – Rev 00
- A20-0059-S1-AR-8522 – Room Scope – A04 Zone 2 Office RCP – Rev 00
- A20-0059-S1-AR-8523 – Room Scope – A04 Zone 2 Demo – Rev 00
- A20-0059-S1-AR-8524 – Room Scope – A04 Zone 2 Office Elevations – Rev 00
- A20-0059-S1-AR-8525 – Room Scope – A04 Zone 2 Elevations – Rev 00
- A20-0059-S1-AR-8526 – Room Scope – A04 Admin Wet Areas – Rev 00
- A20-0059-S1-AR-8528 – Room Scope – Covered Walkway – Rev 00
- A20-0059-S1-AR-0000 – Cover Sheet – Rev 00
- A20-0059-S1-AR-2000 – Existing and Demolition – Rev 00
- A20-0059-S1-AR-2001 – Hanger Demo Plan – Rev 00
- A20-0059-S1-AR-2300 – General Arrangement Plan – Ground Floor – Rev 00
- A20-0059-S1-AR-2301 – General Arrangement – Roof Plan – Rev 00
- A20-0059-S1-AR-3000 – Existing Elevations and Demolition – Rev 00
- A20-0059-S1-AR-3100 – Proposed Southern Elevations – Rev 00
- A20-0059-S1-AR-4100 – Proposed Sections – Rev 00
- A20-0059-S1-AR-5800 – Line Marking Plan – Rev 00
- A20-0059-S1-AR-5801 – Typical F-35 Bay Layout – Rev 00
- A20-0059-X1-AR-1000 – Existing GSE Storage – Rev 00
- A20-0059-X1-AR-1001 – HV Substation Design Options
- A20-0059-X1-AR-1003 – HV Substation
- A20-0059-X1-AR-1004 – Battery Store

Communications drawings prepared by DesignInc Adelaide Pty Ltd dated 10-Aug-2021:

- A20-0059-00-CM-DRG-0001 – Cover Sheet – Rev B
- A20-0059-00-CM-DRG-0010 – Legend and General Notes – Rev B
- A20-0059-S1-CM-DRG-1001 – Ground Floor – Communications Demolition Layout – Rev B
- A20-0059-S1-CM-DRG-1101 – Ground Floor – Zone 1 Communications Layout – Rev B
- A20-0059-S1-CM-DRG-1102 – Ground Floor – Zone 2 Communications Layout – Rev B
- A20-0059-S1-CM-DRG-1103 – Ground Floor – Zone 3 Communications Layout – Rev B
- A20-0059-S1-CM-DRG-1104 – Ground Floor – Zone 4 Communications Layout – Rev B
- A20-0059-S1-CM-DRG-1105 – Ground Floor – Zone 5 – Rev B
- A20-0059-S1-CM-DRG-3000 – Communications Services Schematic – Rev B

Electrical drawings prepared by DesignInc Adelaide Pty Ltd dated 06-Aug-2021:

- A20-0059-00-EL-DRG-0001 – Cover Sheet – Rev A
- A20-0059-00-EL-DRG-0010 – Legend and General Notes – Rev A
- A20-0059-00-EL-DRG-1000 – Site Plan – Rev A
- A20-0059-S1-EL-DRG-1001 – Ground Floor – Demolition Layout – Rev A
- A20-0059-S1-EL-DRG-1002 – Ground Floor – Existing Power Layout – Rev A
- A20-0059-S1-EL-DRG-1003 – Ground Floor – Existing Lighting Layout – Rev A
- A20-0059-S1-EL-DRG-1101 – Ground Floor – Power and Lighting Layout – Rev A
- A20-0059-S1-EL-DRG-2001 – Ground Floor – Containment – Rev A
- A20-0059-S1-EL-DRG-1301 – Ground Floor – Design Illumination Layout – Rev A
- A20-0059-S1-EL-DRG-3000 – Ground Floor – Site HV Single Line – Rev A
- A20-0059-S1-EL-DRG-3001 – Ground Floor – MDB-1 Site Electrical Block Diagram – Rev A
- A20-0059-S1-EL-DRG-3002 – Ground Floor – MSB-1 Single Line – Rev A
- A20-0059-S1-EL-DRG-3003 – Ground Floor – MDB-1 Single Line – Rev A
- A20-0059-S1-EL-DRG-3004 – Ground Floor – MDB-3 Single Line – Rev A
- A20-0059-S1-EL-DRG-3005 – Ground Floor – Distribution Board Single Line 1 – Rev A
- A20-0059-S1-EL-DRG-3006 – Ground Floor – Distribution Board Single Line 2 – Rev A
- A20-0059-S1-EL-DRG-3007 – Ground Floor – South Hangar Sub Layout and Earthing Schematic – Rev A
- A20-0059-S1-EL-DRG-0100 – Details Sheet 1 – Rev A
- A20-0059-S1-EL-DRG-0101 – Details Sheet 2 – Rev A
- A20-0059-S1-EL-DRG-0102 – Details Sheet 3 – Rev A
- A20-0059-S1-EL-DRG-0103 – Details Sheet 4 – Rev A
- A20-0059-X1-EL-DRG-1001 – GSE Storage – Demolition Layout – Rev A
- A20-0059-X1-EL-DRG-1101 – GSE Storage – Power and Lighting Layout – Rev A

Fire drawings prepared by DesignInc Adelaide Pty Ltd dated 06-Aug-2021:

- A20-0059-00-FI-DRG-0001 – Cover Sheet – Rev A
- A20-0059-00-FI-DRG-0010 – Legend and General Notes – Rev A
- A20-0059-00-FI-DRG-1000 – Site Plan – Rev A
- A20-0059-S1-FI-DRG-1001 – Ground Floor – Demolition Layout – Rev A
- A20-0059-S1-FI-DRG-1101 – Ground Floor – Zone 2 – Rev A
- A20-0059-S1-FI-DRG-1102 – Ground Floor – Zone 4 – Rev A
- A20-0059-S1-FI-DRG-1105 – Ground Floor – Zone 5 – Rev A
- A20-0059-X1-FI-DRG-1001 – GSE Storage – Demolition Layout – Rev A
- A20-0059-X1-FI-DRG-1101 – GSE Storage – Rev A

HV design drawings prepared by DEP Consulting Pty Ltd dated 30-Jul-2021:

- 1246-01-DEP-EL-DWG-1000 – Proposed Design Scope Decom Sub ‘HS38075’ New NVC Sub “SXXXXX” BAE Systems No.2 Williamtown NSW – Sheet 1
- 1246-01-DEP-EL-DWG-1100 – Proposed Design Scope Decom Sub ‘HS38075’ New NVC Sub “SXXXXX” BAE Systems No.2 Williamtown NSW – Sheet 2

Hydraulic drawings prepared by DesignInc Adelaide Pty Ltd dated 06-Aug-2021:

- A20-0059-00-HY-DRG-0001 – Cover Sheet – Rev A
- A20-0059-00-HY-DRG-1000 – Site Plan – Rev A
- A20-0059-S1-HY-DRG-1201 – Roof Layout – Rev A
- A20-0059-X1-HY-DRG-1201 – GSE Storage – Roof Layout – Rev A

Mechanical drawings prepared by DesignInc Adelaide Pty Ltd dated 06-Aug-2021:

- A20-0059-00-ME-DRG-0001 – Cover Sheet – Rev A
- A20-0059-00-ME-DRG-0010 – Legend and General Notes – Rev A
- A20-0059-00-ME-DRG-0100 – Standard Details – Sheet 1 – Rev A
- A20-0059-S1-ME-DRG-0101 – Standard Details – Sheet 2 – Rev A
- A20-0059-S1-ME-DRG-1101 – Ground Floor – Zone 1 – Rev A
- A20-0059-S1-ME-DRG-1102 – Ground Floor – Zone 2 – Rev A
- A20-0059-S1-ME-DRG-1103 – Ground Floor – Zone 3 – Rev A
- A20-0059-S1-ME-DRG-1104 – Ground Floor – Zone 4 – Rev A
- A20-0059-S1-ME-DRG-1105 – Ground Floor – Zone 5 – Rev A
- A20-0059-X1-ME-DRG-1101 – GSE Storage – Rev A

Security drawings prepared by DesignInc Adelaide Pty Ltd dated 10-Aug-2021:

- A20-0059-00-SE-DRG-0001 – Cover Sheet – Rev A
- A20-0059-00-SE-DRG-0010 – Legend and General Notes – Rev A
- A20-0059-00-SE-DRG-0100 – Standard Details – Sheet 1 – Rev A
- A20-0059-S1-SE-DRG-1001 – Ground Floor – Security Services Demolition Layout – Rev A
- A20-0059-S1-SE-DRG-1101 – Ground Floor – Zone 1 – Rev A
- A20-0059-S1-SE-DRG-1102 – Ground Floor – Zone 2 – Rev A
- A20-0059-S1-SE-DRG-1103 – Ground Floor – Zone 3 – Rev A
- A20-0059-S1-SE-DRG-1104 – Ground Floor – Zone 4 – Rev A
- A20-0059-S1-SE-DRG-1105 – Ground Floor – Zone 5 – Rev A
- A20-0059-X1-SE-DRG-1001 – GSE Storage – Demolition Layout – Rev A
- A20-0059-X1-SE-DRG-1101 – GSE Storage – Rev A

Structural drawings prepared by DesignInc Adelaide Pty Ltd dated 06-Aug-2021:

- A20-0059-00-ST-DRG-0001 – Cover Sheet – Rev A
- A20-0059-00-ST-DRG-0010 – Legend and General Notes – Sheet 1 – Rev A
- A20-0059-00-ST-DRG-0011 – Legend and General Notes – Sheet 2 – Rev A
- A20-0059-00-ST-DRG-0012 – Legend and General Notes – Sheet 3 – Rev A
- A20-0059-S1-ST-DRG-1000 – Site Plan – Rev A
- A20-0059-S1-ME-DRG-1201 – Roof Layout – Sheet 1 – Rev A
- A20-0059-S1-ME-DRG-1202 – Roof Layout – Sheet 2 – Rev A
- A20-0059-S1-ME-DRG-1401 – Lean-to Plan – Sheet 1 – Rev A
- A20-0059-S1-ME-DRG-1402 – Lean-to Plan – Sheet 2 – Rev A
- A20-0059-S1-ME-DRG-1403 – Lean-to Plan – Elevations and Sections – Rev A
- A20-0059-S1-ME-DRG-1404 – Lean-to Plan – Elevations and Sections – Rev A
- A20-0059-X1-ME-DRG-1101 – HV Switchroom – Rev A

Hazardous drawings prepared by DesignInc Adelaide Pty Ltd:

- A20-0059-S1-HA-DRG-1001 – Hazardous Area Assessment

Look and Feel Precedent Imagery prepared by DesignInc Adelaide Pty Ltd dated 28-Jul-2021.

Furnitures, Fixtures & Equipment Schedule prepared by DesignInc Adelaide Pty Ltd dated 30-Jul-2021.

Finishes Schedule prepared by DesignInc Adelaide Pty Ltd dated 30-Jul-2021.

F-35 AV MRO&U Preliminary Design Departures Schedule Rev 1 dated 19-Aug-2021.

AV MRO&U Facilities RDC Risk Register Version 6.2 dated 12-Aug-2021.

Change Request issued by BAE Systems dated 24-Aug-2021

APPENDIX C: Standard Area Definitions

STANDARD AREA DEFINITIONS

The terminology “GFA” as utilised in this report relates to Gross Floor Area. The definition of GFA as measured in this report is as follows:

GROSS FLOOR AREA (G.F.A.)

The sum of the “Fully Enclosed Covered Area” and “Unenclosed Covered Area” as defined.

FULLY ENCLOSED COVERED AREA (F.E.C.A.)

The sum of all such areas at all building floor levels, including basements (except unexcavated portions), floored roof spaces and attics, garages, penthouses, enclosed porches and attached enclosed covered ways alongside buildings, equipment rooms, lift shafts, vertical ducts, staircases and any other fully enclosed spaces and usable areas of the building, computed by measuring from the normal inside face of exterior walls but ignoring any projections such as plinths, columns, piers and the like which project from the normal inside face of exterior walls. It shall not include open courts, lightwells, connecting or isolated covered ways and net open areas or upper portions of rooms, lobbies, halls, interstitial spaces and the like which extend through the storey being computed.

UNENCLOSED COVERED AREA (U.C.A.)

The sum of all such areas at all building floor levels, including roofed balconies, open verandahs, porches and porticos, attached open covered ways alongside buildings, undercrofts and usable space under buildings, unenclosed access galleries (including ground floor) and any other trafficable covered areas of the building which are not totally enclosed by full height walls, computed by measuring the area between the enclosing walls or balustrade (i.e. from the inside face of the U.C.A. excluding the wall or balustrade thickness). When the covering element (i.e. roof or upper floor) is supported by columns, is cantilevered or is suspended, or any combination of these, the measurements shall be taken to the edge of the paving or to the edge of the cover, whichever is the lesser. U.C.A. shall not include eaves overhangs, sun shading, awnings and the like where these do not relate to the clearly defined trafficable areas, nor shall it include connecting or isolated covered ways.

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