

## APPENDICES

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## APPENDIX A: DEFENCE COOPERATION PROGRAM

The Defence Cooperation Program (DCP) has made a significant contribution to Australia's international defence engagement since the 1960s. The program:

- promotes the capacity of partners;
- improves Australia's capacity to work with partners in response to common security challenges; and
- builds strong people-to-people links with regional militaries at the tactical, operational and strategic levels.

The DCP supports Australia's strategic interests. In line with those interests, the DCP-priority countries and regions include Papua New Guinea, Indonesia, Timor-Leste, the South Pacific, South East Asia, Pakistan and the Middle East. The objective is to maximise Australia's security through developing close and enduring links with partners that support their capacity to protect their sovereignty, work effectively with the Australian Defence Force and contribute to regional security. Defence's new Pacific Step-Up initiatives (refer Section 1.1) continue to build on the substantive DCP activities already underway in the Pacific.

To achieve its objectives, the DCP suite of activities includes education courses, training, personnel exchanges, capacity building, military secondments, strategic dialogues, visits, subject matter expert exchanges, infrastructure support, and exercises and operations. These activities focus on enhancing the ADF's operational familiarity with different environments and on building partner capacity in humanitarian assistance and disaster relief, peacekeeping, counter-terrorism, maritime security, and military governance and professionalism.

The Australian Defence Force conducts exercises with other militaries in order to build partner capacity and enhance Australia's capacity to work with partners in response to regional security contingencies. These exercises are conducted in the air, land and maritime domains and take place both in Australia and across the region. Exercising together promotes interoperability and builds familiarity between our armed forces and those of our regional military partners.

The DCP supports the provision of education and training positions in Australia for international military personnel. Junior and senior officers from regional countries undertake short-and long-term courses at Australian military and civilian educational institutions. This training builds military professionalism by equipping participants with the skills they will use throughout their military careers. International military personnel also return home having developed a better understanding of Australia and having built networks with counterparts in the Australian Defence Force. These people-to-people links are further maintained through military alumni associations.

Australia maintains regular defence talks with regional countries in order to exchange views on regional security issues and to discuss defence cooperation priorities. The DCP also supports a program of visits by senior defence representatives to and from Australia. Through these visits, Australia gains an improved understanding of regional militaries and the strategic outlook of neighbouring countries.

Through capacity-building activities Defence seeks to develop the institutional and governance frameworks of regional defence organisations as well as the capabilities of their security forces. The DCP achieves these objectives through Australian Defence Force mobile training teams, support for logistics and infrastructure development, and the posting of Defence personnel as advisers to regional defence and security organisations. Professional and capable militaries are better able to operate with the Australian Defence Force and to contribute to regional security and stability.

A key element of the DCP, and the centrepiece of Australia's defence engagement in the South Pacific, is the Pacific Patrol Boat Program, through which Australia has provided 22 Patrol Boats (with in country advisory personnel, maintenance support, crew training and technical assistance) to 12 Pacific Island countries. The Program engages Pacific navies and police maritime wings and is designed to help Pacific island countries improve their ability to independently police their maritime zones. Under the follow-on Pacific Maritime Security Program, Australia is replacing the Pacific Patrol Boats with new larger and more capable vessels. Austal Ships Pty Ltd will construct 21 Guardian Class Patrol Boats for gifting to Pacific Island nations and Timor-Leste from 2018. The first Guardian Class Patrol Boat was handed over to Papua New Guinea on 30 November 2018. The Pacific Maritime Security Program expands the scope of the Pacific Patrol Boat Program by including a region-wide integrated aerial surveillance and support for enhancing regional coordination.

Australia's DCP with PNG is our largest with any country, having significantly increased over recent years, with a budget of \$42.7 million for FY 2018-19. The PNG DCP supports the PNG Defence Force (PNGDF) to be a more capable, sustainable and professional regional security partner, supported by the PNG Department of Defence (DoD), with 35 Australian Defence personnel currently posted to PNG.

Current areas of focus for the PNG DCP include the revitalisation of the PNGDF maritime element, strengthening our relationship with the PNG DoD, and assisting PNG to strengthen its Major Event Security capabilities. The PNG DCP further aims to facilitate the conduct of bilateral exercises, mobile training teams, infrastructure and logistics support, capability development, governance, and training support.

**Table 52: Defence Cooperation Program Budget 2019-20**

|  | 2017-18<br>Actual<br>\$'000 | 2018-19<br>Budget<br>Estimate<br>\$'000 | 2018-19<br>Estimated<br>Actuals<br>\$'000 | 2019-20<br>Budget<br>Estimate<br>\$'000 |
|--|-----------------------------|---|---|---|
| Papua New Guinea                                     | 34,146                      | 42,700                                  | 39,228                                    | 40,898                                  |
| South Pacific Region                                 | 54,679                      | 84,907                                  | 82,295                                    | 82,432                                  |
| South-East Asia                                      | 17,642                      | 21,909                                  | 20,223                                    | 21,779                                  |
| Other regional activities <sup>[1]</sup>             | 6,141                       | 9,306                                   | 7,221                                     | 9,379                                   |
| Defence International Training Centre <sup>[2]</sup> | 4,850                       | 4,677                                   | 4,677                                     | 4,677                                   |
| <b>Total</b>   | <b>117,459</b>              | <b>163,499</b>                          | <b>153,644</b>                            | <b>159,165</b>                          |

**Notes**

1. Sri Lanka has been included as a Defence Cooperation Country from 2019-20.
2. The Defence International Training Centre (DITC) provides training in Australia to the defence forces of South-East Asia and South Pacific nations and to other selected overseas personnel. The DITC is managed by Joint Capabilities Group.

**Table 53: South Pacific Region Budget 2019-20**

|                                  | 2017-18<br>Actual<br>\$'000 | 2018-19<br>Budget<br>Estimate<br>\$'000 | 2018-19<br>Estimated<br>Actuals<br>\$'000 | 2019-20<br>Budget<br>Estimate<br>\$'000 |
|----------------------------------|-----------------------------|---|---|---|
| Timor Leste                      | 6,772                       | 6,929                                   | 6,153                                     | 6,740                                   |
| Vanuatu                          | 518                         | 816                                     | 365                                       | 842                                     |
| Solomon Islands                  | 1,116                       | 800                                     | 921                                       | 855                                     |
| Tonga                            | 2,604                       | 2,900                                   | 2,991                                     | 2,969                                   |
| Samoa                            | 91                          | 240                                     | 374                                       | 252                                     |
| Cook Islands                     | 80                          | 200                                     | 208                                       | 198                                     |
| Republic of the Marshall Islands | 456                         | 437                                     | 478                                       | 476                                     |
| Federated States of Micronesia   | 242                         | 225                                     | 236                                       | 239                                     |
| Fiji                             | 2,801                       | 3,612                                   | 5,453                                     | 3,634                                   |
| Tuvalu                           | 200                         | 346                                     | 334                                       | 346                                     |
| Kiribati                         | 342                         | 470                                     | 419                                       | 470                                     |
| Palau                            | 421                         | 400                                     | 415                                       | 432                                     |
| DCP Scheduled Support            | 6,899                       | 7,832                                   | 6,587                                     | 7,979                                   |
| Pacific Patrol Boat Program      | 32,137                      | 59,700                                  | 57,363                                    | 57,000                                  |
| <b>Total</b>                     | <b>54,679</b>               | <b>84,907</b>                           | <b>82,295</b>                             | <b>82,432</b>                           |

**Table 54: South-East Asia Region Budget 2019-20**

|                   | 2017-18<br>Actual<br>\$'000 | 2018-19<br>Budget<br>Estimate<br>\$'000 | 2018-19<br>Estimated<br>Actuals<br>\$'000 | 2019-20<br>Budget<br>Estimate<br>\$'000 |
|-------------------|-----------------------------|---|---|---|
| Philippines       | 2,764                       | 3,500                                   | 3,150                                     | 3,300                                   |
| Thailand          | 2,754                       | 3,200                                   | 3,347                                     | 3,113                                   |
| Malaysia          | 3,712                       | 4,499                                   | 4,049                                     | 4,320                                   |
| Indonesia         | 3,949                       | 5,700                                   | 4,604                                     | 5,900                                   |
| Vietnam           | 2,857                       | 2,800                                   | 2,974                                     | 3,000                                   |
| Cambodia and Laos | 1,251                       | 1,600                                   | 1,440                                     | 1,580                                   |
| Brunei            | 102                         | 340                                     | 334                                       | 300                                     |
| Myanmar           | 251                         | 270                                     | 324                                       | 266                                     |
| <b>Total</b>      | <b>17,642</b>               | <b>21,909</b>                           | <b>20,223</b>                             | <b>21,779</b>                           |

## APPENDIX B: TOP 30 ACQUISITION PROJECTS BY 2019-20 FORECAST EXPENDITURE

Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan)

| Project Name  | Project Number/ Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions  |
|---|-----------------------|----------------------------------|--|-----------------------------|--|
| <b>Air Domain</b>   |                       |                                  |  |                             |  |
| New Air Combat Capability (NACC) Initial Aircraft and Additional Aircraft to form 3 Squadrons | AIR 6000 Phase 2A/B   | 16,524                           | 4,647  | 2,389                       | <p>The project is approved to acquire 72 F-35A Lighting II (Joint Strike Fighter) aircraft and supporting elements to form four squadrons: three squadrons for operations and one squadron for training. The Prime Contractor, Lockheed Martin, is contracted to the United States Government to develop and produce F-35A aircraft. Australia is procuring the aircraft through a government-to-government agreement.</p> <p>The first two Australian F-35A aircraft arrived in December 2018 and are based at RAAF Williamtown.</p> <p>During 2019-20 the project will deliver the last four of eight production Lot 11 aircraft and will begin the delivery of the 15 Lot 12 aircraft. The Australian Validation and Verification program commenced in early 2019. Pilots will continue to be trained in the United States (US) but maintenance training has commenced in Australia.</p> <p>The Australian Reprogramming Laboratory will commence operation in the United States (US) and the sustainment system for Australian-based support will continue to be deployed in step with requirements.</p> |
| Maritime Patrol and Response Aircraft System  | AIR 7000 Phase 2      | 5,377                            | 3,901  | 360                         | <p>The P-8A Poseidon Maritime Patrol and Response Aircraft weapon system is being acquired from the United States (US) Navy under a Cooperative Program. This includes 12 aircraft, a suite of aircrew and maintenance training systems, three Mobile Tactical Operations Centres, and logistics support elements.</p> <p>During 2019-20 the project will take delivery of the remaining four aircraft and the final Mobile Tactical Operation Centre. Major financial requirements in 2019-20 relate to the delivery of aircraft, sonobuoys and other spares, and upgrades of training devices to the final aircraft configuration.</p>   |

Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)

| Project Name   | Project Number/<br>Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions  |
|--|--------------------------|----------------------------------|--|-----------------------------|--|
| <b>Air Domain (Continued)</b>  |                          |                                  |  |                             |  |
| Pilot Training System  | AIR 5428 Phase 1         | 1,251                            | 668  | 302                         | <p>This project will establish a new, integrated fixed wing Pilot Training System for the Australian Defence Force, including advanced trainer aircraft, synthetic training systems as well as enhanced curriculum and training media.</p> <p>During 2019-20 the last 15 training aircraft, final Flight Simulator and maturation of Training Courseware and associated Learning Environment elements will be delivered to support pilot and flying instructor training at RAAF East Sale, Victoria and RAAF Base Pearce, Western Australia. Final Operational Capability is forecast for December 2021.</p>   |
| Airborne Early Warning & Control (AEW&C) Interoperability Compliance Upgrade | AIR 5077 Phase 5A        | 1,193                            | 600  | 180                         | <p>This project will deliver inter-operability compliance upgrades to the E-7A Wedgetail airborne early warning and control aircraft and its associated support systems.</p> <p>During 2019-20 the project will deliver mission computing and Identification Friend or Foe upgrades on two interim aircraft and associated support systems. The project will also finalise the design and progress the development for the additional interoperability upgrades approved by Government.</p>  |
| EA-18G Growler Airborne Electronic Enabling Capabilities                     | AIR 5349 Phase 3         | 3,510                            | 2,476  | 129                         | <p>This project will deliver an Airborne Electronic Attack Capability based on the EA-18G Growler platform, including an ALQ-99 Tactical Jamming System, anti-radiation captive training missiles, additional air-to-air missiles, simulators and other training devices. Aircrew and maintenance training will also be delivered. All aircraft have now been delivered.</p> <p>The project will continue to progress delivery of a Mobile Threat Training Emitter System for electronic warfare training at ranges west of Amberley in Queensland and at Delamere in the Northern Territory, plus air-to-air and anti-radiation weapons for raise-train-sustain activities over the period 2019-22.</p> |
| Future Naval Aviation Combat System (FNACS)                                  | AIR 9000 Phase 8         | 3,215                            | 2,363  | 113                         | <p>The project has delivered all 24 Seahawk Romeo aircraft, with the final delivery to Australia occurring in September 2016. Six minor Australian-led modifications are being progressively integrated in the aircraft.</p> <p>The Seahawk Romeo capability is operated from HMAS <i>Albatross</i> in Nowra and is currently supporting eight embarked flights in Navy ships.</p> <p>Final Operational Capability is forecast for 2023, when the third and final Hobart Class guided missile destroyer (DDG) is modified for embarked operations.</p>   |

**Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)**

| Project Name                              | Project Number/ Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions  |
|---|-----------------------|----------------------------------|--|-----------------------------|--|
| <b>Air Domain (Continued)</b>             |                       |                                  |  |                             |  |
| Battlefield Airlift - Caribou Replacement | AIR 8000 Phase 2      | 1,442                            | 841  | 94                          | This project has acquired ten C-27J 'Spartan' aircraft to replace the retired Caribou aircraft. All 10 aircraft have been accepted and have entered operational service. During 2019-20 work will continue to complete final delivery of materiel including spares, repairable items and test equipment procured by the project. Further work includes fleet modification to install updated Identification Friend or Foe equipment, and will commence in Australia. The project expects to finalise the contracting for the development and delivery of aircrew training devices and services.  |
| Multi-Role Helicopter (MRH)               | AIR 9000 Phase 2      | 3,771                            | 3,256  | 56                          | <p>Project AIR 9000 Phase 2, 4 and 6 acquired 47 MRH90 Taipan multi-role helicopters and support systems for the Army and the Navy. Phase 2 acquired 12 aircraft for an additional Army air mobile squadron. Phase 4 will replace the Black Hawk fleet. Phase 6 replaced Navy Sea Kings helicopters.</p> <p>During 2019-20 the project is focused on the introduction of the MRH90 Taipan multi-role helicopter into 6 Aviation Regiment, Holsworthy Barracks, in the aviation support to Special Operations role. Key capabilities being developed for Army and Navy operations include replacement Enhanced Cargo Hook System, a Fast Roping Rappelling and Extraction System and a Gun Mount.</p> <p>The 47th and final production aircraft was accepted into service in July 2017 and the fleet was modified to the latest production baseline.</p> <p>The project will continue work on the capabilities required to enable achievement of the remaining operational milestones in the lead up to Final Operational Capability in 2021.</p> |

Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)

| Project Name                             | Project Number/<br>Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions  |
|--|--------------------------|----------------------------------|--|-----------------------------|--|
| <b>Joint Domain</b>                      |                          |                                  |  |                             |  |
| Battlefield Command Systems (Tranche 2)  | LAND 200 Phase 2-A       | 961                              | 325  | 263                         | <p>The Battlefield Command System provides Army with tactical digital radios and an integrated Battle Management System that is transforming command and control of Land forces from a paper-based system to a modern digital system. LAND 200 Tranche 2 will integrate the Battlefield Command System into 540 new platforms (M1A1 Tank, M88 Armoured Recovery Vehicle, Medium Heavy Cargo Trucks, Protected Mobility Vehicle – Light, and Protected Mobility Vehicle – Medium (Gateway)); enhance the Tranche 1 software; deliver a new Enterprise Battle Management System (BMS-C2) software license; deliver a new Tactical Communications Network; deliver a new Weapon Integrated Battle Management System; and embed training into the Army's individual and collective training institutions.</p> <p>During 2019-20 the project will deliver the Battle Management System Version 9 software, Tactical Communications System's Final Capability Acceptance, accept additional radios and will conduct several platform integration design reviews.</p> |
| Battlespace Communications System (Land) | JP 2072 Phase 2B         | 943                              | 483  | 207                         | <p>This project will provide Army and Air Force with a deployable, wideband communications backbone by replacing the existing Battlefield Telecommunications Network (Parakeet) with a deployable network capability (Currawong).</p> <p>A complementary support system will also be established to sustain the capability. Contracts were signed with Boeing Defence Australia in September 2015 for both acquisition and support of the capability. Currawong achieved Initial Operating Capability in March 2018 for the Release 1 Capability. Release 1 equipment was delivered to all Army and Air Force units by the end of 2018.</p> <p>In parallel, design commenced on Release 2 capability segments, with the Detailed Design successfully conducted in December 2018.</p> <p>Verification and Validation for Release 2 will occur throughout 2019 as well as the detail design for a Release 3 Capability.</p>  |

**Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)**

| Project Name  | Project Number/<br>Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions   |
|---|--------------------------|----------------------------------|--|-----------------------------|---|
| <b>Joint Domain (Continued)</b>   |                          |                                  |  |                             |   |
| Civil Military Air Traffic System (CMATS)   | AIR 5431 Phase 3         | 976                              | 271  | 93                          | <p>This project will provide the Defence element of a single national Civil Military Air Traffic Management System, being progressed jointly under the OneSKY Australia program with Airservices Australia. Airservices is the lead agency for OneSKY. The joint project will provide operational benefits and efficiencies for military and civil airspace users, and reduced acquisition and support costs for Airservices and Defence. The Defence scope element includes 12 Air Traffic Management automation systems, communications infrastructure, training systems and Defence's share of a Joint Software Support Facility.</p> <p>In February 2018, Airservices Australia signed the Civil Military Air Traffic Management System Acquisition and Support contracts with Thales, and Defence signed with Airservices to on-supply Defence elements of Civil Military Air Traffic Management System to Defence.</p> <p>Preliminary Design Review is expected quarter three 2019. Changes to the Thales Contract and the On Supply Agreement to reflect the agreed de-scoping options will be completed before the end of 2019.</p>   |
| ADF Identification Friend or Foe and Automatic Dependent Surveillance - Broadcast | JP 90 Phase 1            | 436                              | 184  | 78                          | <p>This project is upgrading legacy platforms that have military Mode 4 Identification Friend or Foe and civilian Modes A/C Secondary Surveillance Radar systems to Mode 5 Identification Friend or Foe and Mode Select (Mode S) respectively. A new complementary technology, Automatic Dependent Surveillance - Broadcast will also be implemented. The project's scope includes eight platforms: KC-30A multi-role tanker transport aircraft, NH90 Multi-Role Helicopters, Tiger Armed Reconnaissance Helicopters, HMAS <i>Choules</i>, HMAS <i>Sirius</i>, Huon Class Minehunters, RBS-70 short-range anti-aircraft missile systems and the Tactical Air Defence Radar System. During remaining 2019-20 key project activities include: First of Type installation for the KC-30A; US Department of Defense Identification Friend or Foe Certification for HMAS <i>Sirius</i>, HMAS <i>Choules</i> and Huon Class Minehunters; Final Operational Capability for HMAS <i>Sirius</i>, HMAS <i>Choules</i> and Army's Robotic System-70. The approved Materiel Acquisition Agreement for the project and transition of the Tactical Air Defence Radar System Identification Friend or Foe upgrade to the Surveillance and Control Systems Program Officer is also planned for 2019-20.</p> |

Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)

| Project Name                                      | Project Number/<br>Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions   |
|---|--------------------------|----------------------------------|--|-----------------------------|---|
| <b>Joint Domain (Continued)</b>                   |                          |                                  |  |                             |   |
| Jindalee Operational Radar Network (JORN) Phase 6 | AIR 2025 Phase 6         | 1,118                            | 98   | 72                          | <p>This project will deliver a major redesign and upgrade to Australia's Jindalee Operational Radar Network. Jindalee Operational Radar Network is an Australian developed, world leading, Over-The-Horizon Radar capability that provides long range surveillance of Australia's northern approaches.</p> <p>The capability consists of three radars located in Longreach (Queensland), Laverton (Western Australia), and Alice Springs (Northern Territory), and is controlled from RAAF Base Edinburgh (South Australia).</p> <p>The Phase 6 upgrade includes a major redesign of the Jindalee Operational Radar Network system with the majority of electronics and software within the system to be updated to ensure that Australia remains at the leading edge of Over-The-Horizon-Radar technology beyond 2040.</p> <p>During 2019-20 the project will engage in design activities with the prime contractor BAE Systems.</p> |
| Maritime Communication Modernisation              | SEA 1442 Phase 4         | 440                              | 190  | 57                          | <p>This project is upgrading the communications capability of the Anzac Class Frigates. The modernised capability will include improved communications management systems, secure voice and tactical intercom systems; secure switching, tactical radio systems, and a high data rate line-of-sight capability.</p> <p>During 2019-20 the project will complete First of Class acceptance testing of the modernised communications systems, commence acceptance testing of ship two and commence installation on ships three and four. The ship installation schedule is aligned with the Anzac Mid-life Capability Assurance Program. The project will also trigger the support system arrangements.</p>   |

**Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)**

| Project Name  | Project Number/Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions   |
|---|----------------------|----------------------------------|--|-----------------------------|---|
| <b>Joint Domain (Continued)</b>   |                      |                                  |  |                             |   |
| Satellite Ground Station (SGS) - East and Wideband SATCOM Network Management System | JP 2008 Phase 5B2    | 234                              | 119  | 57                          | <p>This project will improve the operational performance and integrity of the ADF's satellite network through the procurement of a Satellite Ground Station-East and Network Management System. The Satellite Ground Station-East will provide flexibility for the ADF beyond line of sight communications, which will provide redundancy and mitigate against failure of the Satellite Ground Station-West. The Network Management System will deliver an integrated network management capability, providing Defence with consolidated information on the state of all Defence wideband Satellite communication Systems.</p> <p>Northrop Grumman Australia was awarded contracts for acquisition and support of Satellite Ground Station-East and the Network Management System in May 2017. Detailed Design Review was completed in November 2018 and construction of the facility to support the ground station commenced in late 2018.</p> <p>During 2019-20 the project will complete construction activities and continue testing and certification of terminals and customisation and configuration of the Network Management System. The capability is expected to be introduced in to service from mid-2021 and achieve Final Operational Capability in 2022.</p> |
| <b>Land Domain</b>  |                      |                                  |  |                             |   |
| Overlander - Protected Mobility Vehicle-Light (Hawkei)                              | LAND 121 Phase 4     | 1,980                            | 581  | 292                         | <p>This project will deliver 1,100 Protected Mobility Vehicles – Light ('Hawkei') for command, liaison, utility and reconnaissance roles. In addition, approximately 1,058 companion trailers will be acquired to enhance payload carrying capacity.</p> <p>The Hawkei balances requirements for survivability, mobility, payload, communications, useability and sustainability, providing a high level of protection against blast and ballistic threats, with the mobility to enable operations in high risk areas. The prime contractor is Thales Australia.</p> <p>During 2019-20 the project will progress vehicle design maturity and resolve reliability issues, to enable the commencement of Full-Rate Production. The Integrated Logistic Support system will continue to be developed.</p>  |

Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)

| Project Name  | Project Number/<br>Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions  |
|---|--------------------------|----------------------------------|--|-----------------------------|--|
| <b>Land Domain (Continued)</b>  |                          |                                  |  |                             |  |
| Overlander Medium and Heavy Capability (MHC), Field Vehicles, Modules and Trailers (FVMT) | LAND 121 Phase 3B        | 3,400                            | 2,292  | 238                         | <p>This project is delivering modern medium weight (4x4), medium (6x6) and heavy (8x8 and 10x10) trucks in nine variants, in both protected and unprotected configurations, including: recovery trucks, integrated load-handling systems, modules (including stores, fuel and flatracks) and a variety of trailers ranging from medium weight cargo to heavy tank transporters.</p> <p>The prime contractors are Rheinmetall MAN Military Vehicles Australia, Haulmark Trailers (Australia), Thales Australia and Mercedes-Benz Australia-Pacific.</p> <p>During 2019-20 the project will conduct the Operational Test and Evaluation required to achieve Initial Operating Capability and then begin rolling out the additional quantities of production vehicles, modules, trailers and support systems.</p>   |
| Mounted Combat Reconnaissance Capability  | LAND 400 Phase 2         | 5,812                            | 257  | 200                         | <p>This project will deliver 211 Boxer 8x8 Combat Reconnaissance Vehicles for Reconnaissance, Joint Fires and Surveillance, Multi-Purpose, Command, Repair and Recovery roles. An additional 12 Mission Modules will be acquired providing the Army the ability to re-role Drive Modules. The vehicles will replace the ADF's current reconnaissance capability, the Australian Light Armoured Vehicle. The Combat Reconnaissance Vehicle will modernise Army's Armoured Fighting Vehicle capability, providing mounted support to Defence operations into the future. The primary role of the vehicles will be to perform ground-based reconnaissance and counter-reconnaissance activities. The prime contractor is Rheinmetall Defence Australia. During 2019-20 characterisation testing, feasibility studies on Electronic Architecture and Sub-systems will be conducted in parallel with the production of an initial 25 vehicles in a combination of reconnaissance and multi-purpose roles.</p> |
| Night Fighting Equipment Replacement  | LAND 53 Phase 1BR        | 443                              | 208  | 91                          | <p>This project is replacing land-based night vision equipment and laser aiming devices that attach to specified weapons of the ADF. The equipment is being progressively delivered over the period 2017 to 2023.</p> <p>Initial Operating Capability was declared by the Chief of Army in December 2018. Final Materiel Release is scheduled for March 2023, with Final Operational Capability to be declared in September 2023. The prime contractor is L3 Oceania (acquisition and support).</p> <p>During 2019-20 the project will deliver replacement night fighting equipment to regular infantry battalions and establish arrangements that will sustain the capability.</p>  |

**Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)**

| Project Name  | Project Number/ Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions  |
|---|-----------------------|----------------------------------|--|-----------------------------|--|
| <b>Land Domain (Continued)</b>  |                       |                                  |  |                             |  |
| The Follow-on Acquisition of Medium & Heavy Field Vehicles and Trailers | LAND 121 Phase 5      | 1,202                            | 38   | 84                          | <p>This project will complete the medium and heavy vehicle capability replacement program commenced under project Land 121 Phase 3B. It will acquire an additional 1044 medium and heavy vehicles, 872 modules and 812 trailers.</p> <p>The prime contractors are Rheinmetall MAN Military Vehicles Australia and Haulmark Trailers (Australia).</p> <p>During 2019-20 the project will deliver quantities of production vehicles, modules and trailers, in conjunction with LAND 121 Phase 3B deliveries.</p>   |
| <b>Maritime Domain</b>  |                       |                                  |  |                             |  |
| Future Frigate - Design and Construction                                | SEA 5000 Phase 1      | 6,265                            | 468  | 492                         | <p>The Future Frigate Program will replace Australia's existing fleet of eight Anzac Class Frigates with a new fleet of nine Anti-Submarine Warfare Frigates. The Future Frigate project will introduce into service the next generation of naval surface combatants.</p> <p>The Head Contract was signed with ASC Shipbuilding a subsidiary of BAE Systems in December 2018. The effective date of the contract is in February with BAE working under an Advanced Work Arrangement prior to effective date. The Hunter Class will be based on BAE Systems' Type 26 Global Combat Ship, modified to meet Australian requirements. The design changes include the Aegis combat management system with an Australian interface which will be developed by Saab Australia and the Australian designed and build CEA Phased Array Radar (CEAFAR2). Project Offices in Adelaide and overseas are being established. Key milestones are the commencement of construction at the Osborne Shipyard with prototyping in 2020 and work on the first frigate to begin within 24 months of prototyping commencing. Under the current contract the Combat System design will commence and United States (US) Foreign Military Sales activities will continue in order to integrate the Australian CEA Technologies Phased Array Radar system with the Combat Management System. Facilities and Infrastructure design activity will continue to mature.</p> <p>During 2019-20 the preliminary design will be progressed with successful exit of System Requirements Review planned in this period.</p> |

Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)

| Project Name                             | Project Number/<br>Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions  |
|--|--------------------------|----------------------------------|--|-----------------------------|--|
| <b>Maritime Domain (Continued)</b>       |                          |                                  |  |                             |  |
| Air Warfare Destroyer Program            | SEA 4000 Phase 3         | 9,104                            | 7,813  | 356                         | <p>The Air Warfare Destroyer program is delivering three Hobart Class Air Warfare Destroyers and their support system to the Royal Australian Navy, under an alliance-based contracting arrangement between ASC Shipbuilder Pty Ltd, Raytheon Australia Pty Ltd and the Commonwealth represented by Defence.</p> <p>The prime contractor is the Air Warfare Destroyer Alliance, with support from ship build manager, Navantia.</p> <p>During 2019-20 this project will deliver the third and final ship, NUSHIP <i>Sydney</i>, to Navy.</p> |
| Offshore Patrol Vessel                   | SEA 1180 Phase 1-A       | 3,724                            | 360  | 349                         | <p>This project will replace and improve upon the capability delivered by the current 13 Armidale Class Patrol Boats by acquiring 12 new vessels based on an existing Off The Shelf design.</p> <p>Build commenced of the first Arafura Class Offshore Patrol Vessel on schedule at Osborne, South Australia in November 2018.</p> <p>During 2019-20 the project will progress the build of the first Arafura Class Offshore Patrol Vessel and commence the build of the second vessel in the Osborne Shipyard.</p>                          |
| Future Submarine Design and Construction | SEA 1000 Phase 1B        | 2,240                            | 779  | 289                         | <p>This project will deliver Australia's regionally superior Attack Class Future Submarine with sovereignty over its operation and sustainment.</p> <p>During 2019-20 the Future Submarine Program will continue working with Naval Group and Lockheed Martin Australia on the design of the Future Submarine. Work will also continue on the infrastructure requirements needed to support the build of the 12 submarines in Adelaide.</p>  |

**Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)**

| Project Name  | Project Number/ Phase | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m | Top 30 Major Project Descriptions   |
|---|-----------------------|----------------------------------|--|-----------------------------|---|
| <b>Maritime Domain (Continued)</b>                                |                       |                                  |  |                             |   |
| Maritime Operational Support Capability                           | SEA 1654 Phase 3      | 1,070                            | 572  | 192                         | <p>This project will replace the Royal Australian Navy's existing afloat support capability, HMAS <i>Success</i> and HMAS <i>Sirius</i>, with a single Class of replenishment ships to sustain deployed maritime forces.</p> <p>In May 2016 the Commonwealth entered into contracts with Navantia S.A. for the acquisition and initial five-year sustainment of the two replacement replenishment ships.</p> <p>In November 2017 the Minister for Defence announced the replacement replenishment ships would be named HMAS <i>Supply</i> and HMAS <i>Stalwart</i>.</p> <p>During 2019-20 the project will continue the build of the replacement replenishment ships and is expected to achieve a number of key milestones including the start of Sea Trials for <i>Supply</i>, the launch of <i>Stalwart</i>, plus other construction progress milestones and completion of a number of mandated system reviews.</p> |
| Collins Sonar Capability Assurance Program                        | SEA 1439 Phase 6      | 672                              | 174  | 105                         | <p>This project will provide a capability assurance program for the Collins Class Submarine sonar system to achieve a capability edge relative to regional navies. Delivery of tranche 1 for all six submarines received second-pass approval in April 2018. The First of Class installation is underway in HMAS <i>Waller</i>, Full Cycle Docking is scheduled to be completed June 2020.</p> <p>In 2019-20 the project will also undertake initial design activity to refine the scope for Tranche 2 and Ongoing Sonar Capability Assurance in preparation for seeking second-pass approval by April 2022.</p>  |
| Collins Communications and Electronic Warfare Improvement Program | SEA 1439 Phase 5B2    | 608                              | 264  | 96                          | <p>This project will provide major improvement to the communications and microwave electronic warfare systems of the Collins Class Submarines, through delivery of two stages. Stage 1 will update the obsolete communications centre and microwave electronic warfare equipment onboard the Collin Class Submarines. Stage 1 received second-pass approval in June 2015 and has now been implemented in HMAS <i>Collins</i> and HMAS <i>Sheean</i>.</p> <p>During 2019-20 further installations will be conducted in HMAS <i>Waller</i> and HMAS <i>Rankin</i>. Stage 2 will deliver capability enhancements, including the introduction of high data rate satellite communications and enhanced network and ICT infrastructure. Stage 2 received second-pass approval in March 2017. The First of Class install is underway in HMAS <i>Waller</i>, Full Cycle Docking is scheduled to be completed June 2020.</p>   |

**Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)**

| Project Name                                    | Project Number/<br>Phase | Approved Project Expenditure<br>\$m | Estimated Cumulative Expenditure to 30 June 2019<br>\$m | Budget Estimate 2019-20<br>\$m | Top 30 Major Project Descriptions  |
|---|--------------------------|-------------------------------------|---|--------------------------------|--|
| <b>Maritime Domain (Continued)</b>              |                          |                                     |   |                                |  |
| Submarine Escape Rescue and Abandonment Systems | SEA 1354<br>Phase 1      | 379                                 | 66  | 83                             | <p>This project will provide a new sovereign deployable submarine rescue system that will support both the Collins and Attack Class Submarines, and also includes modifications to Collins Class Submarines to improve submarine escape and abandonment capability. The project received second-pass approval in April 2018.</p> <p>A contract has been awarded for delivery of the new submarine rescue system by late 2022 and the follow on first six years of sustainment. The Collins Class platform modification scope will be contracted to ASC as the Platform System Integrator.</p>  |
| Pacific Patrol Boat Replacement                 | SEA 3036<br>Phase 1      | 504                                 | 120   | 78                             | <p>The Pacific Patrol Boat Replacement project will replace existing Pacific Patrol vessels as part of the Pacific Maritime Security Program. This involves the construction of 21 vessels, 19 of which will be gifted to the 12 Pacific Island countries that currently operate Pacific Patrol vessels within the South Pacific and two of which will be gifted to Timor Leste.</p> <p>Construction of the 21 vessels commenced in 2017-18 and the first vessel was gifted to Papua New Guinea in November 2018. Delivery of boats is to continue at a rate of one every three or four months. Four vessels are to be delivered within 2019-20 and the final vessel is scheduled for delivery late 2023.</p>  |
| ANZAC Air Search Radar Replacement              | SEA 1448<br>Phase 4B-A   | 429                                 | 208   | 71                             | <p>This project is replacing the SPS-49(V) 8 Air Search Radar on the eight Anzac Class Frigates with a modern digital Long Range Air Search Radar. This Long Range Air Search Radar complements the Anti-Ship Missile Defence capabilities and functionality of the short range, active Phased Array Radar, delivered under project SEA1448 Phase 2B.</p> <p>The project will also replace the existing Identification Friend or Foe system with a new system to comply with future military and civil aviation requirements.</p> <p>In 2019-20 the project will continue the build and installation of the new integrated radar system subsequent to the delivery and fitting of the first Radar in early 2019. Initial Materiel Release is planned for October 2019.</p> |

**Table 55: Top 30 Acquisition Projects by 2019-20 Forecast Expenditure (Gross Plan) (Continued)**

| Project Name                                      | Approved Project Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | Budget Estimate 2019-20 \$m |
|---|----------------------------------|--|-----------------------------|
|   |                                  |  |                             |
| <b>Total Top 30 Projects (Gross Plan)</b>         | <b>79,222</b>                    | <b>34,619</b>  | <b>7,467</b>                |
| Other Approved Project Gross Plans                | 39,517                           | 29,252   | 1,197                       |
| <b>Total Approved Projects (Gross Plan)</b>       | <b>118,738</b>                   | <b>63,872</b>  | <b>8,664</b>                |
| Management Margin Slippage                        |                                  |  | -1,485                      |
| <b>Payments Required for the Approved Program</b> |                                  |  | <b>7,179</b>                |

## APPENDIX C: TOP 30 SUSTAINMENT PRODUCTS BY 2019-20 FORECAST EXPENDITURE

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20**

| Product Name                                     | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions   |
|--|----------------|-----------------------------|---|
| <b>Air Domain</b>                                |                |                             |   |
| F/A18F Super Hornet & Growler Weapon System      | CAF21          | 511                         | <p>RAAF 82 Wing operates fleets of F/A-18F Super Hornet and EA-18G Growler Block II aircraft for the provision of airpower through the delivery of Air Combat and Airborne Electronic Attack capabilities. The Super Hornet achieved Final Operational Capability in December 2012. The Chief of Air Force declared Initial Operational Capability of Growler in March 2019. In-service support arrangements are through prime contracts with Boeing Defence Australia (platform stewardship), Raytheon Australia (training support) and GE II (engine support).</p> <p>Through 2019-20 spiral capability upgrades will continue on both Super Hornet and Growler aircraft, which include upgrades to both aircraft hardware and software. The focus for the Growler platform is shifting towards Final Operational Capability in 2022. Growler aircrew training will be a priority with the introduction of the Mobile Threat Training Emitter System.</p>   |
| Multi Role Helicopter - TLH MRH90                | CA48           | 251                         | <p>The final MRH90 Taipan multi-role helicopter production aircraft was accepted into service in July 2017.</p> <p>In-Service Support is provided by a prime contract with Airbus Australia Pacific which expires in 2021. Work on the award term extension for support beyond 2021 has commenced.</p> <p>The MRH90 Taipan multi-role helicopter fleet is located at: 5th Aviation Regiment; 6th Aviation Regiment; Army Aviation Training Centre; 808 Squadron and Airbus Australia Pacific's deep maintenance facility in Brisbane.</p> <p>Aircraft availability continues to be a key focus for 2019-20 and work to optimise MRH90 Taipan multi-role helicopter scheduled and operational maintenance support arrangements continues. Finalisation of the MRH90 Taipan multi-role helicopter First of Class Flight Trials will commence in HMAS <i>Canberra</i> in April 2019.</p> <p>The introduction of MRH90 Taipan multi-role helicopter into 6th Aviation Regiment, Plan Palisade, to replace Black Hawks in the aviation support to Special Operations role is sustainment's current priority. The first two MRH90 Taipan multi-role helicopters were delivered to Holsworthy Barracks in February 2019.</p> |
| Airborne Early Warning and Control System - AEWC | CAF20          | 243                         | <p>The Airborne Early Warning and Control weapon system comprises six aircraft and associated Ground Support Segments. Boeing Defence Australia (as the prime contracting partner) together with Boeing Defence Systems, Northrop Grumman Systems Corporation, and BAE Systems Australia, provide a performance based support arrangement for maintenance, logistics, engineering, training and program management in order to support the capability.</p>  |

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)**

| Product Name                                   | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions   |
|--|----------------|-----------------------------|---|
| <b>Air Domain (Continued)</b>                  |                |                             |   |
| F-35 Joint Strike Fighter                      | CAF30          | 191                         | <p>The project AIR 6000 Phase 2A/B is acquiring 72 F-35A Joint Strike Fighter aircraft (including simulators associated role equipment) to be managed by the Air Combat System Program Office. The first two aircraft arrived at Williamtown Air Force Base in December 2018. The remaining aircraft will be progressively delivered to support an Initial Operational Capability declaration planned for December 2020 and a Final Operating Capability declaration planned for December 2023.</p> <p>During 2019-20 the primary focus is to support the Air Force's sovereign Verification and Validation Program to enable a planned Initial Operational Capability declaration by December 2020 and the continued development and maturing of regional maintenance, Off Board Information Systems, training support arrangements and the Global Support System.</p>   |
| F/A-18 Hornet Weapon System                    | CAF02          | 180                         | <p>The F/A-18 A/B Classic Hornet weapon system comprises 71 aircraft and related support systems. The weapon system is supported by Boeing Defence Australia as the weapon system support integrator, together with a broad range of other Defence Industry providers, including General Electric, BAE Systems Australia, Raytheon Australia, RUAG Australia, Northrop Grumman and Cubic Defense Applications.</p> <p>During 2019-20 the focus will be on the continued implementation of commercial arrangements, introduced in 2018-19, to better align with contemporary contracting arrangements. Implementation of these reforms will continue to provide an efficient and effective outcome to Air Force.</p>   |
| Armed Reconnaissance Helicopter Weapons System | CA12           | 162                         | <p>All 22 Tiger armed reconnaissance helicopters are in-service in their final mature configuration. In-Service Support is provided under a prime contract with Airbus Australia. An Award Term Review is underway to extend the contract beyond its current December 2020 expiry.</p> <p>All caveats associated with Tiger armed reconnaissance helicopters Final Operational Capability have been closed by Chief of Army who stated that "Tiger is now a mature system that is able to meet the needs of Defence".</p> <p>In 2018 Tiger armed reconnaissance helicopters flew their highest annual rate of effort on record.</p> <p>During 2019-20 Defence will be working closely with Airbus Australia Pacific to further improve Tiger armed reconnaissance helicopters serviceability and rate of effort achievement. Other key areas of activity are the refinement of the through life support arrangements to improve aircraft availability and reliability and reduce overall cost of ownership for Defence.</p> |
| Lead-In Fighter Hawk 127 Weapon System         | CAF03          | 137                         | <p>The lead-in fighter fleet consists of 33 Hawk 127 lead-in fighter and associated ground and related support systems. BAE Systems Australia Limited provides total logistics support for the Hawk 127 lead-in fighter fleet under an In-Service Support contract, with home base operations at RAAF Base Pearce and RAAF Base Williamtown. During 2019-20 BAE Systems Australia will transition to performing platform steward activities through the extended In-Service Support contract. Project AIR 5438 Phase 1A - Lead-In Fighter Capability Assurance Program is on schedule to achieve Final Operating Capability by December 2019. Activities will also include increased focus on planned withdrawal date considerations, including aligning with project AIR 6002 Phase 1 - Lead-In Fighter aircraft replacement.</p>  |

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)**

| Product Name                                     | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions  |
|--|----------------|-----------------------------|--|
| <b>Air Domain (Continued)</b>                    |                |                             |  |
| MH-60R Seahawk Romeo Helicopter                  | CN35           | 130                         | <p>Project AIR 9000 Phase 8 has delivered all 24 MH-60R Seahawk Romeo Helicopters, with the final delivery to Australia having occurred in September 2016. Six minor Australian-led modifications are being progressively embodied in the aircraft by the Nowra-based Industry partner 'Maritime Helicopter Support Company'.</p> <p>The Seahawk Romeo capability is operated from HMAS <i>Albatross</i> in Nowra and is supporting eight embarked flights in Navy ships.</p>  |
| C-17 Heavy Air Lift Weapons System               | CAF19          | 123                         | <p>The C-17A Globemaster III capability comprises eight aircraft and associated training devices (including a flight simulator). The majority of sustainment support for aircraft and training systems is provided via US Air Force Foreign Military Sales global support arrangements for the worldwide C-17A Globemaster III fleet. These global sustainment arrangements are supplemented by a complementary Australian-based contract with Boeing Defence Australia for support services at RAAF Amberley.</p> <p>During 2019-20 the focus will be on continuing optimisation of the deeper maintenance program and maturation of the new US Air Force support services contract with Boeing for training systems.</p> |
| KC-30A Weapon System Multi-role Tanker Transport | CAF22          | 119                         | <p>The KC-30A Multi Role Tanker Transport capability comprises six aircraft and related training devices (including a flight simulator). All six aircraft are capable of air-to-air refuelling from pod and boom systems, and airlift logistics support. A seventh aircraft will be delivered in late 2019.</p> <p>The capability is supported by Northrop Grumman Australia, Airbus Defence and Space, and CAE.</p> <p>During 2019-20 the focus will remain on maturing sustainment processes, while continuing to support military operations and the further expansion of aircraft types certified as capable of air-to-air refuelling from the KC-30A Multi Role Tanker Transport.</p>                                 |
| C130J-30 Hercules Weapon System                  | CAF06          | 113                         | <p>The C-130J Hercules fleet consists of 12 aircraft and associated devices (including a flight simulator). The C-130J Hercules is supported by two prime performance based contracts: Airbus Group Australia Pacific provides deeper level maintenance, logistics and engineering support for the aircraft, and StandardAero provides support for the propulsions system.</p> <p>During 2019-20 the focus will be on effectively managing the fleet's deeper maintenance and major modification program to install frequency converters (to enable enhanced air-land integration) and improve engine availability and reliability.</p>  |
| P-8A Poseidon Maritime Surveillance Aircraft     | CAF35          | 103                         | <p>Project AIR 7000 Phase 2B will acquire 12 manned Maritime Patrol and Response Aircraft (P-8A Poseidon Maritime Surveillance Aircraft), mission support and training systems and facilities as partial replacement of the AP-3C Orion aircraft.</p> <p>During 2019-20 the focus will be on developing a mature through-life sustainment stewardship construct, whilst maintaining agreed Air Force availability performance requirements.</p>  |

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)**

| Product Name                           | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions  |
|--|----------------|-----------------------------|--|
| <b>Air Domain (Continued)</b>          |                |                             |  |
| Pilot Training System                  | CAF37          | 75                          | <p>Project AIR 5428 Phase 1 is establishing a new, integrated fixed wing Pilot Training System for the Australian Defence Force, including advanced trainer aircraft, synthetic training systems, as well as enhanced curriculum and training media. Pilot Training System services have been provided by the Prime Contractor, Lockheed Martin Australia since July 2017 in support of Qualified Flying Instructor continuation training and conversions.</p> <p>Pilot training commenced in January 2019, and the period 2019-20 will see a continued transition from acquisition to sustainment as services are rolled out at RAAF East Sale, RAAF Pearce, RAAF Edinburgh and RAAF Williamtown.</p>   |
| C27J Spartan Battlefield Airlifters    | CAF34          | 69                          | <p>The C27J Spartan Battlefield Airlifters fleet consists of 10 aircraft, with the mature training system yet to be delivered. The C27J Spartan Battlefield Airlifters is supported by two prime performance based contracts. Northrop Grumman Australia Technology Services provides logistics and engineering support for the aircraft and Standard Aero Limited provides support for the propulsions system.</p> <p>During 2019-20 the focus will be on continuing to mature the C27J Spartan Battlefield Airlifters sustainment system and the support contracts, concurrent with supporting an increasing flying rate of effort.</p>  |
| <b>Joint Domain</b>                    |                |                             |  |
| Army Munitions and Army Guided Weapons | CA59 & CA60    | 157                         | <p>The ADF's land inventory of explosive ordnance consists of small arms ammunition, pyrotechnics, mortar and artillery ammunition, special purpose ammunition, demolitions stores and Army's guided weapons. Guided weapons are the Javelin anti-tank missile, RBS 70 Bolide Missile anti-aircraft missile and the AGM114 Air to Ground missile. Land Explosive Ordnance System Project Office manages and sustains the inventory of guided and non-guided ammunition for Army, in addition to Navy and Air Force where Army is the lead service.</p> <p>During 2019-20 the focus will be to continue to provide explosive ordnance that is safe and suitable for service inclusive of deployed units in support of operations and in satisfying the broader raise, train and sustain demands of explosive ordnance for the ADF.</p>  |
| Wide Area Surveillance (OTHR)          | CAF13          | 90                          | <p>The Wide Area Surveillance Capability consists of Space and High Frequency Radar systems. The High Frequency Radar system comprises three Over-The-Horizon-Radars based in Longreach, Queensland; Laverton, Western Australia; and Alice Springs, Northern Territory and is known as the Jindalee Operational Radar Network. The radars are maintained by BAE Systems Australia. The Space Surveillance capability includes Overhead Persistent Infrared sensors and a C-Band Radar surveillance system which provides data into No 1 Remote Surveillance Unit at RAAF Base Edinburgh along with the High Frequency Radar feeds.</p> <p>During 2019 BAE Systems Australia will continue to 'bed-in' the new sustainment reform contract and progress multiple obsolescence remediation projects to ensure the capability remains effective until the radar upgrade is conducted under project AIR 2025 Phase 6. During 2020 BAE Systems Australia and Defence are installing a trial solar energy system at the No 3 Radar site near Alice Springs in an effort to reduce operating costs and improve energy reliability.</p> |

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)**

| Product Name                                     | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions  |
|--|----------------|-----------------------------|--|
| <b>Joint Domain (Continued)</b>                  |                |                             |  |
| Air Force Munitions and Air Force Guided Weapons | CAF32 & CAF33  | 83                          | <p>The ADF's inventory consists of guided missiles; bombs, fuses and guided bomb components; and inert and training bombs employed by Air Force platforms. The inventory also includes countermeasures, impulse cartridges, cannon ammunition, safety pyrotechnics, and emergency egress power and cartridge actuated devices employed by Air Force.</p> <p>During 2019-20 the focus will be the remediation of Explosive Ordnance inventory post operations using Australian domestic manufacture where possible, while satisfying the broader raise, train and sustain demands for explosive ordnance.</p>   |
| Navy Munitions and Navy Guided Weapons           | CN37 & CN38    | 76                          | <p>The ADF's inventory consists of navigational outfits, medium and large calibre gunnery, pyrotechnics and cartridge actuated devices, countermeasures, force protection and demolition products utilised by Navy. Navy's Guided Weapons are categorised into four main areas: Missiles, Minewarfare, Heavy Weight Torpedoes and Lightweight Torpedoes. Navy's Guided Weapons Explosive Ordnance activities also includes sustainment of Guided Weapons used by Army and Air Force where Navy is the lead service.</p> <p>During 2019-20 the focus will be on continuing to provide explosive ordnance that is safe and suitable for service to deployed units in support of operations, satisfying the broader Navy raise, train and sustain demands for explosive ordnance, continuing to remediate Navy Missile and Torpedo Maintenance Facilities and planning and conducting weapons engineering, maintenance and technical activities in support of the management of Navy explosive ordnance inventory.</p>                              |
| Battlespace Communication Systems                | CA31           | 73                          | <p>The Battlespace Communications System comprises a range of deployable data and voice communication systems used by the three Services for battlespace command and control. This includes new generation radios in mounted and dismounted configurations. Battlespace Communications also has new generation trunk communication equipment including the Integrated Battlefield Communications Network to transfer secure data, voice and video. The Battlespace Communications System further includes communications harness systems for vehicles.</p>   |
| Explosive Ordnance Manufacturing Facilities      | CJC01          | 73                          | <p>The Explosive Ordnance Manufacturing Facilities provide Defence with a domestic munitions manufacturing capability. The objective of Explosive Ordnance Manufacturing Facilities is to provide for the safe, environmentally compliant and sustainable operation of the facilities to meet specified ADF domestic munitions requirements that are acquired by Defence through separate Army, Navy and Air Force product schedules and provide a continued capability through commercial operations and enable further enhancement of the facilities and planning for future manufacturing opportunities.</p>  |
| ATC Capability (Air Traffic Control)             | CAF12          | 67                          | <p>The Air Traffic Management system includes fixed and deployable sensors; data processing and display systems; navigation aids; and command, control and communications (C3) systems. No. 44 Wing of the Royal Australian Air Force uses these systems to deliver fixed and deployed Air Base Air Traffic Services, Battlefield Airspace Control, and Air Navigation Services for ADF operations and national tasking. The focus in 2019-20 is targeted obsolescence management activities to reduce risk to capability until existing capabilities are replaced by major, minor and sustainment projects between 2019 and 2025. Significant engineering and logistical solutions will be implemented during 2019-20 and beyond. During 2019-20 the Air Traffic Management support organisation will also continue to support the broader Defence shift from a largely transactional role to one with greater focus on contracting, assurance, planning and governance with industry expanding its role in supporting capability delivery.</p> |

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)**

| Product Name                     | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions   |
|----------------------------------|----------------|-----------------------------|---|
| <b>Joint Domain (Continued)</b>  |                |                             |   |
| Command and Intelligence Systems | CA40           | 63                          | <p>The Command and Intelligence Systems product schedule sustains deployable command and intelligence systems, including software applications, deployable hardware systems and specialist military equipment.</p> <p>The capabilities are delivered, sustained and maintained through various contracts. The primary contractors are Thales Australia and Fujitsu.</p> <p>The key components of the Command and Intelligence Systems product schedule are:</p> <ul style="list-style-type: none"> <li>- Deployable Wide Area Network</li> <li>- The Generation 1 Deployable Local Area Network fleet (including the associated Deployable Standard Operating Environment)</li> <li>- The Generation 2.1 Enhanced Deployable Local Area Network</li> <li>- Minor Systems - Deployable Geospatial and Intelligence Systems</li> <li>- Special Operations Command Support System</li> </ul> <p>The delivery of the Enhanced Deployable Local Area Network, originally scheduled for 2016, suffered a delay and impacted the Middle East Region Communications and Information Systems refresh program.</p> <p>Significant progress has now occurred with delivery into the Middle East Region. Defence is investing in cybersecurity fortifications for the Deployable Local Area Network whilst in parallel driving delivery of the Enhanced Deployable Local Area Network which offers further cybersecurity protections.</p> |
| <b>Land Domain</b>               |                |                             |   |
| ADF Clothing                     | CA39           | 108                         | <p>ADF Clothing comprises over 16,000 line items of uniform, footwear and other items supplied by the textile, clothing and footwear industry.</p> <p>During 2019-20 key activities will include:</p> <ul style="list-style-type: none"> <li>• the continued manufacture and delivery of Australian Multicam Uniforms to Army and the introduction into service of the new Maritime Multicam Pattern Uniform to Navy;</li> <li>• introduction of the new suite of ADF Combat Boots;</li> <li>• continued engagement with Navy, Army and Air Force regarding design and technical enhancements of combat and non combat clothing items; and</li> <li>• ongoing procurement to meet clothing and footwear requirements for the ADF's operations and raise, train and sustain activities.</li> </ul>   |

Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)

| Product Name                              | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions   |
|---|----------------|-----------------------------|---|
| <b>Land Domain (Continued)</b>            |                |                             |   |
| ADO Commercial Vehicles Fleet             | CA19           | 75                          | <p>The Australian Defence Organisation's Commercial Vehicle Fleet comprises approximately 6,000 Defence owned Commercial vehicles and trailers. The fleet ranges from passenger sedans through to heavy rigid trucks, touring coaches and aviation refuelling vehicles. An additional 30 road-train systems as well as 16 aviation refuelling systems are leased under the program. The main support provider is SG Fleet, contracted to provide fleet management services as part of a whole of Australian Government Fleet Services Contract.</p> <p>During 2019-20 approximately 400 passenger and light-medium commercial vehicles are scheduled to be replaced with like for like vehicles, as part of a rolling replacement program. In 2019-20, the fleet will continue to focus on improving overall vehicle utilisation and reducing costs.</p>  |
| <b>Maritime Domain</b>                    |                |                             |   |
| Collins Class Submarine                   | CN10           | 566                         | <p>The Collins Program objective is to sustain the Collins Class Submarine materiel capability (including the associated escape and rescue capability), minimise the logistic costs of ownership, and provide sustainable and cost effective design, engineering and logistics support for platform systems and combat systems, through agreements with industry partners including ASC Pty Ltd, Raytheon Australia, Thales Australia, BAE Systems, PMB Defence and other providers.</p> <p>Collins Sustainment Program (CN10) was removed from the Projects of Concern List in October 2017. The Submarine Enterprise continues to achieve the RAN's availability requirement (based on Coles' international benchmark).</p> <p>In 2019-20 the program will be concentrating on achieving greater efficiencies, improving deployability of the Collins Class and continuing planning for a life of type extension.</p> |
| Anzac Class Frigate                       | CN02           | 339                         | <p>The support objective is to maintain the materiel capability of the eight Anzac Class Frigates through the provision of materiel support and ongoing maintenance of the ships and associated equipment, systems and operator training facilities.</p> <p>During 2019-20 the focus will be on completing the scheduled Anzac Class maintenance activities along with the successful completion of the installation and integration of Anzac Midlife Capability Assurance Programme inclusive of Platform Systems Remediation, project SEA 1442 Phase 4 (Maritime Communications Modernisation Project), and project SEA 1448 Phase 4B (Anzac Air Search Radar Replacement) on HMAS <i>Anzac</i>, HMAS <i>Waramanga</i> and HMAS <i>Perth</i>.</p>   |
| Destroyer Designated Guided (Air Warfare) | CN40           | 188                         | <p>The support objective is to maintain the materiel capability of the in-service Hobart Class Destroyers through the provision of materiel support and ongoing maintenance of the ships and associated equipment, systems and operator training facilities.</p> <p>During 2019-20 the focus will be on completing the scheduled Hobart Class maintenance activities for the two in-service ships, the implementation of HMAS <i>Hobart</i> and HMAS <i>Brisbane</i> Post Delivery Upgrades, inclusive of the project AIR 9000 Phase 8 MH-60R Helicopter upgrade, and preparations for the arrival of the last ship, NUSHIP <i>Sydney</i>, into the guided missile destroyer (DDG) support system.</p>  |

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)**

| Product Name                           | Product Serial | Budget Estimate 2019-20 \$m | Top 30 Sustainment Product Descriptions   |
|--|----------------|-----------------------------|---|
| <b>Maritime Domain (Continued)</b>     |                |                             |   |
| Canberra Class Landing Helicopter Dock | CN34           | 132                         | <p>The support objective is to maintain the materiel capability of the two Canberra Class Landing Helicopter Dock vessels and 12 Landing Helicopter Dock Landing Craft, through the provision of materiel support and ongoing maintenance of the ships and associated equipment, systems and operator training facilities.</p> <p>During 2019-20 the focus will be on supporting the program to achieve Final Operational Capability for the Landing Helicopter Dock and Landing Helicopter Dock Landing Craft capabilities, whilst completing a phase-in of the new support contract and workforce by July 2019, phase-out of the existing contracts, and continuing activity to remediate the deficiencies in the platform and support systems delivered under projects JP2048 Phase 3 and Phase 4A/B.</p>  |
| Maritime Cross Platform                | CN49           | 76                          | <p>The Maritime Cross Platform schedule is responsible for the sustainment of seaworthy materiel that is common across multiple Classes and platforms, and for which Maritime Cross Platform Systems Program Office is the identified Designated Logistics Manager. The materiel includes common standardised items related to combat systems, platform and propulsion systems, and survivability systems e.g. safety and internal platform communications.</p> <p>During 2019-20 the focus will be on continuing to deliver cross platform support to Maritime capability, the product schedule will undergo a review in order to determine the optimal delivery model and associated future industry engagement strategy to best support expanded efforts across the continuous national naval shipbuilding enterprise and sustainment.</p>   |
| Hydrographic Support                   | CN46           | 70                          | <p>The Hydrographic Survey system comprises two Leeuwin Class Hydrographic Ships, four Paluma Class Survey Motor Launches and six Survey Motor Boats (embarked in the Hydrographic Ships). Sustainment of the Hydrographic Survey System is through a prime contracting partner that provides a performance based support arrangement for maintenance, logistics, engineering, training, and program management in order to support the capability. In addition it includes the Laser Airborne Depth Sounder II system and its host, the Dash 8-200 aircraft and Antarctic Survey Vessel and other Hydrographic Survey Platforms.</p> <p>During 2019-20 the focus will be on the maintenance of seaworthiness across the Hydrographic Survey system, including the management of implications from the extension to the Planned Withdrawal Date for HMAS <i>Leeuwin</i> and the development of a new Support Procurement Strategy to reform commercial arrangements. Additionally, Defence will manage the retirement from service of the Laser Airborne Depth Sounder II system (scheduled for November 2019) and the continued introduction into service of the Rapid Environmental Assessment capability being delivered under project SEA 1770 Phase 1.</p> |

**Table 56: Top 30 Sustainment Products by End of Financial Year Outcome 2019-20 (Continued)**

|  | <b>Budget<br/>Estimate<br/>2019-20<br/>\$m</b> |
|--|--|
|  |  |
| <b>Total – Top 30 Products</b>                   | <b>4,644</b>                                   |
| Other Approved Sustainment Product Estimates     | 1,887  |
| <b>Total Sustainment Product Funds Available</b> | <b>6,531</b>                                   |
| Support to Operations                            | 257  |
| <b>Total Sustainment and Operations Funding</b>  | <b>6,788</b>                                   |

## APPENDIX D: FACILITIES AND INFRASTRUCTURE PROGRAM

The Facilities and Infrastructure Program component of the Integrated Investment Program comprises approved and yet to be approved major and medium capital facilities projects.

Major capital facilities projects are defined as having expenditure over \$15m (excluding GST) and are subject to Government approval, and formal review by the Parliamentary Standing Committee on Public Works (PWC). Medium facilities projects have expenditure between \$2m and \$15m with projects over \$8m subject to Government approval. Projects valued between \$2m and \$15m are required to be notified to, and agreed by, the PWC but may not be formally reviewed by the Committee. Details of approved major and medium projects are provided in this Appendix.

The Facilities and Infrastructure Program is comprised of projects that support and sustain current and future capability requirements, other government initiatives, meet legislative obligations and provide engineering and infrastructure services and upgrades to existing facilities.

### Approved Major Capital Facilities Projects

The table below and the following descriptions provide details on the progress and expenditure during 2019-20 on Major Capital Facilities projects.

**Table 57: Approved Major Capital Facilities Projects by State and Federal Electorate**

|   | State and Electorate | Total Estimated Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | 2019-20 Budget Estimate \$m |
|---|----------------------|---------------------------------|--|-----------------------------|
| <b>New Air Combat Capability Facilities Project (AIR 6000 Phase 2A/B)<sup>[1]</sup></b> |                      |                                 |  |                             |
| RAAF Williamtown  | NSW - Paterson       | -                               | 885.3  | 15.9                        |
| RAAF Tindal   | NT - Lingiari        | -                               | 391.2  | 77.6                        |
| RAAF Darwin   | NT - Solomon         | -                               | -  | 2.3                         |
| RAAF Townsville   | QLD - Herbert        | -                               | -  | 2.3                         |
| RAAF Learmonth  | WA - Durack          | -                               | -  | -                           |
| Defence Establishment Myambat   | NSW - Hunter         | -                               | 3.4  | 7.2                         |
| <b>Total</b>  |                      | <b>1,485.8</b>                  | <b>1,279.9</b>                                       | <b>105.3</b>                |
| <b>Enhanced Land Force (ELF) Stage 2<sup>[1]</sup></b>                                  |                      |                                 |  |                             |
| Lone Pine Barracks  | NSW - Hunter         | -                               | 115.8  | -                           |
| Puckapunyal Training Area   | VIC - Nicholls       | -                               | 11.7   | -                           |
| Simpson Barracks, Watsonia  | VIC - Jagajaga       | -                               | 20.2   | -                           |
| RAAF Amberley   | QLD - Blair          | -                               | 9.6  | -                           |
| Lavarack Barracks, Townsville   | QLD - Herbert        | -                               | 62.0   | -                           |
| Townsville Training Area  | QLD - Kennedy        | -                               | 3.9  | -                           |
| Greenbank Training Area   | QLD - Rankin         | -                               | 120.7  | -                           |
| Gallipoli Barracks, Enoggera  | QLD - Ryan           | -                               | 807.9  | -                           |
| Wide Bay Training Area  | QLD - Wide Bay       | -                               | 91.8   | -                           |
| Kokoda Barracks, Canungra   | QLD - Wright         | -                               | 71.8   | -                           |
| Cultana Training Area   | SA - Grey            | -                               | 69.4   | 0.2                         |
| RAAF Edinburgh  | SA - Spence          | -                               | 34.5   | -                           |
| Majura Field Training Area  | ACT - Fenner         | -                               | 22.4   | -                           |
| <b>Total</b>  |                      | <b>1,457.8</b>                  | <b>1,441.8</b>                                       | <b>0.2</b>                  |
| <b>HMAS Cerberus Redevelopment</b>  |                      |                                 |  |                             |
| HMAS Cerberus   | VIC - Flinders       | <b>465.6</b>                    | <b>67.5</b>  | <b>141.0</b>                |

**Table 57: Approved Major Capital Facilities Projects by State and Federal Electorate (Continued)**

|  | State and Electorate | Total Estimated Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | 2019-20 Budget Estimate \$m |
|--|----------------------|---------------------------------|--|-----------------------------|
| <b>Maritime Patrol Aircraft Replacement (AIR 7000 Phase 2B)<sup>[1]</sup></b>  |                      |                                 |  |                             |
| RAAF Edinburgh   | SA - Spence          | -                               | 396.9  | 50.3                        |
| RAAF Darwin  | NT - Solomon         | -                               | 3.0  | 63.9                        |
| RAAF Townsville  | QLD - Herbert        | -                               | -  | 16.1                        |
| RAAF Pearce  | WA - Pearce          | -                               | -  | 48.8                        |
| HMAS <i>Stirling</i>   | WA - Brand           | -                               | 4.3  | 2.1                         |
| <b>Total</b>   |                      | <b>707.9</b>                    | <b>404.2</b>   | <b>181.2</b>                |
| <b>Larrakeyah Defence Precinct Redevelopment Program</b>   |                      |                                 |  |                             |
| Larrakeyah Defence Precinct  | NT - Solomon         | 495.5                           | 1.7  | 81.2                        |
| <b>Air Traffic Control Complex Infrastructure Project and Fixed Base Defence Air Traffic Management and Control System (AIR 5431 Phases 2 and 3)<sup>[1]</sup></b> |                      |                                 |  |                             |
| RAAF Amberley  | QLD - Blair          | -                               | 48.7   | 1.5                         |
| Army Aviation Centre Oakey   | QLD - Groom          | -                               | 36.1   | 1.1                         |
| RAAF Townsville  | QLD - Herbert        | -                               | 41.8   | 1.4                         |
| RAAF Richmond  | NSW - Macquarie      | -                               | 31.8   | 3.2                         |
| HMAS <i>Albatross</i>  | NSW - Gilmore        | -                               | 23.0   | 0.7                         |
| RAAF Williamtown   | NSW - Paterson       | -                               | 48.5   | 2.8                         |
| RAAF East Sale   | VIC - Gippsland      | -                               | 9.6  | 1.1                         |
| RAAF Woomera   | SA - Grey            | -                               | 0.9  | -                           |
| RAAF Edinburgh   | SA - Spence          | -                               | 7.4  | 1.7                         |
| RAAF Gingin  | WA - Pearce          | -                               | 7.5  | 1.8                         |
| RAAF Pearce  | WA - Pearce          | -                               | 35.6   | 2.9                         |
| RAAF Darwin  | NT - Solomon         | -                               | 17.2   | 23.9                        |
| RAAF Tindal  | NT - Lingiari        | -                               | 47.3   | 2.6                         |
| <b>Total</b>   |                      | <b>409.9</b>                    | <b>355.2</b>   | <b>44.7</b>                 |
| <b>Battlefield Airlifter Facilities (AIR 8000 Phase 2)</b>   |                      |                                 |  |                             |
| RAAF Amberley  | QLD - Blair          | 370.4                           | 348.6  | 17.9                        |
| <b>HMAS <i>Stirling</i> Redevelopment Stage 3A</b>   |                      |                                 |  |                             |
| HMAS <i>Stirling</i> , Rockingham  | WA - Brand           | 366.8                           | 217.0  | 100.8                       |
| <b>Growler Airborne Electronic Attack Capability Facilities (AIR 5349 Phase 3)<sup>[1]</sup></b>   |                      |                                 |  |                             |
| RAAF Amberley  | QLD - Blair          | -                               | 254.3  | 19.8                        |
| Delamere Weapons Range   | NT - Lingiari        | -                               | 76.0   | 20.0                        |
| <b>Total</b>   |                      | <b>388.6</b>                    | <b>330.3</b>   | <b>39.8</b>                 |
| <b>Pilot Training System Facilities (AIR 5428 Phase 1)<sup>[1]</sup></b>   |                      |                                 |  |                             |
| RAAF East Sale   | VIC - Gippsland      | -                               | 179.4  | 4.3                         |
| RAAF Pearce  | WA - Pearce          | -                               | 93.3   | -                           |
| RAAF Edinburgh   | SA - Spence          | -                               | -  | 10.0                        |
| RAAF Williamtown   | NSW - Paterson       | -                               | -  | 2.5                         |
| RAAF Gingin  | WA - Pearce          | -                               | 9.4  | -                           |
| <b>Total</b>   |                      | <b>329.8</b>                    | <b>282.0</b>   | <b>16.8</b>                 |
| <b>RAAF Base Williamtown Redevelopment Stage 2</b>   |                      |                                 |  |                             |
| RAAF Williamtown   | NSW - Paterson       | 274.0                           | 199.9  | 58.0                        |

**Table 57: Approved Major Capital Facilities Projects by State and Federal Electorate (Continued)**

|   | State and Electorate  | Total Estimated Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | 2019-20 Budget Estimate \$m |
|---|-----------------------|---------------------------------|--|-----------------------------|
| <b>LAND 121 Stage 2A<sup>(1)</sup></b>  |                       |                                 |  |                             |
| Lavarack Barracks, Townsville   | QLD - Herbert         | -                               | 121.3  | 8.8                         |
| Gallipoli Barracks, Enoggera  | QLD - Ryan            | -                               | 58.9   | 1.3                         |
| RAAF Williamtown  | NSW - Paterson        | -                               | 12.7   | 0.5                         |
| Holsworthy Barracks, Holsworthy   | NSW - Hughes          | -                               | 1.3  | 0.1                         |
| Puckapunyal Training Area   | VIC - Nicholls        | -                               | 24.3   | -                           |
| Campbell Barracks   | WA - Curtin           | -                               | 6.1  | 1.6                         |
| RAAF Edinburgh  | SA - Spence           | -                               | 8.9  | -                           |
| Robertson Barracks  | NT - Lingiari         | -                               | 0.6  | 0.3                         |
| RAAF Darwin   | NT - Solomon          | -                               | 2.5  | 0.2                         |
| <b>Total</b>  |                       | <b>276.5</b>                    | <b>236.7</b>   | <b>12.7</b>                 |
| <b>Maritime Operational Support Capability Facilities (SEA 1654 Phase 3)<sup>(1)</sup></b>        |                       |                                 |  |                             |
| HMAS <i>Stirling</i>  | WA - Brand            | -                               | 9.3  | 109.0                       |
| Randwick Barracks   | NSW - Kingsford Smith | -                               | 1.8  | 11.6                        |
| Garden Island Defence Precinct  | NSW - Sydney          | -                               | -  | 0.1                         |
| <b>Total</b>  |                       | <b>220.5</b>                    | <b>11.1</b>  | <b>120.7</b>                |
| <b>Explosive Ordnance Logistics Reform Program<sup>(1)</sup></b>                                  |                       |                                 |  |                             |
| RAAF Amberley   | QLD - Blair           | -                               | 10.3   | 5.9                         |
| Mount Stuart  | QLD - Kennedy         | -                               | 4.8  | 0.7                         |
| RAAF Darwin   | NT - Solomon          | -                               | 8.6  | 2.7                         |
| Defence Establishment Myambat   | NSW - Hunter          | -                               | 22.4   | 39.5                        |
| Twofold Bay   | NSW - Eden-Monaro     | -                               | 4.0  | 11.5                        |
| HMAS <i>Cerberus</i>  | VIC - Flinders        | -                               | 4.9  | -                           |
| Mangalore   | VIC - Nicholls        | -                               | 11.8   | 16.7                        |
| Point Wilson  | VIC - Corio           | -                               | 5.0  | 8.5                         |
| Fort Direction  | TAS - Franklin        | -                               | 1.0  | -                           |
| RAAF Edinburgh  | SA - Spence           | -                               | 5.3  | 3.9                         |
| HMAS <i>Stirling</i>  | WA - Brand            | -                               | 7.3  | 8.3                         |
| <b>Total</b>  |                       | <b>230.9</b>                    | <b>85.3</b>  | <b>97.7</b>                 |
| <b>Campbell Barracks Redevelopment</b>  |                       |                                 |  |                             |
| Campbell Barracks   | WA - Curtin           | <b>230.4</b>                    | <b>230.2</b>   | <b>0.2</b>                  |
| <b>C-17 Maintenance Facility, Aircraft Apron and Associated Infrastructure (AIR 8000 Phase 3)</b> |                       |                                 |  |                             |
| RAAF Amberley   | QLD - Blair           | <b>219.4</b>                    | <b>168.4</b>   | <b>36.9</b>                 |
| <b>Garden Island (East) Critical Infrastructure Recovery (CIRP) Stage 1</b>                       |                       |                                 |  |                             |
| Garden Island Defence Precinct  | NSW - Sydney          | <b>213.4</b>                    | <b>28.7</b>  | <b>86.3</b>                 |
| <b>Garden Island (East) Critical Infrastructure Recovery (CIRP) Stage 2</b>                       |                       |                                 |  |                             |
| Garden Island Defence Precinct  | NSW - Sydney          | <b>286.5</b>                    | <b>3.2</b>   | <b>84.1</b>                 |
| <b>Defence Force School of Signals (DFSS) Redevelopment Project</b>                               |                       |                                 |  |                             |
| Simpson Barracks, Watsonia  | VIC - Jagajaga        | -                               | -  | 13.0                        |
| HMAS <i>Cerberus</i>  | VIC - Flinders        | -                               | -  | 0.9                         |
| <b>Total</b>  |                       | <b>115.6</b>                    | <b>94.4</b>  | <b>13.9</b>                 |
| <b>DEF101 Data Centre Upgrade</b>   |                       |                                 |  |                             |
| HMAS <i>Harman</i>  | ACT - Bean            | <b>129.9</b>                    | <b>2.3</b>   | <b>48.9</b>                 |

**Table 57: Approved Major Capital Facilities Projects by State and Federal Electorate (Continued)**

|  | State and Electorate | Total Estimated Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | 2019-20 Budget Estimate \$m |
|--|----------------------|---------------------------------|--|-----------------------------|
| <b>Naval Guided Weapons Maintenance Facilities Project</b>                             |                      |                                 |  |                             |
| Defence Establishment Orchard Hills  | NSW - Lindsay        | 95.5                            | 1.0  | 22.6                        |
| <b>Joint Health Command Garrison Facilities Upgrades<sup>(1)</sup></b>                 |                      |                                 |  |                             |
| Simpson Barracks, Watsonia   | VIC - Jagajaga       | -                               | 1.6  | 11.6                        |
| Puckapunyal Training Area  | VIC - Nicholls       | -                               | 1.7  | 13.4                        |
| Albury-Wodonga, South Bandiana   | VIC - Indi           | -                               | 2.0  | 11.8                        |
| Royal Military College   | ACT - Canberra       | -                               | 3.5  | 29.8                        |
| Holsworthy Barracks  | NSW - Hughes         | -                               | 0.8  | 6.5                         |
| Robertson Barracks   | NT - Lingiari        | -                               | 1.3  | 1.0                         |
| Larrakeyah Barracks  | NT - Solomon         | -                               | 1.8  | 12.9                        |
| Army Aviation Centre Oakey   | QLD - Groom          | -                               | 1.8  | 11.7                        |
| Gallipoli Barracks, Enoggera   | QLD - Ryan           | -                               | 1.2  | 7.1                         |
| Campbell Barracks  | WA - Curtin          | -                               | 2.0  | 12.8                        |
| RAAF Townsville  | QLD - Herbert        | -                               | 1.2  | 11.1                        |
| RAAF Pearce  | WA - Pearce          | -                               | 0.3  | 2.1                         |
| <b>Total</b>   |                      | <b>212.5</b>                    | <b>19.1</b>  | <b>131.8</b>                |
| <b>Airfield Capital Works P0007(East Sale, Pearce, Gingin and Oakey)<sup>(1)</sup></b> |                      |                                 |  |                             |
| RAAF East Sale   | VIC - Gippsland      | -                               | -  | 93.0                        |
| RAAF Pearce  | WA - Pearce          | -                               | -  | -                           |
| RAAF Gingin  | WA - Pearce          | -                               | -  | -                           |
| Army Aviation Centre Oakey   | QLD - Groom          | -                               | -  | 35.6                        |
| <b>Total</b>   |                      | <b>149.0</b>                    | <b>1.4</b>   | <b>128.6</b>                |
| <b>Airfield Capital Works P0006 (Curtin, Tindal and Townsville)<sup>(1)</sup></b>      |                      |                                 |  |                             |
| RAAF Townsville  | QLD - Herbert        | -                               | -  | 7.0                         |
| RAAF Curtin  | WA - Durack          | -                               | 14.0   | -                           |
| RAAF Tindal  | NT - Lingiari        | -                               | 48.1   | 1.0                         |
| <b>Total</b>   |                      | <b>95.3</b>                     | <b>62.1</b>  | <b>8.0</b>                  |
| <b>Space Surveillance Telescope (JP 3029 Phase 2)</b>                                  |                      |                                 |  |                             |
| Harold E Holt, Exmouth   | WA - Durack          | 97.2                            | 84.4   | 6.0                         |
| <b>Russell Office Precinct Upgrade R5 and R6 Midlife upgrade</b>                       |                      |                                 |  |                             |
| Russell Offices  | ACT - Canberra       | 75.4                            | 26.3   | 34.8                        |
| <b>Defence High Performance Computing Centre</b>                                       |                      |                                 |  |                             |
| RAAF Edinburgh   | SA - Spence          | 68.8                            | 2.0  | 57.4                        |
| <b>Land 17 Phase 1B/1C<sup>(1)</sup></b>   |                      |                                 |  |                             |
| Gallipoli Barracks, Enoggera   | QLD - Ryan           | -                               | 7.9  | -                           |
| Lavarack Barracks  | QLD - Herbert        | -                               | 10.0   | -                           |
| Robertson Barracks   | NT - Lingiari        | -                               | 10.3   | 1.2                         |
| Puckapunyal Training Area  | VIC - Nicholls       | -                               | 9.6  | -                           |
| Campbell Barracks  | WA - Curtin          | -                               | 4.7  | -                           |
| Holsworthy Barracks  | NSW - Hughes         | -                               | 5.1  | -                           |
| RAAF Williamtown   | NSW - Paterson       | -                               | 6.0  | -                           |
| Proof & Experimental Establishment - Port Wakefield                                    | SA - Grey            | -                               | 1.3  | -                           |
| <b>Total</b>   |                      | <b>57.1</b>                     | <b>54.8</b>  | <b>1.2</b>                  |

**Table 57: Approved Major Capital Facilities Projects by State and Federal Electorate (Continued)**

|   | State and Electorate | Total Estimated Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | 2019-20 Budget Estimate \$m |
|---|----------------------|---------------------------------|--|-----------------------------|
| <b>AIR 2025 Phase 6 Jindalee Operational Radar Networks (JORN) Facilities Project</b>         |                      |                                 |  |                             |
| Alice Springs   | NT - Lingiari        | 50.7                            | 1.4  | 33.0                        |
| <b>LAND 4502 Phase 1 Additional CH-47F Chinook Facilities</b>                                 |                      |                                 |  |                             |
| RAAF Townsville   | QLD - Herbert        | 49.9                            | 1.3  | 33.3                        |
| <b>REDFIN Infrastructure (JP 2097 Phase 1B)<sup>(1)</sup></b>                                 |                      |                                 |  |                             |
| Holsworthy Barracks   | NSW - Hughes         | -                               | 18.1   | 0.6                         |
| Campbell Barracks   | WA - Curtin          | -                               | 17.0   | 3.3                         |
| Defence Establishment Howard Springs  | NT - Lingiari        | -                               | 5.3  | -                           |
| Lavarack Barracks   | QLD - Herbert        | -                               | 4.0  | -                           |
| <b>Total</b>  |                      | <b>50.5</b>                     | <b>44.4</b>  | <b>3.9</b>                  |
| <b>Replacement Aviation Refuelling Vehicles Infrastructure (JP 157 Phase 1)<sup>(1)</sup></b> |                      |                                 |  |                             |
| RAAF Amberley   | QLD - Blair          | -                               | -  | -                           |
| RAAF Townsville   | QLD - Herbert        | -                               | -  | 2.1                         |
| RAAF Williamtown  | NSW - Paterson       | -                               | -  | -                           |
| RAAF Richmond   | NSW - Macquarie      | -                               | -  | 0.9                         |
| Holsworthy Barracks   | NSW - Hughes         | -                               | -  | 1.0                         |
| RAAF Darwin   | NT - Solomon         | -                               | -  | -                           |
| Robertson Barracks  | NT - Lingiari        | -                               | -  | -                           |
| RAAF Tindal   | NT - Lingiari        | -                               | -  | -                           |
| RAAF Learmonth  | WA - Durack          | -                               | -  | -                           |
| RAAF Curtin   | WA - Durack          | -                               | -  | -                           |
| HMAS <i>Stirling</i>  | WA - Brand           | -                               | -  | -                           |
| RAAF Edinburgh  | SA - Spence          | -                               | -  | -                           |
| Woomera Test Facility   | SA - Grey            | -                               | -  | 0.9                         |
| <b>Total</b>  |                      | <b>40.4</b>                     | <b>9.2</b>   | <b>4.9</b>                  |
| <b>LAND 200 Tranche 2 Battlefield Communications Systems Facilities Project</b>               |                      |                                 |  |                             |
| Robertson Barracks  | NT - Lingiari        | -                               | -  | 1.7                         |
| RAAF Edinburgh  | SA - Spence          | -                               | -  | 0.9                         |
| Lavarack Barracks   | QLD - Herbert        | -                               | -  | 5.4                         |
| Puckapunyal Training Area   | VIC - Nicholls       | -                               | -  | 4.0                         |
| Singleton Military Area   | NSW - Hunter         | -                               | -  | 5.5                         |
| Watsonia Barracks   | VIC - Jagajaga       | -                               | -  | 1.9                         |
| Bandiana  | VIC - Indi           | -                               | -  | 3.7                         |
| <b>Total</b>  |                      | <b>24.3</b>                     | <b>0.1</b>   | <b>23.1</b>                 |
| <b>LAND 998 Phase 1 Replacement Aviation Fire Truck Facilities Project</b>                    |                      |                                 |  |                             |
| RAAF Amberley   | QLD - Blair          | -                               | -  | -                           |
| RAAF Tindal   | NT - Lingiari        | -                               | -  | 3.8                         |
| RAAF Williamtown  | NSW - Paterson       | -                               | -  | 5.6                         |
| RAAF Richmond   | NSW - Macquarie      | -                               | -  | -                           |
| Robertson Barracks  | NT - Lingiari        | -                               | -  | -                           |
| Gallipoli Barracks  | QLD - Ryan           | -                               | -  | -                           |
| Lavarack Barracks   | QLD - Herbert        | -                               | -  | -                           |
| <b>Total</b>  |                      | <b>21.5</b>                     | <b>11.2</b>  | <b>9.5</b>                  |

**Table 57: Approved Major Capital Facilities Projects by State and Federal Electorate (Continued)**

|   | State and Electorate | Total Estimated Expenditure \$m | Estimated Cumulative Expenditure to 30 June 2019 \$m | 2019-20 Budget Estimate \$m |
|---|----------------------|---------------------------------|--|-----------------------------|
| <b>Puckapunyal Military Area High Voltage Upgrade</b>   |                      |                                 |  |                             |
| Puckapunyal Training Area   | VIC - Nicholls       | 32.7                            | 30.4   | 0.6                         |
| <b>LAND 2110 Phase 1B – Chemical, Biological, Radiological and Nuclear Defence (CBRND) Facilities</b> |                      |                                 |  |                             |
| HMAS <i>Stirling</i>  | WA - Brand           | -                               | -  | 0.7                         |
| Bindoon Training Area   | WA - Pearce          | -                               | -  | 0.1                         |
| Robertson Barracks  | NT - Lingiari        | -                               | -  | 2.4                         |
| RAAF Edinburgh  | SA - Spence          | -                               | -  | 2.0                         |
| Lavarack Barracks   | QLD - Herbert        | -                               | -  | 1.1                         |
| Gallipoli Barracks  | QLD - Ryan           | -                               | -  | 0.3                         |
| RAAF Amberley   | QLD - Blair          | -                               | -  | 1.1                         |
| Holsworthy Barracks   | NSW - Hughes         | -                               | -  | 0.6                         |
| Kapooka Military Area   | NSW - Riverina       | -                               | -  | 1.2                         |
| RAAF Base Wagga   | NSW - Riverina       | -                               | -  | 0.4                         |
| HMAS <i>Creswell</i>  | ACT - Fenner         | -                               | -  | 0.7                         |
| Majura Range  | ACT - Canberra       | -                               | -  | 1.1                         |
| HMAS <i>Cerberus</i>  | VIC - Flinders       | -                               | -  | 0.4                         |
| Dutson Air Weapons Range  | VIC - Gippsland      | -                               | -  | 0.6                         |
| <b>Total</b>  |                      | <b>16.7</b>                     | <b>1.0</b>   | <b>12.7</b>                 |
| <b>HMAS <i>Moreton</i> Unit Relocation</b>  |                      |                                 |  |                             |
| HMAS <i>Moreton</i>   | QLD – Griffith       | 15.6                            | 8.8  | 1.1                         |
| <b>Projects in or about to enter Defects Liability Period<sup>[2]</sup></b>                           |                      |                                 |  | <b>3.8</b>                  |
| <b>Total<sup>[3]</sup></b>  |                      | <b>9,828.3</b>                  | <b>-</b>   | <b>1,804.5</b>              |

**Notes**

1. These projects cross state and electoral boundaries. Estimated cumulative expenditure to 30 June 2019 and expenditure estimates for 2019-20 are provided in the table per location.
2. This amount represents the expenditure estimates for contract administration of six completed projects during their first year in-use.
3. Sum of the individual items may differ to the totals due to rounding. Budget estimates shown as 0.0 are amounts greater than \$0 but less than \$50,000.

## **Explanation of Projects**

### **New South Wales**

#### **RAAF Base Williamtown Redevelopment Stage 2**

This project will sustain and improve the functionality and capability of RAAF Base Williamtown, NSW, including upgrades or replacement of critical ageing infrastructure to meet future requirements. The project is scheduled for completion by late 2021.

#### **Garden Island (East) Critical Infrastructure Recovery Project (CIRP) Stage 1**

This project will address critical structural, condition and engineering services risks on the Cruiser Wharf at Garden Island (East), Sydney, NSW. The project is scheduled for completion by early 2022.

#### **Garden Island (East) Critical Infrastructure Recovery Project (CIRP) Stage 2**

This project will provide upgraded wharves and engineering services to address condition, capacity and compliance issues on the Cruiser Wharf at Garden Island (East), Sydney, NSW. This project is scheduled for completion by late 2023.

#### **Naval Guided Weapons Maintenance Facilities Project**

This project will deliver new facilities at Defence Establishment Orchard Hills that will enhance maintenance of existing and new guided weapons. The project is scheduled for completion by mid 2021.

### **Queensland**

#### **Battlefield Airlifter Facilities (AIR 8000 Phase 2)**

This project will provide facilities at RAAF Base Amberley, QLD to accommodate and support the operation of the new C-27J Battlefield Airlifter aircraft. The project is scheduled for completion by mid 2019.

#### **C-17 Maintenance Facility, Aircraft Apron and Associated Infrastructure (AIR 8000 Phase 3)**

This project will provide a maintenance facility, working accommodation, an aircraft apron and associated facilities at RAAF Base Amberley. This project is scheduled for completion by late 2019.

#### **HMAS *Moreton* Unit Relocation**

This project will ensure that Navy's operational and administrative functions are retained after the partial disposal of surplus Defence land at Bulimba Barracks. The project will also provide new facilities and services on the remaining portion of the site to replace those functions that will be displaced. The project is scheduled for completion by mid 2019.

#### **LAND 4502 Phase 1 Additional CH-47F Chinook Facilities**

This project will provide new facilities for 5 Aviation Regiment to support the introduction and sustainment of three new additional CH-47F Chinook Medium Lift Helicopters and associated integration systems at RAAF Base Townsville. The project is scheduled for completion by mid 2021.

## **Western Australia**

### **Space Surveillance Telescope (JP 3029 Phase 2)**

This project will provide facilities and infrastructure to support the operations of the Space Surveillance Telescope, which will enable ADF space surveillance capability, enhanced global surveillance capability, and an increased ability to track space debris. The project is scheduled for completion by late 2019.

### **HMAS *Stirling* Redevelopment Stage 3A**

This project will provide upgrades and refurbishment of existing critical shortfalls to infrastructure and facilities. The project is scheduled for completion by early 2020.

### **Campbell Barracks Redevelopment**

This project will provide a new Headquarters for the Special Air Services Regiment, communications facilities, working accommodation, storage facilities and supporting site infrastructure at Campbell Barracks, WA. The project is scheduled for completion by April 2019.

## **Northern Territory**

### **Larrakeyah Defence Precinct Redevelopment Program**

This program of works will upgrade critical base infrastructure, improve the working environment for Defence personnel including new facilities for the North West Mobile Force (NORFORCE), and support future growth on Larrakeyah Defence Precinct. This project will also deliver a new wharf, fuel storage and refuelling capabilities to support Navy's major surface combatant ships operating in the north of Australia. The project is scheduled for completion by late 2022.

### **AIR 2025 Phase 6 Jindalee Operational Radar Networks (JORN) Facilities Project**

This project will provide new facilities and infrastructure to support the mid-life upgrade of the JORN capability under AIR2025 Phase 6, with priority works at the JORN Radar 3 Receive (Mount Everard) and Transmit (Harts Range) sites near Alice Springs, NT. The project is scheduled for completion by late 2020.

## **South Australia**

### **Defence High Performance Computing Centre**

This project will provide facilities to house the high performance computing equipment as well as secure meeting, auditorium, and training facilities located at DSTG Edinburgh. The project is scheduled for completion by mid 2020.

## **Victoria**

### **HMAS *Cerberus* Redevelopment**

This project will provide engineering services upgrade, consolidation of Living-In-Accommodation and Mess Facilities, co-location of Clothing Store with Naval Store, School of Survivability and Ship Safety upgrade, Gym upgrade, Armoury, Explosive Ordnance and Weapons Storage Facility upgrade, and demolition. The project is scheduled for completion by mid 2025.

#### **Puckapunyal Military Area High Voltage Upgrade**

This project will provide an essential upgrade to the High Voltage power supply and reticulation network at the Puckapunyal Military Area, VIC. The project is scheduled for completion by April 2019.

#### **Defence Force School of Signals (DFSS) Redevelopment Project**

This project will provide working accommodation at Simpson barracks, VIC to support DFSS Maritime Communications and Information Systems Wing at HMAS *Cerberus*. Construction is scheduled to be complete by early 2020.

#### **Australian Capital Territory**

##### **Russell Office Precinct Upgrade R5 and R6 Midlife upgrade**

The project will provide essential building and engineering services upgrades to extend the life of Russell Buildings R5 and R6. The project is scheduled for completion by mid 2020.

##### **DEF101 Data Centre Upgrade**

This project will provide enabling infrastructure to support and ensure ongoing communications capability at HMAS *Harman* through expansion and fit out of existing facilities. The project is scheduled for completion by late 2021.

#### **Various Locations**

##### **New Air Combat Capability Facilities Project (AIR 6000 Phase 2A/B)**

This project will provide new and upgraded facilities and infrastructure to support the introduction of the Joint Strike Fighter at RAAF Base Williamtown, Newcastle, NSW, and RAAF Base Tindal, Katherine, NT with support facilities and infrastructure provided at Defence Establishment Myambat, NSW and three Forward Operating Bases. The project is scheduled for completion by mid 2020.

##### **Explosive Ordnance Logistics Reform Program**

This project will address explosive ordnance storage capacity shortfalls through delivery of new and enhanced explosive ordnance facilities at 11 Defence sites. The project is scheduled for completion by late 2020.

##### **Enhanced Land Force (ELF) Stage 2**

This project will provide modern purpose-built facilities and supporting infrastructure for the 8th/9th Battalion, the Royal Australian Regiment and supporting elements of the Army's 7th Brigade at Gallipoli Barracks in Enoggera, Brisbane. The project includes the construction of new and refurbished accommodation and training facilities, as well as common use facilities and site infrastructure upgrades, at Enoggera and other Defence sites across four States and both mainland Territories.

Facilities at Townsville, Singleton, Duntroon and Watsonia provide modern accommodation and supporting infrastructure for increased Army career training. In Sydney, at RAAF Bases Amberley and Edinburgh, and at nine other Defence Training Areas, new and refurbished facilities with site infrastructure upgrades will be provided for Army and joint enabling elements supporting the Enhanced Land Force capabilities.

All works are complete with the exception of works at Cultana Training Area, including delivery of a wash point approved as part of Hardened Networked Army Phase 2 facilities project, which are scheduled for completion by April 2019.

#### Maritime Patrol Aircraft Replacement (AIR 7000 Phase 2B)

This project will provide new and upgraded facilities and infrastructure to support the introduction of the P-8A aircraft at RAAF Base Edinburgh, SA, RAAF Base Townsville, QLD, RAAF Base Pearce, WA and RAAF Base Darwin, NT, as well as additional explosive ordnance facilities at HMAS *Stirling*. The project is scheduled for completion by early 2020.

#### Air Traffic Control Complex Infrastructure Project and Fixed Base Defence Air Traffic Management and Control System (AIR 5431 Phases 2 and 3)

This project will provide facilities across 13 bases in support of replacement Air Traffic Management Surveillance, Command and Control Systems under AIR 5431 Phases 2 and 3, incorporating the replacement of aged and degraded Air Traffic Control Towers. The project is scheduled for completion by late 2021

#### LAND 121 Stage 2A

This project will provide facilities across nine bases to sustain the B-vehicle fleet in accordance with the Basis of Issue for Army, RAAF and JLC. These facilities will maintain (workshops and repair parts storage), support (fuel points, loading ramps, wash points and weigh bridges) and sustain (shelters and hardstand) the vehicles from vehicle acquisition Phase 3A (G-Wagon), Phase 3B (Light/Light Weight and Medium/Heavy) and Phase 4 (Protected Mobility Vehicles Light). The project is scheduled for completion by early 2020.

#### Airfield Capital Works P0006 (Curtin, Tindal and Townsville)

This project will resurface asphalt pavement and replace airfield lighting at RAAF Base Curtin, WA, RAAF Base Tindal, NT and RAAF Base Townsville, QLD. The project is scheduled for completion by mid 2022.

#### REDFIN Infrastructure (JP 2097 Phase 1B)

This project will provide facilities for the Special Operations Vehicle fleet to support mobility and communications for Special Operations Forces. The project is scheduled for completion by mid 2019.

#### Pilot Training System Facilities (AIR 5428 Phase 1)

This project will provide fit-for-purpose facilities to support the modern joint training system being delivered by the AIR5428-1 Capability Project, with the facilities planned to be delivered at RAAF Base East Sale, VIC, RAAF Base Pearce and RAAF Gingin, WA, RAAF Base Williamtown, NSW and RAAF Base Edinburgh, SA. The project is scheduled for completion in late 2020.

#### LAND 17 Phase 1B/1C

This project will provide facilities at eight Defence establishments to provide the necessary working, storage, maintenance and training facilities to support the additional Lightweight Towed Howitzer and simulation capability being acquired under LAND 17 Phase 1B/1C. The project is scheduled for completion by late 2019.

#### Maritime Operational Support Capability Facilities (SEA 1654 Phase 3)

This project will provide new and upgraded facilities and infrastructure to support the introduction of a single Class of Auxiliary Oiler Replenishment vessels, being provided under SEA 1654 Phase 3 MOSC Project. This project is scheduled for completion by late 2020.

**Airfield Capital Works P0007 (East Sale, Pearce, Gingin and Oakey)**

This project will provide major maintenance to aircraft pavement and aeronautical ground lighting to RAAF Bases Pearce, Gingin, East Sale and Army Aviation Centre Oakey. The project is scheduled for completion by late 2020.

**Joint Health Command Garrison Facilities Upgrades**

This project will provide fit for purpose, contemporary Garrison Health Facilities at 13 sites across Australia. The project is scheduled for completion by late 2020.

**Replacement Aviation Refuelling Vehicles Infrastructure (JP 157 Phase 1)**

This project will provide new and upgraded facilities to support a new fleet of aviation refuelling vehicles at 15 locations. The project is scheduled for completion by late 2019.

**LAND 200 Tranche 2 Battlefield Communications Systems Facilities Project**

This project will provide training and storage infrastructure to support the rollout of Battlefield Management Systems (BMS) at 7 locations. The project is scheduled for completion by late 2019.

**LAND 2110 Phase 1B – Chemical, Biological, Radiological and Nuclear Defence (CBRND) Facilities**

This project will provide new and refurbished facilities including training and storage facilities at 14 Defence sites to support Australian Defence Force CBRND activities. Construction is scheduled to commence in mid 2019 and is scheduled for completion by late 2019.

**LAND 998 Phase 1 Replacement Aviation Fire Truck Facilities Project**

This project will provide garaging, chemical storage, testing and training facilities on seven locations to support the introduction into service of the replacement aviation fire trucks being procured under LAND 998 Phase 1. The project is scheduled for completion by early 2020.

**Growler Airborne Electronic Attack Capability Facilities (AIR 5349 Phase 3)**

This project will provide necessary working accommodation, maintenance, warehousing and training facilities at RAAF Base Amberley, QLD to support the introduction of the Growler Airborne Electronic Attack Capability. The project is scheduled for completion by mid 2020.

## APPENDIX E: STATUS OF MAJOR PROJECTS FORESHADOWED FOR GOVERNMENT AND PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS CONSIDERATION (PWC) IN 2019-20

### Program of Works Foreshadowed for Consideration and Approval

During 2019-20, Defence expects to present a number of facilities proposals to the Parliamentary Standing Committee on Public Works (PWC). The following tables detail the proposed major and medium capital projects expected to be referred to the PWC in Financial Year 2019-20.

**Table 58: Major Capital Facilities Projects Foreshadowed for PWC Consideration and Approval in 2019-20**

|   | State/Electorate | Actual/Indicative PWC Referral Date | Actual/Indicative PWC Hearing Date <sup>[1]</sup> | Parliamentary Approval Date <sup>[2]</sup> |
|---|------------------|-------------------------------------|---|--|
| Navy Capability Infrastructure Sub-program (combining facilities for SEA 5000 Phase 1 Future Frigates and SEA 1180 Phase 1 Offshore Patrol Vessels Project Batch 1) | Multiple         | Mid 2019                            | Mid 2019  | Late 2019                                  |
| LAND 121 Phase 5B Unit Sustainment Facilities   | Multiple         | Mid 2019                            | Late 2019   | Late 2019                                  |
| LAND 400 Phase 2/3 Armoured Fighting Vehicle Facilities Program   | Multiple         | Mid 2019                            | Late 2019   | Late 2019                                  |
| Mulwala Decommissioning and Demolition Project  | NSW – Farrer     | Late 2019                           | Late 2019   | Late 2019                                  |
| RAAF Base Tindal Redevelopment Stage 6  | NT – Lingiari    | Late 2019                           | Late 2019   | Late 2019                                  |
| United States Force Posture Initiative RAAF Base Tindal Airfields Works and Associated Infrastructure   | NT – Lingiari    | Late 2019                           | Late 2019   | Late 2019                                  |
| SEA 1397 Phase 5D Nulka Assembly Maintenance Facilities   | NSW – Lindsay    | Late 2019                           | Late 2019   | Late 2019                                  |
| Facilities for LAND 555 Phase 6 Force Level Electronic Warfare, Signals, Intelligence and Vehicles  | QLD – Groom      | Late 2019                           | Late 2019   | Early 2020                                 |
| Facility Upgrade for Australian Defence Simulation & Training Centre & JP 9711 Phase 1 Core System Simulation Capability  | ACT – Bean       | Late 2019                           | Early 2020  | Early 2020                                 |
| Cultana Training Area Redevelopment Stage 2   | SA – Grey        | Late 2019                           | Early 2020  | Early 2020                                 |
| Edinburgh Defence Precinct Mid Term Refresh   | SA – Spence      | Late 2019                           | Early 2020  | Early 2020                                 |
| JP 9131 Cyber Capability Facility Project   | ACT – Bean       | Late 2019                           | Early 2020  | Early 2020                                 |

|  | State/Electorate | Actual/Indicative PWC Referral Date | Actual/Indicative PWC Hearing Date <sup>[1]</sup> | Parliamentary Approval Date <sup>[2]</sup> |
|--|------------------|-------------------------------------|---|--|
| Holsworthy Barracks Mid Term Refresh   | NSW – Hughes     | Early 2020                          | Mid 2020  | Mid 2020                                   |
| Puckapunyal Military Area Health and Wellbeing Centre                            | VIC – Nicholls   | Early 2020                          | Mid 2020  | Mid 2020                                   |
| Puckapunyal Military Area Mid Term Refresh                                       | VIC – Nicholls   | Mid 2020                            | Mid 2020  | Late 2020                                  |
| JP 2060 Phase 3 Australian Defence Force Deployable Health Capability Facilities | Multiple         | Early 2020                          | Mid 2020  | Mid 2020                                   |
| RAAF Base Townsville Mid Term Refresh  | QLD – Herbert    | Early 2020                          | Mid 2020  | Mid 2020                                   |
| Townsville Field Training Area Mid Term Refresh                                  | QLD – Kennedy    | Early 2020                          | Mid 2020  | Mid 2020                                   |
| HMAS Cairns Mid Term Refresh   | QLD – Leichhardt | Early 2020                          | Mid 2020  | Mid 2020                                   |
| RMAF Base Butterworth Mid Term Refresh   | International    | Mid 2020                            | Mid 2020  | Mid 2020                                   |
| Swartz Barracks Mid Term Refresh   | QLD – Groom      | Mid 2020                            | Mid 2020  | Mid 2020                                   |
| COCOS (Keeling) Island Runway Upgrade & Refurbishment                            | International    | Mid 2020                            | Mid 2020  | Late 2020                                  |

**Notes**

1. Hearing dates are subject to the PWC's consideration and agreement.
2. Forecasted approval dates are shown as "Early", "Mid", "Late".

**Table 59: Medium Projects Foreshadowed for Consideration and Approval**

|  | State/Electorate | PWC Notification <sup>[1]</sup> |
|--|------------------|---------------------------------|
| Facilities for SEA 1442 Phase 6 Collins Satellite Communication                              | Multiple         | Mid 2019                        |
| Facilities for LAND 154 Phase 2 Stage 1 Joint Counter Improvised Explosive Device Capability | Multiple         | Mid 2019                        |
| Facilities for A-COY41 Royal New South Wales Regiment in the Tweed Heads                     | NSW – Richmond   | Late 2019                       |
| Facilities for Section Urban Assault Range   | NSW – Hunter     | Early 2020                      |

**Note**

1. Notification dates are subject to the PWC's consideration and agreement.

## **Explanation of Projects**

### **Project Narratives by State and Various Locations**

#### **South Australia**

##### **Cultana Training Area Redevelopment Stage 2**

This proposed project will provide new infrastructure and facilities to develop the expanded Cultana Training Area into a Tier 1 training range. Subject to Government and Parliamentary approvals, construction is planned to commence in mid 2020 and be completed by late 2021.

##### **Edinburgh Defence Precinct Mid Term Refresh**

This proposed project will ensure the precinct's infrastructure and assets remain fit for purpose, safe and operational. Requirements include replacing substations, upgrading the central emergency power system, cabling for the power control and monitoring system, upgrading sewer and storm water infrastructure, fire-fighting and potable water distribution, and high voltage upgrading. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2020 and be completed by early 2022.

#### **Queensland**

##### **Facilities for LAND 555 Phase 6 Force Level Electronic Warfare, Signals, Intelligence and Vehicles**

This project will provide vehicle storage, a workshop extension and hardstand to accept training modules at Borneo Barracks. Subject to Parliamentary approval, construction is planned to commence in early 2020 and be completed by early 2021.

##### **RAAF Base Townsville Mid Term Refresh**

This proposed project will provide mid life refurbishments to critical infrastructure at the base as part of the North Queensland Mid Term Refresh Program. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2021 and be completed by early 2023.

##### **Townsville Field Training Area Mid Term Refresh**

This proposed project will provide mid life refurbishments to critical infrastructure at the training area as part of the North Queensland Mid Term Refresh Program. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2021 and be completed by early 2023.

##### **HMAS Cairns Mid Term Refresh**

This proposed project will provide mid life refurbishments to critical infrastructure at the base as part of the North Queensland Mid Term Refresh Program. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2021 and be completed by early 2023.

#### Swartz Barracks Mid Term Refresh

This proposed project will upgrade storm water, ICT and electrical infrastructure to support the ongoing training and operations on base while its long term future is determined. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2021 and be completed by mid 2023.

#### Victoria

##### Puckapunyal Military Area Health and Wellbeing Centre

This proposed project will construct a Health and Wellbeing Centre to support capability. Proposed scope includes replacing/refurbishing ageing/non-compliant facilities, including the pool, multi-purpose exercise room, lockers, and change rooms. Subject to Government and Parliamentary approvals, construction is planned to commence in late 2020 and be completed by late 2021.

##### Puckapunyal Military Area Mid Term Refresh

This proposed project will address condition, capacity and compliance issues with existing infrastructure on site. Proposed scope includes water trench-ring main works, storm water upgrades to the retention pond, dam works, stabilizing the sewerage embankment and expanding storage facilities. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2021 and be completed by mid 2022.

#### New South Wales

##### SEA 1397 Phase 5D Nulka Assembly Maintenance Facilities

This proposed project will provide a NULKA round assembly facility to support the production and maintenance of the new decoys. Subject to Government and Parliamentary approvals, construction is planned to commence in mid 2020 and be completed by mid 2021.

##### Holsworthy Barracks Mid Term Refresh

This proposed project will address power supply reliability issues, serviceability of high voltage infrastructure and serviceability of training live-in-accommodation. Subject to Government and Parliamentary approvals, construction is planned to commence in mid 2021 and be completed by mid 2022.

##### Mulwala Decommissioning and Demolition Project

This proposed project will decommission and demolish 116 aged and contaminated redundant factory buildings at the Mulwala Propellant and Explosives Facility. Subject to Parliamentary approval, construction is planned to commence in mid 2020 and be completed by mid 2022.

#### Australian Capital Territory

##### Facility Upgrade for Australia Defence Simulation & Training Centre & JP 9711 Phase 1 Core System Simulation Capability

This proposed project will provide training facilities at HMAS Harman in support of capability. Subject to Parliamentary approval, construction is planned to commence in mid 2020 and be completed by mid 2022.

#### JP 9131 Cyber Capability Facility Project

This proposed project will provide facilities at HMAS Harman in support of capability. Subject to Government and Parliamentary approvals, construction is planned to commence in mid 2020 and be completed by late 2022.

#### Northern Territory

##### RAAF Base Tindal Redevelopment Stage 6

This proposed project will provide critical base infrastructure, trunk engineering services (power, water, sewage) and some living-in-accommodation to ensure reliability of essential base services. Subjective to Government and Parliamentary approvals, construction is planned to commence in early 2020 and be completed by late 2024.

##### United States Force Posture Initiative RAAF Base Tindal Airfields Works and Associated Infrastructure

This proposed project will deliver airfield improvements. Proposed scope includes lengthening and widening the runway, and constructing a new air movements terminal, aircraft apron and aviation fuel farm. Subject to Government and Parliamentary approvals, construction is planned to commence in early 2020 and be completed by late 2024.

#### Various Locations

##### Navy Capability Infrastructure Sub-program

This proposed program of works will provide new and upgraded facilities and infrastructure required around Australia to support the Navy's introduction into service and sustainment of the new Hunter Class Frigates (SEA5000 Phase 1) and Arafura Class Offshore Patrol Vessels (SEA1180 Phase 1). Works are planned at HMAS Stirling WA, HMAS Coonawarra NT, HMAS Cairns QLD, Garden Island Defence Precinct NSW, Henderson WA and Osborne SA. Subject to Parliamentary approvals, construction is planned to commence in late 2019 and be completed by mid 2027.

##### SEA 5000 Phase 1 – Future Frigates

This proposed project will provide upgraded facilities and infrastructure to support the introduction of a new Class of frigates to replace the current Anzac Class Frigates. Subject to Parliamentary approval, construction is planned to commence in late 2019 and be completed by mid 2025.

##### SEA 1180 Phase 1 – Offshore Patrol Vessels (OPV) Batch 1

This proposed project will provide berthing, training, maintenance, logistics, and support facilities at HMAS *Stirling*, HMAS *Coonawarra*, and HMAS *Cairns* to support the introduction into service of 12 new OPVs. Subject to Parliamentary approval, construction is planned to commence in mid 2020 and be completed by mid 2027.

##### LAND 121 Phase 5B Unit Sustainment Facilities

This proposed project will provide facilities to sustain the associated capability at various sites around Australia. Proposed scope includes workshops and storage facilities, fuel and wash points, loading ramps and weigh bridges, vehicle shelters and hardstand. Subject to Parliamentary approval, construction is planned to commence in mid 2021 and be completed by mid 2024.

#### LAND 400 Phase 2/3 Armoured Fighting Vehicle Facilities Program

This proposed project will provide upgrades to support capability. Proposed scope includes upgrading unit facilities and training areas at various sites around Australia. Subject to Parliamentary approval, construction is planned to commence in early 2020 and be completed by late 2029.

#### JP 2060 Phase 3 Australian Defence Force Deployable Health Capability Facilities

This proposed project will provide the ADF with fit for purpose facilities at various sites around Australia. Subject to Government and Parliamentary approvals, construction is planned to commence in late 2020 and be completed by late 2022.

### **International**

#### RMAF Base Butterworth Mid Term Refresh

This proposed project will provide mid life refurbishments to critical assets to support the continued service delivery of existing capabilities provided from this base. Subject to Government and Parliamentary approvals, construction is planned to commence in late 2020 and be completed by late 2021.

#### COCOS (Keeling) Island Runway Upgrade & Refurbishment

This proposed project will provide airfield pavement and aeronautical ground lighting works to meet capability requirements. Subject to Government and Parliamentary approvals, construction is planned to commence in late 2020 and be completed by late 2023.

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