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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army **Date:** March 2023

| | |
|---|---|
| Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)</i> | R-1 Program Element (Number/Name) PE 0603801A / <i>Aviation - Adv Dev</i> |
|---|---|

| COST (\$ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|---|-------------|-----------|-----------|--------------|-------------|---------------|-----------|-----------|-----------|-----------|------------------|------------|
| Total Program Element | - | 1,138.457 | 1,157.472 | 1,502.160 | - | 1,502.160 | 1,729.307 | 1,462.934 | 1,810.727 | 1,830.926 | Continuing | Continuing |
| B47: <i>Future Vertical Lift</i> | - | 505.209 | 210.194 | 1,027.608 | - | 1,027.608 | 1,035.409 | 676.532 | 725.666 | 733.758 | Continuing | Continuing |
| CK7: <i>FARA Ecosystem</i> | - | 21.183 | 22.748 | 29.151 | - | 29.151 | 30.033 | 30.975 | 31.305 | 31.655 | 0.000 | 197.050 |
| CS7: <i>FLRAA MTA</i> | - | - | 478.441 | 16.536 | - | 16.536 | 6.746 | - | - | - | 0.000 | 501.723 |
| F12: <i>Future Attack Reconnaissance Aircraft</i> | - | 612.065 | 446.089 | 428.865 | - | 428.865 | 657.119 | 755.427 | 1,053.756 | 1,065.513 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

This funding line directly aligns to the Future Vertical Lift (FVL) Army modernization priority. Future Vertical Lift (FVL) is an initiative to develop a family of vertical lift aircraft for the United States Armed Forces. The Department of Defense (DOD) established FVL to focus vertical lift capabilities and technology development as well as retain long-term industrial base capabilities. The Deputy Secretary of Defense issued the FVL Strategic Plan in 2012 to outline a joint approach for the next generation vertical lift aircraft for all military services. The Strategic Plan provided a foundation for replacing the current fleet with advanced capability by shaping the development of vertical lift aircraft for the next 25 to 40 years. In Fiscal Year (FY) 2017, the Army identified FVL as one of the Army's six modernization priorities, and established the FVL Cross Functional Team (CFT). The FVL objectives are increased vertical lift maneuverability, range, speed, payload, survivability, and reliability while reducing the logistics footprint. This capability will provide critical vertical lift aviation capability in multi-domain operations to the joint warfighter and maneuver force.

The Future Long Range Assault Aircraft (FLRAA) program pursues FVL Capability Set 3 (CS3) and provides Combatant Commanders with deterrence, power projection, and tactical capabilities at operational and strategic distances. The Army competitively awarded the weapon system development contract in December 2022, using a hybrid acquisition approach. The contract award initiates the Rapid Prototyping effort to execute a preliminary design and development of FLRAA Virtual Prototypes, using Middle Tier of Acquisition (MTA) authorities.

The total estimated cost of the FLRAA Middle Tier of Acquisition effort is \$622 million RDT&E from FY22 to FY25. FLRAA MTA is fully funded across the Future Years Defense Program.

The Future Attack Reconnaissance Aircraft (FARA) Capability Set 1 (CS1) is a critical Army Aviation priority and will restore attack/reconnaissance dominance by mitigating enemy long-range capabilities by creating lethal effects from outside enemy sensor/weapons range and allowing joint force commanders to maneuver from relative sanctuary.

Both FLRAA and FARA variants will integrate advanced technologies, using a modular open systems approach, and design configurations with appropriate trades to ensure affordability.

This resourcing funds both FLRAA and FARA.

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| Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)</i> | R-1 Program Element (Number/Name) PE 0603801A / <i>Aviation - Adv Dev</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 1,178.460 | 1,162.344 | 1,221.900 | - | 1,221.900 |
| Current President's Budget | 1,138.457 | 1,157.472 | 1,502.160 | - | 1,502.160 |
| Total Adjustments | -40.003 | -4.872 | 280.260 | - | 280.260 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | -49.750 | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | 45.000 | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | -40.003 | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Adjustments to Budget Years | - | - | 280.260 | - | 280.260 |
| • FFRDC Transfer | - | -0.122 | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

| | | FY 2022 | FY 2023 |
|---|--|----------------|----------------|
| Project: B47: Future Vertical Lift | | | |
| Congressional Add: <i>FLRAA Program Increase</i> | | 77.500 | - |
| Congressional Add Subtotals for Project: B47 | | 77.500 | - |
| Project: CS7: FLRAA MTA | | | |
| Congressional Add: <i>FLRAA Program Increase</i> | | - | 23.000 |
| Congressional Add: <i>Modular Communication, Command, and Control Suite</i> | | - | 12.000 |
| Congressional Add Subtotals for Project: CS7 | | - | 35.000 |
| Project: F12: Future Attack Reconnaissance Aircraft | | | |
| Congressional Add: <i>FARA All Electrical Flight Controls</i> | | 5.000 | 10.000 |
| Congressional Add Subtotals for Project: F12 | | 5.000 | 10.000 |
| Congressional Add Totals for all Projects | | 82.500 | 45.000 |

Change Summary Explanation

Increase in FY 2024 funding from PB23 to PB24 is in support of FLRAA detailed design and building developmental prototype aircraft.

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| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | | | | | | | | | | Date: March 2023 | | |
| Appropriation/Budget Activity 2040 / 4 | | | | | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | | | | Project (Number/Name) B47 / Future Vertical Lift | | | |
| COST (\$ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
| B47: Future Vertical Lift | - | 505.209 | 210.194 | 1,027.608 | - | 1,027.608 | 1,035.409 | 676.532 | 725.666 | 733.758 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The Future Vertical Lift (FVL) Project's funding provides for the development of a Future Long Range Assault Aircraft (FLRAA) Capability Set Three weapon system within the FVL family of systems. FLRAA will conduct air assault, urban assault/security, maritime interdiction, medical evacuation, humanitarian assistance/disaster relief, tactical resupply, direct action, noncombatant evacuation operation, and combat search and rescue operations. FLRAA will support the Army, including Special Operations Command (USSOCOM) and the Joint Force, in a contested, near peer threat environment. The FLRAA weapon system will retain the Army's ability to project combat power with transformational increases in range, speed, mobility, and payload over current Army and USSOCOM aircraft.

FLRAA achieved a Materiel Development Decision approval in October 2016 and the Office of Secretary of Defense granted a sufficiency determination of the Analysis of Alternatives (AoA) in July 2019.

The Fiscal Year (FY) 2024 budget request funds continued subsystem risk reduction activities, the initiation of the of the FLRAA weapon system detailed design, continued development of a digital backbone architected to meet Modular Open System Approach (MOSA) objectives, and the initiation of developmental prototype assembly and integration for qualification and test.

The total estimated cost of the FLRAA Middle Tier of Acquisition effort is \$622 million RDT&E from FY22 to FY25. FLRAA MTA is fully funded across the Future Years Defense Program.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2022 | FY 2023 | FY 2024 |
|---|----------------|----------------|----------------|
| Title: Engineering Services / Research Studies | 370.630 | 44.574 | 52.315 |
| Description: Provide engineering research, planning, modeling, and analysis. Support the execution of subsystem risk reduction efforts through the FLRAA Weapon System Development (WSD) contract to continue definition and documentation of subsystem designs as required to inform the system level design and support the FLRAA acquisition schedule. Continue maturation of Model Based System Engineering (MBSE) competencies, infrastructure, and model development used to describe system requirements and design. Continue maturation of Open System Architecture (OSA) standards, processes, and requirements through enterprise-wide collaboration to support a Modular Open System Approach (MOSA) to include definition of system architecture requirements, development of component specification models, and component definition models. Conduct independent cyber and safety analyses. Provide critical airworthiness support to enable the development of the FLRAA Airworthiness Qualification Strategy (AQS). Develop statutory and regulatory Milestone B documentation through Integrated Product Teams (IPT) and working group collaboration. | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | | Date: March 2023 | | |
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) B47 / Future Vertical Lift | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2022 | FY 2023 | FY 2024 |
| <p>FY 2023 Plans: Support engineering changes associated with refined requirements, continue studies and analyses to refine MOSA architectures, further enable MBSE in the Digital Environment, and develop Milestone B documentation.</p> <p>FY 2024 Plans: Support engineering changes associated with refined requirements, review contract deliverables associated with subsystem risk reduction activities and weapon system detailed designs to ensure compliance with technical specifications and airworthiness requirements, continue studies and analyses to refine and implement Open System Architectures (OSA), further enable MBSE in the digital environment, prepare for the FLRAA Weapons System Critical Design Review (CDR), and support the completion and coordination of a FLRAA Milestone B decision.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase in funding is attributable to the increased technical workload and airworthiness support required to manage the execution of subsystem risk reduction activities, FLRAA weapon system detailed design work, and initiation of prototype manufacturing activities on the FLRAA weapon system development contract.</p> | | | | |
| <p>Title: Program Management</p> <p>Description: Oversight and management of the FLRAA acquisition program. Program analysis of affordability, program performance, and schedule to ensure support of the Army mission. Guide, direct and manage program efforts through development phases of the lifecycle.</p> <p>FY 2023 Plans: Manage the execution of the Weapon System Development Contract and support efforts to achieve Milestone B Decision.</p> <p>FY 2024 Plans: Continue to manage the rigorous execution of programmatic, technical, logistics, business and administrative requirements to execute the scope of the FLRAA Engineering and Manufacturing Development acquisition phase, continue to provide critical information technology infrastructure to enable a distributed workforce, and continue to support Aviation enterprise-wide initiatives to facilitate common Modular Open Systems Approach objectives.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Minor increase due to economic assumptions</p> | | 10.933 | 6.461 | 6.602 |
| <p>Title: Supportability Analysis and Acquisition Support</p> <p>Description: Acquisition and supportability research, planning, modeling, analysis, documentation and reviews supporting the FLRAA acquisition program. Early design influence analysis to assess operational durability; emphasizing digital data thread,</p> | | 3.153 | 5.448 | 9.851 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | | Date: March 2023 | | |
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) B47 / Future Vertical Lift | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2022 | FY 2023 | FY 2024 |
| active health state awareness in Condition Based Maintenance (CBM+), and optimized human system interface for ease of operations and maintenance. | | | | |
| <p>FY 2023 Plans: Continue integration of supportability modeling and analysis in direct support of Weapon System Development execution and supporting Milestone B decision, and operationalize the sustainment vision using a digital thread across the life cycle including design, build, and maintenance phases of the weapons system life cycle.</p> <p>FY 2024 Plans: Initiate the start of extensive provisioning planning to include provisioning coordination activities, demonstrations, and coordination with Soldiers to identify and discuss Soldier touch points to ensure and operable and maintainable weapon system solution. Continue integration of supportability modeling and analysis in direct support of Weapon System Development execution to also include operation support cost refinement via depot source of repair and level of repair analysis.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase due to the initiation of enterprise supportability and analysis studies, the additional product support workload associated with conducting analysis and preparing documentation required for Milestone B, and executing the EMD phase of the FLRAA program.</p> | | | | |
| <p>Title: Middle Tier Acquisition (MTA) Preliminary Design and Virtual Prototype Rapid Prototyping</p> <p>Description: The Preliminary Design and MTA Virtual Prototype Rapid Prototyping effort is executed under the Weapon System Development Base contract scoped to complete the system preliminary design and develop two FLRAA virtual prototypes consisting of a FLRAA Vehicle Dynamics Model (VDM) and a FLRAA Portable Crewstation (FPC) to support system and subsystem analysis and testing. This includes the development and acquisition of GFE hardware and software in support of the FLRAA MTA efforts.</p> | | 42.993 | - | - |
| <p>Title: Prototype Material and Manufacturing Development</p> <p>Description: Purchasing materials, including the development and acquisition of GFE hardware and software necessary to meet FLRAA prototype materials, execution of subsystem risk reduction activities, and execution of the EMD phase of the FLRAA program, including weapon system detailed design and prototype manufacturing efforts.</p> <p>FY 2023 Plans: Initiate subsystem risk reduction engineering efforts, purchase long lead material required to meet developmental prototype delivery schedule, and continue to develop and purchase GFE hardware required for prototype integration.</p> <p>FY 2024 Plans:</p> | | - | 146.039 | 958.840 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | | Date: March 2023 |
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) B47 / Future Vertical Lift |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2022 | FY 2023 | FY 2024 |
|--|----------------|----------------|----------------|
| Complete subsystem risk reduction efforts, begin weapon system detail design preparing for the Critical Design Review, begin building FLRAA EMD prototypes one through six, continue maturing and purchasing GFE for prototype integration and developmental testing, and continue to mature critical enabling capabilities required to meet Army modernization requirements. FY 2023 to FY 2024 Increase/Decrease Statement: Increase is due to the execution of subsystem risk reduction efforts and the exercise of the EMD Option for detailed design and prototype delivery on the FLRAA weapon system development contract. | | | |
| Title: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) Description: SBIR/STTR amount in accordance with Title 15 USC 638. | - | 7.672 | - |
| FY 2023 Plans: Funding transferred in accordance with Title 15 USC § 638. FY 2023 to FY 2024 Increase/Decrease Statement: FY 2023 funding transferred in accordance with Title 15 USC § 638. | | | |
| Accomplishments/Planned Programs Subtotals | 427.709 | 210.194 | 1,027.608 |

| | FY 2022 | FY 2023 |
|--|----------------|----------------|
| Congressional Add: FLRAA Program Increase | 77.500 | - |
| FY 2022 Accomplishments: Supported the extension of Competitive Demonstration Risk Reduction (CDRR) efforts. Executed additional risk reduction activities to further mitigate preliminary design risks to include subsystem and component-level risk reduction, MOSA architecture implementation, and cybersecurity. Executed acquisition of long lead mission systems Government Furnished Equipment (GFE) required for Weapon System Development (WSD) contract efforts to further mitigate schedule risk. | | |
| Congressional Adds Subtotals | 77.500 | - |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| Line Item | FY 2022 | FY 2023 | FY 2024 | FY 2024 | FY 2024 | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
| | | | Base | OCO | Total | | | | | | |
| • A12002: Future Long Range Assault Aircraft (FLRAA) | - | - | 0.000 | - | 0.000 | - | - | 571.593 | 613.240 | Continuing | Continuing |
| • CS7: FLRAA MTA | - | 478.441 | 16.536 | - | 16.536 | 6.746 | - | - | - | 0.000 | 501.723 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | Date: March 2023 |
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| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) B47 / Future Vertical Lift |
|--|--|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>FY 2024</u> <u>Base</u> | <u>FY 2024</u> <u>OCO</u> | <u>FY 2024</u> <u>Total</u> | <u>FY 2025</u> | <u>FY 2026</u> | <u>FY 2027</u> | <u>FY 2028</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
|------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|

Remarks

Program Element 0603465A Future Vertical Lift Advanced Technology includes Joint Multi-Role Technology Demonstration (JMR-TD); supported flying demonstrator activities providing knowledge transfer from flight test, data analysis, Soldier touch points, and risk reduction activities to the FLRAA program.

Project CS7 includes all FLRAA MTA efforts from FY 2023 and beyond, which was initiated as a planned accomplishment under Project B47 in FY 2022.

Project A12002 includes all FLRAA procurement funding FY 2027 and beyond.

D. Acquisition Strategy

The Army is executing a hybrid acquisition approach to design, develop, and deliver the FLRAA weapons system. In order to support the Army's modernization strategy and concept for multi-domain operations, the FLRAA program will deliver the first aircraft to the first unit in FY 2030, with additional aircraft in FY 2031. This hybrid approach builds on the JMR-TD efforts (started in 2013); the Army's AoA (completed in July 2019); and multiple ongoing risk mitigation efforts.

The Army's risk mitigation activities ahead of the Weapon System Development have included: (1) additional conceptual design and flight envelope expansion tasks on the existing JMR-TD Technology Investment Agreement (TIA); (2) MOSA, FVL Architecture Collaboration Working Group (with participation from industry and academia) to establish a common architecture requirements framework for FLRAA and FARA system development; and (3) a CD&RR effort, awarded to two Project Agreement Holders (PAH), using an Aviation Missile and Technology Consortium (AMTC) Other Transaction Authority (OTA) agreements to provide substantiating technical documentation on weapon system designs, requirements decompositions, trade-studies, and requirements feasibility for the FLRAA Weapon System Development.

These risk reduction activities have maintained industry engagement and momentum from the JMR-TD program, inform capabilities and system requirements, and provided initial trade assessments for the final operational requirements. They also informed the final acquisition strategy, mature the Government's architecture requirements development, and transition appropriate Science & Technology investments to the PoR. CD&RR Phase II incorporated efforts leading to preliminary design using a digital engineering environment. The Army competitively awarded the Weapon System Development contract in December 2022 to one vendor with a hybrid acquisition approach. This approach includes the opportunity to employ new DoDI 5000.80 (Operation of the Middle Tier of Acquisition (MTA)) authorities along with a tailored DoDI 5000.85 (Major Capability Acquisition) acquisition strategy.

Finally, the Army is also addressing life cycle affordability, sustainability, and maintainability early in the program. The FLRAA program is employing multiple strategies including: should cost reduction opportunities, use of a digital thread from design through sustainment, and stochastic sustainment modeling. Additionally, FLRAA is one of the Army's pilot programs for life cycle intellectual property and data strategy development.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army **Date:** March 2023

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| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) B47 / Future Vertical Lift |
|--|--|--|

| Management Services (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|----------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Program Management | Various | Various : Redstone Arsenal, AL | 13.389 | 5.063 | Dec 2021 | 1.784 | Dec 2022 | 3.206 | Dec 2023 | - | | 3.206 | Continuing | Continuing | Continuing |
| Program Management-Consolidated Support Contract | C/FFPLOE | Smartonix, Inc. : Huntsville, AL | - | 5.870 | Mar 2022 | 4.677 | Mar 2023 | 3.396 | Mar 2024 | - | | 3.396 | Continuing | Continuing | Continuing |
| Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) | TBD | TBD : TBD | - | - | | 7.672 | Sep 2023 | - | | - | | - | 0.000 | 7.672 | - |
| Subtotal | | | 13.389 | 10.933 | | 14.133 | | 6.602 | | - | | 6.602 | Continuing | Continuing | N/A |

| Product Development (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|-------------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Preliminary Design and Virtual Prototype Rapid Prototyping | C/CPIF | Bell Textron Inc. : Fort Worth, TX | - | 42.993 | Dec 2022 | - | | - | | - | | - | 0.000 | 42.993 | - |
| Prototype Material - Government Furnished Equipment | Various | Various : Various/ Redstone Arsenal | - | 8.379 | Aug 2022 | 19.589 | Mar 2023 | 13.542 | Dec 2023 | - | | 13.542 | Continuing | Continuing | Continuing |
| EMD Subsystem Risk Reduction | C/Various | Bell Textron Inc. : Ft. Worth, TX | - | - | | 126.450 | May 2023 | 431.813 | Nov 2023 | - | | 431.813 | 0.000 | 558.263 | Continuing |
| Prototype Material and Manufacturing Development (EMD) | Option/ Various | Bell Textron Inc. : Various | - | - | | - | | 508.421 | Jun 2024 | - | | 508.421 | Continuing | Continuing | Continuing |
| Subtotal | | | - | 51.372 | | 146.039 | | 953.776 | | - | | 953.776 | Continuing | Continuing | N/A |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army | | | | | | | | | | | | Date: March 2023 | | | |
|--|------------------------|--|-------------|---|------------|---------|------------|---|------------|-------------|------------|------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity 2040 / 4 | | | | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | | | | Project (Number/Name) B47 / Future Vertical Lift | | | | | | | |
| Support (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Acquisition and Supportability Analysis | Various | AMCOM ALC, CCDC AvMC : Redstone Arsenal, AL | 9.583 | 3.153 | Nov 2021 | 5.448 | Nov 2022 | 7.875 | Nov 2023 | - | | 7.875 | Continuing | Continuing | Continuing |
| Engineering Services / Research Studies - Other | MIPR | Various : Huntsville, AL | 24.420 | 13.776 | Nov 2021 | 16.581 | Nov 2022 | - | | - | | - | 0.000 | 54.777 | Continuing |
| Engineering Services/ Competitive Demonstration Risk Reduction - Other | C/CS | Advanced Technology International; Sikorsky Aircraft Corp; Bell Textron Inc : Summerville, SC; Stratford, CT; Fort Worth, TX | 249.865 | 365.185 | Nov 2021 | - | | - | | - | | - | 0.000 | 615.050 | - |
| Engineering Services / Research Studies - Organic | MIPR | Various : Redstone Arsenal, AL | 12.643 | 25.760 | Mar 2022 | - | | - | | - | | - | 0.000 | 38.403 | - |
| Engineering Services / Research Studies - Other | C/FFPLOE | Georgia Tech Research Institute : Various | 13.908 | 26.241 | Dec 2021 | - | | - | | - | | - | 0.000 | 40.149 | - |
| Enterprise Logistics and Support Analysis | Various | Various : Redstone Arsenal, AL | - | - | | - | | 1.976 | Mar 2024 | - | | 1.976 | Continuing | Continuing | - |
| Engineering Services - Collaborative Efforts | MIPR | CCDC AvMC, S3I, SRD : Huntsville, AL | - | - | | 14.646 | Jan 2023 | 18.207 | Jan 2024 | - | | 18.207 | Continuing | Continuing | - |
| Engineering / Research Support Services | C/FFPLOE | Torch Technologies : Huntsville, AL | - | - | | 8.875 | Jan 2023 | 11.297 | Jan 2024 | - | | 11.297 | Continuing | Continuing | - |
| Enterprise Common Technical Support to Programs | Various | Various : Various | - | 8.789 | Aug 2022 | 4.472 | May 2023 | 12.841 | Mar 2024 | - | | 12.841 | Continuing | Continuing | - |
| Enterprise Architecture Convergence and Holistic Survivability | Various | Various : Huntsville, AL | - | - | | - | | 6.660 | Mar 2024 | - | | 6.660 | Continuing | Continuing | - |
| Adaptive Work Environment Enabling Infrastructure and Support | Various | Various : Huntsville, AL | - | - | | - | | 3.310 | Mar 2024 | - | | 3.310 | Continuing | Continuing | - |
| Subtotal | | | 310.419 | 442.904 | | 50.022 | | 62.166 | | - | | 62.166 | Continuing | Continuing | N/A |

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army **Date:** March 2023

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| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) B47 / Future Vertical Lift |
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| Event Name | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | | | | | | | | | | | | | |
|---|---------|---|---|---|---------------------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | | | | | | | | | |
| Architecture Definition and Risk Reduction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Competitive Demonstration and Risk Reduction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Source Selection Evaluation Board | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Award | | | | | ▲ Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Virtual Prototyping (MTA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Preliminary Design (MTA) and Detail Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FLRAA Virtual Prototype Deliveries (Delivered under Proj... | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Builds | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flight Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Note
The FLRAA MTA effort transitioned to Project CS7 in FY23; Virtual Prototypes are delivered under Project CS7, but will transition back to Project B47 after FLRAA MTA completion.

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army **Date:** March 2023

| | | |
|--|--|--|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) B47 / Future Vertical Lift |
|--|--|--|

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Matériel Development Decision | 1 | 2017 | 1 | 2017 |
| Analysis of Alternatives | 3 | 2017 | 4 | 2019 |
| System Specification Development | 2 | 2019 | 3 | 2021 |
| Program Documentation and Contracts Requirements Package | 2 | 2019 | 3 | 2021 |
| Architecture Definition and Risk Reduction | 3 | 2019 | 4 | 2026 |
| Competitive Demonstration and Risk Reduction | 2 | 2020 | 1 | 2023 |
| Request for Proposal Release | 4 | 2021 | 4 | 2021 |
| Proposal Preparation | 4 | 2021 | 4 | 2021 |
| Source Selection Evaluation Board | 3 | 2021 | 2 | 2023 |
| Contract Award | 1 | 2023 | 1 | 2023 |
| Virtual Prototyping (MTA) | 1 | 2023 | 1 | 2025 |
| Preliminary Design (MTA) and Detail Design | 1 | 2023 | 1 | 2025 |
| FLRAA Virtual Prototype Deliveries (Delivered under Project CS7) | 4 | 2024 | 4 | 2024 |
| Prototype Builds | 3 | 2024 | 3 | 2027 |
| Prototype Deliveries | 2 | 2026 | 1 | 2028 |
| Flight Testing | 2 | 2026 | 1 | 2030 |

Note
Virtual Prototyping Middle Tier Acquisition (MTA) is funded in B47 for FY 2022 and realigns to Project CS7 in FY 2023.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army **Date:** March 2023

| Appropriation/Budget Activity 2040 / 4 | | | | | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | | | | Project (Number/Name) CK7 / FARA Ecosystem | | | |
|---|-------------|---------|---------|--------------|---|---------------|---------|---------|---|---------|------------------|------------|
| COST (\$ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
| CK7: FARA Ecosystem | - | 21.183 | 22.748 | 29.151 | - | 29.151 | 30.033 | 30.975 | 31.305 | 31.655 | 0.000 | 197.050 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

This effort was previously funded under the Future Attack Reconnaissance Aircraft (FARA) Project F12 and has been restructured to a unique Project to better support the cross-cutting capabilities demonstrated within this Project and provide transparency in modernization efforts.

A. Mission Description and Budget Item Justification

The Future Vertical Lift (FVL) Project's funding builds upon prior demonstrations and provides for early opportunities to validate technologies and requirement concepts and to off-ramp, maintain, or accelerate investments, which enable modernization at the speed of relevance.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2022 | FY 2023 | FY 2024 |
|--|---------|---------|---------|
| <p>Title: FARA Ecosystems</p> <p>Description: Funding for FARA Ecosystem supports prototyping demonstration with relevant technologies in a Joint All Domain Operations (JADO) environment, which will inform FVL requirements including FARA, MOSA, and Air Launched Effects (ALE) and enable timely decisions to accelerate capabilities, transition of S&T technologies. The Army's Experimental Demonstration Gateway Event (EDGE) and Project Convergence (PC) activities will garner early user feedback informing developmental efforts.</p> <p>FY 2023 Plans: Continues FVL Ecosystem prototyping demonstration activities through primary surrogate platforms with multiple technologies. Transitions available S&T items directly into prototyping and operationally relevant demonstration activities. Continues prototyping and demonstration of architecture, automation, autonomy, and interfaces (A3I), kinetic and non-kinetic effects, and sensors. Conducts Soldier touchpoints to facilitate early feedback to inform requirements and concepts.</p> <p>FY 2024 Plans: FY2024 will build upon prior demonstrations, providing for early opportunities to validate technologies and requirement concepts and to off-ramp, maintain, or accelerate investments, to enable modernization at the speed of relevance.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2023 to FY 2024 increase to address integration activities identified from demonstrations and events.</p> | 21.183 | 21.918 | 29.151 |
| <p>Title: SBIR/STTR Transfer</p> <p>Description: Title: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) FY23 SBIR/STTR Funding transferred in accordance with Title 15 USC §638</p> | - | 0.830 | - |

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|--|-------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | Date: March 2023 |
|--|-------------------------|

| | | |
|--|--|--|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CK7 / FARA Ecosystem |
|--|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2022 | FY 2023 | FY 2024 |
|--|---------|---------|---------|
| <i>FY 2023 Plans:</i> SBIR/STTR amount in accordance with Title 15 USC 638. | | | |
| <i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> SBIR/STTR amount in accordance with Title 15 USC 638. | | | |
| Accomplishments/Planned Programs Subtotals | 21.183 | 22.748 | 29.151 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>FY 2024</u> <u>Base</u> | <u>FY 2024</u> <u>OCO</u> | <u>FY 2024</u> <u>Total</u> | <u>FY 2025</u> | <u>FY 2026</u> | <u>FY 2027</u> | <u>FY 2028</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| • F12: <i>Future Attack Reconnaissance Aircraft</i> | 612.065 | 446.089 | 428.865 | - | 428.865 | 657.119 | 755.427 | 1,053.756 | 1,065.513 | Continuing | Continuing |

Remarks

D. Acquisition Strategy

The FVL CFT will utilize a number of U.S. Army Combat Capability Development Centers, Other Government Agencies, Test Centers, Project Management Offices and their respective procurement and scope execution instruments to execute capability demonstrations to assess the viability of technology and inform the Ecosystems requirements and concepts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army **Date:** March 2023

| | | |
|--|--|--|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CK7 / FARA Ecosystem |
|--|--|--|

| Management Services (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| SBIR/STTR Transfer | TBD | Various : Various | - | - | | 0.830 | Sep 2023 | - | | - | | - | 0.000 | 0.830 | - |
| Subtotal | | | - | - | | 0.830 | | - | | - | | - | 0.000 | 0.830 | N/A |

| Test and Evaluation (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| FARA Ecosystem Demonstration | Various | Multiple : Multiple | - | 21.183 | Nov 2021 | 21.918 | Nov 2022 | 29.151 | Nov 2023 | - | | 29.151 | Continuing | Continuing | Continuing |
| Subtotal | | | - | 21.183 | | 21.918 | | 29.151 | | - | | 29.151 | Continuing | Continuing | N/A |

| | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | - | 21.183 | 22.748 | 29.151 | - | 29.151 | Continuing | Continuing | N/A |

Remarks
PB 2024 FARA Ecosystem Demonstration funding reflects costs associated with Experimentation and Demonstration Events, and Soldier Touch-points

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army **Date:** March 2023



| | | |
|--|--|--|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CK7 / FARA Ecosystem |
|--|--|--|

| Event Name | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| FVL Acquisition Informed by Risk and Technology Opportun... | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY22 Experimental Demonstration Gateway Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY22 Project Convergence | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY23 Experimental Demonstration Gateway Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY23 Project Convergence | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY24 Experimental Demonstration Gateway Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY24 Project Convergence | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY25 Experimental Demonstration Gateway Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY25 Project Convergence | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY26 Experimental Demonstration Gateway Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY 26 Project Convergence | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY 27 Experimental Demonstration Gateway Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FY 27 Project Convergence | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army **Date:** March 2023

| | | |
|--|--|--|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CK7 / FARA Ecosystem |
|--|--|--|

| Event Name | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| FY 28 Experimental Demonstration Gateway Event | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| FY 28 Project Convergence | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army **Date:** March 2023

| | | |
|--|--|--|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CK7 / FARA Ecosystem |
|--|--|--|

Schedule Details

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| FVL Acquisition Informed by Risk and Technology Opportunities | 2 | 2022 | 4 | 2028 |
| FY22 Experimental Demonstration Gateway Event | 3 | 2022 | 3 | 2022 |
| FY22 Project Convergence | 4 | 2022 | 4 | 2022 |
| FY23 Experimental Demonstration Gateway Event | 3 | 2023 | 3 | 2023 |
| FY23 Project Convergence | 4 | 2023 | 4 | 2023 |
| FY24 Experimental Demonstration Gateway Event | 3 | 2024 | 3 | 2024 |
| FY24 Project Convergence | 4 | 2024 | 4 | 2024 |
| FY25 Experimental Demonstration Gateway Event | 3 | 2025 | 3 | 2025 |
| FY25 Project Convergence | 4 | 2025 | 4 | 2025 |
| FY26 Experimental Demonstration Gateway Event | 3 | 2026 | 3 | 2026 |
| FY 26 Project Convergence | 4 | 2026 | 4 | 2026 |
| FY 27 Experimental Demonstration Gateway Event | 3 | 2027 | 3 | 2027 |
| FY 27 Project Convergence | 4 | 2027 | 4 | 2027 |
| FY 28 Experimental Demonstration Gateway Event | 3 | 2028 | 3 | 2028 |
| FY 28 Project Convergence | 4 | 2028 | 4 | 2028 |

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army **Date:** March 2023

| Appropriation/Budget Activity 2040 / 4 | | | | | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | | | | Project (Number/Name) CS7 / FLRAA MTA | | | |
|---|-------------|---------|---------|--------------|---|---------------|---------|---------|--|---------|------------------|------------|
| COST (\$ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
| CS7: FLRAA MTA | - | - | 478.441 | 16.536 | - | 16.536 | 6.746 | - | - | - | 0.000 | 501.723 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The Army's use of Middle Tier of Acquisition (MTA) authorities for Future Long Range Assault Aircraft (FLRAA) transitions work completed during the Competitive Demonstration and Risk Reduction effort to support three priority efforts: (1) completion of the rapid prototyping for the delta Preliminary Design Review; (2) deliver two virtual prototypes including a vehicle dynamic model and portable crew station; and (3) support the requirements for Milestone B certification under 10 U.S.C. 2366b.

Funds will provide for the completion of the FLRAA weapon system preliminary design to include development of a digital backbone architecture to meet modular open system approach (MOSA) objectives. The development and delivery of two virtual prototypes will directly support early user involvement at the Air Maneuver Battle Lab (AMBL), the Combat Aviation Brigade Architecture Integration Lab (CABAIL), and also support system and subsystem analysis and testing.

The total cost of the FLRAA Middle Tier of Acquisition effort under this Project is estimated to be \$501.723 million RDT&E from FY23 to FY25. The remainder of the FLRAA MTA is fully funded across the Future Years Defense Program.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2022 | FY 2023 | FY 2024 |
|--|---------|---------|---------|
| <p>Title: Middle Tier of Acquisition (MTA) Preliminary Design and Virtual Prototype Rapid Prototyping</p> <p>Description: The FLRAA MTA program supports finalization of the preliminary design through execution of the delta Preliminary Design Review (dPDR) to complete any outstanding tasks required to ensure any deficiencies identified during the Competitive Demonstration and Risk Reduction (CD&RR) effort are addressed, preliminary designs are sufficiently documented, and all mission system solutions are identified and incorporated into the design. Additionally, MTA efforts support delivery of two (2) FLRAA portable crew stations (FPC) and a Vehicle Dynamics Model (VDM) completing virtual prototype design activities</p> <p>FY 2023 Plans: Completes delta Preliminary Design Review work initiated under Project B47 and continues work on the FLRAA Virtual Prototypes, Portable Crew Station Trainers, and the Vehicle Dynamics Model.</p> <p>FY 2024 Plans: Completes design updates resulting in a successful delta Preliminary Design Review, continues design updates to the FLRAA Virtual Prototypes, and delivers the FLRAA Portable Crew Station (FPC) Trainers.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Decrease due to completion of preliminary design.</p> | - | 427.255 | 16.536 |
| <p>Title: Small Business Innovative Research (SBIR) / Small Business Technology Transfer (STTR) Transfer</p> | - | 16.186 | - |

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army **Date:** March 2023

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CS7 / FLRAA MTA |
|--|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2022 | FY 2023 | FY 2024 |
|---|---------|---------|---------|
| Description: Funding transferred in accordance with Title 15 USC § 638 | | | |
| FY 2023 Plans: Funding transferred in accordance with Title 15 USC § 638 | | | |
| FY 2023 to FY 2024 Increase/Decrease Statement: FY 2023 funding transferred in accordance with Title 15 USC § 638 | | | |
| Accomplishments/Planned Programs Subtotals | - | 443.441 | 16.536 |

| | FY 2022 | FY 2023 |
|---|---------|---------|
| Congressional Add: FLRAA Program Increase | - | 23.000 |
| FY 2023 Plans: Execute additional scope on the FLRAA Weapon System Development contract to include incorporating design provisions for MEDEVAC, Air Launched Effects data links, Aviation Mission Common Server, and Heads Up display capabilities. Further refine and mature Government Furnished Equipment and associated models to support the FLRAA MTA program execution. | | |
| Congressional Add: Modular Communication, Command, and Control Suite | - | 12.000 |
| FY 2023 Plans: Mature technologies and models supporting modular communication, command, and control mounted form factor prototyping efforts. | | |
| Congressional Adds Subtotals | - | 35.000 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>FY 2024</u> | <u>FY 2024</u> | <u>FY 2024</u> | <u>FY 2025</u> | <u>FY 2026</u> | <u>FY 2027</u> | <u>FY 2028</u> | <u>Cost To</u> | <u>Complete</u> | <u>Total Cost</u> |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| | | | <u>Base</u> | <u>OCO</u> | <u>Total</u> | | | | | | | |
| • B47: Future Vertical Lift | 505.209 | 210.194 | 1,027.608 | - | 1,027.608 | 1,035.409 | 676.532 | 725.666 | 733.758 | | Continuing | Continuing |

Remarks
The FLRAA MTA was initiated under PE 0603801A/B47 - Future Vertical Lift in FY 2022 and was restructured into the unique Project CS7 for FY 2023 through the remainder of the MTA Program.

D. Acquisition Strategy
The Future Long Range Assault Aircraft (FLRAA), Future Vertical Lift (FVL) Capability Set Three (CS3) is the program that will develop the next generation of affordable vertical lift tactical assault / utility aircraft for the Army.

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| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | Date: March 2023 |
|--|-------------------------|

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CS7 / FLRAA MTA |
|--|--|---|

The FLRAA MTA program supports finalization of the preliminary design through execution of the delta Preliminary Design Review (dPDR) to complete any outstanding tasks required to ensure any deficiencies identified during the Competitive Demonstration and Risk Reduction (CD&RR) effort are addressed, preliminary designs are sufficiently documented, and all mission system solutions are identified and incorporated into the design. Additionally, FLRAA MTA efforts support design and development of FLRAA virtual prototypes consisting of a FLRAA Vehicle Dynamic Model (VDM) and FLRAA Portable Crew stations (FPC). The VDM will be used in conjunction with an FPC prototype simulator integrated within the CABAIL and the AMBL capabilities. The VDM will perform hardware-in-the-loop tests during the design phase for early validation by offline simulation; conduct early Tactics, Techniques, and Procedures (TTPs) experimentation prior to user evaluations; and to participate in Army warfighting exercises for development of Multi-Domain Operation doctrine and concepts.

The follow-on physical weapons system development will leverage the outcomes of the FLRAA MTA program to provide the Joint Force with a capability that possesses transformational increases in speed, range, and maneuverability to allow the Army to retain the freedom of maneuver and win in Multi Domain Operations (MDO). This medium lift tactical assault and medical evacuation (MEDEVAC) aircraft will augment the Army's H-60 Black Hawk utility helicopter fleet to provide Combat Aviation Brigades with long-range, high-speed options that are survivable in contested environments.

The Army is executing a hybrid acquisition approach to design, develop, and deliver the FLRAA weapons system. In order to support the Army's modernization strategy and concept for multi-domain operations, the FLRAA program will deliver the first aircraft to the first unit in FY 2030, with additional aircraft in FY 2031. This hybrid approach builds on the JMR-TD efforts (started in 2013), the Army's AoA (completed in July 2019), and multiple ongoing risk mitigation efforts.

The Army's risk mitigation activities ahead of the MTA and Weapon System Development include: (1) additional conceptual design and flight envelope expansion tasks on the existing JMR-TD Technology Investment Agreements (TIA); (2) MOSA, FVL Architecture Collaboration Working Group (with participation from industry and academia) to establish a common architecture requirements framework for FLRAA and FARA system development; and (3) a CD&RR effort, awarded to two Project Agreement Holders (PAH), using an AMTC OTA agreements to provide substantiating technical documentation on weapon system designs, requirements decompositions, trade-studies, and requirements feasibility for the FLRAA PoR. These risk reduction activities maintain industry engagement and momentum from the JMR-TD program, inform capabilities and system requirements, and provide initial trade assessments for the final operational requirements. They also inform the final acquisition strategy, mature the Government's architecture requirements development, and transition appropriate Science and Technology investments to the PoR. CD&RR Phase II incorporated efforts leading to preliminary design using a digital engineering environment. The Army competitively awarded the Weapon System Development contract In December 2022 to one vendor with a hybrid acquisition approach.

This approach includes the opportunity to employ new DoDI 5000.80 (Operation of the Middle Tier of Acquisition (MTA)) authorities along with a tailored DoDI 5000.85 (Major Capability Acquisition) acquisition strategy. Finally, the Army is also addressing life cycle affordability, sustainability, and maintainability early in the program. The FLRAA program is employing multiple strategies including should cost reduction opportunities, use of a digital thread from design through sustainment, and stochastic sustainment modeling. FLRAA is also one of the Army's pilot programs for life cycle intellectual property and data strategy development.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army **Date:** March 2023

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CS7 / FLRAA MTA |
|--|--|---|

| Management Services (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Small Business Innovative Research (SBIR) / Small Business Technology Transfer (STTR) Transfer | TBD | TBD : TBD | - | - | | 16.186 | Sep 2023 | - | | - | | - | 0.000 | 16.186 | - |
| Subtotal | | | - | - | | 16.186 | | - | | - | | - | 0.000 | 16.186 | N/A |

| Product Development (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|------------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| FLRAA MTA delta Preliminary Design and Virtual Prototyping | C/Various | Bell Textron Inc. : Fort Worth, TX | - | - | | 391.992 | Dec 2022 | 16.536 | Nov 2023 | - | | 16.536 | 6.708 | 415.236 | - |
| FLRAA MTA Government Furnished Equipment | Various | Various : Various | - | - | | 37.295 | Mar 2023 | - | | - | | - | 0.000 | 37.295 | - |
| Subtotal | | | - | - | | 429.287 | | 16.536 | | - | | 16.536 | 6.708 | 452.531 | N/A |

| Support (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| FLRAA MTA Engineering and Technical Services | Various | Various : Redstone Arsenal, AL | - | - | | 32.968 | Mar 2023 | - | | - | | - | 0.000 | 32.968 | - |
| Subtotal | | | - | - | | 32.968 | | - | | - | | - | 0.000 | 32.968 | N/A |

| | | | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | - | - | 478.441 | 16.536 | - | 16.536 | 6.708 | 501.685 | N/A |

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army **Date:** March 2023

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CS7 / FLRAA MTA |
|--|--|---|

| Event Name | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | |
|--------------------------------------|---------|---|---|---|-------------------------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| FLRAA delta Preliminary Design (MTA) | | | | | Preliminary Design | | | | | | | | | | | | | | | | | | | | | | | |
| FLRAA Virtual Prototyping (MTA) | | | | | Virtual Prototyping | | | | | | | | | | | | | | | | | | | | | | | |
| FLRAA Virtual Prototype Delivery 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FLRAA Virtual Prototype Delivery 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army **Date:** March 2023

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) CS7 / FLRAA MTA |
|--|--|---|

Schedule Details

| Events | Start | | End | |
|--------------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| FLRAA delta Preliminary Design (MTA) | 1 | 2023 | 2 | 2024 |
| FLRAA Virtual Prototyping (MTA) | 1 | 2023 | 1 | 2025 |
| FLRAA Virtual Prototype Delivery 1 | 4 | 2024 | 4 | 2024 |
| FLRAA Virtual Prototype Delivery 2 | 4 | 2024 | 4 | 2024 |

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| | | | | | | | | | | | | |
|--|--------------------|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|-------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | | | | | | | | | | Date: March 2023 | | |
| Appropriation/Budget Activity 2040 / 4 | | | | | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | | | | Project (Number/Name) F12 / Future Attack Reconnaissance Aircraft | | | |
| COST (\$ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
| F12: Future Attack Reconnaissance Aircraft | - | 612.065 | 446.089 | 428.865 | - | 428.865 | 657.119 | 755.427 | 1,053.756 | 1,065.513 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The Future Attack Reconnaissance Aircraft (FARA) Project's funding provides for the development of a Capability Set 1 aircraft system within the Future Vertical Lift (FVL) family of systems. FVL Capability Set 1 aircraft will conduct attack/reconnaissance missions in support of the Army's modernization objective of conducting Joint All Domain Operations (JADO). FARA will support the Army, including Special Operations Command (USSOCOM) and the Joint Force, in a contested, near peer threat environment. The FARA platform will fill the gap in capability for light weight attack/reconnaissance while significantly increasing speed, range, survivability, and lethality, providing Combatant Commanders with greatly increased tactical, operational and strategic capabilities.

Funding supports the development and integration of Government Furnished Equipment (GFE). FARA will be powered by Improved Turbine Engine (ITE), with maximum cruise airspeed greater than or equal to 180 KTAS, an integrated Area Weapons System (AWS), Modular Effects Launcher (MEL) for Air Launched Effects (ALE) and Long Range Precision Munition (LRPM), and Modular Open System Approach (MOSA) digital backbone.

The FVL Capability Set 1 Initial Capabilities Requirements Document (ICRD) was approved in July 2018 under the name Future Attack Reconnaissance Aircraft (FARA). An Abbreviated Capability Development Document (A-CDD) was approved on 9 Apr 2021 and updated on 15 Aug 2022. The Acquisition Approach and Determination and Findings for Other Transaction Authority for Prototyping agreements were approved on 1 February 2019 by the Acting Under Secretary of Defense (Acquisition and Sustainment) to execute a Competitive Prototyping effort.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2022 | FY 2023 | FY 2024 |
|---|----------------|----------------|----------------|
| Title: Future Attack Reconnaissance Aircraft | 607.065 | 420.172 | 428.865 |
| Description: Design, build, and test Competitive Prototype (CP) aircraft to rapidly develop and field a Multi-Domain Operations capable attack/reconnaissance vertical lift aircraft. | | | |
| FY 2023 Plans: Continues support of hardware (HW) and software (SW) development, component/subsystem Assembly, Integration and Test (AI&T), SW and HW In-the-Loop efforts, GFE planning and MOSA development in preparation for final AI&T of the CP aircraft and supports CP Flight Demonstration. Continues Increment #1 Weapons System preliminary design (air vehicle and mission systems development) with an in-process design review. Supports the first of two Open Systems Verification Demonstrations that will verify each vendors compliance with MOSA standards. Continues support of documentation requirements for the Program of Record (POR) and supports an Engineering and Manufacturing Development (EMD) Draft Request For Proposal (RFP) release. Initiates | | | |

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|--|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | | Date: March 2023 |
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) F12 / Future Attack Reconnaissance Aircraft |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2022 | FY 2023 | FY 2024 |
|---|----------------|----------------|----------------|
| <p>formation and preparation of the Source Selection Evaluation Board (SSEB) for EMD contract award and down selection to one vendor.</p> <p>Supports early program analyses of life cycle affordability, sustainability, and maintainability. The FARA program is employing multiple strategies including should cost reduction opportunities, use of a digital thread from design through sustainment, and stochastic sustainment modeling.</p> <p>FY 2024 Plans: Continues support of hardware (HW) and software (SW) development, component/subsystem Assembly, Integration and Test (AI&T), SW and HW In-the-Loop efforts, GFE planning/development and MOSA development in preparation for final AI&T of the CP aircraft and conduct CP Flight Demonstration. Continues Increment #1 Weapons System preliminary development and design (air vehicle and mission systems development) culminating in- a Preliminary Design Review (PDR) in FY 2025. Supports the second and final Open Systems Verification Demonstrations that will verify each vendors compliance with MOSA standards. Supports the flight testing efforts associated with the FARA CP aircraft. Continues support of documentation requirements for the Program of Record (POR). Supports release of the final EMD RFP and initiates the SSEB review process for EMD contract award and down selection to one vendor.</p> <p>Supports early program analyses of life cycle affordability, sustainability, and maintainability. The FARA program is employing multiple strategies including should cost reduction opportunities, use of a digital thread from design through sustainment, and stochastic sustainment modeling.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding changes reflects planned lifecycle of this effort.</p> | | | |
| <p>Title: SBIR/STTR Transfer</p> <p>Description: Title: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) FY23 SBIR/STTR Funding transferred in accordance with Title 15 USC §638</p> <p>FY 2023 Plans: SBIR/STTR amount in accordance with Title 15 USC 638.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: SBIR/STTR amount in accordance with Title 15 USC 638.</p> | - | 15.917 | - |
| Accomplishments/Planned Programs Subtotals | 607.065 | 436.089 | 428.865 |

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army **Date:** March 2023

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) F12 / Future Attack Reconnaissance Aircraft |
|--|--|---|

| | FY 2022 | FY 2023 |
|---|---------|---------|
| Congressional Add: FARA All Electrical Flight Controls | 5.000 | 10.000 |
| FY 2022 Accomplishments: Support analysis of Flight Control Systems for FARA Air Vehicle / Weapon System Preliminary Design. | | |
| FY 2023 Plans: Support analysis of Flight Control Systems for FARA Air Vehicle / Weapon System Preliminary Design. | | |
| Congressional Adds Subtotals | 5.000 | 10.000 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • B47: Future Vertical Lift | 505.209 | 210.194 | 1,027.608 | - | 1,027.608 | 1,035.409 | 676.532 | 725.666 | 733.758 | Continuing | Continuing |
| • A12001: Future Attack Recon Aircraft | - | - | 0.000 | - | 0.000 | - | - | 81.717 | 82.507 | Continuing | Continuing |
| • CK7: FARA Ecosystem | 21.183 | 22.748 | 29.151 | - | 29.151 | 30.033 | 30.975 | 31.305 | 31.655 | 0.000 | 197.050 |

Remarks

A12001: FARA funding line represents the follow on procurement effort associated with Army Program Element (APE) 0603801A.

D. Acquisition Strategy

The Future Attack Reconnaissance Aircraft (FARA) program is executing a streamlined acquisition approach leveraging modern tools, processes, and industry innovation, while employing efficiencies provided by the Army's modernization enterprise and Cross Functional Team (CFT) framework. The aircraft developed under this program will utilize a MOSA approach, which will enable more efficient and cost effective mission equipment integration throughout the lifecycle of the weapon system.

The Army is executing a two-phased FARA Competitive Prototyping (CP) effort from FY 2019 through Milestone B using Other Transaction Authority for Prototyping (OTAP). The scope of this effort includes prototype design and fabrication process refinement, subsystem development and representative system level testing, flight control and mission processor software development/testing, development of systems integration labs, development or modification of test fixtures and facilities, preparation of test plans and reports, the generation of airworthiness documentation, and testing of all processes and subsystems within the prototype aircraft.

The initial design and risk reduction phase was awarded in April 2019 to five industry performers. Phase two began in March 2020 with two of the five industry performers selected to proceed to final detailed design and the development, integration and test of a flyable prototype air vehicle. Phase two will culminate with flight testing of the FARA Competitive Prototypes to inform Milestone B and entry to EMD.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army **Date:** March 2023

| Appropriation/Budget Activity | R-1 Program Element (Number/Name) | Project (Number/Name) |
|--------------------------------------|--|--|
| 2040 / 4 | PE 0603801A / <i>Aviation - Adv Dev</i> | F12 / <i>Future Attack Reconnaissance Aircraft</i> |

The Competitive Prototype effort will inform full FARA Weapon System requirements development process, and will develop the data needed to reduce the risks for full Weapon System design, integration, testing, and qualification to be completed during the FARA EMD phase. An OTAP modification was executed with the two performers to enable continued weapons system preliminary design maturation and the conduct of a Weapons System Preliminary Design Review prior to a Milestone B decision.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army **Date:** March 2023

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) F12 / Future Attack Reconnaissance Aircraft |
|--|--|---|

| Management Services (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| SBIR/STTR Transfer | TBD | Various : Various | - | - | | 15.917 | Sep 2023 | - | | - | | - | 0.000 | 15.917 | Continuing |
| PM FARA System Engineering and Program Mangement | Various | Various : Redstone Arsenal, AL | 22.131 | 17.091 | Mar 2022 | 20.582 | Mar 2023 | 21.443 | Mar 2023 | - | | 21.443 | Continuing | Continuing | Continuing |
| Subtotal | | | 22.131 | 17.091 | | 36.499 | | 21.443 | | - | | 21.443 | Continuing | Continuing | N/A |

| Product Development (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|---|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Competitive Prototype (CP) Execution - Other Vendors | C/Various | CCDC AvMC : Redstone Arsenal, AL | 24.016 | - | | - | | - | | - | | - | 0.000 | 24.016 | - |
| Competitive Prototype (CP) & Weapons System Preliminary Design - Raider X | C/CS | Sikorsky Aircraft Corporation : Stratford, CT | 353.500 | 316.588 | Oct 2021 | 195.630 | Oct 2022 | 176.121 | Oct 2023 | - | | 176.121 | 0.000 | 1,041.839 | - |
| Competitive Prototype (CP) & Weapons System Preliminary Design - 360 Invictus | C/CS | Bell Textron, Inc. : Fort Worth, TX | 323.348 | 178.487 | Oct 2021 | 133.289 | Oct 2022 | 139.425 | Oct 2022 | - | | 139.425 | 0.000 | 774.549 | - |
| GFE - Improved Turbine Engine Development - Single Engine Configuration | C/CPIF | PM ATE : Redstone Arsenal | 26.740 | 16.670 | Dec 2021 | 6.113 | Dec 2022 | 7.466 | Dec 2023 | - | | 7.466 | Continuing | Continuing | Continuing |
| GFE - Modular Effects Launcher Development | Various | CCDC AvMC : Redstone Arsenal, AL | 22.603 | 16.544 | Dec 2021 | 12.316 | Dec 2022 | 17.182 | Dec 2022 | - | | 17.182 | Continuing | Continuing | Continuing |
| GFE - Area Weapon System Development | Various | CCDC AC : Picatinny Arsenal, NJ | 20.742 | 5.345 | Dec 2021 | 2.256 | Dec 2022 | 3.647 | Dec 2023 | - | | 3.647 | Continuing | Continuing | Continuing |
| GFE - Radar Development | Various | CCDC C5ISR : Aberdeen Proving Ground, MD | 6.509 | 0.899 | Mar 2022 | - | | - | | - | | - | 0.000 | 7.408 | Continuing |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army **Date:** March 2023

| | | |
|--|--|---|
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) F12 / Future Attack Reconnaissance Aircraft |
|--|--|---|

| Product Development (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|----------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| GFE - Integration and Support | TBD | Various : Various | - | 6.788 | | 7.964 | | 14.334 | | - | | 14.334 | Continuing | Continuing | Continuing |
| Modular Open System Approach Development | Various | CCDC AvMC : Redstone Arsenal, AL | 42.288 | 23.573 | Dec 2021 | 12.646 | Dec 2022 | 13.165 | Dec 2023 | - | | 13.165 | Continuing | Continuing | Continuing |
| Subtotal | | | 819.746 | 564.894 | | 370.214 | | 371.340 | | - | | 371.340 | Continuing | Continuing | N/A |

| Support (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Engineering Services Support - CP Air Vehicle Dev & Test | MIPR | Redstone Test Center, CCDC-AvMC: : Redstone Arsenal, AL | 8.723 | 3.805 | Dec 2021 | 4.873 | Dec 2022 | 7.251 | Dec 2023 | - | | 7.251 | 0.000 | 24.652 | Continuing |
| Engineering Services Support - CP Airworthiness | MIPR | CCDC-AvMC-SRD: : Redstone Arsenal, AL | 21.239 | 15.417 | Mar 2022 | 18.411 | Mar 2023 | 19.535 | Mar 2024 | - | | 19.535 | 0.000 | 74.602 | Continuing |
| Simulation, Studies, and Analysis | TBD | Various : Various | 10.091 | 5.858 | Mar 2022 | 6.092 | Mar 2023 | 9.296 | Mar 2024 | - | | 9.296 | Continuing | Continuing | Continuing |
| FARA All Electrical Flight Controls | TBD | Various : Various | - | 5.000 | Aug 2022 | 10.000 | | - | | - | | - | 0.000 | 15.000 | - |
| Subtotal | | | 40.053 | 30.080 | | 39.376 | | 36.082 | | - | | 36.082 | Continuing | Continuing | N/A |

| | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 881.930 | 612.065 | 446.089 | 428.865 | 428.865 | Continuing | Continuing | N/A |

Remarks
Under the Other Transaction Authorities for Prototyping (OTAP), five incrementally funded agreements were awarded in April 2019, which have payments based on performance milestones. Funding will be incrementally added to the existing awards by modification as negotiated with each performer. In March 2020, two of the five performers were selected for continued execution through final design, prototype build, and flight testing; the other three performers were issued a stop work order and ceased to receive additional funding. In FY 2023, the OTAP agreements were modified to incorporate additional scope for Weapons System Preliminary Design maturation efforts and the performance period was extended to support a Milestone B decision.

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| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army | | Date: March 2023 |
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0603801A / Aviation - Adv Dev | Project (Number/Name) F12 / Future Attack Reconnaissance Aircraft |

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| OTAP Competitive Prototype (CP) Design (10 U.S.C. 2371b) | 3 | 2019 | 2 | 2020 |
| OTAP CP - Down Select to 2 Performers (10 U.S.C. 2371b) | 2 | 2020 | 2 | 2020 |
| OTAP CP Build (10 U.S.C. 2371b) | 3 | 2020 | 4 | 2025 |
| OTAP CP Test (10 U.S.C. 2371b) | 4 | 2024 | 4 | 2025 |
| Milestone B Documentation Dev. and Coord. | 1 | 2021 | 1 | 2026 |
| Contract Requirement Package Development | 1 | 2021 | 3 | 2023 |
| EMD Request for Proposal Release | 2 | 2024 | 2 | 2024 |
| EMD Proposal Submission/Evaluation | 3 | 2024 | 1 | 2026 |
| Weapons System PDR | 2 | 2025 | 2 | 2025 |
| Milestone B | 1 | 2026 | 1 | 2026 |
| EMD Contract Award | 2 | 2026 | 2 | 2026 |
| EMD Phase | 2 | 2026 | 2 | 2032 |
| Weapons System CDR | 2 | 2027 | 2 | 2027 |