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**Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Army** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / <i>Aviation - Adv Dev</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	93.885	505.890	647.937	-	647.937	789.356	913.940	921.548	1,525.379	Continuing	Continuing
B47: <i>Future Vertical Lift</i>	-	93.885	107.590	134.436	-	134.436	178.235	483.442	773.385	871.644	Continuing	Continuing
F12: <i>Future Attack Reconnaissance Aircraft</i>	-	0.000	398.300	513.501	-	513.501	611.121	430.498	148.163	653.735	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

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. The FVL objectives are increased vertical lift maneuverability, range, speed, payload, survivability, and reliability while reducing the logistical footprint. This capability will provide critical aviation support to the joint warfighter and maneuver force. FVL will integrate advanced technologies and design configurations with appropriate trades to ensure affordability.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Previous President's Budget	86.180	459.290	536.067	-	536.067
Current President's Budget	93.885	505.890	647.937	-	647.937
Total Adjustments	7.705	46.600	111.870	-	111.870
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-34.000	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	80.600	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	7.705	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-
• Adjustments to Budget Years	-	-	111.870	-	111.870

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

**Project:** B47: *Future Vertical Lift*

Congressional Add: *Competitive Demonstration Risk Reduction*

Congressional Add: *Future Attack Reconnaissance Aircraft*

FY 2019	FY 2020
-	75.600
75.400	-

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2021 Army	<b>Date:</b> February 2020
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<b>Appropriation/Budget Activity</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / <i>Aviation - Adv Dev</i>
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**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

	<b>FY 2019</b>	<b>FY 2020</b>
Congressional Add Subtotals for Project: B47	75.400	75.600
<b>Project: F12: Future Attack Reconnaissance Aircraft</b>		
Congressional Add: Future Long Range Assault Aircraft University Partnership Effort	-	5.000
Congressional Add Subtotals for Project: F12	-	5.000
Congressional Add Totals for all Projects	75.400	80.600

**Change Summary Explanation**

FY 2019, Future Long Range Assault Aircraft (FLRAA) Capability Set Three increased by \$7.628 million (Below Threshold Reprogramming) for additional staffing in acquisition, engineering, logistics, and business functionals to support development of Program of Record strategy, acquisition documentation, Contracts Requirements Package (CRP), and Competitive Demonstration Risk Reduction efforts. The Army's Future Attack Reconnaissance Aircraft (FARA) Capability Set One competitive prototyping effort was initiated in FY 2019 with a Congressional Add on Project B47 Future Vertical Lift. In FY 2020, FARA funds are requested under Project F12 Future Attack Reconnaissance Aircraft.

FLRAA FY 2020 budget increased by \$75.6 million for Competitive Demonstration Risk Reduction efforts and \$5 million for university partnership efforts. FARA FY 2020 budget decreased by \$34.0 million to align with current Competitive Prototyping efforts. FLRAA budget increase of \$5 million for university partnership efforts is aligned incorrectly to Project F12 Future Attack Reconnaissance Aircraft. This funding will be correctly re-aligned to Project B47 Future Vertical Lift for execution.

FLRAA FY 2021 budget increased by \$112.369 million for continued execution of Competitive Demonstration Risk Reduction efforts, development of the Contract Requirements Package, and initiation of the Source Selection Evaluation Board and the FARA FY 2021 budget decreased by \$0.499 million.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Army										<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 2040 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev				<b>Project (Number/Name)</b> B47 / Future Vertical Lift			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
B47: Future Vertical Lift	-	93.885	107.590	134.436	-	134.436	178.235	483.442	773.385	871.644	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, non combatant evacuation operation, and combat search and rescue operations in support of 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 significantly increased 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. Fiscal Year (FY) 2019 funded completion of the AoA, continued to support initiation of program documentation, and funded establishment of an FVL Architecture Risk Reduction effort in support of Modular Open Systems Approach (MOSA) for both FLRAA and the Future Attack Reconnaissance Aircraft. FY 2020 funding will support continuation of the FVL Architecture Risk Reduction effort; support life cycle affordability efforts; initiate planning and proposal evaluations of the Competitive Demonstration Risk Reduction efforts; and support the completion of key program documents to include the Program Strategy, Weapon System Specification, Systems Engineering Plan, Life Cycle Sustainment Plan (LCSP) and Contract Requirements Package (CRP). FY 2021 funding supports the continued execution of the Competitive Demonstration Risk Reduction and MOSA efforts, development of the CRP, and the initiation of Source Selection Evaluation Board (SSEB).

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

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<b>Title:</b> FVL Analysis of Alternatives (AoA)	1.190	-	-
<b>Description:</b> FLRAA AoA modeling, simulation, and analysis performed by United States Army Training and Doctrine Command (U.S. TRADOC) Analysis Center, U.S. Army Materiel Systems Analysis Activity and other supporting agencies.			
<b>Title:</b> Engineering Services / Research Studies	5.173	22.085	121.926
<b>Description:</b> Engineering research, planning, modeling, and analysis. Documentation and reviews supporting the FLRAA acquisition program.			
<b>FY 2020 Plans:</b> Supported completed and staffed key Program documentation to include the Weapon System Specification and Systems Engineering Plan and continued developing the Test and Evaluation Master Plan and CRP.			
<b>FY 2021 Plans:</b>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Army		<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> B47 / Future Vertical Lift		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
Continue execution of Competitive Demonstration Risk Reduction and MOSA efforts, support SSEB, and support key events leading to contract award. <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase technical staff to support efforts leading to contract award.				
<b>Title:</b> Program Management <b>Description:</b> Oversight and Management of the FLRAA acquisition program. <b>FY 2020 Plans:</b> Started the initiate execution of Competitive Demonstration Risk Reduction activities, completed and staffed key Program documentation to include the Program Strategy, and continued developing the CRP <b>FY 2021 Plans:</b> Continue to complete efforts to refine affordability, execute of Competitive Demonstration Risk Reduction, release Request for Proposal, and execute SSEB. <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase Acquisition staff to support efforts leading to contract award.		9.654	5.063	7.326
<b>Title:</b> Supportability Analysis and Acquisition Support <b>Description:</b> Acquisition and supportability research, planning, modeling, analysis, documentation and reviews supporting the FLRAA acquisition program. <b>FY 2020 Plans:</b> Supported efforts to refine affordability refinement, completed the staffing of the Life Cycle Sustainment Plan (LCSP) and continued developing the CRP. <b>FY 2021 Plans:</b> Continue to support the developing of the CRP and the initiation of the SSEB. <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase Logistics staff to support efforts leading to contract award.		2.468	3.526	5.184
<b>Title:</b> FY 2020 SBIR/STTR Transfer <b>Description:</b> Funding transferred in accordance with Title 15 USC ?638 <b>FY 2020 Plans:</b>		-	1.316	-

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**Exhibit R-2A, RDT&E Project Justification:** PB 2021 Army **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> B47 / Future Vertical Lift
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2019	FY 2020	FY 2021
Funding transferred in accordance with Title 15 USC ?638			
<b><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i></b>			
Funding transferred in accordance with Title 15 USC ?638			
<b>Accomplishments/Planned Programs Subtotals</b>	18.485	31.990	134.436

	FY 2019	FY 2020
<b><i>Congressional Add:</i></b> Competitive Demonstration Risk Reduction	-	75.600
<b><i>FY 2020 Plans:</i></b> Competitive Demonstration Risk Reduction		
<b><i>Congressional Add:</i></b> Future Attack Reconnaissance Aircraft	75.400	-
<b><i>FY 2019 Accomplishments:</i></b> Future Attack Reconnaissance Aircraft		
<b>Congressional Adds Subtotals</b>	75.400	75.600

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

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 313: Adv Rotarywing Veh Tech	109.610	-	0.000	-	0.000	-	-	-	-	0.000	109.610

**Remarks**  
 Program Element (PE) 0603003A Aviation Advanced Technology Project 313 Advanced Rotary-wing Vehicle Technology funds Army Science & Technology (S&T) projects to mature, demonstrate and integrate components, subsystems and systems for vertical lift and unmanned air vehicle technologies. These projects enables Army aviation modernization and reduce risk for FLRAA.

**D. Acquisition Strategy**

The Army is executing an accelerated 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 a first unit equipped in FY 2030. This accelerated approach builds on the Joint Multi-Role Technology Demonstration (JMR-TD) efforts (ongoing since 2013); the Army's AoA (completed in July 2019); and multiple ongoing risk mitigation efforts.

The Army's risk mitigation activities ahead of the Program of Record (PoR) include: (1) additional conceptual design and flight envelop expansion tasks on the four existing JMR-TD Technology Investment Agreements; (2) a modular open systems approach (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 Competitive Demonstration and Risk Reduction (CD&RR) effort 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 PoR.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2021 Army **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / <i>Aviation - Adv Dev</i>	<b>Project (Number/Name)</b> B47 / <i>Future Vertical Lift</i>
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These risk reduction activities maintain industry engagement & momentum from the JMR-TD S&T 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 S&T data and technologies to the PoR. The Army plans to initiate the PoR in FY 2022 with a hybrid acquisition approach. This approach includes the opportunity to employ new DODI 5000.80 authorities along with a tailored DODI 5000.02 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 2021 Army** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> B47 / Future Vertical Lift
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<b>Management Services (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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	-	3.060	Dec 2018	5.063	Dec 2019	7.326	Dec 2020	-		7.326	Continuing	Continuing	Continuing
Program Management	MIPR	Army Contracting Command : Redstone Arsenal, AL	-	0.044	May 2019	-		-		-		-	Continuing	Continuing	-
Program Management	MIPR	Aviation and Missile Command : Redstone Arsenal, AL	-	0.734	Oct 2018	-		-		-		-	Continuing	Continuing	-
Program Management	MIPR	Aviation Missile Center Combat Capabilities Combat Command : Redstone Arsenal, AL	-	2.399	Nov 2018	-		-		-		-	Continuing	Continuing	-
Program Management	Option/ FFP	Torch Technologies, Avion Solutions, various : Redstone Arsenal, AL	-	4.500	Dec 2018	-		-		-		-	Continuing	Continuing	-
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		1.316		-		-		-	0.000	1.316	-
<b>Subtotal</b>			-	10.737		6.379		7.326		-		7.326	Continuing	Continuing	N/A

<b>Product Development (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Analysis of Alternatives (AoA)	TBD	TRADOC Analysis Center : Fort Leavenworth, KS	-	1.190	Nov 2018	-		-		-		-	0.000	1.190	-
<b>Subtotal</b>			-	1.190		-		-		-		-	0.000	1.190	N/A

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> B47 / Future Vertical Lift
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<b>Support (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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 / Research Studies - Organic	MIPR	VARIOUS : VARIOUS	-	0.039	Nov 2018	13.114	Feb 2020	2.268	Mar 2021	-		2.268	Continuing	Continuing	Continuing
Engineering Services/ Competitive Demonstration Risk Reduction - Other	C/TBD	TBD : TBD	-	-		75.600	Mar 2020	-		-		-	0.000	75.600	-
Engineering Services / Research Studies - Other	C/CPFF	Georgia Tech Research Institute : Huntsville, AL	-	2.917	Aug 2019	8.971	Mar 2020	-		-		-	Continuing	Continuing	Continuing
Engineering Services / Research Studies - Other	Option/ FFP	various : Huntsville, AL	-	0.512	May 2019	-		119.658	Mar 2021	-		119.658	0.000	120.170	Continuing
Engineering Services / Research Studies - Other	Option/ FFP	John H Northrup & Associates : Huntsville, AL	-	0.227	Jun 2019	-		-		-		-	0.000	0.227	-
Acquisition and Supportability Analysis	C/Various	Army Materiel Command / Army Contracting Command/Army Future Command : Redstone Arsenal, AL	-	2.468	Dec 2018	3.526	Nov 2019	5.184	Nov 2020	-		5.184	Continuing	Continuing	Continuing
Future Attack Reconnaissance Aircraft Execution	C/Various	CCDC AvMC : Redstone Arsenal, AL	-	75.400	Jun 2019	-		-		-		-	0.000	75.400	-
FY 2019 SBIR / STTR Transfer	TBD	TBD : TBD	-	0.395	Nov 2019	-		-		-		-	0.000	0.395	-
<b>Subtotal</b>			-	81.958		101.211		127.110		-		127.110	Continuing	Continuing	N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract		
<b>Project Cost Totals</b>		-	93.885	107.590	134.436	-		134.436	Continuing	Continuing	N/A

**Remarks**

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**Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> B47 / Future Vertical Lift
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Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
Analysis of Alternatives	[Redacted]																											
Weapons System Specification Development	[Redacted]																											
Program Documentation and Contracts Requirements Package	[Redacted]																											
Architecture Definition and Risk Reduction	[Redacted]																											
Competitive Demonstration and Risk Reduction	[Redacted]																											
Request for Proposal Release	[Redacted]																											
Proposal Preparation	[Redacted]																											
Source Selection Evaluation Board	[Redacted]																											
Contract Award	[Redacted]																											
Preliminary Design	[Redacted]																											
Detailed Design	[Redacted]																											
First Prototype Delivery	[Redacted]																											
Flight Testing	[Redacted]																											

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2021 Army **Date:** February 2020

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

Events	Start		End	
	Quarter	Year	Quarter	Year
Matériel Development Decision	1	2017	1	2017
Analysis of Alternatives	3	2017	4	2019
Weapons System Specification Development	2	2019	1	2021
Program Documentation and Contracts Requirements Package	2	2019	3	2021
Architecture Definition and Risk Reduction	3	2019	4	2024
Competitive Demonstration and Risk Reduction	2	2020	2	2022
Request for Proposal Release	3	2021	3	2021
Proposal Preparation	3	2021	4	2021
Source Selection Evaluation Board	4	2021	2	2022
Contract Award	2	2022	2	2022
Preliminary Design	2	2022	4	2023
Detailed Design	4	2023	1	2025
First Prototype Delivery	2	2025	2	2025
Flight Testing	2	2025	4	2029

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**Exhibit R-2A, RDT&E Project Justification:** PB 2021 Army **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> F12 / Future Attack Reconnaissance Aircraft
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
F12: Future Attack Reconnaissance Aircraft	-	0.000	398.300	513.501	-	513.501	611.121	430.498	148.163	653.735	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 Multi-Domain Operations (MDO). 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.

The FVL Capability Set 1 Initial Capabilities Requirements Document was approved in July 2018 under the name Future Attack Reconnaissance Aircraft (FARA). The Acquisition Approach and Determination & 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 2019	FY 2020	FY 2021
<p><b>Title:</b> Future Attack Reconnaissance Aircraft</p> <p><b>Description:</b> Design, build, and test competitive prototypes in preparation to rapidly develop and field a Multi-Domain Operations capable attack/reconnaissance vertical lift aircraft.</p> <p><b>FY 2020 Plans:</b> At the completion of the initial design phase, two industry solutions was chosen to continue to final design, build, and test.</p> <p><b>FY 2021 Plans:</b> Continue to complete final prototype design, begin hardware fabrication and software development, begin component/sub-system qualification testing, and begin assembly and Mission Equipment assessment and integration.</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Fiscal Year (FY) 2021 Research Development Test &amp; Evaluation (RDT&amp;E) funding increased to meet increased requirements for the material purchase, tooling development, and engineering support required to build and integrate two FARA prototypes.</p>	-	375.487	513.501
<p><b>Title:</b> FY 2020 SBIR/STTR Transfer</p> <p><b>Description:</b> Funding transferred in accordance with Title 15 USC ?638</p> <p><b>FY 2020 Plans:</b></p>	-	17.813	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Army		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> F12 / Future Attack Reconnaissance Aircraft

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
Funding transferred in accordance with Title 15 USC ?638			
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Funding transferred in accordance with Title 15 USC ?638			
<b>Accomplishments/Planned Programs Subtotals</b>	-	393.300	513.501

	<b>FY 2019</b>	<b>FY 2020</b>
<b>Congressional Add:</b> Future Long Range Assault Aircraft University Partnership Effort	-	5.000
<b>FY 2020 Plans:</b> Future Long Range Assault Aircraft University Partnership Effort		
<b>Congressional Adds Subtotals</b>	-	5.000

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

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• B47: Future Vertical Lift	93.885	107.590	134.436	-	134.436	178.235	483.442	773.385	871.644	Continuing	Continuing

**Remarks**

The FARA Competitive Prototype effort was initiated in FY 2019 with Congressional Add of \$75.400 million under Program Element (PE) 0603801A Aviation - Adv Dev Project B47 Future Vertical Lift, which was shared with Future Long Range Assault Aircraft. FARA requirements will be executed under PE 0603801A Aviation - Adv Dev Project F12 Future Attack Reconnaissance Aircraft from FY 2020 and beyond.

**D. Acquisition Strategy**

The Future Attack Reconnaissance Aircraft (FARA) program is executing a streamlined acquisition approach leveraging modern tools, processes, industry innovation, and leveraging efficiencies through the recently implemented Army Cross Functional Teams (CFT) strategy. The aircraft developed under this program will utilize a modular open system approach, which will enable more efficient and cost effective mission equipment integration throughout the lifecycle of the weapon system.

The Army is executing a FARA Competitive Prototyping (CP) effort from FY 2019-2023 using Other Transaction Authority for Prototyping (OTAP) awards to five industry performers and will be executed utilizing a two-phased approach. The scope of this effort includes prototype design and fabrication process refinement, subsystem and representative system level testing, flight control and mission processor software development and 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 qualification testing of all processes and subsystems within the prototype aircraft.

Phase one is the initial design phase which was awarded in April 2019 and phase two will begin in March 2020 when two of the five vendors are selected for final detailed design and the development, integration and test of a flyable prototype air vehicle. Phase two will culminate with a government flight test evaluation of the FARA Competitive Prototype no later than the end of FY 2023.

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Army		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / <i>Aviation - Adv Dev</i>	<b>Project (Number/Name)</b> 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 engineering, manufacturing and development phase.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> F12 / Future Attack Reconnaissance Aircraft
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<b>Management Services (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		17.813		-		-		-	0.000	17.813	-
<b>Subtotal</b>			-	-		17.813		-		-		-	0.000	17.813	N/A

<b>Product Development (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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 Execution	C/Various	CCDC AvMC : Redstone Arsenal, AL	-	-		375.487	Mar 2020	513.501	Apr 2019	-		513.501	Continuing	Continuing	Continuing
<b>Subtotal</b>			-	-		375.487		513.501		-		513.501	Continuing	Continuing	N/A

<b>Support (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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/ Research Studies - Other	Option/CPFF	TBD : Huntsville, AL	-	-		5.000	Mar 2020	-		-		-	0.000	5.000	-
<b>Subtotal</b>			-	-		5.000		-		-		-	0.000	5.000	N/A

			Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			-	-	398.300	513.501	-	513.501	Continuing	Continuing	N/A

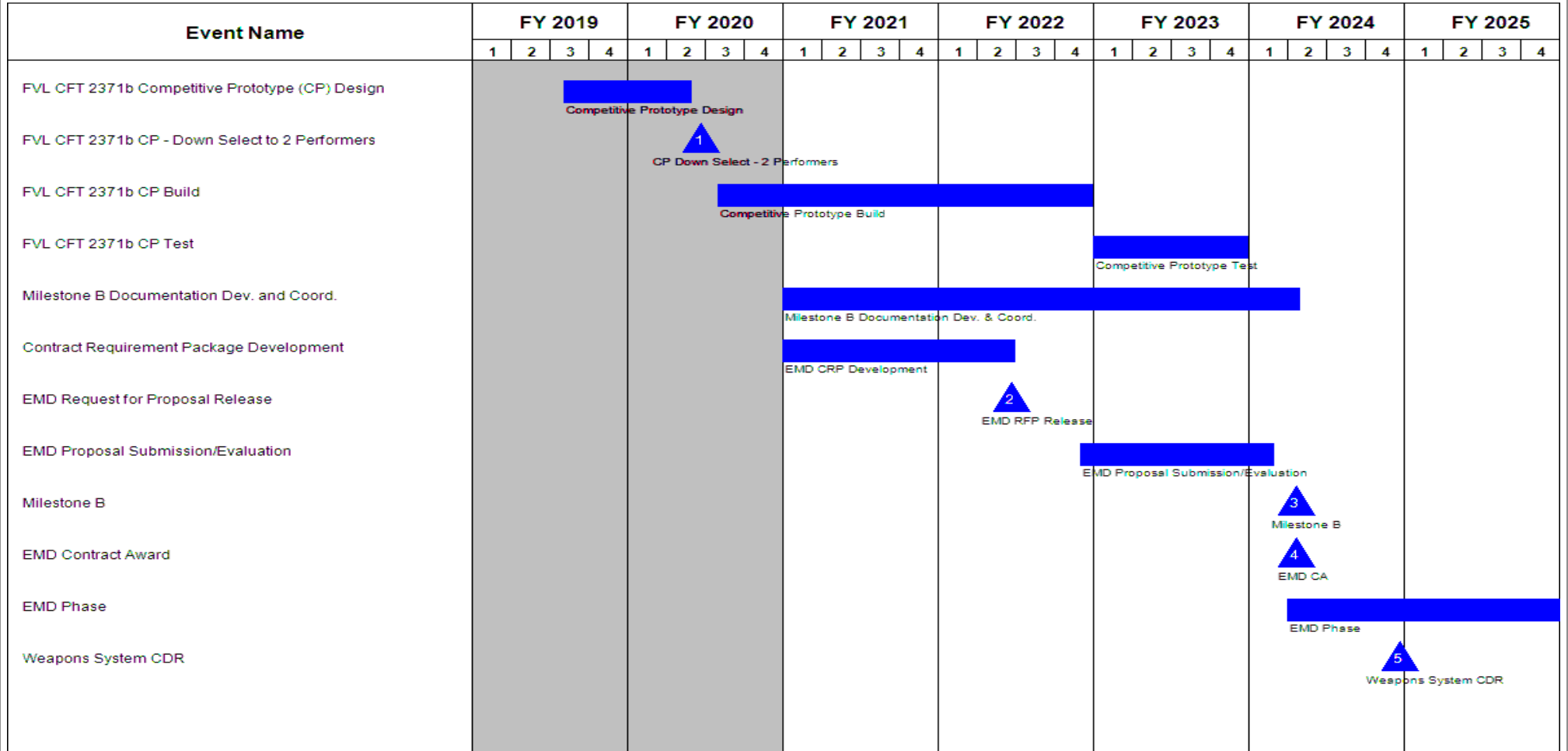
**Remarks**  
 Under the Other Transaction Authorities for Prototyping (OTAP), five incrementally funded agreements were awarded in April 2019 which have payments based on performance milestones through Fiscal Year (FY) 2023. There will be no additional contract awards or contract options executed. Funding will be incrementally added to the existing awards by modification as negotiated with each performer. In March 2020, two of the five performers will be selected for continued execution and the other three performers will be issued a stop work order and cease to receive additional funding.

NOTE: \$5.000 million Congressional add for Future Long Range Assault Aircraft for university partnerships to be re-aligned and executed on Project B47 / Future Vertical Lift.

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**Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> F12 / Future Attack Reconnaissance Aircraft
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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Army		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 2040 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0603801A / Aviation - Adv Dev	<b>Project (Number/Name)</b> F12 / Future Attack Reconnaissance Aircraft

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FVL CFT 2371b Competitive Prototype (CP) Design	3	2019	2	2020
FVL CFT 2371b CP - Down Select to 2 Performers	2	2020	2	2020
FVL CFT 2371b CP Build	3	2020	4	2022
FVL CFT 2371b CP Test	1	2023	4	2023
Milestone B Documentation Dev. and Coord.	1	2021	2	2024
Contract Requirement Package Development	1	2021	2	2022
EMD Request for Proposal Release	2	2022	2	2022
EMD Proposal Submission/Evaluation	4	2022	1	2024
Milestone B	2	2024	2	2024
EMD Contract Award	2	2024	2	2024
EMD Phase	2	2024	4	2028
Weapons System CDR	4	2024	4	2024