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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	89.497	79.339	66.529	-	66.529	58.051	53.775	57.406	57.905	Continuing	Continuing
CF3: <i>Integrated Soldier Systems (SL CFT)</i>	-	4.429	4.371	4.403	-	4.403	4.501	4.539	4.631	4.674	0.000	31.548
ES9: <i>Advanced Tactical Parachute System</i>	-	3.027	1.770	3.029	-	3.029	2.835	3.806	4.148	4.189	0.000	22.804
EW4: <i>Crew Served Weapons Engineering Development</i>	-	9.608	8.943	4.958	-	4.958	4.391	3.847	4.152	4.191	0.000	40.090
FF2: <i>Small Arms Fire Control</i>	-	9.782	7.008	8.179	-	8.179	10.263	5.065	5.066	5.116	0.000	50.479
FL8: <i>84mm MAAWS Ammunition</i>	-	3.017	6.117	-	-	-	-	-	-	-	0.000	9.134
FM4: <i>Next Generation Squad Weapons</i>	-	32.001	13.599	15.816	-	15.816	16.482	11.278	11.282	11.393	0.000	111.851
S58: <i>Soldier Enhancement Program</i>	-	9.000	13.655	5.182	-	5.182	-	5.196	5.198	5.197	0.000	43.428
S60: <i>Clothing & Equipment</i>	-	6.472	5.393	6.313	-	6.313	3.499	6.490	9.048	9.136	0.000	46.351
S61: <i>Acis Engineering Development</i>	-	2.190	2.528	2.427	-	2.427	1.488	0.475	0.475	0.480	Continuing	Continuing
S63: <i>Individual Weapons Engineering Development</i>	-	3.493	3.651	3.956	-	3.956	3.624	3.579	3.863	3.899	0.000	26.065
S70: <i>Personnel Recovery Support System (PRSS)</i>	-	-	3.132	2.963	-	2.963	2.646	0.617	0.665	0.671	Continuing	Continuing
VS5: <i>Soldier Protective Equipment</i>	-	6.478	9.172	9.303	-	9.303	8.322	8.883	8.878	8.959	0.000	59.995

A. Mission Description and Budget Item Justification

A portion of this funding line directly aligns to the Soldier Lethality Army Modernization Priority. This Program Element (PE) Engineering and Manufacturing Development (EMD) manages the Soldier as a system, with the goal of increasing Soldiers' combat effectiveness, increasing survivability, and improving the Soldiers' quality of life. It develops and tests prototypes of weapons, clothing, equipment, and other items useful to support the Soldier.

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	
<p>Project CF3 (Integrated Soldier Systems (SL CFT)) supports the Adaptive Squad Architecture (ASA) effort that will develop a full system architecture for the Soldier and the Squad. The focus will be full integration of all mission-specific equipment into the ASA as well as full configuration management of the Configuration Database, Architecture Assessment Tool, Squad Performance Metric and Soldier Integration Facility.</p> <p>Project ES9 (Advanced Tactical Parachute System) improves personnel parachute systems and associated equipment for low and high altitude operations to include canopy improvements based on integration of new technology with the goal of enhancing the insertion capability and safety of the airborne Soldier and increasing the performance, reliability, and durability of personnel airdrop equipment.</p> <p>Project EW4 (Crew Served Weapons Engineering Development) supports efforts to transition components or prototypes from Small Arms Improvement, Project S54, Program Element 0603827A, (Budget Activity 4) and other domestic and foreign sources of small arms weapons to demonstrate, test and evaluate capability near or at planned operational requirements.</p> <p>Project FF2 (Small Arms Fire Control) supports the development of an advanced fire control for the Next Generation Automatic Rifle (NGSW-AR) and Rifle (NGSW-R). The Next Generation Fire Control will increase the probability of hit and decrease the time to engage through a variable powered direct view optic with integrated range finder, ballistic calculator, and digital display capable of providing an adjusted aim point.</p> <p>Project FI2 (Lightweight 30mm Cannon) provides increased lethality modification to Product Directorate Counter-Rocket Artillery Mortars (PD C-RAM) under a JUONS. An upgraded medium caliber weapon will be developed, tested and evaluated for integration into a modified remote weapon station under an Urgent Materiel Release (UMR).</p> <p>Project FL8 (84mm MAAWS Ammunition) supports test, evaluation and quality up to seven types of 84 millimeter (mm) munitions for the U.S. Army use with the M3/M3A1 Multi-Role Anti-Personnel Weapon Systems (MAAWS).</p> <p>Project FM4 (Next Generation Squad Weapons) supports the rapid prototyping and development of a NGSW-AR, NGSW-R and common cartridge to provide capability improvements in accuracy, range and lethality, in order to maintain overmatch and meet future warfighter requirements.</p> <p>Project S58 (Soldier Enhancement Program) supports accelerated integration, modernization, and enhancement efforts of lighter, more lethal weapons, and improved Soldier items including lighter, more comfortable load-bearing equipment, field gear, survivability items, communications equipment, and navigational aids.</p> <p>Project S60 (Clothing & Equipment) supports pre-production development of state-of-the-art individual clothing and equipment to improve the survivability, mobility and sustainment affecting the quality of life of the individual Soldier.</p> <p>Project S61 (Acis Engineering Development) provides System Development programs with improved aircrew safety, survivability, and human performance that amplify the warfighting effectiveness and facilitates full-spectrum dominance of the Army aircraft including the AH-64 Apache/Longbow, CH-47 Chinook, UH/HH-60 Blackhawk, Light Utility Helicopter, and Future Vertical Lift (FVL) platforms.</p>		

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>
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Project S63 (Individual Weapons Engineering Development) demonstrates engineering development models or integrated commercial items designed to enhance lethality, target acquisition, fire control, training effectiveness, and reliability for small arms weapon systems and ammunition. Programs include Improved Weapons Coatings, Personal Defense Weapon, 30 Round 5.56mm Magazine, Modular Handgun System (MHS), Precision Sniper Rifle (PSR), Sub Compact, and Interim Combat Service Rifle (ICR).

Project S70 (Personnel Recovery Support System (PRSS)) provides system research, development and testing of the Personal Recovery Support System/Personnel Recovery Support Equipment supporting operations to report and locate isolated, missing, detained or captured Soldiers.

Project VS5 (Soldier Protective Equipment) supports engineering and manufacturing development of Individual Soldier Ballistic Protection equipment. It will leverage advancements in technology to continue incremental improvements to body armor (to include improved outer tactical vests, plate carriers, and helmets) and other personal protective equipment.

The total cost of the the Next Generation Squad Weapons Rapid Prototyping Middle Tier of Acquisition effort is \$156.83 million RDT&E from FY19 to FY23. The remainder of the Next Generation Squad Weapons Rapid Prototyping is fully funded across the Future Years Defense Program.

B. Program Change Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	88.552	67.873	0.000	-	0.000
Current President's Budget	89.497	79.339	66.529	-	66.529
Total Adjustments	0.945	11.466	66.529	-	66.529
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.034			
• Congressional Rescissions	-	-			
• Congressional Adds	-	16.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.945	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	66.529	-	66.529

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

Project: EW4: *Crew Served Weapons Engineering Development*

Congressional Add: *FY 2020 Congressional Add: Cannon Life Extension Program*

Congressional Add: *Program increase - turret gunner survivability and simulation environment*

Congressional Add Subtotals for Project: EW4

	FY 2021	FY 2022
	1.500	1.500
	4.000	5.000
Congressional Add Subtotals for Project: EW4	5.500	6.500

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: S58: *Soldier Enhancement Program*

Congressional Add: *Program increase - soldier enhancement program*

Congressional Add Subtotals for Project: S58

Congressional Add Totals for all Projects

	FY 2021	FY 2022
	9.000	10.000
	9.000	10.000
	14.500	16.500

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) CF3 / <i>Integrated Soldier Systems (SL CFT)</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
CF3: <i>Integrated Soldier Systems (SL CFT)</i>	-	4.429	4.371	4.403	-	4.403	4.501	4.539	4.631	4.674	0.000	31.548
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Adaptive Squad Architecture (ASA), Squad Performance Metrics (SPM) and Soldier Integration Facility (SIF) are Program Executive Office-Soldier (PEO-S) led efforts which will allow optimization of "Soldiers as Integrated Weapons Systems" and "Squad as an Integrated Combat Platform". The CF3 ASA focus will be the system-of-systems full virtual integration of all mission-specific equipment as well as full configuration management of the Configuration Database (CD), Architecture Assessment Tool (AAT) (ASA/SPM/SIF CF2 focuses on system level virtual, constructive and live prototyping integration). The SPM SF3 focus is adapting mature technologies and metrics at the Soldier and Squad levels to enhance human performance during training and operational events. The SIF CF3 focus is both team and squad level constructive and live experimentation to support ongoing PEO-S and Soldier Lethality Cross Functional Team optimization priorities. The ASA/SPM/SIF will develop a metric-based approach that will include virtual, constructive and live evaluations and tools across the Department of Defense (DoD), academia and industry which will be used for senior leaders to make deliberate decisions based on the analysis of Soldier/Squad performance. Funding for this project aligns with the Army's priorities in support of the National Defense Strategy and is a priority of the Soldier Lethality Cross Functional Team.

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

	FY 2021	FY 2022	FY 2023
Title: Integrated Soldier Systems	4.429	4.211	4.403
Description: Test, maintain and evolve a Soldier/squad equipment configuration baseline and conduct configuration management at the system level. Physically integrate components, improve compatibility and interoperability across programs. Establish and maintain tools that provide Systems Engineering, Configuration Management and Evaluation in a virtual and physical environment. Conduct Squad Performance Metric (SPM) evaluations and integrate mission-specific equipment into the Adaptive Squad Architecture (ASA) with continued emphasis on development of ICDs, evaluations, and improved fidelity of the SPM.			
FY 2022 Plans: Continue to develop and integrate mission-specific equipment with other combat platforms into initial version of ASA.			
FY 2023 Plans: Continue to develop and integrate mission-specific equipment with other combat platforms into initial version of ASA.			
FY 2022 to FY 2023 Increase/Decrease Statement: Increased due to development and integration of mission-specific equipment needed to support ASA.			
Title: FY 2022 SBIR/STTR Transfer	-	0.160	-
Description: FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) CF3 / <i>Integrated Soldier Systems (SL CFT)</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<i>FY 2022 Plans:</i> FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.			
Accomplishments/Planned Programs Subtotals	4.429	4.371	4.403

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• CF2: <i>Integrated Soldier Systems Prototyping (SL CFT)</i>	2.449	3.077	3.858	-	3.858	3.766	3.802	4.064	4.103	0.000	25.119

Remarks

D. Acquisition Strategy

PEO Soldier will utilize available Adaptive Squad Architecture (ASA) and Squad Performance Metrics (SPM) tools plus exercise the SIF with Team level and Squad level experimentation to assess system-of-systems capabilities for evaluation and integration, using current Systems Engineering and Technical Assistance (SETA) contracts, Federally Funded Research and Development Center personnel (FFRDCs) as necessary, plus tools/deliverables built under project CF2. The ASA/SPM/SIF will develop a metric-based approach that will include virtual, constructive and live evaluations and tools across the Department of Defense (DoD), academia and industry which will be used for senior leaders to make deliberate decisions based on the analysis of Soldier/Squad performance. The PEO will utilize project CF3 to leverage any data, architectural products or designs from the IVAS program and other PEO-S and Soldier Lethality Cross Functional Team priorities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) CF3 / <i>Integrated Soldier Systems (SL CFT)</i>
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 2022 SBIR/STTR Transfer	TBD	PEO Soldier HQ : FT Belvoir	-	-		0.160		-		-		-	0.000	0.160	-
Subtotal			-	-		0.160		-		-		-	0.000	0.160	N/A

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
ASA and SPM Engineering, Manufacturing, Development	MIPR	TBD : Various	4.735	1.711	Jan 2021	0.886	Jan 2022	0.152	Jan 2023	-		0.152	0.000	7.484	-
Subtotal			4.735	1.711		0.886		0.152		-		0.152	0.000	7.484	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
ASA/SPM/SIF evaluations	MIPR	Various : To Be Determined	2.083	2.718	Jan 2021	3.325	Jan 2022	4.251	Jan 2023	-		4.251	0.000	12.377	-
Subtotal			2.083	2.718		3.325		4.251		-		4.251	0.000	12.377	N/A

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract	
	Project Cost Totals		6.818	4.429	4.371	4.403	-	4.403	0.000	20.021

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) CF3 / <i>Integrated Soldier Systems (SL CFT)</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
ASA Integration																												
SPM Evaluations																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) CF3 / <i>Integrated Soldier Systems (SL CFT)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
ASA Integration	2	2020	4	2027
SPM Evaluations	2	2020	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) ES9 / <i>Advanced Tactical Parachute System</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
ES9: <i>Advanced Tactical Parachute System</i>	-	3.027	1.770	3.029	-	3.029	2.835	3.806	4.148	4.189	0.000	22.804
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding in this project supports the Army's Cross Functional Teams (CFT) initiatives. Advanced Tactical Parachute System funding improves Low Altitude and High Altitude personnel parachutes and associated equipment to include test and evaluation of items transitioning from Advanced Component Development and prototype (6.4) efforts, with the goal of enhancing the insertion capability and safety of the airborne Soldier and increasing the performance, reliability, and durability of personnel airdrop equipment. Funds improvements and testing/evaluation of personnel parachute systems including integration and interface on the Soldier system. This project will continue to support cross-service initiatives to improve commonality.

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

	FY 2021	FY 2022	FY 2023
<p>Title: Advanced Tactical Parachute System</p> <p>Description: Advanced Tactical Parachute System funds improvements and testing/evaluation of personnel parachute systems. Project supports improved Low Altitude and High Altitude personnel parachute systems and associated equipment to include test and evaluation of items transitioning from Advance Component Development and prototype (6.4) efforts, with the goal of enhancing the insertion capability and safety of the airborne Soldier and increasing the performance, reliability, and durability of personnel airdrop equipment.</p> <p>FY 2022 Plans: Initiate Developmental Testing (DT) for PERS. Continue to conduct testing for service life extension for the T-11 parachute. Enhance high and low altitude insertion capabilities, software improvements for PARANAVSYS, and continue to support modernization initiatives to parachute systems and ancillary equipment.</p> <p>FY 2023 Plans: Developmental Testing and Operational Testing (DT/OT) for Parachutist Emergency Release System (PERS). Conduct integration and function testing for cotton buffer for both the T-11 and RA-1 parachute systems. Enhance high and low altitude insertion capabilities and continue to support modernization initiatives to parachute systems and ancillary equipment.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Funding increase due to increase in scope of testing.</p>	3.027	1.705	3.029
<p>Title: SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC 638.</p>	-	0.065	-

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) ES9 / <i>Advanced Tactical Parachute System</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<i>FY 2022 Plans:</i> Funding transferred in accordance with Title 15 USC 638.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC 638.			
Accomplishments/Planned Programs Subtotals	3.027	1.770	3.029

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MA7801: <i>Advanced Tactical Parachute System</i>	54.747	34.959	42.444	-	42.444	40.046	36.722	33.791	33.774	0.000	276.483
• ET8: <i>Personnel Airdrop System Development</i>	1.219	1.155	1.853	-	1.853	2.254	0.951	2.355	2.378	Continuing	Continuing

Remarks

D. Acquisition Strategy

Acquisition strategies for these programs vary in methods, and range from: 1) Material Change programs that result in engineering changes to existing systems to; 2) Traditional development programs that include an Engineering and Manufacturing Development phase ranging in duration from 12 to 48 months, depending on the level of complexity and testing required.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604601A / Infantry Support Weapons				ES9 / Advanced Tactical Parachute System							
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.065		-		-		-	0.000	0.065	-
Subtotal			-	-		0.065		-		-		-	0.000	0.065	N/A
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Dev Contracts	C/FFP	Various : Various	10.811	0.085		0.500		0.673		-		0.673	6.335	18.404	Continuing
Dev Sys Engineering Spt	MIPR	Various : Various	1.050	0.647		0.235		0.400		-		0.400	1.190	3.522	Continuing
Subtotal			11.861	0.732		0.735		1.073		-		1.073	7.525	21.926	N/A
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Program Office Support Costs	MIPR	NSRDEC : Natick, MA	1.400	1.545		0.203		0.350		-		0.350	0.491	3.989	Continuing
Subtotal			1.400	1.545		0.203		0.350		-		0.350	0.491	3.989	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
DT/OT	MIPR	various : various	7.370	0.750		0.767		1.606		-		1.606	4.913	15.406	Continuing
Subtotal			7.370	0.750		0.767		1.606		-		1.606	4.913	15.406	N/A
Project Cost Totals			20.631	3.027		1.770		3.029		-		3.029	12.929	41.386	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) ES9 / <i>Advanced Tactical Parachute System</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027							
	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				
Enhanced Electronic Auto Activation Device (EEAAD) Dev																																
EEAAD Milestone C																																
T-11/MC-6 Service Life Enhancements																																
PFD Development																																
PFD Milestone C																																
Evaluate T-11R Pack Tray Modifications																																
Airborne Insertion Enhancements																																
Parachutist Emergency Release System (PERS) MDD																																
PERS Development																																
PERS Milestone C																																
T-11R Automatic Activation Device (AAD) Milestone B																																
T-11R AAD Development																																
T-11R AAD Milestone C																																

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) ES9 / <i>Advanced Tactical Parachute System</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Develop and Test Smart Universal Static line Hook (SUSH)																												
Next Generation Low Altitude Parachute System																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) ES9 / <i>Advanced Tactical Parachute System</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Enhanced Electronic Auto Activation Device (EEAAD) Dev	1	2019	4	2022
EEAAD Milestone C	4	2022	4	2022
T-11/MC-6 Service Life Enhancements	1	2019	4	2021
PFD Development	3	2019	4	2021
PFD Milestone C	4	2021	4	2021
Evaluate T-11R Pack Tray Modifications	1	2020	3	2021
Airborne Insertion Enhancements	1	2019	4	2028
Parachutist Emergency Release System (PERS) MDD	4	2021	4	2021
PERS Development	4	2021	1	2024
PERS Milestone C	1	2024	1	2024
T-11R Automatic Activation Device (AAD) Milestone B	1	2024	1	2024
T-11R AAD Development	1	2024	4	2026
T-11R AAD Milestone C	1	2027	1	2027
Develop and Test Smart Universal Static line Hook (SUSH)	1	2025	4	2026
Next Generation Low Altitude Parachute System	1	2026	4	2028

Note

Note: Towed Jumper Retrieval System (TJRS) is now Parachutist Emergency Release System (PERS).

Airborne Insertion Enhancements includes the following programs: Glide Augmentation, Situational Awareness Aids, High Altitude Combo Drops, GPS Denied Navaid, Glide Modulation, C-17 Over the Ramp (OTR), Riser Improvement, Above 25K Operations, Low Observables, and Reserve Deployment Bag.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) EW4 / <i>Crew Served Weapons Engineering Development</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EW4: <i>Crew Served Weapons Engineering Development</i>	-	9.608	8.943	4.958	-	4.958	4.391	3.847	4.152	4.191	0.000	40.090
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Crew Served Weapons Engineering and Manufacturing Development (EMD) program provides funds to transition components or prototypes from Budget Activity 4 (BA 4) Program Element (PE) 0603827A Soldier Systems - Advanced Development Project S54 Small Arms Improvement and other domestic and foreign sources of small arms weapon systems to demonstrate, test and evaluate capability near or at planned operational requirements. Crew Served Weapons systems include weapons ranging up to 40 millimeter in caliber. Current and future efforts focus on system improvements designed to enhance lethality, target acquisition, fire control, usability, training effectiveness and reliability of weapons to include ammunition when developing and/or evaluating standard and non-standard weapons. Focus areas include system development, integration (to include human-systems), demonstration, test and evaluate components, prototypes and operational system prototypes of small arms weapon systems and/or enhancements. Benefits include continuous improvements to small arms weapon systems, fire control equipment, optics, gun barrels, ancillary equipment, training devices, component mounts, weapon mounts, and weapon/ammunition interface of current small arms fleet or new weapon systems.

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

	FY 2021	FY 2022	FY 2023
Title: Design and Development	3.482	1.193	3.663
Description: Design and development of Crew Served Weapons			
FY 2022 Plans: M3/M3E1 Multi-Role Anti-Armor Anti-Personnel Weapon System (MAAWS): Will complete all operational and qualification test efforts required to obtain Type Classification and Full Materiel Release (TC/FMR) of the M3E1 and Fire Control. Will continue to evaluate, test and qualify selected capabilities and improvements for the M3E1 weapon and Fire Control systems to include Smart Rail integration and Fire Control thermal magnification efforts.			
Mounted Machinegun Optic (MMO): Will continue MMO pre-planned product improvement (PPPI) R&D efforts for integration with High Explosive Dual Purpose (HEDP) airburst programmer ammo.			
FY 2023 Plans: Mounted Machinegun Optic (MMO) will continue MMO pre-planned product improvement (PPPI) R&D efforts for integration with High Explosive Dual Purpose (HEDP) airburst programmer ammo.			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) EW4 / <i>Crew Served Weapons Engineering Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
<p>Adaptive Lubricious Coatings will develop manufacturing technology to support production of super hydrophobic and other coatings in support of preserving barrel, operating group and bolt life of crew served weapons while improving weapon readiness. Continue to assess and evaluate current manufacturing process studies and assessments to adapt the coating technology into weapon Original Equipment Manufacturer manufacturing processes.</p> <p>Advanced Combat Optics will continue engineering evaluations, verification and validation of weapon optics performance requirements, covert target isolation and hand-off.</p> <p>New Weapons and Enabling Technology Evaluations and Assessments will continue to explore new technologies and perform initial evaluations and assessments required to facilitate rapid acquisition of increased capabilities where applicable.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase from FY2022 to FY2023 for mounted counter defilade integration and lightweight M2A1 characterization and development.</p>				
<p>Title: Test and Evaluation</p> <p>Description: Test and evaluation of Crew Served Weapons</p> <p>FY 2022 Plans: New and Legacy Weapon Test and Evaluation: Will continue to test and evaluation new technology that can lead to enhancements of current and legacy weapon systems or create new weapon systems, as well as advanced combat optics and improvement of small arms munitions.</p> <p>FY 2023 Plans: New Weapons and Enabling Technology Evaluations and Assessments will continue to test and evaluate new technology that can lead to enhancements of current and legacy weapon systems or create new weapon systems, as well as advanced combat optics and improvement of small arms munitions.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Funding increase due to slight price and costs increase of new technology.</p>		0.626	1.161	1.295
<p>Title: FY 2022 SBIR/STTR Transfer</p> <p>FY 2022 Plans: FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p>		-	0.089	-

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) EW4 / <i>Crew Served Weapons Engineering Development</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
Discrepancy due to FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.				
Accomplishments/Planned Programs Subtotals		4.108	2.443	4.958
		FY 2021	FY 2022	
Congressional Add: FY 2020 Congressional Add: Cannon Life Extension Program		1.500	1.500	
<p>FY 2021 Accomplishments: Advance and optimize the explosive bonding process of tantalum-tungsten alloy liners to create improved, longer life small and medium caliber barrels. Investigate alternative rifling methods (i.e. pressure form, roller form, waterjet) for tantalum lined barrels. Develop manufacturing technologies that enable the affordable production and sustainment of future weapon systems.</p> <p>FY 2022 Plans: Will continue to advance and optimize the explosive bonding process of tantalum-tungsten alloy liners to create improved, longer life small and medium caliber barrels. Will continue to investigate alternative rifling methods (i.e. pressure form, roller form, waterjet) for tantalum lined barrels and develop manufacturing technologies that enable the affordable production and sustainment of future weapon systems.</p>				
Congressional Add: Program increase - turret gunner survivability and simulation environment		4.000	5.000	
<p>FY 2021 Accomplishments: Develop smart, full-scale, virtual and augmented reality simulation environments for next-generation of Gunner protection kits that will significantly enhance the operational evaluation of turret designs in a secure, immersive, navigable, and interactive arena.</p> <p>Develop and install simulation environments that will lead to advanced and affordable engineered solutions while accelerating the development lifecycle through reduced design iterations and physical prototyping.</p> <p>FY 2022 Plans: Continue to develop smart, full-scale, virtual and augmented reality simulation environments for next-generation of Gunner protection kits that will significantly enhance the operational evaluation of turret designs in a secure, immersive, navigable, and interactive arena.</p> <p>Continue to develop and install simulation environments that will lead to advanced and affordable engineered solutions while accelerating the development lifecycle through reduced design iterations and physical prototyping.</p>				
Congressional Adds Subtotals		5.500	6.500	

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) EW4 / <i>Crew Served Weapons Engineering Development</i>

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

Line Item	FY 2021	FY 2022	FY 2023	FY 2023	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Cost To	
			Base	OCO	Total					Complete	Total Cost
• S54: <i>Small Arms Improvement</i>	16.216	10.911	9.248	-	9.248	9.286	9.366	9.359	9.448	0.000	73.834
• FL8: <i>84mm MAAWS Ammunition</i>	3.017	6.117	0.000	-	0.000	-	-	-	-	0.000	9.134
• FM4: <i>Next Generation Squad Weapons</i>	32.001	13.599	15.816	-	15.816	16.482	11.278	11.282	11.393	0.000	111.851
• GZ1500: <i>Sniper Rifles Modifications</i>	1.898	-	0.000	-	0.000	-	-	0.020	0.019	Continuing	Continuing
• GZ1300: <i>M240 Medium Machine Gun MODS</i>	6.385	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing
• GB3000: <i>MK-19 Grenade Machine Gun MODS</i>	6.444	23.027	0.000	-	0.000	-	-	-	-	0.000	29.471
• GB4000: <i>M2 50 Cal Machine Gun MODS</i>	-	6.612	0.000	-	0.000	-	-	-	-	0.000	6.612
• GC0925: <i>Modifications Less Than \$5.0m (WOCV-WTCV)</i>	2.604	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing
• GL3200: <i>Items Less Than \$5.0m (WOCV-WTCV)</i>	2.763	1.068	2.138	-	2.138	1.170	1.075	2.277	2.278	Continuing	Continuing
• G13000: <i>M240 Medium Machine Gun (7.62mm)</i>	12.500	10.500	0.000	-	0.000	-	-	-	-	Continuing	Continuing
• G01506: <i>Precision Sniper Rifle</i>	8.895	9.240	6.436	-	6.436	5.350	6.161	6.216	6.216	Continuing	Continuing
• G13101: <i>MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM</i>	22.629	31.623	26.627	-	26.627	-	-	-	-	Continuing	Continuing

Remarks

In support of Small Arms Requirements, components or prototypes developed in BA 4 PE 0603827A Soldier Systems - Advanced Development Project S54 Small Arms Improvement transition to BA 5 PE 0604601A Infantry Support Weapons Project EW4 Crew Served Weapons Engineering Development to conduct engineering and manufacturing development. Once the component, prototype or operational prototype achieves Milestone C and type classification the item transitions to small arms weapon systems production or modification programs.

D. Acquisition Strategy

Primary strategy is to mature and finalize design efforts, award Research, Development, Test and Evaluation (RDT&E), contracts, and/or Department of Defense Ordnance Technology Consortium (DOTC) and other OTA type hardware contracts. Test and evaluate systems that result in type classification, material release, and follow-on production contract awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604601A / Infantry Support Weapons				EW4 / Crew Served Weapons Engineering Development							
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Program Management	Allot	PM Soldier Weapons, : Picatinny Arsenal	1.766	-		0.400		0.205	Mar 2023	-		0.205	Continuing	Continuing	Continuing
Travel	MIPR	PM Soldier Weapons, : Picatinny Arsenal	0.365	0.012	Mar 2021	0.010	Mar 2022	0.020	Mar 2023	-		0.020	Continuing	Continuing	Continuing
FY2019 SBIR / STTR Transfer	FFRDC	Army Budget Office : Pentagon, Washington DC	0.984	-		-		-		-		-	0.000	0.984	-
FY2022 SBIR/STTR Transfer	FFRDC	Army Budget Office : Pentagon, Washington DC	-	-		0.089		-		-		-	0.000	0.089	-
Subtotal			3.115	0.012		0.499		0.225		-		0.225	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Fabrication	Various	Various : Multiple Contractors	5.219	6.304	Mar 2021	0.100	Mar 2022	0.207	Mar 2023	-		0.207	Continuing	Continuing	Continuing
Hardware Development	MIPR	Army Research Development Engineers Centers : Multiple	19.890	1.603	Mar 2021	5.327	Mar 2022	2.754	Mar 2023	-		2.754	Continuing	Continuing	Continuing
Subtotal			25.109	7.907		5.427		2.961		-		2.961	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Engineering	MIPR	Army Research Development	9.014	0.960	Mar 2021	1.956	Mar 2022	0.272	Mar 2023	-		0.272	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604601A / Infantry Support Weapons				EW4 / Crew Served Weapons Engineering Development							
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
		Engineering Centers : Multiple													
Logistics	MIPR	Tank & Automotive Command (TACOM), : Warren	0.730	-		0.050	Mar 2022	0.080	Mar 2023	-		0.080	Continuing	Continuing	Continuing
Human Research and Engineering	MIPR	Army Research Laboratory, : Aberdeen Proving Ground	0.770	0.103	Mar 2021	0.050	Mar 2022	0.125	Mar 2023	-		0.125	Continuing	Continuing	Continuing
Subtotal			10.514	1.063		2.056		0.477		-		0.477	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Developmental Testing	MIPR	Army Developmental Test Command, : Aberdeen Proving Ground	6.568	0.600	Mar 2021	0.455	Mar 2022	0.717	Mar 2023	-		0.717	Continuing	Continuing	Continuing
Operational Testing	MIPR	Army Test and Evaluation Command, : Aberdeen Proving Ground	3.633	0.026	Mar 2021	0.456	Mar 2022	0.523	Mar 2023	-		0.523	Continuing	Continuing	Continuing
Validation Testing	MIPR	Army Test and Evaluation Centers, : Multiple	0.808	-		0.050	Mar 2022	0.055	Mar 2023	-		0.055	Continuing	Continuing	Continuing
Subtotal			11.009	0.626		0.961		1.295		-		1.295	Continuing	Continuing	N/A
Project Cost Totals			49.747	9.608		8.943		4.958		-		4.958	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) EW4 / <i>Crew Served Weapons Engineering Development</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
DESIGN AND DEVELOPMENT	[Redacted]																											
M3/M3E1 Multi-Role Anti-Armor Anti-Personnel Weapon System	[Redacted]																											
Mounted Machinegun Optic (MMO)	[Redacted]																											
Enhanced System for Remote Weapon Stations & Kinetic Counter-UAS Weapons	[Redacted]																											
Weapon Enhancements for Improved Ammunition	[Redacted]																											
Advanced Combat Optics	[Redacted]																											
New Weapons and Enabling Technology Evaluations and Assessments	[Redacted]																											
TEST AND EVALUATION	[Redacted]																											
Test and Evaluation of new technology	[Redacted]																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) EW4 / <i>Crew Served Weapons Engineering Development</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DESIGN AND DEVELOPMENT	1	2020	4	2027
M3/M3E1 Multi-Role Anti-Armor Anti-Personnel Weapon System (MAAWS)	1	2017	4	2022
Mounted Machinegun Optic (MMO)	1	2020	4	2023
Enhanced System for Remote Weapon Stations & Kinetic Counter-UAS Weapons	1	2024	4	2027
Weapon Enhancements for Improved Ammunition	1	2025	4	2027
Advanced Combat Optics	1	2023	4	2027
New Weapons and Enabling Technology Evaluations and Assessments	1	2023	4	2027
TEST AND EVALUATION	1	2020	4	2027
Test and Evaluation of new technology	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) FF2 / <i>Small Arms Fire Control</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FF2: <i>Small Arms Fire Control</i>	-	9.782	7.008	8.179	-	8.179	10.263	5.065	5.066	5.116	0.000	50.479
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The XM157 Next Generation Squad Weapon - Fire Control (NGSW-FC) is an advanced fire control device to support the Next Generation Squad Weapons. NGSW-FC increases the probability of hit and decreases the time to engage through a variable powered direct view optic with integrated range finder, ballistic calculator, and digital display capable of providing an adjusted aim point. The XM157 NGSW-FC will utilize open architecture to deliver the initial increased core capability followed by increasing increments of capability/enhancements over time as technology matures and evolves.

The total cost of the the Next Generation Squad Weapons Rapid Prototyping Middle Tier of Acquisition effort is \$156.83 million RDT&E from FY19 to FY23. The remainder of the Next Generation Squad Weapons Rapid Prototyping is fully funded across the Future Years Defense Program.

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

	FY 2021	FY 2022	FY 2023
Title: Design, Develop and Fabricate	1.727	3.652	4.786
Description: Includes contract awards for iterative prototyping of all Fire Control configurations, enhancements, and hand held devices.			
FY 2022 Plans: Will continue to conduct iterative prototype efforts to design, develop, and fabricate enhancements to the NGSW-FC, conduct technical system engineering reviews, and implementation plans for iterative prototype components. Will award agreements or contracts to conduct iterative prototype efforts. Capability enhancements to be developed through iterative prototyping that may include technology such as advanced camera based capabilities; optical augmentation; aim augmentation; weapon stabilization; wind sensing; optimization of size, weight, and power; advanced network lethality; advanced ruggedization; and augmented reality.			
FY 2023 Plans: Complete integration and testing of mature iterative prototyping capabilities with prototype design transitioning to production. Continue to conduct iterative prototyping efforts with the selected NGSW Fire Control. Efforts with the selected vendor will include: prototype development on target tracking/recognition, target data transfer, integrated advanced multispectral camera-based capabilities; increased Rapid Target Acquisition capability through networked integration with IVAS, ENGV-B, and FWS-I; aim error reduction technologies progressing toward Generation 4 Fire Control, including advanced stabilization and trigger interrupt solutions; continued optimization of system size, weight, and power, to reduce soldier load.			
FY 2022 to FY 2023 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FF2 / <i>Small Arms Fire Control</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
FY2022 decreased due to the Congressional Mark				
<p>Title: Engineering Support</p> <p>Description: Government engineering support, providing oversight of design development and contractor performance.</p> <p>FY 2022 Plans: Will continue to provide government engineering support at laboratories and engineering centers; providing design, limited testing and oversight of development and contractor performance. Continues planning and documentation required for iterative prototyping for system enhancements.</p> <p>FY 2023 Plans: Will continue to provide government engineering support at laboratories and engineering centers; providing design, limited testing and oversight of development and contractor performance.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY2022 funding decreased due to Congressional Mark</p>		3.456	1.400	1.883
<p>Title: Test and Evaluation</p> <p>Description: Government testing and evaluation of prototypes, articles and improvements. Includes Soldier Touch Point evaluations.</p> <p>FY 2022 Plans: NGSW-FC will test and evaluate proposed additional capability upgrades resulting from iterative prototyping. Prototypes will undergo technical testing and soldier touch point user evaluations. Conduct Operational Testing to determine the Fire Control Systems' ability to accomplish its designed mission when used by representative personnel as well as to ensure the system can be placed and sustained satisfactorily in the field.</p> <p>FY 2023 Plans: Complete Operational Testing to determine the Fire Control Systems' ability to accomplish its designed mission when used by representative personnel as well as to ensure the system can be placed and sustained satisfactorily in the field. Continuing to test and evaluate proposed improvements and capability upgrades resulting from iterative prototyping. Prototypes will undergo technical testing and soldier touch point user evaluations.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY2022 funding decreased due to Congressional Mark</p>		4.330	1.500	1.310
<p>Title: Program Management</p> <p>Description: Program management office non-labor activities, to include travel and other indirect costs.</p>		0.269	0.200	0.200

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FF2 / <i>Small Arms Fire Control</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
<p><i>FY 2022 Plans:</i> Will continue to provide for administrative costs incurred by the Program Management office, to include travel, contractor service support, and other requirements to support the program.</p> <p><i>FY 2023 Plans:</i> Will continue to provide for administrative costs incurred by the Program Management office, to include travel, contractor service support, and other requirements to support the program.</p>			
<p><i>Title:</i> FY 2022 SBIR/STTR Transfer</p> <p><i>FY 2022 Plans:</i> Description: FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.</p> <p><i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Discrepancy due to FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.</p>	-	0.256	-
Accomplishments/Planned Programs Subtotals	9.782	7.008	8.179

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• S54: <i>Small Arms Improvement</i>	16.216	10.911	9.248	-	9.248	9.286	9.366	9.359	9.448	0.000	73.834
• G14513: <i>Next Generation Squad Weapon - Fire Control</i>	35.822	72.595	147.645	-	147.645	231.413	264.685	163.021	163.038	0.000	1,078.219

Remarks

D. Acquisition Strategy
The NGSW-FC program is a Middle Tier Acquisition (MTA) program utilizing Rapid Prototyping authority under Section 804 of the FY 2016 National Defense Authorization Act (NDAA). A full and open competition selected two vendors for fixed amount Other Transaction Authority (OTA) awards to mature and finalize system designs and conduct test and evaluation. Following successful completion of the initial prototyping effort, the Government awarded a follow-on production Other Transaction Agreement (OTA) for the NGSW-FC without further competition. Iterative prototyping RDT&E efforts will continue to support increased capability sets to the NGSW-FC and may transition to rapid fielding as technology improves.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FF2 / <i>Small Arms Fire Control</i>
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 2019 Rescission (0604601A/S62)	Allot	Army Budget Office : Pentagon	0.104	-		-		-		-		-	0.000	0.104	-
FY 2022 SBIR/STTR Transfer	TBD	PEO Soldier HQ : FT Belvoir, VA	-	-		0.256		-		-		-	0.000	0.256	-
Subtotal			0.104	-		0.256		-		-		-	0.000	0.360	N/A

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Next Generation Fire Control - Rapid Prototyping OTA	C/FFP	Vortex Optics Army Contracting Command - New Jersey (ACC-NJ) : Picatinny Arsenal, NJ	5.700	0.917	Nov 2021	-		-		-		-	0.000	6.617	-
Next Generation Fire Control - Rapid Prototyping OTA	C/FFP	L3 Harris: Army Contracting Command - New Jersey (ACC-NJ) : Picatinny Arsenal, NJ	5.700	0.810	Nov 2021	-		-		-		-	0.000	6.510	-
Next Generation Fire Control - Iterative Prototyping OTA	C/FFP	VENDOR TBD : ACC-NJ, Picatinny Arsenal, NJ	-	-		3.652	Apr 2022	4.786	Jan 2023	-		4.786	Continuing	Continuing	-
Subtotal			11.400	1.727		3.652		4.786		-		4.786	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Support	MIPR	Combat Capability Development Command - Armaments Center	2.462	3.456	Nov 2020	1.400	Nov 2021	1.883	Nov 2022	-		1.883	Continuing	Continuing	-

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FF2 / <i>Small Arms Fire Control</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Rapid Prototyping - Fire Control																												
L3 Harris - Contractor Design and Prototype Fabrication																												
Vortex Optics- Contractor Design and Prototype Fabrication																												
Prototype Testing and Evaluation																												
Production Decision - NGFC																												
Iterative Prototyping - Fire Control Enhancements																												
OTA Awards - Iterative Prototyping																												
Contractor Design and Prototype Fabrication																												
Test and Evaluation - Iterative Prototyping Testing 1 3Q FY22																												
Operational Testing																												
Test and Evaluation - Iterative Prototyping Testing 1 4Q FY23																												
Test and Evaluation - Iterative Prototyping Testing 2																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FF2 / <i>Small Arms Fire Control</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Rapid Prototyping - Fire Control	1	2019	4	2021
Prototype Opportunity Notice	3	2019	3	2019
Other Transaction Agreement (OTA) Award - Rapid Prototyping	3	2020	3	2020
L3 Harris - Contractor Design and Prototype Fabrication	3	2020	4	2021
Vortex Optics- Contractor Design and Prototype Fabrication	3	2020	4	2021
Prototype Testing and Evaluation	1	2021	3	2021
Production Decision - NGFC	4	2021	4	2021
Iterative Prototyping - Fire Control Enhancements	1	2021	4	2027
OTA Awards - Iterative Prototyping	1	2022	1	2022
Contractor Design and Prototype Fabrication	1	2022	4	2027
Test and Evaluation - Iterative Prototyping Testing 1 3Q FY22	3	2022	3	2022
Operational Testing	3	2023	4	2023
Test and Evaluation - Iterative Prototyping Testing 1 4Q FY23	4	2023	4	2023
Test and Evaluation - Iterative Prototyping Testing 2	4	2024	4	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) FL8 / <i>84mm MAAWS Ammunition</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FL8: <i>84mm MAAWS Ammunition</i>	-	3.017	6.117	-	-	-	-	-	-	-	0.000	9.134
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project FL8 84mm MAAWS Ammunition will test, evaluate and qualify up to seven types of 84 millimeters (mm) munitions for United States (U.S.) Army use with the M3/M3A1 Multi-Role Anti-Armor Anti-Personnel Weapon Systems (MAAWS). In addition to type classifying existing rounds, funds will also provide for the evaluation and qualification of the new High Explosive Programmable Airbursting Round. These rounds will provide improved lethality and a higher probability of hit in defilade positions for close combat forces against varying target sets and increased ranges in support of Infantry Squad formations. The M3/M3A1 was a HQDA G8 directed requirement scheduled for Type Classification 4th Quarter (Q) Fiscal Year (FY) 2022.

FY 2022 funding in the amount of \$6.639 million was used to complete type classification efforts for the new programmable round therefore no funding will be required in FY2023.

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

	FY 2021	FY 2022	FY 2023
Title: Munition Prototype Development & Demonstration	2.435	-	-
Description: Includes ammunition engineering and manufacturing, contract awards for prototypes, development and demonstration.			
Title: Engineering Support	0.130	1.847	-
Description: Government engineering support, providing oversight of design development and contractor performance.			
FY 2022 Plans: Will continue to provide engineering support and oversight of ammunition design and function. Will continue to participate in IPT, technical reviews and T&E efforts.			
FY 2022 to FY 2023 Increase/Decrease Statement: Decrease is based on a projected decline in requirements in FY 2023.			
Title: Test and Evaluation	0.250	2.692	-
Description: Funds will support the following efforts:			
FY 2022 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FL8 / <i>84mm MAAWS Ammunition</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Will complete delta testing of existing rounds, along with developmental test and evaluation efforts of the programmable round. Complete production qualification testing. FY 2022 to FY 2023 Increase/Decrease Statement: Decrease is based on a projected decline in requirements in FY 2023.			
Title: Program Management Description: Funds will support the following efforts: FY 2022 Plans: Will continue to provide project oversight, program management, non-labor operations, and contractor support. FY 2022 to FY 2023 Increase/Decrease Statement: Decrease is based on a projected decline in requirements in FY 2023.	0.202	0.645	-
Title: TC-STD Efforts Description: Type Classification efforts for Full Material Release of the programmable round. FY 2022 Plans: Complete Type Classification efforts for Full Material Release of the programmable round. FY 2022 to FY 2023 Increase/Decrease Statement: Decrease is based on a projected decline in requirements in FY 2023.	-	0.709	-
Title: FY 2022 SBIR/STTR Transfer FY 2022 Plans: FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638. FY 2022 to FY 2023 Increase/Decrease Statement: Discrepancy due to FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.	-	0.224	-
Accomplishments/Planned Programs Subtotals	3.017	6.117	-

C. Other Program Funding Summary (\$ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• EW4: <i>Crew Served Weapons Engineering Development</i>	9.608	8.943	4.958	-	4.958	4.391	3.847	4.152	4.191	0.000	40.090

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FL8 / <i>84mm MAAWS Ammunition</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• G13101: <i>MULTI-ROLE ANTI-ARMOR ANTI-PERSONNEL WEAPON SYSTEM</i>	22.629	31.623	26.627	-	26.627	-	-	-	-	Continuing	Continuing
• OMA - 137010000: <i>RESET</i>	-	0.707	0.735	-	0.735	0.721	0.728	0.735	-	0.000	3.626

Remarks

D. Acquisition Strategy

Used Other Transaction Authority (OTA) via the DoD Ordnance Technology Consortium (DOTC) to obtain commercially available 84mm ammunition for test and evaluation purposes.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FL8 / <i>84mm MAAWS Ammunition</i>
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	MIPR	PMSW : Picatinny Arsenal, NJ	0.500	0.202	Oct 2020	0.645	Oct 2021	-		-		-	0.000	1.347	-
FY 2022 SBIR/STTR Transfer	TBD	Army Budget Office : Pentagon, Washington DC	-	-		0.224		-		-		-	0.000	0.224	-
Subtotal			0.500	0.202		0.869		-		-		-	0.000	1.571	N/A

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Munitions Prototype	SS/CPFF	SAAB : Sweden	1.842	2.435	Nov 2020	-		-		-		-	0.000	4.277	-
Subtotal			1.842	2.435		-		-		-		-	0.000	4.277	N/A



Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Support	MIPR	CCDC : Picatinny Arsenal, NJ	0.500	0.130	Oct 2020	1.847	Mar 2022	-		-		-	0.000	2.477	-
TC-STD Efforts	MIPR	CCDC : Picatinny Arsenal, New Jersey	-	-		0.709	Apr 2022	-		-		-	0.000	0.709	-
Subtotal			0.500	0.130		2.556		-		-		-	0.000	3.186	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Test & Evaluation	MIPR	ATEC : Aberdeen, MD	1.032	0.250	Oct 2020	2.692	Apr 2022	-		-		-	0.000	3.974	-
Subtotal			1.032	0.250		2.692		-		-		-	0.000	3.974	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FL8 / <i>84mm MAAWS Ammunition</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Prototype Delivery																												
Developmental & Operational Testing																												
MS-C & TC-STD																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FL8 / <i>84mm MAAWS Ammunition</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Matériel Development Decision	4	2019	4	2019
DOTC Contract Award	1	2020	1	2020
Critical Design Review	2	2020	2	2020
Prototype Delivery	1	2021	1	2021
Developmental & Operational Testing	4	2020	3	2022
MS-C & TC-STD	3	2022	3	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FM4: <i>Next Generation Squad Weapons</i>	-	32.001	13.599	15.816	-	15.816	16.482	11.278	11.282	11.393	0.000	111.851
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Next Generation Squad Weapons (NGSW) program will develop weapon systems and common 6.8mm cartridge to maintain overmatch and meet future force warfighter needs.

The XM5 Next Generation Squad Weapon-Rifle (NGSW-R) is the planned replacement for the M4A1 Carbine in the close combat force and select support units. The NGSW-R will provide capability improvements in accuracy, range, and lethality.

The XM250 Next Generation Squad Weapon-Automatic Rifle (NGSW-AR) is the planned replacement for the M249 Squad Automatic Weapon (SAW) in the close combat force and select support units. The NGSW-AR combines the firepower and range of a machine gun with the precision and ergonomics of a carbine, yielding capability improvements in accuracy, range, and lethality.

The XM5 NGSW-R and XM250 NGSW-AR will use a common 6.8mm cartridge in a variety of ammunition types including but not limited to general purpose (GP), special purpose (SP), reduced range, and blank.

Development efforts for additional NGSW variants may follow to replace other legacy systems or provide additional enhanced capabilities.

The total cost of the the Next Generation Squad Weapons Rapid Prototyping Middle Tier of Acquisition effort is \$156.83 million RDT&E from FY19 to FY23. The remainder of the Next Generation Squad Weapons Rapid Prototyping is fully funded across the Future Years Defense Program.

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

	FY 2021	FY 2022	FY 2023
Title: Contractor Design and Prototype Fabrication	6.960	10.485	6.989
Description: Contractor design, development and fabrication of prototypes.			
FY 2022 Plans: Will begin the next phase of iterative prototyping with the selected rifle and automatic rifle, in order to develop capability enhancements and design improvements. Effort will include the integration of additional cartridge and ammunition types, integration of new technologies and training systems, enhanced smart rail capabilities, and weapon system performance increases.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
<p>Will continue prototyping with the selected Next Generation Squad Weapon rifle and automatic rifle. Efforts with the selected vendor will include: continued improvements in the reliability of the weapons, as well as system reliability in extreme environmental conditions; improved dispersion and accuracy, including changes to the weapon designs to integrate modifications to the 6.8mm projectile and cartridge design and reduce weapon recoil; continue rapid prototyping and development of powered rail and intra-Soldier wireless data transfer solutions in order to improve the interface between the weapons and the Next Generation Squad Weapon Fire Control, as well as other optics and enablers; enhanced barrel technologies and improved barrel manufacturing techniques. Will purchase additional prototype weapons to support integration, developmental and operational testing, as well as user evaluations.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase of funding from FY2022 to FY2023 reflects the ongoing and additional development and prototyping efforts with the selected vendor.</p>				
<p>Title: Engineering Support</p> <p>Description: Government engineering support, providing oversight of design, development and contractor performance.</p> <p>FY 2022 Plans: Will continue government engineering support to provide design, limited testing and oversight of development and contractor performance for capability enhancement and design improvements.</p> <p>FY 2023 Plans: Will continue government engineering support to provide design, limited testing and oversight of development and contractor performance for capability enhancement and design improvements.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase due to projected slight increases in engineering support, providing oversight of design, development and contractor performance.</p>		6.336	1.062	1.725
<p>Title: Test and Evaluation</p> <p>Description: Testing and evaluation at government ranges and facilities.</p> <p>FY 2022 Plans: Government testing and evaluation will include safety confirmation for the reduced range cartridge integration and for multiple ammunition variants with the weapons. Will also begin Live Fire Test and Evaluation (LFT&E) and Initial Operational Test and Evaluation (IOT&E) of production representative weapons.</p> <p>FY 2023 Plans:</p>		5.984	0.520	6.217

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2021	FY 2022	FY 2023
<p>Will conduct Production Qualification Testing (PQT), integration testing with other enablers, maintainability testing, Initial Operational Test and Evaluation (IOT&E) of production representative weapons, and provide support for Live Fire Test and Evaluation (LFT&E). Will also conduct testing at government ranges and facilities of vendor prototypes.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase in FY2023 will include program costs to conduct Live Fire Test and Evaluation (LFT&E) and Initial Operational Test and Evaluation (IOT&E).</p>				
<p>Title: Program Management</p> <p>Description: Program office management and oversight of government and contractor efforts.</p> <p>FY 2022 Plans: Program management office will continue to provide oversight of contract actions, engineering support and test activities.</p> <p>FY 2023 Plans: Program management office will continue to provide oversight of contract actions, engineering support and test activities.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Increase due to additional FY22 PMA requirements (TAC, travel, other internal costs)</p>		1.136	1.036	0.250
<p>Title: Blank Cartridge and Blank Firing Weapon Adaption Kit Development</p>		3.786	-	-
<p>Title: Reduced Range Cartridge Development and Integration</p> <p>FY 2023 Plans: Will complete work to finalize integration of the Reduced Range cartridge with NGSW Rifle and Automatic Rifle.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Decrease in funding is due to remaining Reduced Range cartridge integration efforts completed on this line in FY2023.</p>		7.799	-	0.254
<p>Title: Special Purpose Cartridge Development and Integration</p> <p>FY 2023 Plans: Will complete work to finalize integration of the Special Purpose cartridge with NGSW Rifle and Automatic Rifle.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Decrease in funding is due to remaining Special Purpose cartridge integration efforts completed on this line in FY2023.</p>		-	-	0.381
<p>Title: SBIR/STTR Transfer</p> <p>Description: SBIR/STTR Transfer</p> <p>FY 2022 Plans:</p>		-	0.496	-

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC 638			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	32.001	13.599	15.816

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• S54: <i>Small Arms Improvement</i>	16.216	10.911	9.248	-	9.248	9.286	9.366	9.359	9.448	0.000	73.834
• EW4: <i>Crew Served Weapons Engineering Development</i>	9.608	8.943	4.958	-	4.958	4.391	3.847	4.152	4.191	0.000	40.090
• S63: <i>Individual Weapons Engineering Development</i>	3.493	3.651	3.956	-	3.956	3.624	3.579	3.863	3.899	0.000	26.065
• FL4: <i>Small Caliber Ammo for Next Gen Squad Weapons</i>	26.483	28.372	25.558	-	25.558	12.058	12.168	12.172	12.291	0.000	129.102
• G14511: <i>Next Generation Squad Weapon-Automatic Rifle</i>	-	3.630	13.548	-	13.548	21.079	24.116	14.405	14.406	0.000	91.184
• G14512: <i>NEXT GENERATION SQUAD WEAPON-RIFLE</i>	-	20.862	60.100	-	60.100	92.201	105.438	63.015	63.021	0.000	404.637
• E06001: <i>NEXT GENERATION SQUAD WEAPON AMMUNITION</i>	14.386	71.234	128.662	-	128.662	196.146	210.746	344.266	344.257	0.000	1,309.697

Remarks

D. Acquisition Strategy
 The NGSW program is a Middle Tier Acquisition (MTA) program utilizing Rapid Prototyping authority under Section 804 of the FY 2016 National Defense Authorization Act (NDAA). A full and open competition selected three vendors for fixed amount Other Transaction Authority (OTA) awards to mature and finalize system designs and conduct test and evaluation. Following successful completion of the prototyping effort, the Government will award a follow-on contract for production and continued improvements of the XM5 NGSW-R, the XM250 NGSW-AR, and 6.8mm common ammunition.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	Allot	PM Soldier Weapons : Picatinny Arsenal, NJ	0.419	1.136	Oct 2020	1.036	Oct 2021	0.250	Oct 2022	-		0.250	0.000	2.841	-
SBIR/STTR tax	TBD	PEO Soldier HQ : FT Belvoir, VA	-	-		0.496		-		-		-	0.000	0.496	-
Subtotal			0.419	1.136		1.532		0.250		-		0.250	0.000	3.337	N/A

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Prototype Opportunity Notice	C/FFP	SIG Sauer Inc. : Newington, NH	1.188	1.212	Oct 2020	-		-		-		-	0.000	2.400	-
Prototype Opportunity Notice	C/FFP	LoneStar Future Weapons, LLC : Waco, TX	13.980	2.997	Oct 2020	-		-		-		-	0.000	16.977	-
Prototype Opportunity Notice	C/FFP	Textron Systems : Hunt Valley, MD	12.018	2.751	Oct 2020	-		-		-		-	0.000	14.769	-
Blank Cartridge and Blank Firing Weapon Adaptation Kit Development	C/FFP	VENDOR TBD : ACC-NJ, Picatinny Arsenal, NJ	-	3.786	Sep 2021	-		-		-		-	0.000	3.786	-
Reduced Range Cartridge Development and Integration	C/FFP	VENDOR TBD : ACC-NJ, Picatinny Arsenal, NJ	-	7.799	Sep 2021	-		0.254	Feb 2023	-		0.254	0.000	8.053	-
Special Purpose Cartridge Development and Integration	C/FFP	VENDOR TBD : ACC-NJ, Picatinny Arsenal, NJ	-	-		-		0.381	Feb 2023	-		0.381	0.000	0.381	-
Prototyping / Design Improvements	C/FFP	VENDOR TBD : ACC-NJ, Picatinny Arsenal, NJ	-	-		10.485	Jan 2022	6.989	Feb 2023	-		6.989	0.000	17.474	-
Subtotal			27.186	18.545		10.485		7.624		-		7.624	0.000	63.840	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>
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Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			

Remarks
Reduced Range Cartridge Development and Integration and Special Purpose Cartridge Development and Integration will be vendor efforts awarded to the company selected for production of the NGSW Rifle and Automatic Rifle.

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Support	MIPR	Combat Capability Development Center - Armament Center (CCDC-AC) : Picatinny Arsenal, NJ	2.258	6.336	Oct 2020	1.062	Oct 2021	1.725	Oct 2022	-		1.725	0.000	11.381	-
Subtotal			2.258	6.336		1.062		1.725		-		1.725	0.000	11.381	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Test and Evaluation	MIPR	Army Test and Evaluation Command (ATEC) : Aberdeen Proving Ground, ND	1.856	5.984	Dec 2020	0.520	Dec 2021	6.217	Dec 2022	-		6.217	0.000	14.577	-
Subtotal			1.856	5.984		0.520		6.217		-		6.217	0.000	14.577	N/A

			Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			31.719	32.001	13.599	15.816	-	15.816	0.000	93.135	N/A

Remarks
Prototyping agreement with General Dynamics novated to LoneStar Future Weapons, LLC in June 2021.

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				
	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	
Rapid Prototyping - Rifle / AR / Common Cartridge																													
Sig Sauer Inc.- Contractor Design and Prototype Fabrication																													
General Dynamics- OTS Inc- Contractor Design and Prototyp																													
AAJ CorpTextron Systems - Contractor Design and Prototype																													
VENDOR TBD - Production Down-Selection					▲ 1																								
Blank Cartridge & Firing Weapon Adaptation Kit Development																													
Reduced Range Cartridge Development and Integration																													
Special Purpose Cartridge Development and Integration																													
Prototype Testing (Phase II) - Test and Evaluation																													
Prototyping - Improvements																													
Contract Award - Iterative Prototyping					▲ 2																								
Contractor Design and Prototype Fabrication																													
Test and Evaluation - Prototyping																													

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Production Qualification Testing (PQT)									■																			
Test and Evaluation - LFT&E													■															
Test and Evaluation - IOT&E													■															

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) FM4 / <i>Next Generation Squad Weapons</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Rapid Prototyping - Rifle / AR / Common Cartridge	4	2019	4	2021
Prototype Opportunity Notice	2	2019	2	2019
Other Transaction Agreements (OTA) Award - Rapid Prototyping	4	2019	4	2019
Sig Sauer Inc.- Contractor Design and Prototype Fabrication	4	2019	4	2021
General Dynamics- OTS Inc- Contractor Design and Prototype Fabrication	4	2019	4	2021
AAJ CorpTextron Systems - Contractor Design and Prototype Fabrication	4	2019	4	2021
VENDOR TBD - Production Down-Selection	1	2022	1	2022
Blank Cartridge & Firing Weapon Adaptation Kit Development	2	2021	1	2023
Reduced Range Cartiridge Development and Integration	3	2021	4	2023
Special Purpose Cartridge Development and Integration	4	2021	4	2023
Prototype Testing (Phase I) - Test and Evaluation	3	2020	4	2020
Prototype Testing (Phase II) - Test and Evaluation	2	2021	4	2021
Prototyping - Improvements	1	2022	4	2025
Contract Award - Iterative Prototyping	2	2022	2	2022
Contractor Design and Prototype Fabrication	2	2022	4	2027
Test and Evaluation - Prototyping	3	2022	4	2027
Production Qualification Testing (PQT)	2	2023	3	2023
Test and Evaluation - LFT&E	4	2023	4	2023
Test and Evaluation - IOT&E	3	2023	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S58 / <i>Soldier Enhancement Program</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
<i>S58: Soldier Enhancement Program</i>	-	9.000	13.655	5.182	-	5.182	-	5.196	5.198	5.197	0.000	43.428
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Soldier Enhancement Program (SEP) was established by the National Defense Authorization Act for Fiscal Years 1990 to provide a rapid approach to evaluate Commercial off-the-shelf (COTS), Government off-the shelf (GOTS), or Non-Developmental Items (NDI) capabilities to increase the combat effectiveness of the Soldier. Using a "buy, try and decide" methodology, SEP provides significant savings and acceleration in the evaluation of leading edge Soldier capabilities in order to provide combat overmatch. The SEP tri-chair leadership consists of the Director, Maneuver Capabilities Development and Integration Directorate (MCDID), The Infantry Commandant, and Program Executive Office (PEO) Soldier. Proposals are submitted by Soldiers and industry at any time, are reviewed monthly and new starts are approved semi-annually by the SEP Council of Colonels (CoC). Approved proposals are validated by the Director, Maneuver Capability Development and Integration Directorate (MCDID). Validated SEP initiatives are procured and evaluated by Soldiers for feasibility and suitability. Based on the evaluation findings, the SEP CoC provides one or more of the following courses of action: (1) inform deliberate or urgent/emerging requirements generation, (2) initiate a new Program of Record (POR) or improve an existing POR, (3) provide a national stock number (NSN) for unit procurement or (4) the item did not meet objectives and no further action is necessary. The funding supports SEP evaluation preparation, conducting evaluations, and documenting results. Funding for this project aligns with the Army's priorities in support of the National Defense Strategy and is a priority of the Army Futures Command (AFC).

Justification: FY2023 RDT&E funding supports SEP evaluations and documentation of results.

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

	FY 2021	FY 2022	FY 2023
<p>Title: Evaluate COTS/GOTS/NDI equipment that have the potential to enhance Soldier combat effectiveness.</p> <p>FY 2022 Plans: Funding will support evaluation of SEP Council of Colonels approved and validated initiatives. Evaluations will include safety testing, collection, and analysis of user feedback and documentation of results.</p> <p>FY 2023 Plans: Funding will support evaluation of approximately 15 SEP Council of Colonels approved and validated initiatives to enhance Soldier combat effectiveness. Product evaluations will include safety testing, collection and analysis of Soldier feedback/results and documentation of results.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: FY22 to FY23 funding increase due to increase number of initiatives to be evaluated.</p>	-	3.522	5.182
<p>Title: FY 2022 SBIR/STTR Transfer</p> <p>FY 2022 Plans:</p>	-	0.133	-

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S58 / <i>Soldier Enhancement Program</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> FY 2022 SBIR/STTR Transfer in accordance with Title 15 USC ?638.			
Accomplishments/Planned Programs Subtotals	-	3.655	5.182

	FY 2021	FY 2022
<i>Congressional Add:</i> Program increase - soldier enhancement program	9.000	10.000
<i>FY 2021 Accomplishments:</i> Funding will support evaluation of SEP Council of Colonels approved and validated initiatives. Coordinate with industry and Army to ensure submitted proposals satisfy Army needs. Manage and distribute funding for SEP evaluations. Evaluations will include safety testing, collection, and analysis of user feedback and documentation of results for close-out.		
<i>FY 2022 Plans:</i> Funding will support evaluation of SEP Council of Colonels approved and validated initiatives. Evaluations will include safety testing, collection, and analysis of user feedback and documentation of results.		
Congressional Adds Subtotals	9.000	10.000

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

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MA6800: <i>Soldier Enhancement</i>	-	1.286	0.000	-	0.000	-	-	-	-	0.000	1.286

Remarks

Other

D. Acquisition Strategy

SEP focuses on COTS/GOTS/NDI initiatives submitted by Soldiers and industry. SEP proposals are reviewed monthly and approved semi-annually. The funding supports procuring SEP COTS/GOTS/NDI items in quantities sufficient for Soldier evaluation, conducting product evaluations which includes safety testing, data collection, analysis of Soldier feedback/results and documenting results. Product Managers responsible for the portfolio in which the SEP initiative falls into develops the procurement and evaluation strategy and procures the items using a variety of means from Government purchase card to full contracts. Soldier's evaluations are performed by various means from Battle Lab surveys to full scale Army Test and Evaluation testing depending on the item.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S58 / <i>Soldier Enhancement Program</i>
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 2022 SBIR/STTR Transfer	TBD	PEO Soldier HQ : FT Belvoir	-	-		0.133		-		-		-	0.000	0.133	-
Various	MIPR	PEO SOLDIER : Ft. Belvoir, VA	14.825	0.361	Sep 2021	0.370		0.373	Aug 2023	-		0.373	0.000	15.929	-
Subtotal			14.825	0.361		0.503		0.373		-		0.373	0.000	16.062	N/A

Remarks
Systems Engineering and Program Management includes engineering support, conducting technical evaluations, market research and program reviews.

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
SEP Evaluations	MIPR	Various : Various	57.533	8.639		13.152		4.809		-		4.809	0.000	84.133	-
Subtotal			57.533	8.639		13.152		4.809		-		4.809	0.000	84.133	N/A

Remarks
Testing costs vary annually depending on number and type of items being evaluated.

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	72.358	9.000	13.655	5.182	-	5.182	0.000	100.195	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S58 / <i>Soldier Enhancement Program</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
SEP Council of Colonels approve/prioritization process FY21.2	▲ 1 <i>Approval/prioritization of SEP Proposals</i>																											
Evaluate Initiatives 2-4QFY21	■ <i>Evaluate Approved Initiatives</i>																											
SEP Council of Colonels approve/prioritization process FY21.3	▲ 2 <i>Approval/prioritization of SEP Proposals</i>																											
Evaluate Initiatives 3QFY21-1QFY22	■ <i>Evaluate Approved Initiatives</i>																											
SEP Council of Colonels approve/prioritization process FY22.1	▲ 3 <i>Approval/prioritization of SEP Proposals</i>																											
Evaluate Initiatives 1-3QFY22	■ <i>Evaluate Approved Initiatives</i>																											
SEP Council of Colonels approve/prioritization process FY22.2	▲ 4 <i>Approval/prioritization of SEP Proposals</i>																											
Evaluate Initiatives 3QFY22-1QFY23	■ <i>Evaluate Approved Initiatives</i>																											
SEP Council of Colonels approve/prioritization process FY23.1	▲ 5 <i>Approval/prioritization of SEP Proposals</i>																											
Evaluate Initiatives 1-3QFY23	■ <i>Evaluate Approved Initiatives</i>																											
SEP Council of Colonels approve/prioritization process FY23.2	▲ 6 <i>Approval/prioritization of SEP Proposals</i>																											
Evaluate Initiatives 3QFY23-1QFY24	■ <i>Evaluate Approved Initiatives</i>																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S58 / <i>Soldier Enhancement Program</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SEP Council of Colonels approve/prioritization process FY21.2	2	2021	2	2021
Evaluate Initiatives 2-4QFY21	2	2021	4	2021
SEP Council of Colonels approve/prioritization process FY21.3	3	2021	3	2021
Evaluate Initiatives 3QFY21-1QFY22	3	2021	1	2023
SEP Council of Colonels approve/prioritization process FY22.1	1	2022	1	2022
Evaluate Initiatives 1-3QFY22	1	2022	3	2022
SEP Council of Colonels approve/prioritization process FY22.2	3	2022	3	2022
Evaluate Initiatives 3QFY22-1QFY23	3	2022	1	2023
SEP Council of Colonels approve/prioritization process FY23.1	1	2023	1	2023
Evaluate Initiatives 1-3QFY23	1	2023	3	2023
SEP Council of Colonels approve/prioritization process FY23.2	3	2023	3	2023
Evaluate Initiatives 3QFY23-1QFY24	3	2023	1	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) S60 / <i>Clothing & Equipment</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
S60: <i>Clothing & Equipment</i>	-	6.472	5.393	6.313	-	6.313	3.499	6.490	9.048	9.136	0.000	46.351
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding in this effort supports the Army's Cross Functional Teams (CFT) initiatives. It supports engineering and manufacturing development tasks related to clothing and individual equipment with the goal of enhancing the lethality, survivability, and mobility as well as the quality of life of the Warfighter. It funds formal Developmental Testing/Operational Testing (DT/OT) of preproduction and prototypes leveraging technological advancements. Those advancements focus on materials, fabrication techniques, moisture management, flame resistance, vector protection, extreme environmental protection and camouflage. This effort also funds evaluations of Organizational Clothing and Individual Equipment (OCIE) appropriate for use in extreme or multi-climate environments. Product Manager Soldier Clothing and Individual Equipment (PM SCIE) goal is to increase the capabilities and durability of tactical and non-tactical clothing and individual equipment. This results in the Soldier as an integrated system. This effort will transition capabilities from our Science and Technology partners to increase performance and safety of Warfighter clothing and equipment. PM SCIE will continue to support multi-service commonality initiatives through technology that enables combat operations in a gender integrated fighting force.

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

	FY 2021	FY 2022	FY 2023
Title: Soldier Uniforms and Clothing	3.632	2.628	3.483
Description: Evaluate superior and sustainable integrated clothing for the Soldier in a rapidly changing global environment.			
FY 2022 Plans: Perform technical testing, user evaluations, and qualify new fabrics with appropriate level of Flame Resistant (FR) protection for combat clothing and Cold Weather/Extreme Cold Weather Clothing. Continue clothing improvements and multi-service commonality efforts. Conduct user evaluations to support material changes to enhance tactical and environmental Soldier clothing. Procure test assets and perform Developmental tests/Operational Tests (DT/OT) on uniforms produced with microwave protective materials to defeat emerging threats and on uniforms designed to mitigate Ground Surveillance Radar (GSR) detection. Annual evaluation of domestic material solution submissions to support the Athletic Footwear program providing Soldiers a greater variety of athletic footwear from which to choose. Continue Clothing Bag Upgrades and Evaluations. Conduct ensemble level evaluations of novel materials and fabrics in clothing, footwear and equipment in all climates. Support the Secretary of the Army's directive to identify opportunities for commonality in OCIE across all Services (Army, Navy, Air Force, Marines, Coast Guard).			
FY 2023 Plans: Perform technical testing, user evaluations, and qualify new fabrics with improved vector protections. Support the Secretary of the Army's directive to identify opportunities for commonality in Organizational Clothing and Individual Equipment (OCIE) across all Services (Army, Navy, Air Force, Marines, and Coast Guard). Evaluation of Flame Resistant (FR) printing inks and other technologies to greatly reduce the cost of FR clothing. Conduct user evaluations of Parachutists clothing above twenty-			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S60 / <i>Clothing & Equipment</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022		FY 2023
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<p>five thousand feet for high altitude insertion missions. Long term evaluation study for Army Green Service Uniform and user evaluation for Maternity Army Green Service Uniform in conjunction with Defense Logistics Agency Maternity Pilot Program. Continued development of Improved Combat Vehicle Crewman Uniform to include female and male variant patterns. Annual evaluation of domestic material solution submissions to support the Athletic Footwear program providing Soldiers a greater variety of athletic footwear from which to choose. Continue Clothing Bag Upgrades and Evaluations as directed by the Army Uniform Board. Conduct ensemble level evaluations of novel materials and fabrics in clothing, footwear and equipment in all climates.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Funding increase from FY 2022 to FY 2023 due to anticipated technology maturation.</p>				
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<p>Title: Individual Equipment</p> <p>Description: Develop and provide superior and sustainable integrated individual equipment for the Soldier in a rapidly changing global environment.</p> <p>FY 2022 Plans: Development of the Welding Individual Protection System (WIPS) ensemble. WIPS will provide welders with Occupational Safety Health Act (OSHA) compliant Personal Protective Equipment (PPE); and will enable units with a capability to execute mission essential welding tasks. Procure test assets and perform Developmental tests/Operational Tests (DT/OT) as required for GEN II Individual Water Treatment Device for Toxic Industrial Chemicals and Toxic Industrial Materials (TICs/TIMs) and desalinization. Procure test assets and perform DT/OT as required for Cold Weather Gear. Procure and test assets and perform DT/OT for survival blanket for use in Zone 7 environments. Procure and test skin paint to camouflage and reduce thermal signature on exposed skin (face, neck, hands, etc) and to temporarily camouflage individual equipment. Validation of load carriage equipment in support of weapon modernization. Continue athletic shoe certification. Continue testing of load carriage equipment to address interoperability with improved Army capabilities. Support the Secretary of the Army's directive to identify opportunities for commonality in OCIE across all Services (Army, Navy, Air Force, Marines, Coast Guard).</p> <p>FY 2023 Plans: Procure test assets and perform Developmental Tests/Operational Tests (DT/OT) as required for Water Treatment Devices for Toxic Industrial Chemicals and Toxic Industrial Materials (TICs/TIMs) and desalinization. Continue to develop the Welding Individual Protection System (WIPS) ensemble to provide welders with Occupational Safety Health Act (OSHA) compliant Personal Protective Equipment (PPE). Support the Secretary of the Army's directive to identify opportunities for commonality in Organizational Clothing and Individual Equipment (OCIE) across all Services (Army, Navy, Air Force, Marines, and Coast Guard). Procure and test quick reaction camouflage to reduce thermal signature and to enhance individual equipment camouflage. Procure test assets and perform DT/OT on multi-purpose and specialized load carriage equipment.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p>	2.840	2.568		2.830
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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S60 / <i>Clothing & Equipment</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Funding increase from FY 2022 to FY 2023 due to anticipated technology maturation.			
Title: SBIR/STTR Transfer	-	0.197	-
Description: Funding transferred in accordance with Title 15 USC 638			
FY 2022 Plans: Funding transferred in accordance with Title 15 USC 638			
FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	6.472	5.393	6.313

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• S53: <i>Clothing And Equipment</i>	1.742	6.504	4.578	-	4.578	4.799	8.312	8.957	9.044	Continuing	Continuing

Remarks

D. Acquisition Strategy
 Acquisition strategies for these programs vary in methods, and range from: 1) Materiel Change Proposals that result in engineering changes to existing systems to; 2) Traditional development programs that include an Engineering and Manufacturing Development phase ranging in duration from 12 to 48 months, depending on the level of complexity and testing required.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S60 / <i>Clothing & Equipment</i>
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Support	Allot	PM SCIE : Ft Belvoir	11.891	0.812		0.749		0.698		-		0.698	Continuing	Continuing	Continuing
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.197		-		-		-	0.000	0.197	-
Subtotal			11.891	0.812		0.946		0.698		-		0.698	Continuing	Continuing	N/A

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Support	Various	NSRDEC : Natick, MA	17.316	0.608		0.623		0.845		-		0.845	Continuing	Continuing	Continuing
Development Contracts	Various	Various : Various	54.151	2.390		1.898		1.674		-		1.674	Continuing	Continuing	Continuing
Subtotal			71.467	2.998		2.521		2.519		-		2.519	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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 Office Support Costs	Various	Natick, MA : Natick, MA	18.951	0.465		0.469		1.468		-		1.468	Continuing	Continuing	Continuing
Subtotal			18.951	0.465		0.469		1.468		-		1.468	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Developmental Testing	MIPR	Various : Various	32.741	2.197		1.457		1.628		-		1.628	Continuing	Continuing	Continuing
Subtotal			32.741	2.197		1.457		1.628		-		1.628	Continuing	Continuing	N/A

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S60 / <i>Clothing & Equipment</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
UNIFORM CLOTHING																												
Continue Fabric & FR Upgrades																												
Clothing Bag Upgrades and Evaluations																												
Develop Extreme Cold Weather Boot																												
Continue Upgrades for Extreme Cold Weather Protections																												
FR Next Gen Materials Testing																												
Footwear Last Development and Evaluation																												
Spectral Mitigation																												
INDIVIDUAL EQUIPMENT																												
On-the-Move Hydration Operational Life Testing (TIC/TIM/Desalination)																												
Evaluate of Cold Weather Mobility items																												
Athletic Shoe Certification																												
Welding Individual Protection System (WIPS)																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S60 / <i>Clothing & Equipment</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Quick Reaction Camouflage																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S60 / <i>Clothing & Equipment</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
UNIFORM CLOTHING	1	2011	4	2027
Continue Fabric & FR Upgrades	3	2009	4	2027
Clothing Bag Upgrades and Evaluations	1	2013	4	2027
Develop Extreme Cold Weather Boot	1	2020	4	2021
Continue Upgrades for Extreme Cold Weather Protections	1	2020	4	2021
FR Next Gen Materials Testing	3	2020	4	2027
Footwear Last Development and Evaluation	1	2022	4	2023
Spectral Mitigation	1	2020	4	2027
INDIVIDUAL EQUIPMENT	2	2008	4	2027
On-the-Move Hydration Operational Life Testing (TIC/TIM/Desalinization)	2	2021	4	2027
Evaluate of Cold Weather Mobility items	1	2024	4	2025
Athletic Shoe Certification	1	2021	4	2021
Welding Individual Protection System (WIPS)	1	2022	4	2023
Quick Reaction Camouflage	1	2023	4	2023

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) S61 / <i>Acis Engineering Development</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
S61: <i>Acis Engineering Development</i>	-	2.190	2.528	2.427	-	2.427	1.488	0.475	0.475	0.480	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project conducts development, integration, and qualification activities in support of the Air Soldier System (Air SS). The Air SS is Army aircrew survival and mission equipment that improves safety, survivability, and mission performance. The Air SS addresses capability gaps identified during combat operations as well as emerging challenges to Army aircrew safety and performance caused by the bulk and weight of body-worn equipment, limited Situational Awareness (SA), lack of protection from emerging threats, and a lack functionally integrated mission electronics and protective/survival equipment. Air SS delivers improved aircrew survivability, SA, interoperability, and mission performance. The Air SS provides enhanced mission planning and execution, connectivity between aircrew members, other aircraft, and ground assets; improved terrain, threat, and obstacle avoidance information thorough improved heads up display (HUD) technologies; the capability to perform extended missions in extreme environmental and chemical/biological threat conditions; a digital replacement for paper-based DoD Flight Information Publications; and the Aircrew Combat Equipment (ACE), a replacement for the legacy survival vest with integral Modular Scalable Vest body armor. These enhanced capabilities support the enduring fleet as well as the Future Long Range Assault Aircraft (FLRAA) and Future Attack and Reconnaissance Aircraft (FARA).

This project also funds the development and test of deferred Capability Development Document (CDD) capabilities as enablers to meet current and Large Scale Combat Operations (LSCO) gaps in protection, survivability, and SA. These include: improved laser eye protection to counter and defeat current and future threats; next generation Heads-Up Display for FVL platforms; power output improvement and weight and bulk reductions to aircrew-worn Personal Electronics; secure enhanced wireless audio capabilities aimed at further enhancement of crewmember mobility; and, aircrew helmet protection. This program does not duplicate any aircraft platform program efforts. Includes integration and interface of products on Soldiers and aircraft platforms.

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

	FY 2021	FY 2022	FY 2023
Title: Air Soldier System	2.190	2.436	2.427
Description: This project conducts development, integration and qualification activities in support of the Air Soldier System (Air SS) program. The Air SS addresses capability gaps identified during previous combat operations. This includes crew station compatibility challenges caused by the burden of excessive equipment bulk and weight; impacts to safety resulting from excessive pilot workload and limited aircrew situational awareness (SA); and inadequate aircrew protection from environmental extremes, hostile threats, and induced threats resulting from aircraft mishaps or crashes.			
FY 2022 Plans: Completes development and testing of improved laser eye protection (LEP) solution in order to provide enhanced protection better aligned for current and future MDO threats. Begins development of additional deferred capabilities and candidate technologies for use on current and future fleet (e.g. Future Vertical Lift) including, but not limited to: development and initial flight qualification			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S61 / <i>Acis Engineering Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
of Helmet Sub-System (HSS); development of Combat Survivor/Evader Locator (CSEL) battery eliminator; and, obsolescence replacement for the Encrypted Aircraft Wireless Intercom System (EAWIS) leveraging Voice over Internet Protocol (VoIP) or ultra-wideband (UWB) technologies. FY 2023 Plans: Specific activities planned for FY 23 will focus on the transition of several Small Business Innovative Research (SBIR) initiatives associated with the Air SS integrated soldier power and personal area network capabilities. These activities include, but are not limited to an obsolescence replacement for the Encrypted Aircraft Wireless Intercom System (EAWIS) leveraging Voice over Internet Protocol (VoIP) or ultra-wideband (UWB) technologies, high density/lightweight power storage devices, miniaturization and integration of the personal helicopter oxygen delivery system, and expansion of universal soldier power to head (or helmet) worn devices reducing head borne weight and further reducing the need for device specific batteries. FY 2022 to FY 2023 Increase/Decrease Statement: Funding decrease from FY 2022 to FY 2023 due to changes in Tactical Personal Area Network (TacPAN) requirements.			
Title: SBIR/STTR Transfer Description: Funding transferred in accordance with Title 15 USC 638 FY 2022 Plans: Funding transferred in accordance with Title 15 USC 638 FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC 638	-	0.092	-
Accomplishments/Planned Programs Subtotals	2.190	2.528	2.427

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• AZ3110: <i>Aircrew Integrated Systems</i>	49.293	41.425	25.773	-	25.773	24.938	9.126	14.080	14.089	0.000	178.724

Remarks

D. Acquisition Strategy

Air Soldier System Milestone C was conducted in April 2019 for initial capabilities to include: Aircraft-mounted hardware and helmet worn displays that provide integrated helmet capabilities and increase aircrew situational awareness; and, Protective and Survival Soldier Kit items that reduce equipment weight and bulk and improve aircrew mission effectiveness and survivability. Air SS capabilities are being phased into production over time. Efforts for the Air SS program include development,

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
2040 / 5	PE 0604601A / <i>Infantry Support Weapons</i>	S61 / <i>Acis Engineering Development</i>

integration, test, and airworthiness qualification of aviator flight display symbology technologies that will increase crew member situational awareness, and aircrew protective and survival equipment that reduces bulk and weight and improves crew station compatibility and mission effectiveness. Air SS includes improvements to the current flight helmet; improvements to the survival gear carriage system; lightweight body armor; environmental protective clothing and personal survival equipment; and a day/night helmet-mounted flight symbology display for Rotary Wing platform aviators. Efforts continue to develop deferred capabilities as defined within the Capability Development Document (CDD) to include Large Scale Combat Operations (LSCO) enablers and modernization initiatives for protection and situational awareness. These efforts migrate from program/platform-unique hardware and software solutions to common integrated air/ground solutions that align with Network, Soldier Lethality, and FVL modernization priorities

Development efforts are conducted using a mix of both Cost and Firm Fixed Price Contracts with industry utilizing full and open competition. Each development effort is individually evaluated and the appropriate contract type is selected in order to appropriately share risk between industry and the government. Risk reduction, developmental, and operational testing are also conducted.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S61 / <i>Acis Engineering Development</i>
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Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
PM Administration	Allot	Various Government : Huntsville, Alabama	4.359	0.050		0.064		0.059		-		0.059	Continuing	Continuing	Continuing
SBIR/STTR	Allot	Various : Various	-	-		0.092		-		-		-	0.000	0.092	-
Subtotal			4.359	0.050		0.156		0.059		-		0.059	Continuing	Continuing	N/A

Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Air Warrior and Air Soldier System Development	C/CPFF	Various Government : Various Locations	64.280	1.083		2.014		2.036		-		2.036	Continuing	Continuing	Continuing
Subtotal			64.280	1.083		2.014		2.036		-		2.036	Continuing	Continuing	N/A

Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Matrix Support	RO	Various Government : Various Locations	4.475	0.057		0.058		0.054		-		0.054	Continuing	Continuing	Continuing
Subtotal			4.475	0.057		0.058		0.054		-		0.054	Continuing	Continuing	N/A

Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Developmental and Operational Testing	RO	Various Activities : Various Locations	19.256	1.000		0.300		0.278		-		0.278	Continuing	Continuing	Continuing
Subtotal			19.256	1.000		0.300		0.278		-		0.278	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S61 / <i>Acis Engineering Development</i>
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	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	92.370	2.190	2.528	2.427	-	2.427	Continuing	Continuing	N/A

Remarks
 Funds for this project are allocated amongst a number of smaller development/qualification programs at various stages of technical maturity intended to address capability gaps associated with deferred Air SS capabilities being implemented as pre-planned product improvements to the baseline Air SS program. Efforts are largely focused on transitioning technologies and products initially developed under Small Business Innovative Research (SBIR) programs, Technology Maturation Initiatives (TMI), and/or the identification and qualification of COTS/GOTS capabilities that have the potential of satisfying remaining capability gaps as documented in the Air SS CDD.

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S61 / <i>Acis Engineering Development</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Air SS Pre-planned Product Improv (P3I) Phase																												
Aircrew Combat Equipment (ACE) Integration and Qualification																												
ACE Developmental Test/Operational Test (DT/OT)																												
ACE Production Decision																												
Air SS Capabilities Develop & Qual																												
Laser Eye Protection (LEP) Integration & Qualification																												
LEP DT & OT																												
LEP Production Decision																												
Enhanced Personal Electronics Develop, Integration, and Qual																												
Next Gen EAWIS Integration & Qualification																												
Enhanced Personal Electronics & Next Gen EAWIS DT & OT																												
Enhanced Personal Electronics & Next Gen EAWIS Production Decision																												
Next Generation Heads Up Display (HUD) Integration & Qualification																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S61 / <i>Acis Engineering Development</i>
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Enhanced Helmet Protection																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S61 / <i>Acis Engineering Development</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Air SS Pre-planned Product Improv (P3I) Phase	1	2016	4	2027
Aircrew Combat Equipment (ACE) Integration and Qualification	1	2017	4	2022
ACE Developmental Test/Operational Test (DT/OT)	2	2020	4	2022
ACE Production Decision	3	2022	4	2022
Air SS Capabilities Develop & Qual	1	2019	4	2027
Laser Eye Protection (LEP) Integration & Qualification	3	2021	2	2022
LEP DT & OT	2	2022	3	2022
LEP Production Decision	4	2022	4	2022
Enhanced Personal Electronics Develop, Integration, and Qual	3	2021	3	2024
Next Gen EAWIS Integration & Qualification	2	2022	2	2024
Enhanced Personal Electronics & Next Gen EAWIS DT & OT	2	2023	4	2024
Enhanced Personal Electronics & Next Gen EAWIS Production Decision	4	2024	1	2026
Next Generation Heads Up Display (HUD) Integration & Qualification	1	2024	4	2027
Enhanced Helmet Protection	3	2024	4	2025

Note

Next Generation Heads Up Display (HUD) Integration & Qualification is the follow-on effort to the current Integrated Visual Augmentation System-Aviation (IVAS-A) Technical Maturation Initiative (TMI) effort.

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) S63 / <i>Individual Weapons Engineering Development</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
S63: <i>Individual Weapons Engineering Development</i>	-	3.493	3.651	3.956	-	3.956	3.624	3.579	3.863	3.899	0.000	26.065
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Individual Weapons Engineering Development program provides funds to transition components or prototypes from Budget Activity 4 (BA 4) Element (PE) 0603827A Soldier Systems - Advanced Development Project S54 Small Arms Improvement Program and other domestic and foreign sources of small arms weapon systems to demonstrate, test and evaluate capability near or at planned operational requirements. The Maneuver Center of Excellence (MCoE), Fort Benning, GA (User Community) identifies the Individual Weapons Engineering Development as a critical capability gap for our Soldiers in combat and Soldier Lethality Cross Functional Team (CFT) has assumed this need as a task. Small arms systems include weapons up to 40 millimeter (mm) in caliber. Current and future efforts focus on system improvements designed to enhance lethality, target acquisition, fire control, usability, training effectiveness and reliability of weapons to include ammunition when developing and/or evaluating standard and non-standard weapons. Focus areas include system development, integration (to include human-systems), demonstration, test and evaluate components, prototypes and operational system prototypes of small arms weapon systems and/or enhancements. Benefits include continuous improvements to small arms weapon systems, fire control equipment, optics, gun barrels, ancillary equipment, training devices, component mounts, weapon mounts, and weapon/ammunition interface of current small arms fleet or new weapon systems.

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

	FY 2021	FY 2022	FY 2023
Title: Design and Development	3.202	2.580	3.018
Description: Design and development of Individual Weapons			
FY 2022 Plans: New and Legacy Weapon Assessment and Product Development: Will continue to focus on weapon design and development utilizing current state-of-the-art technologies and integration of those technologies for individual weapons across the spectrum of small arms from pistols through rifles and grenade launchers. Evaluation will focus on terminal effects and those technologies utilized to achieve on-target effects, as well as increase sustainability, reliability, and producibility and will include advanced combat optics and improvement of small arms munitions.			
FY 2023 Plans: New Weapons and Enabling Technology Evaluation and Assessment will continue to focus on weapon design and development utilizing current state-of-the-art technologies and integration of those technologies for individual weapons across the spectrum of small arms from pistols through rifles and grenade launchers. Evaluation will focus on terminal effects and those technologies			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S63 / <i>Individual Weapons Engineering Development</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
utilized to achieve on-target effects, as well as increase sustainability, reliability, and producibility and will include advanced combat optics and improvement of small arms munitions. FY 2022 to FY 2023 Increase/Decrease Statement: Increase from FY2022 to FY2023 for New Weapons and Enabling Technology Evaluations and Assessments.			
Title: Testing and Evaluation Description: Test and evaluation of Individual Weapons FY 2022 Plans: New and Legacy Weapon Testing and Evaluation: Will continue to test and evaluate new technology that can lead to enhancements of current and legacy weapon systems or create new weapon systems, as well as advanced combat optics and improvement of small arms munitions. FY 2023 Plans: New Weapons and Enabling Technology Testing and Evaluation will continue to test and evaluate new technology that can lead to enhancements of current and legacy weapon systems or create new weapon systems, as well as advanced combat optics and improvement of small arms munitions.	0.291	0.938	0.938
Title: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) Description: Funding transferred in accordance with Title 15 USC 638 FY 2022 Plans: Funding transferred in accordance with Title 15 USC 638 FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC 638	-	0.133	-
Accomplishments/Planned Programs Subtotals	3.493	3.651	3.956

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• S54: <i>Small Arms Improvement</i>	16.216	10.911	9.248	-	9.248	9.286	9.366	9.359	9.448	0.000	73.834
• G01507: <i>COMPACT SEMI-AUTOMATIC SNIPER SYSTEM</i>	0.999	-	0.000	-	0.000	-	-	-	-	0.000	0.999
• G13503: <i>M4A1 CARBINE</i>	5.411	4.434	0.000	-	0.000	-	-	-	-	0.000	9.845

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S63 / <i>Individual Weapons Engineering Development</i>

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

Line Item	FY 2021	FY 2022	FY 2023	FY 2023	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Cost To	
			Base	OCO	Total					Complete	Total Cost
• GB3007: <i>M4 Carbine Mods</i>	4.824	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing
• G01501: <i>XM320 Grenade Launcher Module (GLM)</i>	5.969	8.666	11.703	-	11.703	14.361	17.985	18.146	18.148	Continuing	Continuing
• G15325: <i>Handgun</i>	4.662	4.930	0.000	-	0.000	-	-	-	-	0.000	9.592
• GL3200: <i>Items Less Than \$5.0m (WOCV-WTCV)</i>	2.763	1.068	2.138	-	2.138	1.170	1.075	2.277	2.278	Continuing	Continuing
• GC0925: <i>Modifications Less Than \$5.0m (WOCV-WTCV)</i>	2.604	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Remarks

In support of Small Arms Requirements, components or prototypes developed in BA 4 PE 0603827A Soldier Systems - Advanced Development Project S54 Small Arms Improvement Program is transitioned to BA 5 PE 0604601A Infantry Support Weapons Project S63 Individual Weapons Engineering Development to conduct engineering and manufacturing development. Once the component, prototype or operational prototype achieves Milestone C and type classification the item transitions to small arms weapon systems production or modification program.

D. Acquisition Strategy

Primary strategy is to mature and finalize design efforts, award Research, Development, Test and Evaluation (RDT&E) Defense Ordnance Technology Consortium (DOTC) and Other Transaction Authority (OTA) type hardware contracts. Test and evaluate systems that result in type classification, material release, and follow-on production contract awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604601A / Infantry Support Weapons				S63 / Individual Weapons Engineering Development							
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Program Management	Allot	PM Soldier Lethality, : Picatinny Arsenal	10.566	0.746	Sep 2021	0.050	Mar 2022	0.050	Mar 2023	-		0.050	Continuing	Continuing	Continuing
Travel	MIPR	PM Soldier Lethality, : Picatinny Arsenal	1.584	0.003	Jun 2021	0.010	Mar 2022	0.010	Mar 2023	-		0.010	Continuing	Continuing	Continuing
FY2022 SBIR / STTR Transfer	FFRDC	Army Budget Office : Pentagon, Washington DC	0.211	-		0.133		-		-		-	Continuing	Continuing	Continuing
Subtotal			12.361	0.749		0.193		0.060		-		0.060	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Fabrication	Various	Various : Multiple Contractors	4.120	-		0.917	Apr 2022	0.408	Mar 2023	-		0.408	Continuing	Continuing	Continuing
Hardware Development	MIPR	DEVCOM AC, : Multiple	17.240	1.368	Jul 2021	1.050	Apr 2022	1.631	Mar 2023	-		1.631	Continuing	Continuing	Continuing
Subtotal			21.360	1.368		1.967		2.039		-		2.039	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Engineering	MIPR	DEVCOM AC, : Multiple	68.294	0.940	Mar 2021	0.391	Mar 2022	0.719	Mar 2023	-		0.719	Continuing	Continuing	Continuing
Logistics	MIPR	TACOM, : Warren	5.178	-		0.100	Mar 2022	0.100	Mar 2023	-		0.100	Continuing	Continuing	Continuing
Human Research and Engineering	MIPR	Army Research Laboratory, : Aberdeen Proving Ground	4.103	-		0.100	Mar 2022	0.100	Mar 2023	-		0.100	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604601A / Infantry Support Weapons				S63 / Individual Weapons Engineering Development							
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Subtotal			77.575	0.940		0.591		0.919		-		0.919	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Developmental Testing	MIPR	Army Developmental Test Command, : Aberdeen Proving Ground	27.264	0.436	Jun 2021	0.300	Mar 2022	0.750	Mar 2023	-		0.750	Continuing	Continuing	Continuing
Operational Testing	MIPR	Army Test and Evaluation Command, : Aberdeen Proving Ground	17.995	-		0.300	Mar 2022	0.094	Mar 2023	-		0.094	Continuing	Continuing	Continuing
Validation Testing	MIPR	Army Test and Evaluation Centers, : Multiple	10.307	-		0.300	Mar 2022	0.094	Mar 2023	-		0.094	Continuing	Continuing	Continuing
Subtotal			55.566	0.436		0.900		0.938		-		0.938	Continuing	Continuing	N/A
Project Cost Totals			166.862	3.493		3.651		3.956		-		3.956	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S63 / <i>Individual Weapons Engineering Development</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
DESIGN AND DEVELOPMENT																												
TEST AND EVALUATION																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S63 / <i>Individual Weapons Engineering Development</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DESIGN AND DEVELOPMENT	1	2021	4	2027
TEST AND EVALUATION	1	2021	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>				Project (Number/Name) S70 / <i>Personnel Recovery Support System (PRSS)</i>			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
<i>S70: Personnel Recovery Support System (PRSS)</i>	-	-	3.132	2.963	-	2.963	2.646	0.617	0.665	0.671	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Personnel Recovery Support System (PRSS) consists of items including Personnel Recovery Devices (PRD), e.g. Personal Locator Beacons, and other Personnel Recovery Support Equipment (PRSE) items that provide the capability to report and locate isolated, missing, detained and captured (IMDC) Soldiers. Funding supports system research, development, testing, and evaluation of next-generation PRSS/PRSE items to enhance capability with Low Probability of Intercept (LPI)/Low Probability of Detection (LPD) while operating in increasingly contested environments utilizing secure signals of opportunity that meet Army qualifications. It ensures continued successful interoperability within the relevant theaters of operations and the Continental United States (CONUS).

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

	FY 2021	FY 2022	FY 2023
Title: Personnel Recovery Systems	-	3.018	2.963
FY 2022 Plans: Begins evaluation, development, and testing of of component replacements, enhancements, and operational security measures for Classified Personnel Recovery Support Equipment (PRSE).			
FY 2023 Plans: Continues research, development, and evaluation of components and hardware directly supporting Army personnel recovery requirements.			
FY 2022 to FY 2023 Increase/Decrease Statement: The FY23 decrease is due to anticipated ECP completion for the next-generation Radar Electronic Assembly (REA).			
Title: SBIR/STTR Transfer	-	0.114	-
Description: Funding transferred in accordance with Title 15 USC 638			
FY 2022 Plans: Funding transferred in accordance with Title 15 USC 638			
FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	-	3.132	2.963

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S70 / <i>Personnel Recovery Support System (PRSS)</i>

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

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2023</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• G01101: <i>Personnel Recovery Support System (PRSS)</i>	8.346	9.741	4.691	-	4.691	5.461	6.780	9.565	9.561	Continuing	Continuing

Remarks

D. Acquisition Strategy

Execute PRSS/PRSE program development efforts for performance optimization through contracts with industry and reimbursable support agreements with other Government agencies, labs, and Federally Funded Research and Development Centers. Perform continuing development and test of new waveforms and hardware to ensure successful interoperability for personnel recovery and to mitigate potential security compromises to the PRSS/PRSE program.

Future program strategy is to adapt PRSS/PRSE products to align with changing doctrine and concepts of operations (CONOPS) to ensure integration and interoperability between ground and air forces and increase coverage within the relevant theaters of operations and the CONUS to ensure Soldier safety, recovery, and survivability.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604601A / Infantry Support Weapons				S70 / Personnel Recovery Support System (PRSS)							
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
PM Administration	Allot	Various Government : Huntsville, Alabama	0.988	-		0.060		0.065		-		0.065	Continuing	Continuing	Continuing
SBIR.STTR	Allot	Various : Various	-	-		0.114		-		-		-	0.000	0.114	-
Subtotal			0.988	-		0.174		0.065		-		0.065	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Personnel Recovery System Development Systems Engineering	MIPR	Various Organizations : Various Locations	8.788	-		2.888		2.119		-		2.119	Continuing	Continuing	Continuing
Subtotal			8.788	-		2.888		2.119		-		2.119	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Matrix Support	MIPR	Various Organizations : Various Locations	2.348	-		0.070		0.075		-		0.075	Continuing	Continuing	Continuing
Subtotal			2.348	-		0.070		0.075		-		0.075	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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			
Developmental Testing/Operational Testing	MIPR	Various Organizations : Various Locations	3.509	-		-		0.704		-		0.704	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S70 / <i>Personnel Recovery Support System (PRSS)</i>

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027							
	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				
Personnel Recovery (PR) Development																																
PR Component, Integration, and Testing																																
Next Generation PR Upgrades and Adaptations to New Platforms																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) S70 / <i>Personnel Recovery Support System (PRSS)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Personnel Recovery (PR) Development	1	2022	4	2027
PR Component, Integration, and Testing	3	2022	4	2027
Next Generation PR Upgrades and Adaptations to New Platforms	3	2023	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) VS5 / <i>Soldier Protective Equipment</i>
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
<i>VS5: Soldier Protective Equipment</i>	-	6.478	9.172	9.303	-	9.303	8.322	8.883	8.878	8.959	0.000	59.995
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding in this project supports the Army's Cross Functional Teams (CFT) initiatives. It supports Engineering and Manufacturing Development (EMD) to include design integration and manufacturing of production representative articles, formal DT/OT and Soldier touchpoints, and continued development of SPS technologies transitioning from VS4. It leverages advancements in technology to continue improvements to the Army's Personal Protective Equipment (PPE) portfolio to include hard and soft body armor components (including Vital Torso Protection (VTP) and Torso and Extremity Protection (TEP) respectfully), helmets (including Integrated Head Protection System (IHPS) and Next Generation (NG) IHPS), Military Protective Eyewear systems and other personal protective equipment to include female specific design and development. This project will continue to support cross-service initiatives to increase commonality.

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

	FY 2021	FY 2022	FY 2023
Title: Soldier Protective Equipment	6.478	8.837	9.303
Description: Project VS5 (Soldier Protective Equipment) supports engineering and manufacturing development of Individual Soldier Ballistic Protection equipment. It will leverage advancements in technology to continue incremental improvements to Personal Protective Equipment (PPE).			
FY 2022 Plans: Evaluate and develop system and subsystem technologies across the PPE portfolio from emerging ballistic/blast threats. Continue to test ballistic properties of current PPE after exposure to extreme storage conditions to improve service life predictions and support repurposing efforts. Continue Soldier Protection System (SPS) gender focused human factor evaluations and environmental/exposure testing, including Cold & Tropical regions, and durability testing. Introduce advanced Technology and materials into production processes as these technologies mature and enable expanded opportunities associated with gender specific PPE. Improve PPE test methodologies and support the Secretary of the Army's directive to identify opportunities for commonality across all Services (Army, Navy, Air Force, Marines, and Coast Guard).			
FY 2023 Plans: Evaluate and develop system and subsystem technologies across the PPE portfolio from emerging ballistic/blast threats. Continue to test ballistic properties of current PPE after exposure to extreme storage conditions to improve service life predictions and support repurposing efforts. Continue improving the Soldier Protection System (SPS), Next Generation Soldier Protection and Non-Destructive Test Equipment (NDTE) methodology, female and small statured soldier focused human factor evaluations that includes environmental/exposure testing, including Cold & Tropical regions, and durability testing. Continue to advance technology			

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) VS5 / <i>Soldier Protective Equipment</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
and materials into production processes as these technologies mature and enable expanded opportunities associated with gender specific PPE.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding increase supports Soldier Protection Systems improvements focus on female and small stature Soldiers.			
<i>Title:</i> SBIR/STTR	-	0.335	-
<i>FY 2022 Plans:</i> Funding transferred in accordance with Title 15 USC 638.			
<i>FY 2022 to FY 2023 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC 638.			
Accomplishments/Planned Programs Subtotals	6.478	9.172	9.303

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> Base	<u>FY 2023</u> OCO	<u>FY 2023</u> Total	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> Complete	<u>Total Cost</u>
• VS4: <i>Soldier Protective Equipment</i>	2.279	4.278	6.434	-	6.434	8.160	8.147	8.146	8.222	Continuing	Continuing

Remarks

D. Acquisition Strategy
Acquisition strategies for these programs vary in methods, and range from: 1) Material Change programs that result in engineering changes to existing systems to; 2) Traditional development programs that include an Engineering and Manufacturing Development phase ranging in duration from 12 to 48 months, depending on the level of design complexity and testing required.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
2040 / 5				PE 0604601A / Infantry Support Weapons				VS5 I Soldier Protective Equipment							
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Program Management Support	Allot	Various SSV : Fort Belvoir, VA	2.353	0.645		0.496		0.637		-		0.637	Continuing	Continuing	Continuing
SBIR/STTR	TBD	Various : Various	-	-		0.335		-		-		-	Continuing	Continuing	Continuing
Subtotal			2.353	0.645		0.831		0.637		-		0.637	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Prototype Contracts	Various	Various : Various	35.711	0.381		0.751		1.026		-		1.026	Continuing	Continuing	Continuing
Prod Sys Engineering Spt	MIPR	Various : Various	9.660	1.875		2.496		2.475		-		2.475	Continuing	Continuing	Continuing
Subtotal			45.371	2.256		3.247		3.501		-		3.501	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Matrix Engineering Spt	MIPR	CCDC-SC : Natick, MA	4.754	1.585		1.435		1.230		-		1.230	Continuing	Continuing	Continuing
Subtotal			4.754	1.585		1.435		1.230		-		1.230	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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
Environmental/HFE	MIPR	Various DTC & OTC : Various DTC & OTC	13.843	-		1.114		1.315		-		1.315	Continuing	Continuing	Continuing
Surveillance Testing - Base Threat/Emerging Threat	TBD	TBD : TBD	0.590	1.992		2.545		2.620		-		2.620	Continuing	Continuing	Continuing
Subtotal			14.433	1.992		3.659		3.935		-		3.935	Continuing	Continuing	N/A

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604601A / <i>Infantry Support Weapons</i>	Project (Number/Name) VS5 / <i>Soldier Protective Equipment</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Test and Qualify Improvements to SPS	1	2015	4	2027
Torso Protection Improvements	4	2020	4	2027
Head Protection Improvements	4	2020	4	2027
Hard Armor Protection Improvements	4	2020	4	2027
SPS System Level Test Technology Insertions	4	2020	4	2027
Non-Destructive Test Equipment	1	2023	1	2025