Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army											Date: March 2024	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*							
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
Total Program Element	-	59.911	47.537	58.617	-	58.617	28.844	24.421	6.310	6.373	Continuing	Continuing
CE5: *Breaching Capability Development - Mounted*	-	6.896	7.131	7.830	-	7.830	4.654	-	-	-	0.000	26.511
EK7: *Area Denial Capability Development*	-	53.015	40.406	50.787	-	50.787	24.190	24.421	6.310	6.373	Continuing	Continuing

A. Mission Description and Budget Item Justification

Projects CE5 - The current mounted breaching system, the M58 Mine Clearing Line Charge (MICLIC), is a rocket-projected explosive line charge that was initially fielded over 50 years ago and is becoming increasingly less effective against modernized threat obstacles which does not support Multi-Domain Operations (MDO). This effort will focus on the development of the XM123 Ground Obstacle Breaching Lane Neutralizer (GOBLN) system, an MDO-capable modular mission payload which will provide greater effectiveness against current and emerging threat obstacles and enhanced operational reliability, supportability, mobility and survivability beyond the current state. The target platforms for GOBLN are the Assault Breacher Vehicle (ABV) and the Remote Combat Vehicle (RCV). GOBLN has been endorsed by the Next Generation Combat Vehicle (NGCV) Cross Functional Team (CFT) to fulfill the RCV breaching requirements. The modularity also allows for integration with other current and future platforms. The FY 2025 request supports continued Technology Maturation and Risk Reduction (TMRR), a soldier touchpoint that will include a prototype demonstration of the baseline configuration, and continued pre-MS-B activities.

Project EK7 Area Denial Capability Development provides for the advanced capability development of Close Terrain Shaping Obstacle (CTSO) systems and develops modernized, non-persistent U.S. Anti-personnel landmine policy compliant munition fields. During joint, multi-domain, high intensity conflict CTSO systems disrupt, fix, turn and block enemy freedom of maneuver while enhancing friendly freedom of maneuver within the same battle space. CTSO systems enable maneuver commanders to directly influence where battlefield engagements occur. CTSO systems will replace a portion of the Family of Scatterable Mines (FASCAM) systems which are beyond their designed life.

The project will develop prototype systems and evaluate integrated technologies in a realistic operating environment for the next generation of CTSO systems to achieve doctrinally required obstacle effects during combat operations. CTSO systems will use an open system and modular architecture to facilitate future development, maintenance, repair, and product improvements.

FY 2025 budget supports INC1 XM250 (Top Attack), which provides additional improvements for top attack anti-vehicle obstacle capability. Capabilities include on-off-on to allow for recoverability of unused DLMS, self-locating, anti-tampering, improved lethality and sensing, and command & control to allow freedom of maneuver on the battlefield.

XM204 Interim Top Attack program, the first CTSO capability insertion, has entered into production. Initial Operational Capability (IOC) is projected for 3Q FY 2025 dependent on MDA decision to restart production in March FY 2025 based on PVT test completion in February FY 2025, to meet United States Army Europe (USAREUR) Operational Needs Statement (ONS) #18-22702. XM204 can operate independently but can be used in conjunction with the Standoff Activated Volcano Obstacle (SAVO) system to create a complex obstacle.

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army	Date: March 2024
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0603619A *I Landmine Warfare and Barrier - Adv Dev*

The Army is incrementally developing an enduring solution to fill the close directed obstacle capability gap. Increment 1 XM250 (Top Attack) is the enduring top attack solution. Future increments will include complimentary lethal capability and advanced network integration to provide a complex CTSO capability that complies with U.S. Anti-Personnel Landmine Policy. CTSO provides the commander greater speed and flexibility to transition between offensive and defensive operations. The enduring CTSO capability development supports the approved Common Anti-Vehicular Munition (CAVM)-based Close Terrain Shaping Obstacle (CTSO) Abbreviated-Capability Development Document (A-CDD) and Army Futures Command (AFC) Terrain Shaping Strategy for Land Domain and Multi-Domain Operations (MDO). CTSO systems are a networked munition capability suite composed of multiple types of lethal effects which can be employed independently or together to create a controlled, scalable complex obstacle.

The total cost of the CTSO XM250 Increment 1 Middle Tier of Acquisition effort is $267.5 million RDT&E from FY22 to FY27.

B. Program Change Summary ($ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	61.953	47.537	6.165	-	6.165
Current President's Budget	59.911	47.537	58.617	-	58.617
Total Adjustments	-2.042	0.000	52.452	-	52.452
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.042	-			
• Adjustments to Budget Years	-	-	52.452	-	52.452

Change Summary Explanation

The additional $7.830M on Project CE5 is required to continue the development of the XM123 Ground Obstacle Breaching Lane Neutralizer (GOBLN).
The additional $44.622M on Project EK7 is required to continue development of the INC 1 XM250 Terrain Shaping Obstacle Program.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	Project (Number/Name) CE5 / *Breaching Capability Development - Mounted*	

COST ($ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
CE5: *Breaching Capability Development - Mounted*	-	6.896	7.131	7.830	-	7.830	4.654	-	-	-	0.000	26.511
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The current mounted breaching system, the M58 Mine Clearing Line Charge (MICLIC), is a rocket-projected explosive line charge that was initially fielded over 50 years ago and is becoming increasingly less effective against modernized threat obstacles which does not support Multi-Domain Operations (MDO). This effort will focus on the development of the XM123 Ground Obstacle Breaching Lane Neutralizer (GOBLN) system, an MDO-capable modular mission payload which will provide greater effectiveness against current and emerging threat obstacles and enhanced operational reliability, supportability, mobility and survivability beyond the current state. The target platforms for GOBLN are the Assault Breacher Vehicle (ABV) and the Remote Combat Vehicle (RCV). GOBLN has been endorsed by the Next Generation Combat Vehicle (NGCV) Cross Functional Team (CFT) to fulfill the RCV breaching requirements. The modularity also allows for integration with other current and future platforms. The FY 2025 request supports continued Technology Maturation and Risk Reduction (TMRR), a soldier touchpoint that will include a prototype demonstration of the baseline configuration, and continued pre-MS-B activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: XM123 Ground Obstacle Breaching Lane Neutralizer (GOBLN) ***Description:*** Develop the Next Generation Mounted Breaching capability to engage near-peer current and emerging threat obstacles. ***FY 2024 Plans:*** FY 2024 will support continued TMRR, a system-level concept demonstration/soldier touchpoint, and preparation activities for an FY26 MS-B. ***FY 2025 Plans:*** FY 2025 will support continued TMRR, refinement of the system baseline through further development of key subsystem enabling technologies, a soldier touchpoint to demonstrate the a baseline configuration, and requirements/CDD development. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** Increase supports an additional planned soldier touchpoint, further development of key subsystems, and development of baseline requirements.	6.896	7.131	7.830
Accomplishments/Planned Programs Subtotals	6.896	7.131	7.830

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** CE5 / *Breaching Capability Development - Mounted*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Ground Obstacle Breaching Lane Neutralizer (GOBLN) Program of Record (POR) was established as an output of the Explosive Breacher Acquisition Shaping Panel Part 2 held on 13 June 2022 with Army Leadership. An Acquisition Decision Memorandum (ADM) was signed on 17 March 2023 formally establishing the XM123 GOBLN Program-of-Record and entry into the Technology Maturation and Risk Reduction phase. The goal of the TMRR phase is to integrate mature subsystems and hold system-level concept demonstrations followed by a demonstration of the Engineering and Manufacturing Development (EMD) configuration ahead of a MS-B planned for FY 2026. Prototype assessments will be conducted with industry via competitive Other Transaction Authority (OTA) agreements and other contractual means. The design will be refined in the EMD phase through a competitively selected systems contractor using a Government-developed Technical Data Package (TDP), with MS-C expected in FY 2030. LRIP will be added to support deliveries in FY 2031, some of which will be used for operational testing expected to occur in 1QFY2032. Initial Operational Capability (IOC) is expected in FY 2032 with FMR planned for FY 2033.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	Project (Number/Name) CE5 / *Breaching Capability Development - Mounted*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TMRR Development Government	MIPR	DEVCOM Armaments Center : Picatinny Arsenal, NJ	1.892	3.371	Feb 2023	3.630	Oct 2023	3.500	Nov 2024	-		3.500	0.000	12.393	-
Prototype Test Hardware	Various	Various : Various	-	-		-		0.814	Dec 2024	-		0.814	0.000	0.814	-
Payload Development	MIPR	DEVCOM C5ISR : Fort Belvoir, VA	-	0.492	Jun 2023	-		-		-		-	0.000	0.492	-
SkyRaider HW Upgrades	MIPR	DEVCOM C5ISR : Fort Belvoir, VA	-	0.076	Jul 2023	-		-		-		-	0.000	0.076	-
		Subtotal	1.892	3.939		3.630		4.314		-		4.314	0.000	13.775	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sensor Modification and Integration	MIPR	DEVCOM C5ISR : Fort Belvoir, VA	0.768	0.960	May 2023	1.410	Nov 2023	1.500	Nov 2024	-		1.500	Continuing	Continuing	-
Engineering Support	MIPR	DEVCOM Armaments Center : Picatinny Arsenal, NJ	1.000	1.200	Feb 2023	1.381	Oct 2023	0.516	Oct 2024	-		0.516	Continuing	Continuing	-
Warhead Specialist	C/CPFF	American Systems Corporation : Chantilly, VA	0.066	0.049	Jan 2023	-		-		-		-	0.000	0.115	-
Platform Virtual Integration	MIPR	DEVCOM GVSC : Warren, MI	-	0.242	Mar 2023	-		-		-		-	0.000	0.242	-
Shipping	Allot	Shipping : Picatinny Arsenal, NJ	-	0.056	Nov 2022	-		-		-		-	0.000	0.056	-
		Subtotal	1.834	2.507		2.791		2.016		-		2.016	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	Project (Number/Name) CE5 / *Breaching Capability Development - Mounted*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Soldier Touchpoint 5 (System Level)	MIPR	Army Test & Evaluation Command (ATEC) : Aberdeen, MD	-	-		-		1.500	Feb 2025	-		1.500	0.000	1.500	-
Soldier Touchpoint 4 (System Demonstration)	MIPR	Army Test & Evaluation Command (ATEC) : Aberdeen, MD	-	-		0.710	Dec 2023	-		-		-	0.000	0.710	-
Soldier Touchpoint 3 (Subsystem Level)	MIPR	Army Test & Evaluation Command (ATEC) : Aberdeen, MD	-	0.450	Jul 2023	-		-		-		-	0.000	0.450	-
		Subtotal	-	0.450		0.710		1.500		-		1.500	0.000	2.660	N/A

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3.726	6.896		7.131		7.830		-		7.830	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** CE5 / *Breaching Capability Development - Mounted*

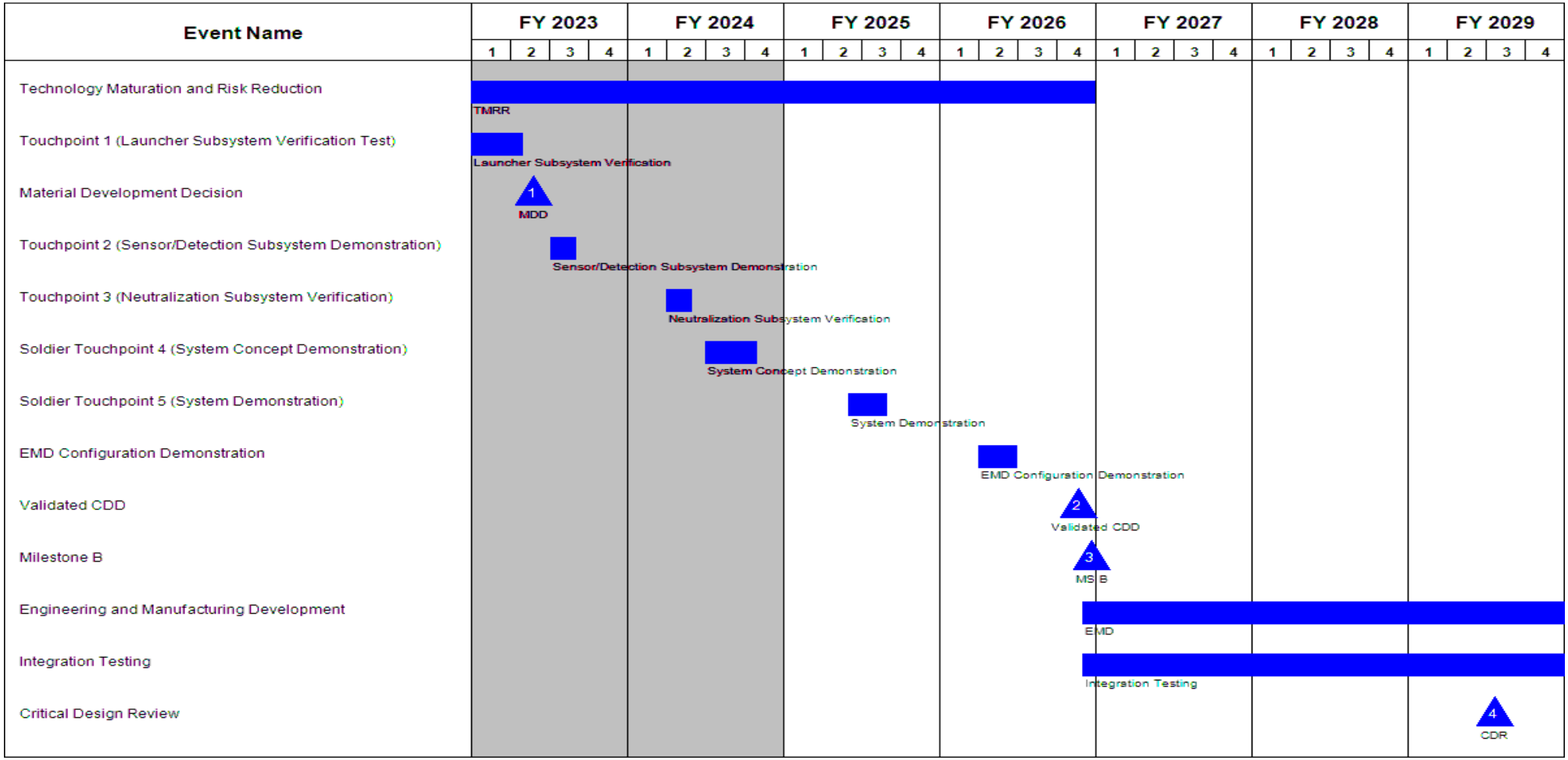

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** CE5 / *Breaching Capability Development - Mounted*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technology Maturation and Risk Reduction	3	2021	4	2026
Touchpoint 1 (Launcher Subsystem Verification Test)	1	2023	1	2023
Material Development Decision	2	2023	2	2023
Touchpoint 2 (Sensor/Detection Subsystem Demonstration)	3	2023	3	2023
Touchpoint 3 (Neutralization Subsystem Verification)	2	2024	2	2024
Soldier Touchpoint 4 (System Concept Demonstration)	3	2024	4	2024
Soldier Touchpoint 5 (System Demonstration)	2	2025	3	2025
EMD Configuration Demonstration	2	2026	2	2026
Validated CDD	4	2026	4	2026
Milestone B	4	2026	4	2026
Engineering and Manufacturing Development	4	2026	2	2030
Integration Testing	4	2026	2	2030
Critical Design Review	3	2029	3	2029
Milestone C	3	2030	3	2030
LRIP Contract	4	2030	4	2031
Operational Testing	1	2032	3	2032

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army											Date: March 2024	
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*				Project (Number/Name) EK7 / *Area Denial Capability Development*			
COST ($ in Millions)	**Prior Years**	**FY 2023**	**FY 2024**	**FY 2025 Base**	**FY 2025 OCO**	**FY 2025 Total**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**Cost To Complete**	**Total Cost**
EK7: *Area Denial Capability Development*	-	53.015	40.406	50.787	-	50.787	24.190	24.421	6.310	6.373	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project EK7 Area Denial Capability Development provides for the advanced capability development of Close Terrain Shaping Obstacle (CTSO) systems and develops modernized, non-persistent U.S. Anti-personnel landmine policy compliant munition fields. During joint, multi-domain, high intensity conflict CTSO systems disrupt, fix, turn and block enemy freedom of maneuver while enhancing friendly freedom of maneuver within the same battle space. CTSO systems enable maneuver commanders to directly influence where battlefield engagements occur. CTSO systems will replace a portion of the Family of Scatterable Mines (FASCAM) systems which are beyond their designed life.

The project will develop prototype systems and evaluate integrated technologies in a realistic operating environment for the next generation of CTSO systems to achieve doctrinally required obstacle effects during combat operations. CTSO systems will use an open system and modular architecture to facilitate future development, maintenance, repair, and product improvements.

FY 2025 budget supports INC1 XM250 (Top Attack), which provides additional improvements for top attack anti-vehicle obstacle capability. Capabilities include on-off-on to allow for recoverability of unused DLMS, self-locating, anti-tampering, improved lethality and sensing, and command & control to allow freedom of maneuver on the battlefield.

XM204 Interim Top Attack program, the first CTSO capability insertion, has entered into production. Initial Operational Capability (IOC) is projected for 3Q FY 2025 dependent on MDA decision to restart production in March FY 2025 based on PVT test completion in February FY 2025, to meet United States Army Europe (USAREUR) Operational Needs Statement (ONS) #18-22702. XM204 can operate independently but can be used in conjunction with the Standoff Activated Volcano Obstacle (SAVO) system to create a complex obstacle.

The Army is incrementally developing an enduring solution to fill the close directed obstacle capability gap. Increment 1 XM250 (Top Attack) is the enduring top attack solution. Future increments will include complimentary lethal capability and advanced network integration to provide a complex CTSO capability that complies with U.S. Anti-Personnel Landmine Policy. CTSO provides the commander greater speed and flexibility to transition between offensive and defensive operations. The enduring CTSO capability development supports the approved Common Anti-Vehicular Munition (CAVM)-based Close Terrain Shaping Obstacle (CTSO) Abbreviated-Capability Development Document (A-CDD) and Army Futures Command (AFC) Terrain Shaping Strategy for Land Domain and Multi-Domain Operations (MDO). CTSO systems are a networked munition capability suite composed of multiple types of lethal effects which can be employed independently or together to create a controlled, scalable complex obstacle.

The total cost of the CTSO XM250 Increment 1 Middle Tier of Acquisition effort is $267.5 million RDT&E from FY22 to FY27.

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
Title: Terrain Shaping Obstacles Capability Development	39.804	25.447	34.640
Description: Develop, build, and demonstrate Terrain Shaping Obstacle common munitions system. Demonstrate system in an operationally relevant environment. ***FY 2024 Plans:*** Complete CTSO Increment 1 munition design against peer targets and demonstrate performance and lethality. Conduct remaining updates of all fuzing and ammunition safety features to address certification pre-reviews. Demonstrate a fully integrated munition and communication prototype at User Jury 2 - shaping the AFC CDD that establishes final requirements for qualification and fielding. Coordinate and conduct Cyber Vulnerability Investigation to inform final cyber hardening design tasks. Complete Critical Design Review. Conduct Risk Reduction efforts for Bottom Attack Munitions to inform CTSO INC 2. ***FY 2025 Plans:*** Complete final Critical Design Review (CDR) activities, document progress to date on all contract activities. Complete development of software, electrical and algorithm for CAVM. Conduct Final Qualification Test (FQT) dry run. Complete development and release of Computer Software Items for the DLM. Complete hardware build to support execution of the C-SVT test program. Conduct evaluation of Ground Sensor Algorithm Update #1. Continue development of program software and Software Requirements Reviews (SwRR). Demonstrate updated development items at early user assessment 3. Begin development of Full Task Trainers and training visual aids. Continue development of training support packages. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** FY 2025 Capability Development activities increased due to significant development efforts at Prime Contractor in FY 2025.			
Title: Engineering Support	12.162	11.222	12.885
Description: Provide engineering support for Terrain Shaping Capability. ***FY 2024 Plans:*** Provide engineering support for CTSO Increment 1 system design documentation, User Jury 2, contractor integration verification, and Critical Design Review. Leverage previous Test & Evaluation Strategy (TES) to develop the Test & Evaluation Master Plan (TEMP) to support progression towards system level qualification. ***FY 2025 Plans:*** Provide Engineer Support for CTSO Increment 1 (XM250) for Milestone documentation of progress to date, completion of Test & Evaluation Master Plan (TEMP), early user assessment 3, and qualification testing. Support contractor detailed design activities in support of CDR. ***FY 2024 to FY 2025 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2023	FY 2024	FY 2025
FY 2025 Engineer activities increase due to economic adjustment.			
Title: Program Management and Oversight ***Description:*** Program management and oversight of Terrain Shaping Obstacle Capability development and system evaluation. ***FY 2024 Plans:*** Provide program management and oversight of Terrain Shaping Obstacle Capability in support of development and qualification of the Increment 1 Top Attack Munition capabilities. ***FY 2025 Plans:*** Provide program management and oversight of Terrain Shaping Obstacle Capability in support of development and qualification of the Increment 1 Top Attack Munition capabilities.	0.310	0.362	0.362
Title: Test & Evaluation ***Description:*** Conduct testing and evaluation of Terrain Shaping Obstacle Capability performance. ***FY 2024 Plans:*** FY 2024 CTSO INC 1 Interim testing will be conducted on cyber vulnerabilities and Threat Countermeasures against fully integrated munition & communications prototypes. Complete Contractor risk reduction testing, such as environmental, transportation, and lethality testing. Conduct fully integrated system sensor testing. Conduct tests at environmentally relevant locations to assess performance. Conduct E3 testing to ensure final design of electrical architecture can remain operational under full operational stresses. Refine model inputs to support future system evaluation. Repairs destroyed target vehicles from CTSO Increment 1 contractor risk reduction tests and provides vehicle support for sensor test events for INC 1's expanded target suite. ***FY 2025 Plans:*** FY 2025 CTSO INC 1 testing includes Electromagnetic Environment Effects (E3) risk reduction, Environmental, packaging, and Highly Accelerated Life Test (HALT)/Highly Accelerated Stress Screening test (HASS) activities. Program will conduct E3 susceptibility testing along with FQT tests. Test team will also support early user assessment 3 to confirm detailed design/ capabilities. Testing will also include transportation, adversarial cyber, and warhead penetration assessments. Testing will require rental and/or repairs of targets to be used during FY 2025 test activities. ***FY 2024 to FY 2025 Increase/Decrease Statement:*** FY 2025 T&E activities reduced due to reduction in target costs to rent/repair as opposed to acquiring new, and completion of the majority of ground sensor evaluations being completed prior to the start of FY 2025.	0.739	3.375	2.900
Accomplishments/Planned Programs Subtotals	53.015	40.406	50.787

Exhibit R-2A, RDT&E Project Justification: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• F78310: *CLOSE TERRAIN SHAPING OBSTACLE (CTSO), XM204*	16.215	37.964	0.000	-	0.000	-	-	10.999	11.109	0.000	76.287

Remarks

D. Acquisition Strategy

In support of the Army's modernization priorities, the Army Acquisition Executive approved Terrain Shaping Obstacles (TSO) development using a series of incremental acquisition efforts to accelerate mature technology development and facilitate the fielding of lethal, non-persistent munitions to the Warfighter.

The XM250 program was approved as a Middle Tier of Acquisition (MTA) pathway to allow for rapid prototyping of a complex obstacle solution with Army decision points to transition to a Program of Record for Close Terrain Shaping top attack capability. In FY 2025, XM250 will continue all development and design activities informed by early user assessments ahead of 1Q FY 2026 Critical Design Review (CDR). Program will conduct risk reduction and subsystem tests to support final design decisions. Program will build hardware for Contractor System Verification Testing and demonstrate system design at User Assessment #3 prior to CDR. XM250 will also begin development of Full Task Trainers, training visual aids, and training support packages.

The XM204 system is the interim solution that supports the USAREUR ONS 18-22702. XM204 production was paused in FY 2023 to address reliability issues. Initial Operational Capability (IOC) is projected for 3Q FY 2024 dependent on Milestone Decision Authority (MDA) decision to restart production in March FY 2024 based on Production Verification Test (PVT) completion in February FY 2024, and complete production in FY 2025.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	Various	PM Close Combat Systems : Picatinny Arsenal, NJ	3.993	0.310	Dec 2022	0.362	Dec 2023	0.362	Dec 2024	-		0.362	Continuing	Continuing	-
		Subtotal	3.993	0.310		0.362		0.362		-		0.362	Continuing	Continuing	N/A

Remarks

In FY 2022, funding in the amount of $0.338 million for manpower was realigned to Operation and Maintenance. Program support costs have been accurately updated to reflect the realignments.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTSO INC 1 XM250 Rapid Prototype Development	C/CPFF	Textron Defense Systems : Wilmington, MA	5.970	39.485	Feb 2023	23.447	Nov 2023	34.640	Oct 2024	-		34.640	Continuing	Continuing	-
CTSO Munition Risk Reduction	Various	Various : Various	-	-		2.000	Jun 2024	-		-		-	0.000	2.000	-
		Subtotal	5.970	39.485		25.447		34.640		-		34.640	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DEVCOM Armaments Center Engineering Support	MIPR	DEVCOM Armaments Center : Picatinny Arsenal, NJ	34.484	8.968	Jan 2023	8.237	Dec 2023	8.710	Dec 2024	-		8.710	Continuing	Continuing	-
Contractor Engineer Support	MIPR	American Systems INC : Chantilly, VA	0.276	0.110	Mar 2023	0.076	Mar 2024	0.078	Mar 2025	-		0.078	Continuing	Continuing	-
Mitre Engineering Support (C4)	FFRDC	Mitre : McLean, VA	3.077	0.741	Nov 2023	0.835	Aug 2024	0.850	Aug 2025	-		0.850	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	Project (Number/Name) EK7 / *Area Denial Capability Development*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DEVCOM Army Research Laboratory Engineering Support	MIPR	DEVCOM Army Research Laboratory : Adelphi, MD	2.544	-		0.301	Dec 2023	0.301	Dec 2024	-		0.301	Continuing	Continuing	-
DEVCOM Data Analysis Center	MIPR	DEVCOM-DAC : Aberdeen Proving Ground, MD	2.478	0.358	May 2023	0.264	Dec 2023	0.264	Dec 2024	-		0.264	Continuing	Continuing	-
Logistics Support	MIPR	CECOM ILSC : Aberdeen, MD	0.141	0.029	Dec 2023	0.090	Dec 2023	0.090	Mar 2025	-		0.090	Continuing	Continuing	-
Prototyping Development of Network and RF	MIPR	C6ISR Aberdeen Proving Ground : Aberdeen, MD	-	0.609	May 2023	-		0.647	May 2025	-		0.647	0.000	1.256	-
ENFIRE Support	MIPR	Product Director Combat Terrain Information Systems (PD-CTIS) : Aberdeen Proving Ground, MD	-	0.092	Dec 2023	-		0.100	Jan 2025	-		0.100	0.000	0.192	-
NETT Warrior Support	MIPR	NETT Warrior : Ft. Belvoir, VA	-	-		-		0.245	Jan 2025	-		0.245	0.000	0.245	-
Milestone Development Support	SS/FFP	Booz Allen Hamilton : Picatinny Arsenal, NJ	6.951	1.589	Mar 2023	0.951	May 2024	1.600	Jan 2025	-		1.600	0.514	11.605	-
Program Support	C/FFP	Bowhead : Picatinny Arsenal, NJ	1.347	-		0.468	May 2024	-		-		-	Continuing	Continuing	-
		Subtotal	51.298	12.496		11.222		12.885		-		12.885	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	Project (Number/Name) EK7 / *Area Denial Capability Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTSO INC 1 System Verification Testing Targets	MIPR	Redstone Test Center (RTC) : Redstone Arsenal, AL	-	0.500	Dec 2023	0.750	Apr 2024	0.800	Mar 2025	-		0.800	0.000	2.050	-
CTSO INC 1 Environmental and Transportation Test	MIPR	Yuma Test Center (YTC) : Yuma, AZ	-	0.022	Jan 2024	0.400	Jan 2024	0.300	Jun 2025	-		0.300	0.000	0.722	-
CTSO INC 1 Ground Sensor Perf, C2 Sys Perf, CTR live Fire, End to End Testing	MIPR	Yuma Proving Ground : Yuma, AZ	-	-		0.500	Jun 2024	0.300	Apr 2025	-		0.300	0.000	0.800	-
CTSO INC 1 HERO E3 Testing	MIPR	White Sands Missile Range : White Sands, NM	-	-		0.260	Apr 2024	0.260	Jun 2025	-		0.260	0.000	0.520	-
CTSO INC 1 E3 Direct Strike Lightning (DSL) Risk Reduction Testing	MIPR	Redstone Test Center (RTC) : Redstone Arsenal, AL	0.105	-		0.105	Dec 2023	0.115	Feb 2025	-		0.115	0.000	0.325	-
CTSO INC 1 Early User Assessment 2	MIPR	Fort Leonardwood : Fort Leonardwood, MO	-	-		0.250	May 2024	-		-		-	0.000	0.250	-
CTSO INC 1 Adversarial Cyber Security Development Test	MIPR	Aberdeen Proving Ground : Aberdeen, MD	-	-		-		0.200	Apr 2025	-		0.200	0.000	0.200	-
CTSO INC1 Early User Assessment 3	MIPR	Fort Leonard wood : Fort Leonard Wood, MO	-	-		-		0.675	Jun 2025	-		0.675	0.000	0.675	-
CTSO INC 1 Warhead Assessment	MIPR	DEVCOM DAC : White Sands, NM	-	-		0.075	May 2024	0.200	Jul 2025	-		0.200	0.000	0.275	-
CTSO INC 1 Software Evaluation	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Grounds, MD	-	0.054	Dec 2023	-		0.050	Nov 2024	-		0.050	0.000	0.104	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	Project (Number/Name) EK7 / *Area Denial Capability Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CTSO INC 1 E3 Personnel Electrostatic Discharge (PESD) & Helicopter (HESD) Risk Reduction Testing	MIPR	Picatinny Arsenal : Picatinny, NJ	-	-		0.100	Dec 2023	-		-		-	0.000	0.100	-
CTSO INC 1 E3 Hazards of Electronic Radiation to Ordnance (HERO) Risk Reduction Testing	MIPR	Whites Sands Missile Range : White Sands, NM	-	-		0.150	Dec 2023	-		-		-	0.000	0.150	-
CTSO INC 1 Test and Evaluation Support	MIPR	Army Evaluation Center (AEC) : Aberdeen Proving Grounds, MD	-	0.015	Dec 2023	0.085	Jan 2024	-		-		-	0.000	0.100	-
CTSO INC 1 Warhead Evaluation Testing	MIPR	Iowa Army Ammunition Plant : Middletown, IA	-	-		0.200	Apr 2024	-		-		-	0.000	0.200	-
CTSO INC 1 Ground Sensor Perf, C2 Sys Performance Testing	MIPR	Aberdeen Proving Ground : Aberdeen, MD	-	-		0.500	Jun 2024	-		-		-	0.000	0.500	-
CTSO INC 1 Cyber tabletop Exercise and Cooperative Vulnerabilty Identification	MIPR	DEVCOM DAC : White Sands, NM	-	0.020	Jul 2023	-		-		-		-	0.000	0.020	-
CTSO INC 1 Sensor Performance Testing	MIPR	Yuma Test Center (YTC) : Yuma, AZ	-	0.020	Feb 2024	-		-		-		-	0.000	0.020	-
CTSO INC 1 Operational Integration Test	MIPR	DEVCOM C6ISR NVESD Center : Fort Belvoir, VA	-	0.010	Feb 2024	-		-		-		-	0.000	0.010	-
Modeling & Simulation Advanced Joint Effectiveness Model(AJEM)	MIPR	DEVCOM Data Analysis Center (DAC) : Aberdeen Proving Grounds, MD	-	0.018	Mar 2024	-		-		-		-	0.000	0.018	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army			Date: March 2024
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	Project (Number/Name) EK7 / *Area Denial Capability Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2023 Cost	FY 2023 Award Date	FY 2024 Cost	FY 2024 Award Date	FY 2025 Base Cost	FY 2025 Base Award Date	FY 2025 OCO Cost	FY 2025 OCO Award Date	FY 2025 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling & Simulation One Semi-Automated Forces (One SAF)	MIPR	DEVCOM Armaments Center : Picatinny Arsenal, NJ	0.365	0.050	Aug 2023	-		-		-		-	0.000	0.415	-
Modeling & Simulation Common Scene Generator	MIPR	Aviation & Missile Command : Redstone Arsenal, AL	-	0.015	Mar 2024	-		-		-		-	0.000	0.015	-
		Subtotal	0.470	0.724		3.375		2.900		-		2.900	0.000	7.469	N/A

	Prior Years	FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	61.731	53.015		40.406		50.787		-		50.787	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

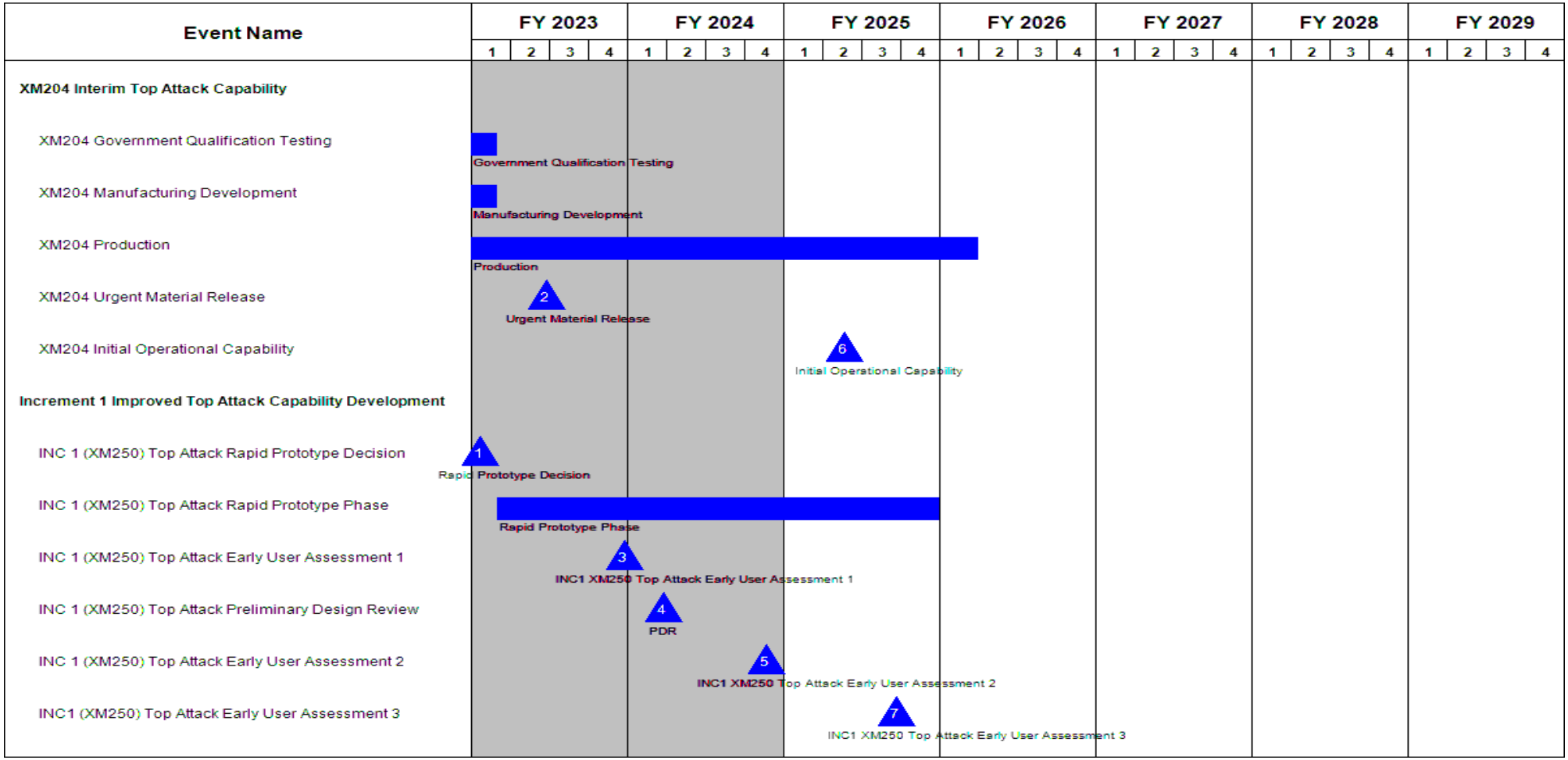

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

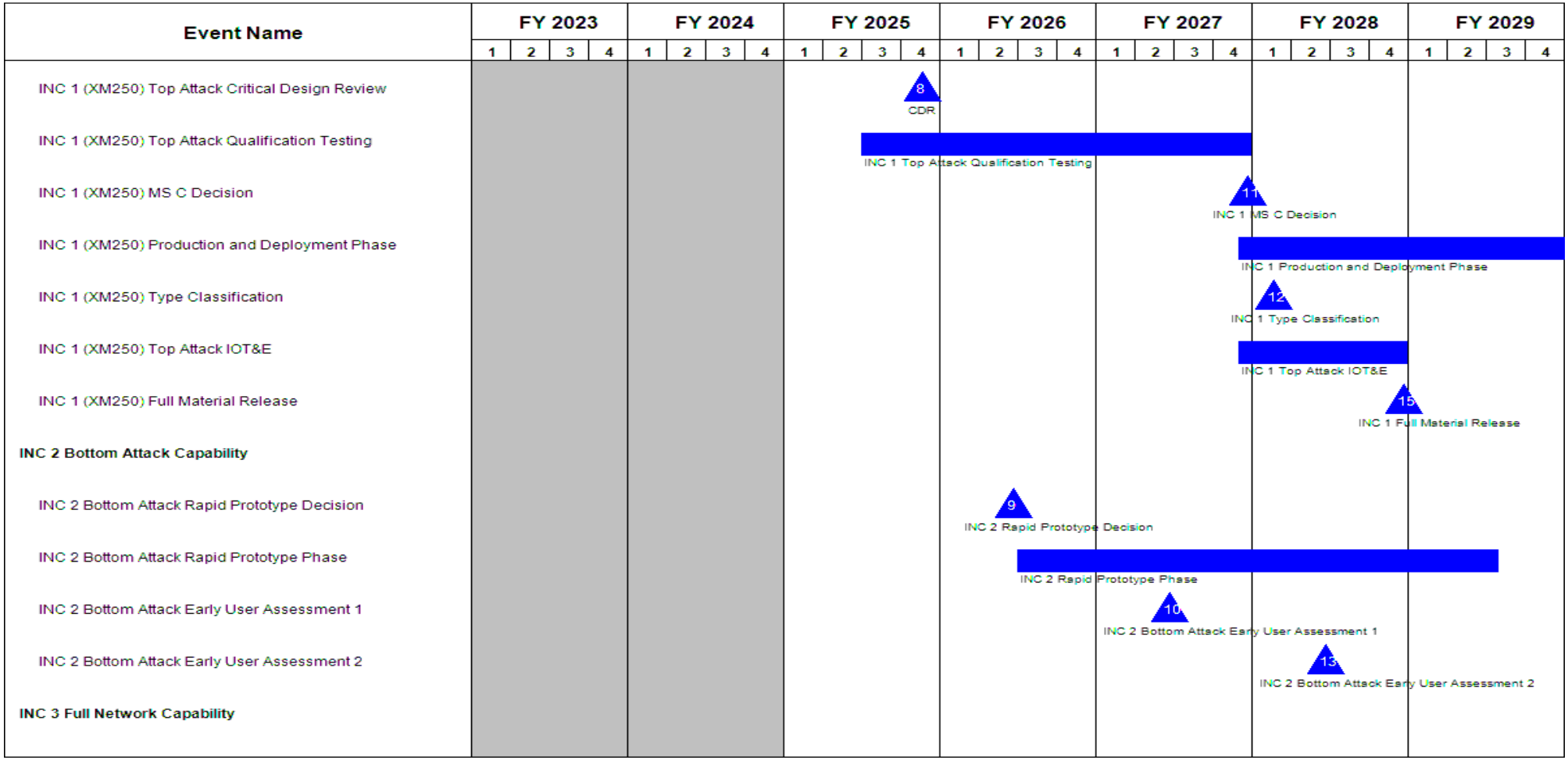

Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

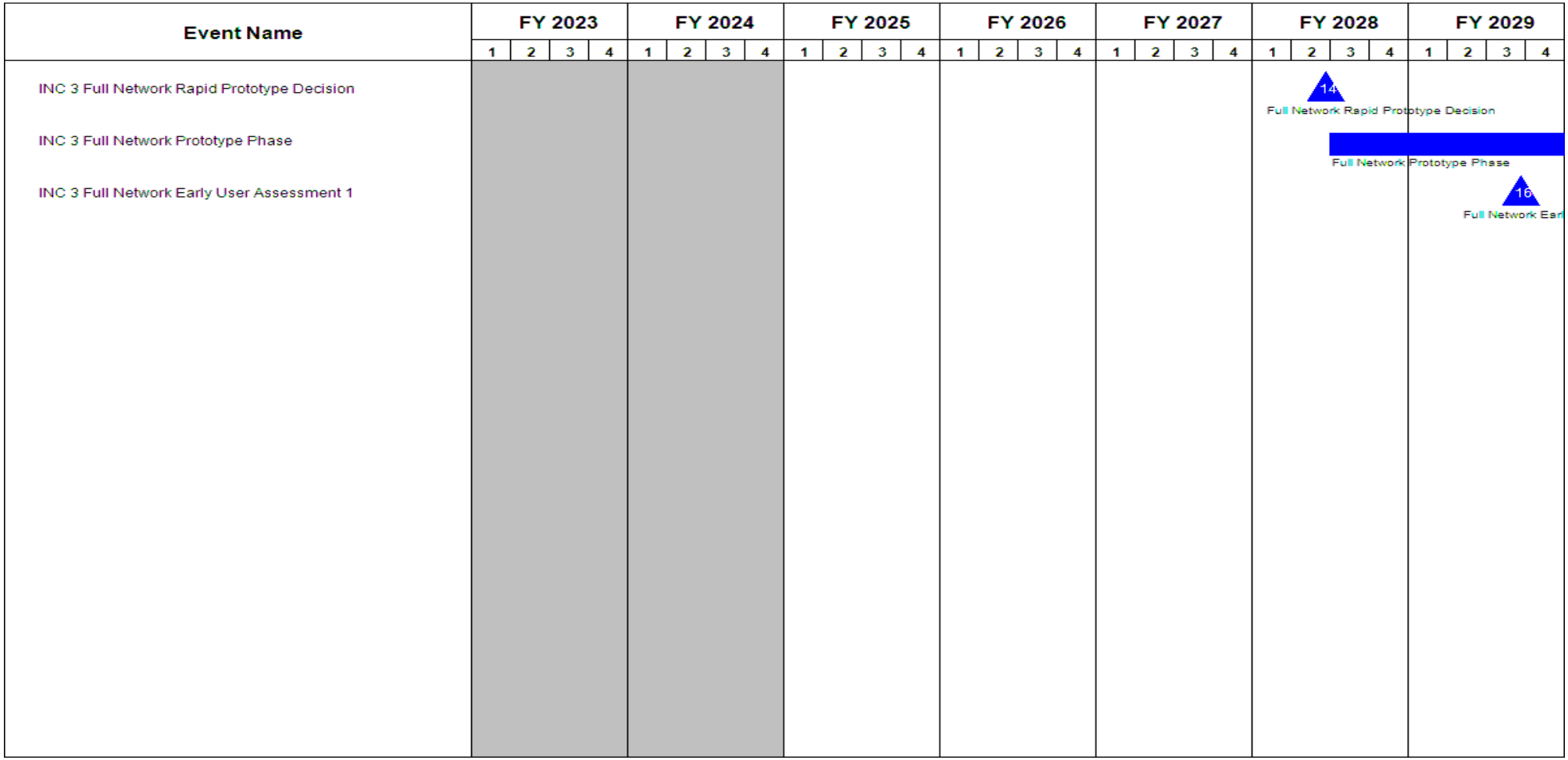

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
XM204 Interim Top Attack Capability	4	2019	1	2026
XM204 Materiel Development Decision	4	2015	4	2015
XM204 Model and Simulation Development	1	2016	4	2018
XM204 Concept Prototype Agreements Award(s)	2	2016	2	2016
XM204 Concept Prototype Build	2	2016	4	2016
XM204 Concept Prototype Test and Evaluation	1	2017	1	2017
XM204 Analysis of Alternatives	1	2016	4	2016
XM204 Materiel Solution Analysis	1	2017	3	2019
XM204 Munitions Delivery System Analysis	4	2018	4	2019
XM204 Development Decision	3	2019	3	2019
XM204 Capability Development Award	4	2019	4	2019
XM204 User Jury	4	2019	4	2019
XM204 System Development	4	2019	2	2022
XM204 Prototype Testing	1	2020	2	2020
XM204 SubSystem Integration Testing	2	2020	2	2021
XM204 Preliminary Design Review	3	2020	3	2020
XM204 Critical Design Review	3	2021	3	2021
XM204 Government Qualification Testing	4	2021	1	2023
XM204 Manufacturing Development	4	2021	1	2023
XM204 Production and Deployment Decision	4	2022	4	2022
XM204 Operational Assessment Test	4	2022	4	2022
XM204 Production	4	2022	1	2026

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
XM204 Urgent Material Release	2	2023	2	2023
XM204 Initial Operational Capability	2	2025	2	2025
TSO Future Capability Evaluation	2	2020	4	2021
TSO Development of Alternative Methods of Defeat	2	2020	4	2021
Increment 1 Improved Top Attack Capability Development	1	2023	4	2027
INC 1 (XM250) Top Attack Rapid Prototype Decision	1	2023	1	2023
INC 1 (XM250) Top Attack Rapid Prototype Phase	1	2023	4	2025
INC 1 (XM250) Top Attack Early User Assessment 1	4	2023	4	2023
INC 1 (XM250) Top Attack Preliminary Design Review	1	2024	1	2024
INC 1 (XM250) Top Attack Early User Assessment 2	4	2024	4	2024
INC1 (XM250) Top Attack Early User Assessment 3	3	2025	3	2025
INC 1 (XM250) Top Attack Critical Design Review	4	2025	4	2025
INC 1 (XM250) Top Attack Qualification Testing	3	2025	4	2027
INC 1 (XM250) MS C Decision	4	2027	4	2027
INC 1 (XM250) Production and Deployment Phase	4	2027	4	2037
INC 1 (XM250) Type Classification	1	2028	1	2028
INC 1 (XM250) Top Attack IOT&E	4	2027	4	2028
INC 1 (XM250) Full Material Release	4	2028	4	2028
INC 1 (XM250) Initial Operational Capability	4	2030	4	2030
INC 2 Bottom Attack Capability	2	2026	2	2034
INC 2 Bottom Attack Rapid Prototype Decision	2	2026	2	2026
INC 2 Bottom Attack Rapid Prototype Phase	3	2026	3	2029
INC 2 Bottom Attack Early User Assessment 1	2	2027	2	2027
INC 2 Bottom Attack Early User Assessment 2	2	2028	2	2028
INC 3 Full Network Capability	3	2028	3	2031

Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army		Date: March 2024
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603619A / *Landmine Warfare and Barrier - Adv Dev*	**Project (Number/Name)** EK7 / *Area Denial Capability Development*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
INC 3 Full Network Rapid Prototype Decision	2	2028	2	2028
INC 3 Full Network Prototype Phase	3	2028	3	2033
INC 3 Full Network Early User Assessment 1	3	2029	3	2029
INC 3 Full Network Early User Assessment 2	3	2030	3	2030