

# UNCLASSIFIED

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|--|-------------|---------|---------|--------------|--|---------------|---------|---------|---------|---------------------|------------------|------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Navy   |             |         |         |              |  |               |         |         |         | Date: February 2018 |                  |            |
| Appropriation/Budget Activity<br>1319: Research, Development, Test & Evaluation, Navy / BA 4: Advanced Component Development & Prototypes (ACD&P)  |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 0604126N / Littoral Airborne MCM |               |         |         |         |                     |                  |            |
| COST (\$ in Millions)  | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO  | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023             | Cost To Complete | Total Cost |
| Total Program Element  | 0.000       | 0.000   | 0.000   | 17.622       | -  | 17.622        | 20.348  | 17.041  | 17.399  | 17.761              | Continuing       | Continuing |
| 2131: Assault Breaching System   | 0.000       | 0.000   | 0.000   | 17.622       | -  | 17.622        | 20.348  | 17.041  | 17.399  | 17.761              | Continuing       | Continuing |
| Note<br>FY 2018 and prior funding for this program was funded in PE 0603502N, Project 2131.  |             |         |         |              |  |               |         |         |         |                     |                  |            |
| A. Mission Description and Budget Item Justification<br>This program provides a combination of U.S. Navy systems to counter the threat to amphibious forces from obstacles and anti-landing/sea mines in the Beach Zone and Surf Zone (0-10 ft water). The Assault Breaching Systems (ABS) consist of a system of systems approach that includes the following programs: JABS - Joint Direct Attack Munition (JDAM) Assault Breaching System; CMS - Countermine System; COBRA - Coastal Battlefield Reconnaissance and Analysis; PNMS - Precision Navigation and Marking System; and C4I - Command, Control, Computers, Communications, and Intelligence. The Assault Breaching Systems enable the Navy-Marine Corps team to conduct Joint Forcible Entry Operations (JFEO), Ship-To-Objective Maneuver (STOM), and other combat operations to project power ashore.<br><br>The JDAM Assault Breaching System (JABS) is a currently fielded system that neutralizes surface mines and obstacles in the Beach Zone and Surf Zone. The ABS Tactical Decision Aid optimizes the Desired Points of Impact (DPI) for JDAM munitions to effectively neutralize mines and obstacles while minimizing the required number of munitions and friendly aircraft sorties. Continued testing is required to optimize the ABS Tactical Decision Aid database for the most common enemy mines and obstacles.<br><br>Coastal Battlefield Reconnaissance and Analysis (COBRA) is the ABS program to conduct ISR/T. This system provides Airborne Mine Countermeasures (AMCM) capability, and one system consists of two Airborne Payloads and one Post Mission Analysis Station. Block I is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the Beach Zone and adds on-board near real-time processing. Block II capability adds a 3D LIDAR (Light Detection and Ranging) sensor that enables nighttime detection of mines and obstacles in the Beach Zone and the Surf Zone (0-10 ft of water). Block II also adds on-board real-time processing of multispectral imagery data. COBRA consists of a modular payload architecture that can be integrated onto the MQ-8B Fire Scout or USN manned helicopters like the MH-60. COBRA will serve as the "detect" mission module in the Surf Zone and Beach Zone for the Littoral Combat Ship (LCS) Mine Warfare mission package.<br><br>Precision Navigation & Marking System (PNMS) provides navigational upgrades for the Landing Craft, Air Cushion (LCAC); Landing Craft, Utility (LCU); and Amphibious Assault Vehicle (AAV). A system of virtual lane marking improves the navigation ability of these three assault craft which enables them to navigate safely through the neutralized assault lanes provided by JABS and CMS. OPN funds the CRAFTALTS to upgrade the navigation systems. LCU Navigation Upgrade: Modernized the navigation system to enable safe transit through the breached lane. LCAC Autopilot Upgrade: An integrated improvement to the LCAC Service Life Extension Program (SLEP) navigation system for craft control that allows precise navigation and hovering within the breached lane. These software upgrades and backfits occur during scheduled LCAC SLEPs. AAV Navigation Upgrade : Modernize the navigation system to enable precise transit through the breached lane. |             |         |         |              |  |               |         |         |         |                     |                  |            |

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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2019 Navy | <b>Date:</b> February 2018 |
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| <b>Appropriation/Budget Activity</b><br>1319: <i>Research, Development, Test &amp; Evaluation, Navy / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0604126N / <i>Littoral Airborne MCM</i> |
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Command, Control, Computers, Communications and Intelligence (C4I) system will tie all of the above systems together under an integrated ABS architecture that is compatible with the existing Mine Warfare architecture.

| <b><u>B. Program Change Summary (\$ in Millions)</u></b> | <b><u>FY 2017</u></b> | <b><u>FY 2018</u></b> | <b><u>FY 2019 Base</u></b> | <b><u>FY 2019 OCO</u></b> | <b><u>FY 2019 Total</u></b> |
|--|-----------------------|-----------------------|----------------------------|---------------------------|-----------------------------|
| Previous President's Budget                              | 0.000                 | 0.000                 | 0.000                      | -                         | 0.000                       |
| Current President's Budget                               | 0.000                 | 0.000                 | 17.622                     | -                         | 17.622                      |
| Total Adjustments  | 0.000                 | 0.000                 | 17.622                     | -                         | 17.622                      |
| • Congressional General Reductions                       | -                     | -                     |                            |                           |                             |
| • Congressional Directed Reductions                      | -                     | -                     |                            |                           |                             |
| • Congressional Rescissions                              | -                     | -                     |                            |                           |                             |
| • Congressional Adds                                     | -                     | -                     |                            |                           |                             |
| • Congressional Directed Transfers                       | -                     | -                     |                            |                           |                             |
| • Reprogrammings   | -                     | -                     |                            |                           |                             |
| • SBIR/STTR Transfer                                     | -                     | -                     |                            |                           |                             |
| • Rate/Misc Adjustments                                  | 0.000                 | 0.000                 | 17.622                     | -                         | 17.622                      |

**Change Summary Explanation**

Technical: Not applicable.

Schedule: Not applicable.

FY 2019 funding for this program was realigned from PE 0603502N, Project 2131.

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy |             |         |         |              |  |               |         |         |  | Date: February 2018 |                  |            |
|---|-------------|---------|---------|--------------|--|---------------|---------|---------|--|---------------------|------------------|------------|
| Appropriation/Budget Activity<br>1319 / 4               |             |         |         |              | R-1 Program Element (Number/Name)<br>PE 0604126N / Littoral Airborne MCM |               |         |         | Project (Number/Name)<br>2131 / Assault Breaching System |                     |                  |            |
| COST (\$ in Millions)                                   | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO  | FY 2019 Total | FY 2020 | FY 2021 | FY 2022  | FY 2023             | Cost To Complete | Total Cost |
| 2131: Assault Breaching System                          | 0.000       | 0.000   | 0.000   | 17.622       | -  | 17.622        | 20.348  | 17.041  | 17.399   | 17.761              | Continuing       | Continuing |
| Quantity of RDT&E Articles                              |             | -       | -       | -            | -  | -             | -       | -       | -  | -                   |                  |            |

## A. Mission Description and Budget Item Justification

This program provides a combination of U.S. Navy systems to counter the threat to amphibious forces from obstacles and anti-landing/sea mines in the Beach Zone and Surf Zone (0-10 ft water). The Assault Breaching Systems (ABS) consist of a system of systems approach that includes the following programs: JABS - Joint Direct Attack Munition (JDAM) Assault Breaching System; CMS - Countermine System; COBRA - Coastal Battlefield Reconnaissance and Analysis; PNMS - Precision Navigation and Marking System; and C4I - Command, Control, Computers, Communications, and Intelligence. The Assault Breaching Systems enable the Navy-Marine Corps team to conduct Joint Forcible Entry Operations (JFEO), Ship-To-Objective Maneuver (STOM), and other combat operations to project power ashore.

The JDAM Assault Breaching System (JABS) is a currently fielded system that neutralizes surface mines and obstacles in the Beach Zone and Surf Zone. The ABS Tactical Decision Aid optimizes the Desired Points of Impact (DPI) for JDAM munitions to effectively neutralize mines and obstacles while minimizing the required number of munitions and friendly aircraft sorties. Continued testing is required to optimize the ABS Tactical Decision Aid database for the most common enemy mines and obstacles.

Coastal Battlefield Reconnaissance and Analysis (COBRA) is the ABS program to conduct ISR/T. This system provides Airborne Mine Countermeasures (AMCM) capability, and one system consists of two Airborne Payloads and one Post Mission Analysis Station. Block I is a multispectral sensor capable of daytime detection of surface-laid minefields and obstacles in the Beach Zone and adds on-board near real-time processing. Block II capability adds a 3D LIDAR (Light Detection and Ranging) sensor that enables nighttime detection of mines and obstacles in the Beach Zone and the Surf Zone (0-10 ft of water). Block II also adds on-board real-time processing of multispectral imagery data. COBRA consists of a modular payload architecture that can be integrated onto the MQ-8B Fire Scout or USN manned helicopters like the MH-60. COBRA will serve as the "detect" mission module in the Surf Zone and Beach Zone for the Littoral Combat Ship (LCS) Mine Warfare mission package.

Precision Navigation & Marking System (PNMS) provides navigational upgrades for the Landing Craft, Air Cushion (LCAC); Landing Craft, Utility (LCU); and Amphibious Assault Vehicle (AAV). A system of virtual lane marking improves the navigation ability of these three assault craft which enables them to navigate safely through the neutralized assault lanes provided by JABS and CMS. OPN funds the CRAFTALTS to upgrade the navigation systems. LCU Navigation Upgrade: Modernized the navigation system to enable safe transit through the breached lane. LCAC Autopilot Upgrade: An integrated improvement to the LCAC Service Life Extension Program (SLEP) navigation system for craft control that allows precise navigation and hovering within the breached lane. These software upgrades and backfits occur during scheduled LCAC SLEPs. AAV Navigation Upgrade : Modernize the navigation system to enable precise transit through the breached lane.

Command, Control, Computers, Communications and Intelligence (C4I) system will tie all of the above systems together under an integrated ABS architecture that is compatible with the existing Mine Warfare architecture.

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy  |  |  |            | Date: February 2018                                      |             |               |
| Appropriation/Budget Activity<br>1319 / 4  |  | R-1 Program Element (Number/Name)<br>PE 0604126N / Littoral Airborne MCM |            | Project (Number/Name)<br>2131 / Assault Breaching System |             |               |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)   |  | FY 2017  | FY 2018    | FY 2019 Base   | FY 2019 OCO | FY 2019 Total |
| <div>Title: Product Development:</div> <div>Articles:</div> <div>FY 2018 Plans:<br/>FY 2018 funding for this program was funded in PE 0603502N, Project 2131.</div> <div>FY 2019 Base Plans:<br/>COBRA - Continue design and development of COBRA hardware and integration test planning of additional surf zone capabilities.</div> <div>JABS - Continue design and engineering of weapon effectiveness for beach and surf zones.</div> <div>FY 2019 OCO Plans:<br/>N/A</div> <div>FY 2018 to FY 2019 Increase/Decrease Statement:<br/>FY18 funding for this program was funded in PE 0603502N, Project 2131.</div>   |  | 0.000<br>-   | 0.000<br>- | 11.647<br>-  | 0.000<br>-  | 11.647<br>-   |
| <div>Title: Technical Support:</div> <div>Articles:</div> <div>FY 2018 Plans:<br/>FY 2018 funding for this program was funded in PE 0603502N, Project 2131.</div> <div>FY 2019 Base Plans:<br/>COBRA - Continue to provide management and shipping, contract and test/studies, C4I Data Fusion. Provide technical /acquisition support and documentation (ILS, training, data, drawings).</div> <div>FY 2019 OCO Plans:<br/>N/A</div> <div>FY 2018 to FY 2019 Increase/Decrease Statement:<br/>FY 2018 funding for this program was funded in PE 0603502N, Project 2131. FY 2019 funding increase supports increased technical support required to meet Block II requirements.</div> |  | 0.000<br>-   | 0.000<br>- | 1.447<br>-   | 0.000<br>-  | 1.447<br>-    |
| <div>Title: Test and Evaluation:</div> <div>Articles:</div> <div>FY 2018 Plans:</div>  |  | 0.000<br>-   | 0.000<br>- | 3.393<br>-   | 0.000<br>-  | 3.393<br>-    |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy   |         |         |                 |  |                  |            |  | Date: February 2018 |                |                     |            |
| Appropriation/Budget Activity<br>1319 / 4   |         |         |                 | R-1 Program Element (Number/Name)<br>PE 0604126N / Littoral Airborne MCM |                  |            | Project (Number/Name)<br>2131 / Assault Breaching System |                     |                |                     |            |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)  |         |         |                 |  |                  | FY 2017    | FY 2018  | FY 2019<br>Base     | FY 2019<br>OCO | FY 2019<br>Total    |            |
| FY 2018 funding for this program was funded in PE 0603502N, Project 2131.<br><b>FY 2019 Base Plans:</b><br>COBRA - Continue advance surf zone component/capability design and test.<br><br>JABS - Surf Zone (SZ) and Beach Zone (BZ) characterization testing.<br><b>FY 2019 OCO Plans:</b><br>N/A<br><br><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b><br>FY 2018 funding for this program was funded in PE 0603502N, Project 2131.FY 2019 funding increase supports increased technical support required to meet Block II requirements.  |         |         |                 |  |                  |            |  |                     |                |                     |            |
| Title: Management:<br><br><div>Articles:</div><br><b>FY 2018 Plans:</b><br>FY 2018 funding for this program was funded in PE 0603502N, Project 2131.<br><br><b>FY 2019 Base Plans:</b><br>Continue to manage Mine magazine inventory management and shipping, contract management and tests/ studies, C4I/Data fusion.<br><br><b>FY 2019 OCO Plans:</b><br>N/A<br><br><b>FY 2018 to FY 2019 Increase/Decrease Statement:</b><br>FY 2018 funding for this program was funded in PE 0603502N, Project 2131. FY 2019 funding increase supports the COBRA program entering the second phase/block development cycle and to address the requirements captured in the COBRA Block II Capabilities Development Document (CDD). |         |         |                 |  |                  | 0.000<br>- | 0.000<br>-   | 1.135<br>-          | 0.000<br>-     | 1.135<br>-          |            |
| Accomplishments/Planned Programs Subtotals  |         |         |                 |  |                  | 0.000      | 0.000  | 17.622              | 0.000          | 17.622              |            |
| C. Other Program Funding Summary (\$ in Millions)   |         |         |                 |  |                  |            |  |                     |                |                     |            |
| Line Item   | FY 2017 | FY 2018 | FY 2019<br>Base | FY 2019<br>OCO   | FY 2019<br>Total | FY 2020    | FY 2021  | FY 2022             | FY 2023        | Cost To<br>Complete | Total Cost |
| • OPN/2624: SHALLOW<br>WATER Mine CM SHIP   | 8.875   | 8.796   | 8.616           | -  | 8.616            | 8.730      | 5.595  | 5.703               | 5.811          | 0.000               | 100.599    |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Navy   |                |                |                |  |                |                |                |  |                | Date: February 2018 |                   |
| Appropriation/Budget Activity<br>1319 / 4   |                |                |                | R-1 Program Element (Number/Name)<br>PE 0604126N / Littoral Airborne MCM |                |                |                | Project (Number/Name)<br>2131 / Assault Breaching System |                |                     |                   |
| C. Other Program Funding Summary (\$ in Millions)   |                |                |                |  |                |                |                |  |                |                     |                   |
|   |                |                | <u>FY 2019</u> | <u>FY 2019</u>   | <u>FY 2019</u> |                |                |  |                | <u>Cost To</u>      |                   |
| <u>Line Item</u>  | <u>FY 2017</u> | <u>FY 2018</u> | <u>Base</u>    | <u>OCO</u>   | <u>Total</u>   | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u>   | <u>FY 2023</u> | <u>Complete</u>     | <u>Total Cost</u> |
| <u>Remarks</u>  |                |                |                |  |                |                |                |  |                |                     |                   |
| <p><b>D. Acquisition Strategy</b></p> <p>Countermine/Counter Obstacle (CM/CO)is JDAM Assault Breaching System (JABS) and ABS Tactical Decision Aid testing is ongoing.</p> <p>Intelligence/Surveillance/Reconnaissance/Targeting (ISR/T) - COBRA Block I achieved MS C in 3rd QTR FY 2009.</p> <p>Precision Navigation &amp; Marking System (PNMS) - The navigation upgrades for the Landing Craft, Air Cushion (LCAC) and Landing Craft, Utility (LCU) are complete. AAV enhancements will be achieved through an ECP (PMA AAV (Marine Corps)) in 1st QTR FY 2019.</p> <p><b>E. Performance Metrics</b></p> <p>Successful COBRA integration, flight tests: Operational Assessment (OA) and Development Testing (DT) into the MQ-8B FIRESCOUT. COBRA achieved IOC in FY 2017.</p> <p>The above systems continue to meet or exceed their Key Performance Parameters.</p> |                |                |                |  |                |                |                |  |                |                     |                   |

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| <b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2019 Navy</b>                                     |                                   |   |                    |                |                   |  |                   |                     |                   |                    |                   | <b>Date: February 2018</b>   |                         |                   |                                 |
| <b>Appropriation/Budget Activity</b><br>1319 / 4  |                                   |   |                    |                |                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604126N / <i>Littoral Airborne MCM</i> |                   |                     |                   |                    |                   | <b>Project (Number/Name)</b><br>2131 / <i>Assault Breaching System</i> |                         |                   |                                 |
| <b>Product Development (\$ in Millions)</b>   |                                   |   |                    | <b>FY 2017</b> |                   | <b>FY 2018</b>   |                   | <b>FY 2019 Base</b> |                   | <b>FY 2019 OCO</b> |                   | <b>FY 2019 Total</b>   |                         |                   |                                 |
| <b>Cost Category Item</b>   | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b> | <b>Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>  | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>  | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Primary Hardware Dev, COBRA   | C/CPAF                            | Arete : Tucson, AZ                        | 0.000              | 0.000          |                   | 0.000  |                   | 8.082               | Dec 2018          | -                  |                   | 8.082  | Continuing              | Continuing        | Continuing                      |
| Systems Engineering, COBRA  | WR                                | NSWC, PC : PANAMA CITY, FL                | 0.000              | 0.000          |                   | 0.000  |                   | 1.200               | Nov 2018          | -                  |                   | 1.200  | Continuing              | Continuing        | Continuing                      |
| JABS  | WR                                | NSWC PC : NSWC IH                         | 0.000              | 0.000          |                   | 0.000  |                   | 1.227               | Nov 2018          | -                  |                   | 1.227  | Continuing              | Continuing        | Continuing                      |
| Training Dev, COBRA   | WR                                | NSWC, PC : PANAMA CITY, FL                | 0.000              | 0.000          |                   | 0.000  |                   | 0.859               | Dec 2018          | -                  |                   | 0.859  | Continuing              | Continuing        | Continuing                      |
| ABS IPT/Test Assets/Proj Eng  | WR                                | NSWC, PC : PANAMA CITY, FL                | 0.000              | 0.000          |                   | 0.000  |                   | 0.279               | Dec 2018          | -                  |                   | 0.279  | Continuing              | Continuing        | Continuing                      |
| <b>Subtotal</b>   |                                   |   | 0.000              | 0.000          |                   | 0.000  |                   | 11.647              |                   | -                  |                   | 11.647   | Continuing              | Continuing        | N/A                             |
| <b>Remarks</b><br>FY 2018 and prior funding for this program was funded in PE 0603502N, Project 2131. |                                   |   |                    |                |                   |  |                   |                     |                   |                    |                   |  |                         |                   |                                 |
| <b>Support (\$ in Millions)</b>   |                                   |   |                    | <b>FY 2017</b> |                   | <b>FY 2018</b>   |                   | <b>FY 2019 Base</b> |                   | <b>FY 2019 OCO</b> |                   | <b>FY 2019 Total</b>   |                         |                   |                                 |
| <b>Cost Category Item</b>   | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b> | <b>Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>  | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>  | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Development Support Equipment   | WR                                | NSWC, PC : PANAMA CITY, FL                | 0.000              | 0.000          |                   | 0.000  |                   | 0.942               | Dec 2018          | -                  |                   | 0.942  | Continuing              | Continuing        | Continuing                      |
| Integrated Logistics Support  | WR                                | NSWC PC : PANAMA CITY, FL                 | 0.000              | 0.000          |                   | 0.000  |                   | 0.111               | Nov 2018          | -                  |                   | 0.111  | Continuing              | Continuing        | Continuing                      |
| Configuration Management  | WR                                | NSWC, PC : PANAMA CITY, FL                | 0.000              | 0.000          |                   | 0.000  |                   | 0.111               | Nov 2018          | -                  |                   | 0.111  | Continuing              | Continuing        | Continuing                      |
| Studies & Analysis  | WR                                | NSWC IH : INDIAN HEAD, MD                 | 0.000              | 0.000          |                   | 0.000  |                   | 0.283               | Dec 2018          | -                  |                   | 0.283  | Continuing              | Continuing        | Continuing                      |
| <b>Subtotal</b>   |                                   |   | 0.000              | 0.000          |                   | 0.000  |                   | 1.447               |                   | -                  |                   | 1.447  | Continuing              | Continuing        | N/A                             |
| <b>Remarks</b><br>FY 2018 and prior funding for this program was funded in PE 0603502N, Project 2131. |                                   |   |                    |                |                   |  |                   |                     |                   |                    |                   |  |                         |                   |                                 |

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| <b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2019 Navy</b>                                     |                                   |   |                    |                |                   |  |                   |                     |                   |                    |                   | <b>Date: February 2018</b>   |                         |                   |                                 |
| <b>Appropriation/Budget Activity</b><br>1319 / 4  |                                   |   |                    |                |                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0604126N / <i>Littoral Airborne MCM</i> |                   |                     |                   |                    |                   | <b>Project (Number/Name)</b><br>2131 / <i>Assault Breaching System</i> |                         |                   |                                 |
| <b>Test and Evaluation (\$ in Millions)</b>   |                                   |   |                    | <b>FY 2017</b> |                   | <b>FY 2018</b>   |                   | <b>FY 2019 Base</b> |                   | <b>FY 2019 OCO</b> |                   | <b>FY 2019 Total</b>   |                         |                   |                                 |
| <b>Cost Category Item</b>   | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b> | <b>Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>  | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>  | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Development Test & Evaluation   | WR                                | NSWC, IH : INDIAN HEAD, MD                | 0.000              | 0.000          |                   | 0.000  |                   | 1.729               | Nov 2018          | -                  |                   | 1.729  | Continuing              | Continuing        | Continuing                      |
| Operational Test & Evaluation   | WR                                | NSWC/ IH, PC : INDIAN HEAD, PANAMA CITY   | 0.000              | 0.000          |                   | 0.000  |                   | 0.555               | Dec 2018          | -                  |                   | 0.555  | Continuing              | Continuing        | Continuing                      |
| Development Test  | WR                                | NSWC PC : Panama City, FL                 | 0.000              | 0.000          |                   | 0.000  |                   | 1.109               | Nov 2018          | -                  |                   | 1.109  | Continuing              | Continuing        | Continuing                      |
| <b>Subtotal</b>   |                                   |   | 0.000              | 0.000          |                   | 0.000  |                   | 3.393               |                   | -                  |                   | 3.393  | Continuing              | Continuing        | N/A                             |
| <b>Remarks</b><br>FY 2018 and prior funding for this program was funded in PE 0603502N, Project 2131. |                                   |   |                    |                |                   |  |                   |                     |                   |                    |                   |  |                         |                   |                                 |
| <b>Management Services (\$ in Millions)</b>   |                                   |   |                    | <b>FY 2017</b> |                   | <b>FY 2018</b>   |                   | <b>FY 2019 Base</b> |                   | <b>FY 2019 OCO</b> |                   | <b>FY 2019 Total</b>   |                         |                   |                                 |
| <b>Cost Category Item</b>   | <b>Contract Method &amp; Type</b> | <b>Performing Activity &amp; Location</b> | <b>Prior Years</b> | <b>Cost</b>    | <b>Award Date</b> | <b>Cost</b>  | <b>Award Date</b> | <b>Cost</b>         | <b>Award Date</b> | <b>Cost</b>        | <b>Award Date</b> | <b>Cost</b>  | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| Contractor Engineering Support  | C/CPFF                            | BAH, Northrop Grumman : DC, FL            | 0.000              | 0.000          |                   | 0.000  |                   | 0.138               | Dec 2018          | -                  |                   | 0.138  | Continuing              | Continuing        | Continuing                      |
| Government Engineering Support  | WR                                | NSWC, IH : INDIAN HEAD, MD                | 0.000              | 0.000          |                   | 0.000  |                   | 0.501               | Nov 2018          | -                  |                   | 0.501  | Continuing              | Continuing        | Continuing                      |
| Program Management Support  | WR                                | NSWC/ IH, PC : INDIAN HEAD, PANAMA CITY   | 0.000              | 0.000          |                   | 0.000  |                   | 0.438               | Oct 2018          | -                  |                   | 0.438  | Continuing              | Continuing        | Continuing                      |
| Travel  | WR                                | NAVSEA : WNY, DC                          | 0.000              | 0.000          |                   | 0.000  |                   | 0.058               | Dec 2018          | -                  |                   | 0.058  | Continuing              | Continuing        | Continuing                      |
| <b>Subtotal</b>   |                                   |   | 0.000              | 0.000          |                   | 0.000  |                   | 1.135               |                   | -                  |                   | 1.135  | Continuing              | Continuing        | N/A                             |
| <b>Remarks</b><br>FY 2018 and prior funding for this program was funded in PE 0603502N, Project 2131. |                                   |   |                    |                |                   |  |                   |                     |                   |                    |                   |  |                         |                   |                                 |
|   |                                   |   | <b>Prior Years</b> | <b>FY 2017</b> |                   | <b>FY 2018</b>   |                   | <b>FY 2019 Base</b> |                   | <b>FY 2019 OCO</b> |                   | <b>FY 2019 Total</b>   | <b>Cost To Complete</b> | <b>Total Cost</b> | <b>Target Value of Contract</b> |
| <b>Project Cost Totals</b>  |                                   |   | 0.000              | 0.000          |                   | 0.000  |                   | 17.622              |                   | -                  |                   | 17.622   | Continuing              | Continuing        | N/A                             |



UNCLASSIFIED

|  |                |         |  |                 |                |  |                     |               |                                |  |
|--|----------------|---------|--|-----------------|----------------|--|---------------------|---------------|--------------------------------|--|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Navy   |                |         |  |                 |                |  | Date: February 2018 |               |                                |  |
| Appropriation/Budget Activity<br>1319 / 4  |                |         | R-1 Program Element (Number/Name)<br>PE 0604126N / Littoral Airborne MCM |                 |                | Project (Number/Name)<br>2131 / Assault Breaching System |                     |               |                                |  |
|  | Prior<br>Years | FY 2017 | FY 2018  | FY 2019<br>Base | FY 2019<br>OCO | FY 2019<br>Total   | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |  |
| Remarks<br>FY 2018 and prior funding for this program was funded in PE 0603502N, Project 2131. |                |         |  |                 |                |  |                     |               |                                |  |

**UNCLASSIFIED**

PE 0604126N: *Littoral Airborne MCM*  
Navy

R-1 Line #86

1319 / 4

PE 0604126N / Littoral Airborne MCM

2131 / Assault Breaching System

| COBRA                  | FY 2017 |    |    |    | FY 2018 |    |    |    | FY 2019                               |    |    |    | FY 2020 |                             |    |    | FY 2021 |                              |    |    | FY 2022 |    |    |    | FY 2023 |    |    |    |  |  |  |  |  |  |  |  |  |
|------------------------|---------|----|----|----|---------|----|----|----|---------------------------------------|----|----|----|---------|-----------------------------|----|----|---------|------------------------------|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|--|--|--|--|--|
|                        | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q                                    | 2Q | 3Q | 4Q | 1Q      | 2Q                          | 3Q | 4Q | 1Q      | 2Q                           | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q | 1Q      | 2Q | 3Q | 4Q |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    | Realigned<br>from PE<br>0603502N<br>▲ |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
| Acquisition Milestones |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
| COBRA Block II         |         |    |    |    |         |    |    |    | Block II EMD                          |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
| Test & Evaluation      |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
| COBRA Block II         |         |    |    |    |         |    |    |    |                                       |    |    |    |         | Block II Contractor Testing |    |    |         | Block II Development Testing |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
| Deliveries             |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
| COBRA Block I          |         |    |    |    |         |    |    |    | COBRA BLK I                           |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |
|                        |         |    |    |    |         |    |    |    |                                       |    |    |    |         |                             |    |    |         |                              |    |    |         |    |    |    |         |    |    |    |  |  |  |  |  |  |  |  |  |

2019PB - 0604126N - 2131

**UNCLASSIFIED**

|   |  |  |                            |
|---|--|--|----------------------------|
| <b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Navy |  |  | <b>Date:</b> February 2018 |
| <b>Appropriation/Budget Activity</b><br>1319 / 4              | <b>R-1 Program Element (Number/Name)</b><br>PE 0604126N / <i>Littoral Airborne MCM</i> | <b>Project (Number/Name)</b><br>2131 / <i>Assault Breaching System</i> |                            |

Schedule Details

| Events by Sub Project   | Start   |      | End     |      |
|---|---------|------|---------|------|
|   | Quarter | Year | Quarter | Year |
| <b>COBRA</b>  |         |      |         |      |
| Schedule Detail   | 1       | 2019 | 1       | 2019 |
| Acquisition Milestones: COBRA Block II: COBRA Block II EMD            | 1       | 2019 | 4       | 2021 |
| Test & Evaluation: COBRA Block II: COBRA Block II Contractor Testing  | 1       | 2020 | 4       | 2021 |
| Test & Evaluation: COBRA Block II: COBRA Block II Development Testing | 1       | 2022 | 2       | 2023 |
| Test & Evaluation: COBRA Block II: COBRA Block II Integration Testing | 2       | 2023 | 4       | 2023 |
| Deliveries: COBRA Block I: Block I                                    | 1       | 2019 | 4       | 2020 |