ECB-047
REVISION: -
CAGE 5B5M3
9 Jan 2014

US ARMY ECBC
DESCRIPTION FOR PURCHASE (DFP)
Engineer Equipment Set, Urban Operations, Squad

1 SCOPE

1.1 Scope. This Purchase Description describes the Engineer Equipment Set, Urban Operations, Squad (Urban Ops Squad).

2 APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in section 3 and 4 of this specification, whether or not they are listed here.

2.2 Government Documents.

2.2.1 Specifications and Standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, as of the date of the solicitation.

FEDERAL STANDARDS

FED-STD-595	Colors Used in Government Procurement
OSHA 1926.1053	Safety and Health Regulations for Construction, Ladders
NIJ 0108.01	Ballistic Resistant Protective Materials

MILITARY STANDARDS

MIL-STD-129	Marking for Shipment and Storage
MIL-STD-1916	DOD Preferred Methods for Acceptance of Product
MIL-STD-2073-1	Standard Practice for Military Packaging
MIL-H-24936	Hood, Anti-Flash, Flame Resistant
MIL-W-63150	Weapons And Support Materiel Standard Quality Assurance Provisions
MIL-STD-464	Electromagnetic Environmental Effects Requirements For Systems

(Copies of these documents are available online at http://assist.daps.dla.mil/quicksearch/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Non-government standards. The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation/contract.

ASTM INTERNATIONAL STANDARDS

ASTM-D4675	Standard Guide for Selection and Use of Flat Strapping Materials
ASTM-D6039	Standard Specification for Open and Covered Wood Crates

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 1971, 2007	Standard on Protective Ensembles for Structural Firefighting and Proximity Firefighting
NFPA 1932, 2010	Standard on Use, Maintenance, and Service Testing of In-Service Fire Department Ground Ladders
NFPA 1983, 2012	Standard on Life Safety Rope and Equipment for Emergency Services
UIAA	International Mountaineering and Climbing Federation
ASC A14.2-2007	American National Standard for Ladders – Portable Metal – Safety Requirements
ASC A14.5-2007	American National Standard for Ladders – Portable Reinforced Plastic – Safety Requirements

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428.)

3 PRODUCT REQUIREMENTS

3.1 Product Verification. When specified, the contractor shall furnish one or more sets for product verification inspection. The sets submitted shall be in accordance with the requirements of this Purchase Description and in accordance with the terms of the contract. The approved product verification sample and the production items shall be in accordance with the terms of the contract. Approval of the product verification shall not relieve the contractor of the responsibility to furnish equipment in accordance with the requirements of this Purchase Description.

3.2 Item Requirement. The item description is the controlling requirement. It is the responsibility of the suppliers and manufacturers to assure that each item offered meets all of the requirements related to the item, including the industrial quality portion.

3.3 Brand Name Components. The following components specified in Table 1 must be of the specified brand name called out in the long item descriptions. The particular brand name is essential to the Governments minimum requirements and other companies' similar products for these components do not meet the Governments' needs and cannot be modified to meet the Government's needs.

Table 1. Brand Name Components

Paragraph Number	**Item Nomenclature/ Description**	**Part Number**
3.16.1	Axe, Battle, Steel Head	SP16 SPAX
3.16.2	Bag, Deployment/Storage	2180-R648-2ACUB
3.16.3	Cable Tie, Plastic, 50/pk	AL-24-175-0-L
3.16.4	Camera, Scope Thermal Image Digital	MTM-001-A28
3.16.4.1	Mount, Helmet	MTM-022
3.16.5.1	Chalk, Blue	RCBBULK
3.16.5.2	Chalk, Yellow	RCYBULK
3.16.5.3	Chalk, White	RCWBULK
3.16.6	Chalk, Holder	CH400
3.16.7	Cord, Parachute	MIL-C-5040 TYPE III
3.16.8	Earmuffs/Headset	88060-00000
3.16.9	Goggles, Ballistic	510-TF
3.16.10	Grapnel, Trip Wire	TRG-DT
3.16.11	Grapnel, Hook	TRG-MG
3.16.14	Marker, IR Transmitter	DBL-001
3.16.15	Marker, Light Stick, Green	9-74780
3.16.16	Marker, Light Stick, IR	9-17100
3.16.17	Marker, Light Stick, Orange	9-76300
3.16.18.1	Marker/Paint Stick, Fluorescent Orange	XSC-305
3.16.18.2	Marker/Paint Stick, Black	XSC-49
3.16.18.3	Marker/Paint Stick, White	XSC-50
3.16.18.4	Marker/Paint Stick, Yellow	XSC-3
3.16.22.1	Rope	512712BK
3.16.22.2	Bag, Deployment	801900BA
3.16.22.3	Rescue 8	601000S
3.16.22.4	Rescue 8 Link, Web Fabric	756600BA
3.16.22.5	Harness, Rappel	720800BA
3.16.22.6	Strap, Anchor	756700BA
3.16.22.7	Carabiner, Locking	OP12S55LNFPA
3.16.22.8	Web, Tubular, Black	790120BKBA
3.16.22.9	Cord, Prusik	500805PBLBA
3.16.22.10	Carabiner, Non-Locking	OPD5
3.16.22.11	Device, Belay, Auto	GRIGRI2
3.16.23	Sealer, Rope	599909

3.16.24	Tape (Infrared), Combat Identifier	IFF-980 (NSN 9390-01-467-7519)
3.16.25.1	Wheeled Carrying Case	CETMBKMC
3.16.25.2	Ram, Door, Mini	ALTI-RAMII
3.16.25.3	Hammer, Sledge	ALTI9427S6
3.16.25.4	Tool, Hinge Breaker	ALTI-9429HB
3.16.25.5	Tool, Bolt Cutters	BCNC-001
3.16.25.6	Tool, Halligan	ALTI-9428-H
3.16.25.7	Tool Repair Kit	CETRKT
3.16.25.8	Instruction DVD	CETMBKDVD
3.16.26	Wedge, Plastic, Door	Wedge-It
3.16.27	Burner, DVD, Portable	DM220-P08

3.4 Brand Name or Equivalent Components. The following components specified in Table 2 are not restricted to the identified manufacturer/part number however they are known sources of supply that meet the Governments minimum requirements. Where a source of supply for an item is given herein, this information is provided to assist in identifying acceptable components. The provision of this information does not imply the Government has a preference for a specific brand of item. Offerors may offer an equivalent component provided that the offered component has the same or better form, fit, function, quality, and warranty as the listed item or part number. All offered components shall be industrial quality as required in the following paragraphs. If an alternative part is offered, it is the contractor's responsibility to provide evidence as stated in the RFP.

Table 2. Brand Name or Equivalent Components

Paragraph Number	**Item Nomenclature/ Description**	**Part Number**
3.16.12	Hood, Flash	8415-01-268-3473 (NSN)
3.16.13.1	Ladder Kit, Dual Purpose Climbing/Bridging	
3.16.13.1.1	Aluminum Modular Ladder	SIP3-QPTL-TL12FT
3.16.13.1.2	Ladder Hook/A-Fame Bracket	SIP3-QPTL-TLDPH
3.16.13.1.3	Ladder Bridge Plate	SIP3-QPTL-TLBP
3.16.13.1.4	Ladder Lanyard	SIP3-QPTL-TLL
3.16.13.1.5	Ladder Carrier	SIP-QPTL-TLC
3.16.13.2	Ladder Kit, Climbing	
3.16.13.2.1	Plastic Climbing Ladder	ITPL012
3.16.13.2.2	Ladder Feet/Bumper	ITPL-RF
3.16.13.2.3	Swivel Hooks	ITPL-SH
3.16.13.2.4	Ladder Backpack	ITPL-HBP
3.16.13.2.5	Carry Strap	ITPL-CS
3.16.19	Pad, Elbow	AR-343HGBLK-EP
3.16.20	Pad, Knee	AR-343HGBLK-KP
3.16.21	Dual Purpose Ballistic Shield/Litter Kit	

3.16.21.1	Ballistic Shield/Litter	SIP3-QPTL-TLBS2443
3.16.21.2	Wheel Attachment Assembly	SIP3-QPTL-TLWAA
3.16.22.12	Ascender, Hand (Right & Left)	B17WLA (left) B17WRA (right)
3.16.22.13	Ascender, Footcord	620002
3.16.22.14	Ascender, Foot	FTASCR (right) FTASCL (left)
3.16.28	Breaching Saw Kit	BRO-36V-KIT
3.16.28.1	Battery Charger	1006632-00

3.5 Evaluation criteria. All offers shall be technically evaluated according to the RFP. All individual items shall be evaluated according to the RFP. If an offer is incomplete or missing information, the offer shall not be evaluated.

3.6 Resale items. Some manufacturers sell their products only through resale distributors. Some of the items specified here for inclusion in this set may be from such manufacturers, however, no indications of this has been given here. Further, if an offeror includes components obtained from distributors in this set, all offeror provided information about individual tools, including CAGE code and part number, shall reflect that of the original component manufacturer and not that of the resale distributor or offeror.

3.7 US Manufactured Items. The item descriptions in this document provide the Federal Supply Classification of the related item to assist offerors in determining which items the provisions of the Buy American Act and Berry Amendments apply. The Government has tried to ensure that the list contains only U.S. manufactured items where required by applicable laws. However, given the volatile nature of the market at this time and the unavailability of U.S. manufacturers of certain items, the Government cannot guarantee that all of the items on the list are U.S. made.

3.8 Illustrations. Illustrations and photographs are provided as illustrations to aid in understanding the requirements described in the text. The products illustrated do not necessarily meet the stated requirements, nor are they intended to be an endorsement of a specific product or manufacturer. Offerors are to meet all of the requirements stated in this purchase description. The presence or absence of figures has no bearing on the applicability of the stated requirement or practice.

3.9 Industrial quality tools. Unless otherwise specified, all components supplied with this set shall be industrial quality. Proof of industrial quality shall be provided as stated in paragraph 3.9.3.

3.9.1 Industrial quality tools definition. For the purposes of this procurement, the term “industrial quality tools” versus household-use tool or general purpose tools is defined as tools commercially marketed and manufactured for constant, rigorous, industrial or professional environment use, and that have demonstrated market acceptance.

3.9.2 Use. Industrial quality tools are used primarily by skilled professionals and technicians in such areas as machine shops, automotive maintenance and repair facilities, aircraft maintenance

and repair facilities, industrial automotive assembly plants, fleet maintenance facilities, and airline service facilities. The tools will be used for specialized applications in an environment of constant use, (i.e. around-the-clock 8 hour shifts), with applications requiring high torque, low slippage, and strict tolerances.

3.9.3 Market acceptance. In the event that the government is unable to determine from the offered product literature and associated information that a product meets the requirement for industrial quality tools and discussions are, therefore, opened, offerors shall be prepared to offer evidence of market acceptance in the professional or industrial market. Evidence of acceptance by industrial/professional customers includes sales to fleet operators, distributors, contractors, industrial and professional users, and sales to distributors who retail exclusively to the professional or industrial market. Advertising or marketing literature that indicates "professional grade" or "industrial quality", or merely stating that an item is "professional grade" or "industrial quality" is insufficient to establish industrial/professional quality since these are terms for which there is no generally acceptable definition. A claim that an item is manufactured to an industry consensus standard is also insufficient to establish industrial or professional quality.

3.10 Construction. Components supplied in this set shall be new and constructed of parts and materials that are without defects.

3.11 Workmanship. The quality of workmanship imparted to the tool set shall equal or exceed that typically provided in commercial products of this type. The tools presented for acceptance shall have been manufactured with skill and care; shall be uniform, neat, and clean; and shall be free from irregularities and anomalies which degrade form, fit, function, performance, or appearance.

3.12 Warranty. All components shall be warranted as stated in the components list in Table 3 below. The offeror shall state the length and terms of the manufacturers' warranties in response to the RFP. The offeror stated warranties shall become part of the contract or delivery order. Lifetime warranty shall be unconditional regardless of fault by either party.

3.13 Information. A human readable warranty information plate at least 5 inches wide and 2.5 inches high shall be furnished for each set. The warranty information plate shall be located in a conspicuous location and shall conform to the current version of the following image. This image is always subject to change. The contractor shall contact PM-SKOT to ensure they have the current version prior to use.

Contact PM-SKOT for all Tool Replacement and Warranty Issues

1-877-4-PM-SKOT (1-877-476-7568)
DSN: 273-3667 / CM: 586-239-3667
E-MAIL:
USARMY.DETROIT.PEO-CS-CSS.MAIL.PM-SKOT@MAIL.MIL
Web Site: https://tools.army.mil

3.14 Tools

3.14.1 Tool List. The offeror shall provide a laminated component list that identifies the nomenclature, manufacturer's part number, NSN when known, and type and length of warranty for each component in this equipment set.

3.14.2 Tool Manuals. Two Technical Manuals per set shall be provided by the government to be packed in the shipping crate. The technical manuals shall be packed in a weather proof resealable bag.

3.14.3 Tool Sets: Identity and Consistency. Several of the components of this set are kits of related components that are designed to function together. Specific examples of this are the Breaching Tool Set, Ballistic Shield Kit, Dual Purpose Climbing-Bridging Ladder Kit, Climbing Ladder Kit. Within each of these kits or subkits, all items shall be from a single source or manufacturer. This will ensure the interoperability of kit components. Offerors are encouraged to identify alternate equipment kits, but not individual kit components.

3.14.4 Component Cases. Items that are provided with their own cases or boxes from the manufacturer shall remain in their case/box. The item shall be packed in its individual case/box, with the exception of items ordered in bulk, they may be removed from bulk packaging and placed in smaller boxes to meet the requirements of the DFP, e.g. Chalk: 8 pieces per box.

3.14.4.1 Loose items. Items not provided with their own protective packaging from the manufacturer shall be packaged in corrugated fiberboard boxes or packaging containers in accordance with (IAW) MIL-STD-2073-1D Level B packing requirements.

3.14.4.2 Transportability. Packaging crate and packaging materials shall be suitable for commercial and military shipment via air, sea, and highway, and withstand without damage of any components in its operational configuration during transportation.

3.15 Component Items. The Component List (CL), Table 3, identifies the components in this set by a short item description and a representative manufacturer and part number, where known. Also provided in this table is the total quantity required in the equipment set, a warranty code, and the federal supply class of the item. In the CL, the quantity shown for an item which is a component of an included set or kit is the total number of that item included in the Engineer Equipment Set. For these items, the quantity required in each set or kit is the quantity shown divided by the number of sets or kits of which it is a member. The warranty codes indicate whether the item is to have a lifetime (L), a manufacturer specified warranty (M), or no warranty required (N). The Federal Supply Classification (FSC) is provided to aid in the determination of applicability of Buy American and Berry Amendment laws.

Table 3. Component List

Para. 3.16.x	Item Nomenclature/Description	Cage	PN	Unit Issue	Qty	Wty	FSC Prefix
1*	Axe, Battle, Steel Head	2V376	SP16 SPAX	EA	2	L	10
2*	Bag, Deployment/Storage	79623	2180-R648-2ACUB	EA	4	M	84
3*	Cable Tie, Plastic, 50 Per Package	03RL1	AL-24-175-0-L	PG	3	N	59
4*	Camera, Scope Thermal Image Digital Kit	0B107	MTM-000-A28	KT	2	M	58
	MTM System Assy 640/17, IR, VIS Black V2	0B107	MTM-001-A28	EA	2	M	58
	NV Filter Assembly	0B107	MTM-018	EA	2	M	58
	Mount Helmet Assembly	0B107	MTM-022	EA	2	M	58
	Quick Reference Guide	0B107	MTMPI-QRG-ITI	EA	2	M	58
	Manual User MTMPI	0B107	MTMPI-TM-ITI	EA	2	M	58
	Cable Download 7-pin Fischer	0B107	MTP-520	EA	2	M	58
	Carrying Bag	0B107	ATP-012	EA	2	M	58
	Battery Lithium 3V	0B107	DL123ABK	EA	4	M	58
	Eyecup Insert Molded Assy	0B107	7B422	EA	2	M	58
	Lens Tissue	0B107	7B626	EA	2	M	58
5	Chalk, Assorted Colors			BX	8	M	75
5.1*	Chalk, Blue	3DF50	RCBBULK	EA	16	M	75
5.2*	Chalk, Yellow	3DF50	RCYBULK	EA	16	M	75
5.3*	Chalk, White	3DF50	RCWBULK	EA	16	M	75
6*	Chalk, Holder	3DF50	CH400	EA	1	M	75
7*	Cord, Parachute	08YL1	MIL-C-5040 TYPE III	SL	1	M	40
8*	Earmuffs/Headset	76381	88060-00000	EA	8	M	59
9*	Goggles, Ballistic	12858	510-TF	EA	8	M	84
10*	Grapnel, Trip Wire	1GTM5	TRG-DT	PK	6	M	10
11*	Grapnel, Hook	1GTM5	TRG-MG	EA	3	M	20
12	Hood, Flash	81349	8415-01-268-3473	EA	8	M	84
13	Ladder Kit, Urban Assault						
13.1	Ladder Kit, Dual Purpose Climbing-Bridging	69TG1		KT	1	M	42
13.1.1	Aluminum Modular Ladder	69TG1	SIP3-QPTL-TL12FT	EA	1	M	42
13.1.2	Ladder Hook/A-Frame Bracket	69TG1	SIP3-QPTL-TLDPH	EA	2	M	42
13.1.3	Bridging Plate	69TG1	SIP3-QPTL-TLBP	EA	6	M	42

Para. 3.16.x	Item Nomenclature/Description	Cage	PN	Unit Issue	Qty	Wty	FSC Prefix
13.1.4	Ladder Lanyard	69TG1	SIP3-QPTL-TLL	EA	1	M	42
13.1.5	Ladder Carrier	69TG1	SIP3-QPTL-TLC	EA	2	M	42
13.2	Ladder Kit, Climbing	8J931		KT	1	M	42
13.2.1	Plastic Climbing Ladder	8J931	ITPL012	EA	1	M	42
13.2.2	Ladder Feet/Bumper	8J931	ITPL-RF	PA	2	M	42
13.2.3	Swivel Hooks	8J931	ITPL-SH	PA	1	M	42
13.2.4	Ladder Backpack	8J931	ITPL-HBP	EA	1	M	42
13.2.5	CarryStrap	8J931	ITPL-CS	EA	1	M	42
14*	Marker, Infra-Red Transmitter	0B107	DBL-001	EA	8	M	58
15*	Marker, Light Stick, Green	0BY83	9-74780 (comes 100 EA/PK)	EA	8	M	62
16*	Marker, Light Stick, Infra-Red	0BY83	9-17100 (comes 100 EA/PK)	EA	8	M	62
17*	Marker, Light Stick, Orange	0BY83	9-76300 (comes 100 EA/PK)	EA	8	M	62
18	Marker/Paint Stick, Set		KIT PAINT MARKER	BX	2	N	75
18.1*	Marker/Paint Stick, Fluorescent Orange	00NS2	XSC-305	EA	6	N	75
18.2*	Marker/Paint Stick, Black	00NS2	XSC-49	EA	6	N	75
18.3*	Marker/Paint Stick, White	00NS2	XSC-50	EA	6	N	75
18.4*	Marker/Paint Stick, Yellow	00NS2	XSC-3	EA	6	N	75
19	Pad, Elbow	4N2H6	AR-343HGBLK-EP	PR	8	M	78
20	Pad, Knee	4N2H6	AR-343HGBLK-KP	PR	8	M	78
21	Dual Purpose Ballistic Shield/Litter Kit	69TG1		KT	1	M	10
21.1	Ballistic Shield/Litter	69TG1	SIP3-QPTL-TLBS2443	PA	1	M	10
21.2	Wheel Attachment Assembly	69TG1	SIP3-QPTL-TLWAA	PA	1	M	10
22	Rappelling Kit, Tactical			KT	3	M	42
22.1*	Rope	62645	512712BK	EA	3	M	40
22.2*	Bag, Deployment	62645	801900BA	EA	3	M	81
22.3*	Rescue 8	62645	601000S	EA	3	M	42
22.4*	Rescue 8 Link, Web Fabric	62645	756600BA	EA	3	M	42
22.5*	Harness, Rappel	62645	720800BA	EA	3	M	42
22.6*	Strap, Anchor,	62645	756700BA	EA	3	M	42
22.7*	Carabiner, Locking	78848	OP12S55LNFPA	EA	12	M	40
22.8*	Web, Tubular, Black	62645	790120BKBA	EA	3	M	42
22.9*	Cord, Prusik	62645	500805PBLBA	EA	3	M	42
22.10*	Carabiner, Non-Locking	78848	OPD5	EA	15	M	40

Para. 3.16.x	Item Nomenclature/Description	Cage	PN	Unit Issue	Qty	Wty	FSC Prefix
22.11 *	Device, Belay, Auto	1QYU6	GRIGRI2	EA	6	M	40
22.12	Ascender, Hand	1QYU6	B17WLA (left), B17WRA (right)	PA	3	M	42
22.13	Ascender, Footcord	62645	620002	EA	3	M	42
22.14	Ascender, Foot	02AX5	FTASCR (right), FTASCL (left)	PA	3	M	42
23*	Sealer, Rope	62645	599909	EA	1	N	80
24*	Tape (Infrared), Combat Identifier	3CNT2	IFF-980	SH	2	M	93
25	Tool Set, Breaching	4BOU5	CETMBK002	KT	2	M	42
25.1*	Wheeled Carrying Case	4BOU5	CETMBKMC	EA	2	M	42
25.2*	Ram, Door, Mini	4BOU5	ALTI-RAMII	EA	2	M	42
25.3*	Hammer, Sledge	4BOU5	ALTI-9427S6	EA	2	M	42
25.4*	Tool, Hinge Breaker	4BOU5	ALTI-9429HB	EA	2	M	42
25.5*	Tool, Bolt Cutters	4BOU5	BCNC-001	EA	2	M	42
25.6*	Tool, Halligan	4BOU5	ALTI-9428H	EA	2	M	42
25.7*	Tool Repair Kit	4BOU5	CETRKT	EA	2	M	81
25.8*	Instructional DVD	4BOU5	CETMKDVD	EA	2	M	75
26*	Wedge, Plastic, Door	1SWH8	Wedge-It	EA	8	N	53
27*	Burner, DVD, Portable	63BG5	DM220-P08	EA	1	M	70
28	Breaching Saw Kit	59491	BRO-36V-KIT	KT	2	M	34
	Cut-Off Tool, 36 Volt	59491	FE36V-001	EA	2	M	34
	36V Li-Ion Batteries	72617	DC9360	EA	4	M	34
	7” Blade Guard	59491	BRO-36V-004	EA	2	M	34
	Blade, Diamond, 4.5”	59491	BRO-DRS-4.5	EA	4	M	34
	Blade, Diamond, 7”	59491	BRO-DRS-7	EA	4	M	34
	Handle Yoke	59491	BRO-36V-002	EA	2	M	34
	Storage case, custom	59491	FE36V-CASE	EA	2	M	34
28.1	Battery Charger	72617	1006632-00	EA	2	M	61

*Brand name component

3.16 Component Requirements. The components shall conform to the requirements of paragraph 3.16.1 through 3.16.28.1 below. Brand name components listed in paragraph 3.3 are identified by an asterisk in Table 3. For any component not identified by an asterisk in paragraph 3.3. the suggested brand name or an equivalent component can be offered. If an equivalent component is offered, it must meet or exceed the requirements listed for that component. In all cases, the offeror must be prepared to demonstrate, at no additional cost to the Government the equality of a supplied component to that listed below.

3.16.1 *Axe, Battle. The battle axe shall have a forged carbon steel blade, full tang, and a grooved Kraton polymer handle. Nominal blade dimensions shall be 8" long by .25" thick with a

4" pick. The battle axe shall have an overall length of 13-1/8" nominal and weight of 2.0 lbs. A wrench opening that fits standard fire hydrant and LP gas cutoffs shall be provided. The battle axe shall be capable of cutting electric wire or cable while protecting the user from up to 22,000 VAC. A leather wrist thong and black CORDURA nylon and leather sheath shall be provided. Brand Name Only: Ontario Knife Company, P/N SP16 SPAX. Quantity: 2 each.

3.16.2 *Bag, Deployment & Storage. The deployment bag shall be constructed of nylon yarn not less than 1000 denier weight, mildew resistant, or any stronger material. The bag shall match the color and pattern of the Army Combat Uniform (ACU). Inside bag dimensions: 30” long x 15” diameter. The bag shall utilize a heavy duty zipper for closure. The length of the zipper shall be the maximum allowable for a bag with the above dimensions (zipper length: 26” to 30”). The zipper shall be covered by an external flap with a Velcro style closure that runs the entire length of the zipper so that it may be covered and made abrasion and weather resistant. Each bag shall have reinforced carry handles on each end positioned such that the handles are in horizontal attitude when the zipper is facing up. Each bag shall have a sewn on warning label to not load the bags with more than 37 pounds of equipment. Each bag shall include an adjustable carrying shoulder strap that can be clipped onto and off of the bag. The shoulder strap shall be clipped onto a D-ring positioned in-line with the zipper and sewn into the seam of the bag sleeve and bag end. Each D-ring shall be capable of holding 300 pounds. Each bag shall include four tie-down loops to aid in secure stowage. The loops shall be of 1” material (1000 denier) sewn to the bag sleeve with a loop size capable of accepting the 1” tie-down straps. Loops shall be positioned parallel to, and 3” from the zipper, 2 per side, centered 8” from the seam between bag sleeve and bag end. The loops shall be capable of holding against a horizontal pull of 300 pounds. Two tie-down straps shall be provided with each bag. The straps shall be at least 1” wide by 36” long with a quick release fastener (female) at one end and an insert tip (male) on the other end. The zipper and all metal hardware shall be black in color. The figure below is a commercial example of the required style and illustrates the general form of the required item, but does not illustrate all required details. Brand Name Only: Estex Manufacturing Co. Inc., P/N 2180-R648-2ACUB. Quantity: 4 bags.

3.16.3 *Cable Tie. Cable ties shall be of ultraviolet resistant black nylon 6/6 or stronger material, 24” long, .340”/8.636mm wide, and .090”/2.286mm thick, with rounded edges. The cable tie shall have a tensile strength of 12,000 psi, and a breaking strength of 175 pounds. Cable ties shall be provided in a 50 tie package. All dimensions are nominal. Brand Name Only: Advanced Cable Ties Inc., P/N AL-24-175-0-L. Quantity: 3 packages.

3.16.4 *Camera, Thermal Imaging Digital Kit. The thermal imaging camera kit shall contain, a protective carrying case/bag (P/N ATP-012), 3V lithium batteries (P/N DL123ABK), eyecup insert (P/N 7B422), lens tissue (7B626), night vision filter assembly (P/N MTM-018), helmet mount assembly (P/N MTM-022), 640 pixels/17 microns detector (MTM-001-A28), quick reference guide (MTMPI-QRG-ITI), user manual (MTMPI-TM-ITI), and 7-pin download cable (MTP-520). The thermal imaging camera shall be a hand-held, pocket storage thermal imaging camera with an infrared, eye safe, class laser. The field of view on the camera shall be 31 degrees nominal, the depth of focus shall be 3 meter to infinity, and a detection range of 900 meters. The camera shall have controls to adjust brightness, gain, polarity, laser on/off, zoom, and calibrate. The camera shall have internal memory capable of being downloaded, and a warm-up time of 5 seconds or less. Camera dimensions shall be 5.2” long, 2.8” tall, and 2.2” wide; dimensions nominal. The camera shall weigh no more than 14 ounces. The laser shall be eye-safe. The camera shall come with batteries with a minimum life of 3 hours at room temperature and have operation temperature range from -10° C to 50° C. The camera shall include a video cable for transferring information to a computer. The helmet mount shall allow for hands free use of the camera and AN/PVS-14 interface. Brand Name Only: L-3 Insight Technology Inc, P/N MTM-000-A28. Quantity: 2 each.

3.16.5 *Chalk. Assorted Colors. The assorted color chalk box shall consist of items described in subparagraphs 3.16.5.1 to 3.16.5.3. The chalk shall be packaged 2 blue, 2 yellow, and 2 white pieces to a box. Quantity: 8 boxes (16 blue, 16 yellow, 16 white pieces total).

3.16.5.1 *Chalk, Blue. The chalk shall be blue, dustless chalk 1" in diameter and 4" long. Brand Name Only: Keson Industries, P/N RCBBULK. Quantity: 16 each (2 per box).

3.16.5.2 *Chalk, Yellow. The chalk shall be yellow, dustless chalk 1" in diameter and 4" long. Brand Name Only: Keson Industries, P/N RCYBULK. Quantity: 16 each (2 per box).

3.16.5.3 *Chalk, White. The chalk shall be white, dustless chalk 1" in diameter and 4" long. Brand Name Only: Keson Industries, P/N RCWBULK. Quantity: 16 each (2 per box).

3.16.6 *Holder, Chalk. The chalk holder shall be 4" long, color black, aluminum, and shall be of a retractable pencil style. Brand Name Only: Keson Industries, P/N CH400. Quantity: 1 each.

3.16.7 *Cord, Parachute. The parachute cord shall be olive drab, and be supplied in a 1200 foot roll. The parachute cord shall meet MIL-C-5040H Type III. Brand Name Only: Gladding Braided Products LLC, P/N MIL-C-5040 TYPE III. Quantity: 1 spool.

3.16.8 *Headset. The headset shall be water proof and shall provide active-volume function in stereo providing both hearing protection and ambient sound amplification. The headset shall be designed to be worn under a helmet, providing two microphones to pick up and amplify ambient sound (human voice at approximately one hundred feet). The headset shall reduce noise at least 20 dB Noise Reduction Rate, impulse noise shall be attenuated. The headset shall have an on/off switch, volume control, and automatically switch off after two hours if no function is used,

storing the last setting. Low power warning shall be given periodically before the headset switches off. Shall operate on standard AAA batteries with polarity protection, and a minimum battery life of 250 hours. Shall be able to connect to standard SINCGARS communication radio. Brand Name Only: 3M- Peltor Division, P/N 88060-00000. Quantity: 8 each.

3.16.9 *Goggles, Ballistic Protection. The ballistic protection goggles shall be of triple lens construction, with hard coated outer lens, center fragmentation lens, and anti-fog inner spall lens. Lenses shall be .080” thick in the center of the lens and interchangeable. The frame shall be of hypo-allergenic silicone constructed to fit over glasses with an adjustable quick release elastic strap and indirect ventilation ports. The goggles shall meet the requirements of ANSI Z87.1, and V-50 rated. Brand Name Only: Paulson Manufacturing Corporation, Model 510-TF. Quantity: 8 each.

3.16.10 *Grapnel Trip Wire. The trip wire grapnel shall be 3-5/8” long by 2” wide, of 1/8” thick bendable 1018 HRPO steel or equivalent material, with a 4 prong design (cutout bendable hook arms) and black in color. Trip wire grapnels shall be have a hole for parachute cord, and shall be provided in packs of 8 each. Brand Name Only: Tactical & Rescue Gear, LTD. P/N TRG-DT. Quantity: 6 packs.

3.16.11* Grapnel Hook. The grapnel hook shall be lightweight, collapsible, portable and reusable. Grapnel hook shall be 8" long with the shackle folded up, 10" long with shackle extended. Grapnel hook shall be 4" wide when in stored position and 11" wide when open. The

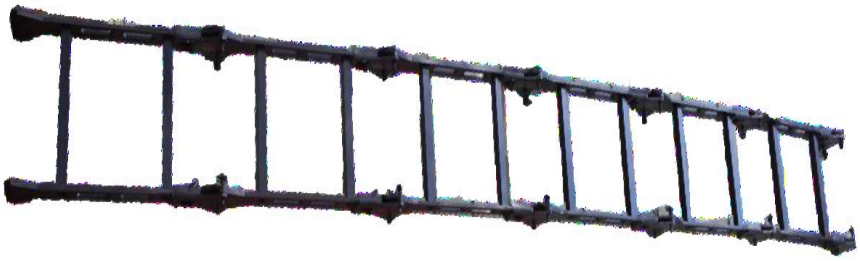
hook shall weigh 1.5 pounds. Dimensions nominal. Grapnel hook shall be of black anodized aluminum, except shackle, which shall be of stainless steel alloy. Grapnel hook shall have three tines placed 120 degree apart with serrated/notched ends, and capable of catching 75% of the time. The grapnel hook shall be able to hold 1800 lbs. Brand Name Only: Tactical & Rescue Gear, LTD. P/N TRG-MG. Quantity: 3 each.

3.16.12 Hood, Flash. The firefighting hood shall meet or exceed NFPA 1971, 2007 Edition compliance, UL certified, and MIL-H-24936. The hood shall be flat-stitched, ½" wide face openings stretch to a full 17" for easy donning and snug fit around SCBA mask. Shall cover head, neck, and shoulders. Bottom edges are bound with self-material bias binding, 100% Nomex thread, rib-knit construction. Constructed of OD or black nonflammable, melt-proof, non-stiffening fabric, such as Flame resistant PBI/Lenzing FR and P84/Lenzing FR blends. Brand Name or Equal to: NSN 8415-01-268-3473. Quantity: 8 each.

3.16.13 Ladder Kit, Urban Assault. The urban assault ladder kit shall consist of the Dual Purpose Climbing-Bridging Ladder Kit described in paragraph 3.16.13.1 and the Climbing Ladder Kit described in paragraph 3.16.13.2

3.16.13.1 Ladder Kit, Dual Purpose Climbing-Bridging. The dual purpose ladder kit shall consist of the items described in subparagraphs 3.16.13.1.1 to 3.16.13.1.5. The assembled 12 foot ladder shall have a bridging capacity of at least 350 lbs, and vertical Special Duty 1AA – 375 lb working load at a 75.5˚ angle IAW ANSI ASC A14.2-2007. Items of the bridging ladder kit shall be interoperable. Quantity: 1 kit.

3.16.13.1.1 Modular Ladder. The modular ladder material shall be anodized flat black, lightweight aircraft grade aluminum. The ladder shall consist of six (6), 2 foot, interchangeable sections for a fully assembled length of 12 feet. Each interchangeable section shall contain two rungs that are compatible with the bridging plate, paragraph 3.16.13.1.3. The ladder shall be operable for bridging, step ladder (A frame), and climbing operations at lengths of 6 and 12 feet. The interchangeable sections shall assemble using quick-release pins attached by lanyard. The 12 ft ladder shall be transportable by collapsing into two 6 ft sections. Collapsed dimensions of a 6ft section shall be 13” x 16” x 28” and weigh less than 25 lbs. Safety and warning labels shall conform to ANSI Z535.4. Warning, Caution and Notice labels shall be flat with non-reflective colors IAW FED-STD-595 (finish 3- flat or lusterless). One label per 2 foot section shall be affixed to outside rails of the ladder. Warning against the use near electrical hazards and heat sensing labels shall be firmly secured on the outside rail of the ladder, and near the center of each section. The heat sensing label shall turn color when the temperature gets to their pre-set heat range, 300°F, or reaches a temperature which may affect loss of 25% or greater of its load capacity. Notice label IAW ANSI-ASC A14.2-2007 Appendix B, Marking No. 23 shall contain: ladder size, type/duty rating, maximum working length, highest standing level, total length of each section, model number/name, manufacturer/distributor name, manufacturing plant, month/year of manufacture, ANSI standards compliance, and warranty. Notice label displaying the ladder information shall be placed on the rail opposite the warning and heat sensing labels. Heat sensing and warning labels shall be placed on the same side of the rail. Labels shall adhere to ANSI ASC A14.2-2007 Section 7.6 Labeling Test, and Section 9 Labeling/Marking Requirements. Brand Name or Equal To: Stevali Inc, P/N SIP3-QPTL-TL12FT. Quantity: 1 each



3.16.13.1.2 Ladder Hook/A-Frame Bracket. The ladder hook and A-Frame bracket material shall be machined 5/16" aircraft grade aluminum plate and anodized flat black. The ladder hook/A-Frame bracket shall be capable of mounting to the modular ladder interchangeable sections by quick-release pins. The hooks shall allow the modular ladder to be suspended by the hooks against window sills, roof edges and other surfaces when used for climbing operations. The hooks/bracket shall slide over 2 quick-release pins to provide stability when interchangeable sections are used in stepladder/A-frame orientation. Ladder hooks when used with the 12' ladder against ledges/frames shall meet Special Duty IAA rating. Brand Name or Equal To: Stevali Inc, P/N SIP3-QPTL-TLDPH. Quantity: 2 each.

3.16.13.1.3 Bridging Plate. Each bridging plate material shall be machined 1/16" aircraft grade aluminum sheet and anodized flat black. Each plate shall weigh less than one pound. The bridging plate shall assemble between the two rungs of an interchangeable section of the modular ladder described in paragraph 3.16.13.1.1 to provide stepping area for bridging operations. The bridging plates shall be assembled to the modular ladder sections by applying pressure to the locking tabs on the plate and sliding the plate between the rungs of the section. Once in the correct position the bridging plate shall lock into place. Brand Name or Equal To: Stevali Inc. P/N SIP3-QPTL-TLBP. Quantity: 6 each.

3.16.13.1.4 Ladder Lanyard. The Lanyard shall be constructed of webbing material. The lanyard shall be 20 feet in length with quick release buckles. The Y-Lanyard shall aide in installing and removing the modular ladder to and from a bridging position. Brand Name or Equal To: Stevali Inc. P/N SIP3-QPTL-TLL. Quantity: 1 each.

3.16.13.1.5 Ladder Carrier. The ladder carrier shall be constructed from 1000 Denier CORDURA Nylon. The ladder carrier shall be capable of transporting one collapsed six (6) foot

modular ladder section specified in paragraph 3.16.13.2. The carrier shall be 1-person portable, and attachable to the Army issued Improved Outer Tactical Vest (IOTV). The carrier shall have an emergency release function for the user to jettison the ladder. Brand Name or Equal to: Stevali Inc. P/N SIP3-QPTL-TLC. Quantity: 2 each.

3.16.13.1.6 Ladder shall be interoperable with the Ballistic Shield/Litter, and Wheel Attachment Assembly described in paragraph 3.16.21, as a system.

3.16.13.1.7 Load Requirement Testing. The ladder duty rating shall meet Special duty – Type IAA for 375 lbs IAW ANSI ASC A14.2-2007, unless otherwise specified.

3.16.13.1.7.1

3.16.13.2 Ladder Kit, Climbing. The climbing ladder kit shall consist of the items described in subparagraphs 3.16.13.2.1 to 3.16.13.2.5. The assembled ladder shall have a 12 foot rated climbing capacity Special Duty Ladder Type IAA rating of 375 lbs at a 75.5˚ angle IAW ANSI ASC A14.5-2007, and be cold temperature resistant IAW MIL-STD-810G described in paragraph 3.16.13.2.6. Items of the climbing ladder kit shall be interoperable. Quantity: 1 kit.

3.16.13.2.1 Ladder, Climbing. The climbing ladder material shall be semi-crystalline polyamide with 40% hybrid fiber reinforcement. The material property tensile young's modulus shall be 15.5 GPa. The ladder shall be electrically nonconductive. When used as intended that includes outdoor operating temperatures -25˚F to 120˚F, storage temperatures -50˚F to 160˚F, as well as ultraviolet radiation exposures from the sun, the ladder shall have a useful life of no less than 10 years without degradation to its Special Duty Ladder Type IAA vertical loading capability. The ladder shall consist of 6 interchangeable sections (approximately 2' per section) for a fully assembled length of approximately 12' (11.625"L x 16.875"W x 4.173"D). The ladder shall be deployable to its 12' extension and be transportable by collapsing the ladder into a 26"x13.5"x9" soldier portable carrying pack. A fully assembled 12' shall have a maximum weight of 45 lbs. All workmanship shall be free from burrs in excess of 1/64". The angle of inclination when used as a single ladder shall be 75.5˚. An ultraviolet screen or absorber shall be used unless the material properties of the ladder provides equivalent ultraviolet resistance or greater. The ladder shall be thermal, electrical, and outdoor weather resistant. Safety and warning labels shall conform to ANSI Z535.4. Heat sensing labels shall be affixed on two (2) different sections of the ladder along the rails. Warning labels shall adhere to ANSI ASC A14.5-

2007 Section 10 Labeling/Marking Requirements. A 1" nylon safety strap with double D buckles shall secure the ladder during use. Two (2) warning labels against bridging use shall be firmly affixed to the outside rails. Warning label against bridging use shall be scratch and weather resistant, legible over the life of the ladder. Warning label against bridging shall read: "WARNING: NOT FOR BRIDGING/HORIZONTAL USE". Warning, Caution and Notice labels shall be flat with non-reflective colors IAW FED-STD-595 (finish 3- flat or lusterless). Product information marking IAW ANSI-ASC A14.5-2007 Paragraph 10.2 Product Data Information Markings and Appendix B Marking No. 22 shall contain: ladder size, type/duty rating, maximum working length, highest standing level, total length of sections, model number/name, manufacturer/distributor name, manufacturing plant (if multiple organization), month/year of manufacture, ANSI standards compliance, and warranty. Notice label displaying the ladder information shall be placed on the outside rail opposite the warning labels. Warning labels shall be placed on the same side of the outside rail. Labels shall adhere to ANSI ASC A14.2-2007 Section 8.6 Labeling Test, and Section 10 Labeling/Marking Requirements. Brand Name or Equal To: Safariland Group, P/N ITPL012. Quantity: 1 each

3.16.13.2.2 Ladder Feet/Bumper. The ladder feet/bumpers shall allow the 12' ladder to be set on various ground conditions for climbing operations. The feet/bumpers shall be made of or covered with slip-resistant material, and be interoperable with any 2' section. The dimension of the slip resistant surface shall not be less than the dimension of the projected area by the cross section of the end of the rail. Ladder feet/bumper shall be removable and can be used on either 12' ladder ends and interchangeable for swivel hooks (paragraph 3.16.13.2.3). Brand Name or Equal To: Safariland Group, P/N ITPL-RF. Quantity: 2 pairs.

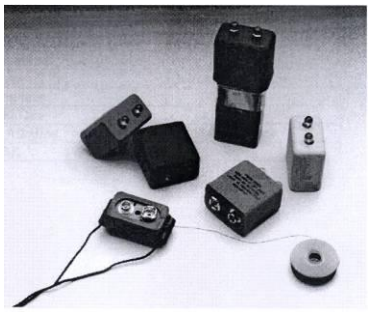
3.16.13.2.3 Swivel Hooks. Swivel hooks shall extend the useable reach of the 12' ladder specified in paragraph 3.16.13.2.1, and allow the ladder to be suspended by the hooks against window frames, ledges and roof edge during climbing. The hook shall be stowable with the ladder and allow for rapid deployment. Swivel hooks shall be interoperable with any 2' ladder section ends, removable and can be used on either 12' ladder ends. Swivel hooks when used with the 12' ladder against ledges/frames shall meet Special Duty IAA rating. Brand Name or Equal To: Safariland Group, ITPL-SH. Quantity: 1 pair.

3.16.13.2.4 Ladder Backpack. The ladder backpack shall allow transport of the collapsible ladder specified in paragraph 3.16.13.2.1. The backpack shall be constructed of Cordura nylon with quick release buckle shoulder straps. The backpack shall have padded back pad. Brand Name or Equal To: Safariland Group, P/N ITPL-HBP. Quantity: 1 each.

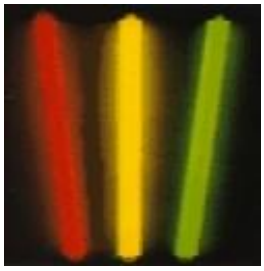
3.16.13.2.5 Carry Strap. The carry strap shall be shall constructed of nylon webbing with dual quick release buckles and a rubber handle. The handle shall allow the user to carry the ladder by hand and convenient storage. The strap handle shall support the weight of the ladder without failure when lifted and transported by the user. Brand Name or Equal To: Safariland Group, ITPL-CS. Quantity: 1 each.

3.16.13.2.6 Load Requirement Testing. The ladder shall meet Special Duty – Type IAA for 375 lbs working load IAW ANSI-ASC A14.5-2007, and MIL-STD-810G Method 502.5 (where specified) to demonstrate loading compliance under ambient, Cold Storage (-50˚F), and Basic Cold operating (-25˚F) conditions. The rate of temperature change shall not exceed 5˚F per minute to prevent thermal shock during Cold condition testing.

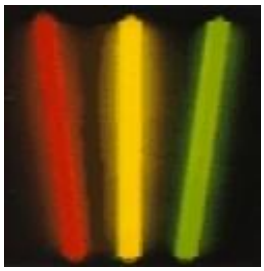
3.16.14 *Marker, Infrared. The infrared marker transmitter shall be 9 Volt battery operated with a 2 LED configuration, and at least 8 hours of battery operation. The marker lights shall be detectable with night vision devices at a minimum of 5 kilometers but not seen by naked eye, emitting light at approximately 880 nm frequency. The marker dimensions shall be 3 cm x 3 cm x 2 cm, nominal. Once operational the light shall emit IR light at a constant rate of 1 pulse per 2s with a pulse width of 400 ms. The marker shall have the ability to be activated by a tripwire, which shall be included. Brand Name Only: L-3 Insight Technology Inc, P/N DBL-001. Quantity: 8 each.



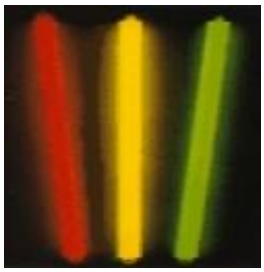
3.16.15 *Marker/Light Stick, Green. The chemiluminescent light stick marker shall be 4" length, nominal, shall have a 6-hour life rating and shall emit green light. Outer shell of the stick shall have a hole to attach to objects. The light stick shall be maintenance free, non toxic, nonflammable, and illumination shall be seen from 1 mile. Brand Name Only: Cyalume Technologies, P/N 9-74780. Quantity: 8 each/singles (P/N comes 100 each/singles per package).



3.16.16 *Marker/Light Stick, Infrared. The chemiluminescent light stick marker shall be 4" length, nominal, shall have an 8-hour life rating and shall emit non-visible infrared light. Outer shell of the stick shall have a hole to attach to objects. The light stick shall be maintenance free, non toxic, nonflammable, and illumination shall be seen from 1 mile. Brand Name Only: Cyalume Technologies, P/N 9-17100. Quantity: 8 each/singles (P/N comes 100 each/singles per package).



3.16.17 *Marker/Light Stick, Orange. The chemiluminescent light stick marker shall be 4" length, nominal, shall have a 6-hour life rating and shall emit orange light. Outer shall of the stick shall have a hole to attach to objects. The light stick shall be maintenance free, non toxic, nonflammable, and illumination shall be seen from 1 mile. Brand Name Only: Cyalume Technologies, P/N 9-76300. Quantity: 8 each/singles (P/N comes 100 each/singles per package).



3.16.18 Marker/Paint Stick Box Set. The marker/paint stick set shall consist of the items described in subparagraphs 3.16.18.1 to 3.16.18.4. Markers shall be packed one dozen in a box containing 3 tubes of each of high-visibility fluorescent orange, black, white, and yellow (1 Box Set = 3 orange, 3 black, 3 white, 3 yellow). Quantity: 2 Box Sets.

3.16.18.1 *Marker/Paint Stick, Fluorescent Orange. The marker/paint stick shall be fluorescent orange, permanent, pigment based, quick dry, and opaque marking. Markers shall be broad stroke (13 mm marking width) and shall be provided with a reusable cap. Markers shall produce a long-lasting mark on all surfaces in all weather conditions in a temp range of 14˚F to 392˚F, class 4 weather resistance standards. Markers shall meet ASTM and ACMI non-toxicity standards. Brand Name Only: Sakura Color Products Inc, P/N XSC-305. Quantity: 6 total (3 per box set).

3.16.18.2 *Marker/Paint Stick, Black. The marker/paint stick shall be black, permanent, pigment based, quick dry, and opaque marking. Markers shall be broad stroke (13 mm marking width) and shall be provided with a reusable cap. Markers shall produce a long-lasting mark on all surfaces in all weather conditions in a temp range of 14˚F to 392˚F, class 4 weather resistance standards. Markers shall meet ASTM and ACMI non-toxicity standards. Brand Name Only: Sakura Color Products Inc, P/N XSC-49. Quantity: 6 total (3 per box set).

3.16.18.3 *Marker/Paint Stick, White. The marker/paint stick shall be white, permanent, pigment based, quick dry, and opaque marking. Markers shall be broad stroke (13 mm marking width) and shall be provided with a reusable cap. Markers shall produce a long-lasting mark on all surfaces in all weather conditions in a temp range of 14˚F to 392˚F, class

4 weather resistance standards. Markers shall meet ASTM and ACMI non-toxicity standards. . Brand Name Only: Sakura Color Products Inc, P/N XSC-50. Quantity: 6 total (3 per box set).

3.16.18.4 *Marker/Paint Stick, Yellow. The marker/paint stick shall be yellow, permanent, pigment based, quick dry, and opaque marking. Markers shall be broad stroke (13 mm marking width) and shall be provided with a reusable cap. Markers shall produce a long-lasting mark on all surfaces in all weather conditions in a temp range of 14˚F to 392˚F, class 4 weather resistance standards. Markers shall meet ASTM and ACMI non-toxicity standards. Brand Name Only: Sakura Color Products Inc, P/N XSC-3. Quantity: 6 total (3 per box set).

3.16.19 Pad, Elbow. The elbow pad shall contain a minimum of 1/2 inch of high density foam padding, constructed of 1000 Denier CORDURA nylon, and topped with a non-slip cap. Elbow pads shall be black, ambidextrous, hook and loop closures for donning and doffing, and made to fit all soldiers. Brand Name or Equal to: Rooster Group, P/N AR-343HGBLK-EP. Quantity: 8 pair.

3.16.20 Pad, Knee. The knee pad shall contain a minimum of 5/8 inch of high density foam, constructed of 1000 Denier CORDURA nylon, and topped with a non-slip cap. Upper and lower knee pad shall be hinged and crescent shaped respectively. If used, grommets shall not reflect light. Knee pads shall be black, ambidextrous, and have adjustable straps and buckle to fit all soldiers. Brand Name or Equal to: Rooster Group, P/N AR-343HGBLK-KP. Quantity: 8 pair.

3.16.21 Dual Purpose Ballistic Shield/Litter Kit. The ballistic shield shall be certified to National Institute of Justice (NIJ) Ballistic Resistant Protective Materials 0108.01 III-A Armor type (Table 1. Test Summary), and meet MIL-STD-662F V50 for 2g, 4g, 16g, and 64g blast fragmentation. The ballistic shield shall be capable of attaching to the Modular Ladder described in paragraph 3.16.13.1. as a ballistic protective system. The shield kit shall be composed of items described in subparagraphs 3.16.21.1 to 3.16.21.2. Brand Name or Equal To: Stevali Inc, P/N SIP3-QPTL-TLBS2443. Quantity: 1 Kit.

3.16.21.1 Ballistic Shield/Litter. The ballistic shield shall be composed of two 24" x 43" sections. The shield sections when overlaid shall form a 72"L by 24"W shield. The ballistic shield shall be capable of being attached to the aluminum ladder as a mobile ballistic shield, and protection during ascend/descend of the ladder. The ballistic shield shall extend to the ground against ballistic fragmentation when attached to the Modular Ladder. The ballistic shield with stiffening bars shall also allow for standalone ballistic protection without the Modular Ladder. The ballistic shield shall have: 12 exterior edge handles, 3 vertical Velcro straps for compact storage, 4 horizonal Velcro straps for Litter transport, 4 hand straps for standalone use, 4 Velcro Straps and 4 D-brackets to secure to the Modular Ladder, and 8 stiffening bars with 4 storage loops for standalone use. The ballistic shall be capable of being rolled into an oval for compact storage measuring 24"W by 7"D. The ballistic shield shall also be capable of being used as a litter carrier when used with the Modular Ladder. Each ballistic shield section shall weight less than 15 lbs. Brand Name or Equal To: Stevali Inc, P/N SIP3-QPTL-TLBS2443. Quantity: 1 pair per kit (2 sections)

3.16.21.2 Wheel Attachment Assembly. The wheel shall attach to the ends of the Modular Ladder specified in paragraph 3.16.13.1.1. The wheels shall allow the soldier to roll the 6' modular ladder-ballistic shield configuration across various terrains while providing protection against ballistic fragmentation (see paragraph 3.16.21.1 Ballistic Shield/Litter). The 6' ladder with the wheel assembly and ballistic shield, when used as a system shall not tip-over when pushed at or below the center of gravity of the ladder. The wheel bracket shall

be machined out of 5/16” aircraft grade aluminum and anodized flat black. The rubber wheels shall be approximately 8” in diameter and weigh approximately 2.5 lbs. The wheel shall be capable of being attached to or disengaged from the ladder assembly within 30 seconds. The ballistic shield shall extend to the ground against ballistic fragmentation when attached to the Modular Ladder and Wheel Attachment Assembly. Brand Name or Equal To: Stevali Inc, P/N SIP3-QPTL-TLWAA. Quantity: 1 pair.

3.16.22 Rappelling Kit, Tactical. The tactical rappelling kit shall consist of the components described in subparagraphs 3.16.22.1 through 3.16.22.14. Quantity: 3 kits.

3.16.22.1 *Rope. The rope shall be 120 foot long, 7/16” diameter assault line, black, Kernmantle construction, and shall be Safety Equipment Institute (SEI) compliant to NFPA 1983 Edition 2012. The rope shall meet UIAA 7 fall rating. Rope elongation shall be 2% under 450 lbs load. The rope shall be supplied hanked, banded and individually poly bagged. Brand Name Only: Bluewater Ropes, P/N 512712BK. Quantity: 3 each (1 per kit).

3.16.22.2 *Bag, Deployment. The deployment bag shall be CORDURA nylon, 29” long by 9” diameter, with Molle attachment, and black color. The bag shall be custom made to fit rappelling kit. Brand Name Only: Bluewater Ropes, P/N 801900BA. Quantity: 3 each total (1 per kit).

3.16.22.3 *Rescue 8. The rescue 8 or figure 8 with ears shall be of aluminum alloy, black anodized, 6.5”L x 6”W and rated for a minimum of 4945 lbf. Brand Name Only: Bluewater Ropes, P/N 601000S. Quantity: 3 each total (1 per kit).

3.16.22.4 *Rescue 8 Link. The figure 8 link shall be manufactured from black 1” wide. .075" thick tubular webbing with an overall length: 19” ± .25” and an overall tensile strength of 5,000 lb. Brand Name Only: Bluewater Ropes, P/N 756600BA. Quantity: 3 each total (1 per kit).

3.16.22.5 *Harness, Rappelling. The rappelling harness shall be manufactured from 1000 denier Cordura nylon flat weave webbing, 1-3/4” ± .05” wide by .09” thick, with stitching of low visibility contrasting thread. The harness shall have an above the waist single point attachment, a quick adjust waist, and leg loop buckles. The harness shall have a steel double pass buckle and a forged steel D-ring. The belt shall have two gear loops, and the leg loop shall be tapered for fit, comfort, and profile. The harness shall fit or adjust to all soldiers. Brand Name Only: Bluewater Ropes, P/N 720800BA. Quantity: 3 each total (1 per kit).

3.16.22.6 3.16.22.6 *Strap, Anchor. The anchor strap shall be constructed from 1.8” ± .025” flat weave, heavy duty, closed cell nylon webbing and shall be approximately 3’ to 7’ long. All stitching shall be completed with low visibility contrasting thread. Each end shall be terminated with a forged steel D ring. Brand Name Only: Bluewater Rope, P/N 756700BA. Quantity: 3 each total (1 per kit).

3.16.22.7 *Carabiner, Locking. The locking carabiner shall be a standard D 1/2” steel NFPA screw-lok carabiner with black finish and shall be rated for at least 16,185 lbs strength (72 kN). The gate of the carabiner shall have an opening of about 1 inch, and shall be a pin-and-notch type gate, with a nut to lock the gate. The carabiner shall meet all ASTM standards and NFPA 1983 2012 edition compliant, UL Classification G. Brand Name Only: Omega Pacific Inc., P/N OP12S55LNFPA. Quantity: 12 total (4 per kit)

3.16.22.8 *Web. The web shall be of black tubular webbing, 20’ long by 1" wide, and shall be rated for 4000 lb working load. Brand Name Only: Bluewater Ropes, P/N 790120BKBA. Quantity: 3 each total (1 per kit).

3.16.22.9 *Cord, Prusik. The Prusik cord shall be of blue with yellow stripe rope, 5’ long by 8mm diameter and shall be rated for 2,800 lb working load. Brand Name Only: Bluewater Ropes, P/N 500805PBLBA. Quantity: 3 each total (1 per kit).

3.16.22.10 *Carabiner, Non-Locking. The non-locking carabiner shall be a standard D black carabiner rated for a minimum of a 6,900 lb working load. The gate of the carabiner shall have an opening of about .8 inch, and shall be a pin-and-notch type gate. The carabiner shall meet all ASTM standards that apply to this type of item. Brand Name Only: Omega Pacific Inc., P/N OPD5. Quantity: 15 Total (5 per kit).

3.16.22.11 *Belay, Device, Auto. The auto belay device shall auto-lock when belaying a lead or top rope fall. The device shall accept ropes from 9-10.5mm. Brand Name Only: Petzl America Inc., P/N GRIGRI2. Quantity: 6 total (2 per kit).

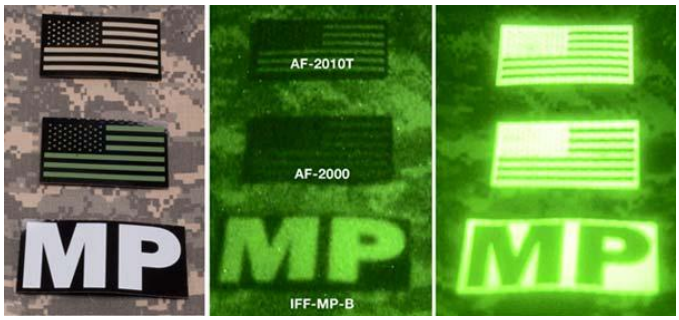
3.16.22.12 Ascender, Hand. The hand ascender shall be capable of being used with 8-13 mm diameter ropes. The hand ascender shall weigh 195 grams. The rope ascender shall be NFPA 1983 Edition 2012, and UIAA compliant. The grip shall be rubber molded to provide increased grip. The ascender shall securely grip the rope in muddy or icy conditions. The ascender shall be mono-frame constructed. The left and right hand ascender shall be color coded for differentiation. A safety catch shall ensure the rope is securely captured. The cam's angled teeth shall securely grip the rope in wet or dry conditions. A secondary hole shall accommodate attaching slings, and aiders. One (1) pair of rope ascenders for the right and left hand shall be provided. Brand Name or Equal to: Petzl, P/N B17WLA (black, left hand), P/N B17WRA (yellow, right hand). Quantity: 3 pairs total (1 pair per kit)

3.16.22.13 Ascender, Footcord. The footcord shall attach to the hand ascender as a system, for rope ascends. The footcord shall be constructed of 100% Dyneema core. The footcord shall be low stretch, loop adjustable, accommodate any type of shoe. The footcord shall be 5.5 mm in diameter, UV and chemical resistant. The footcord shall have twin loops for single or double foot climbing. Footcord shall have a minimum working weight of 300 lbs. Brand Name or Equal to: Bluewater Rope, PN 620002. Quantity: 3 total (1 per kit)

3.16.22.14 Ascender, Foot. The foot ascender ascender shall be capable of being used for vertical ascention with 9-16 mm diameter ropes. The minimum breaking strength shall be 800 lbs. The left and right foot ascender shall be color coded or clearly marked for differentiation, and shall provide secure fit on US Army combat boots. The cam's angled teeth shall securely grip the rope in wet or dry conditions. Foot ascender body shall be anodized aluminum. Brand Name or Equal to: CMI, P/N FTASCR (right foot ascender), FTASCL (left foot ascender). Quantity: 3 pairs total (1 pair per kit)

3.16.23 *Sealer, Rope. The rope sealer shall be permanent, water based, flexible rope end sealer. It shall be non-toxic and non-flammable and provided in a 4oz bottle. Brand Name Only: Bluewater Ropes, P/N 599909. Quantity: 1 total.

3.16.24 *Tape (Infrared), Combat Identifier. The combat identifier infrared tape, also called glotape or sheeting reflective, shall be adhesive backed in 10” wide by 16” long sheets. The tape shall be functional in a temperature range of 40-100 degrees F, and shall be weather durable for up to 7 years. The tape shall reflect infrared light, 800-1200 nanometer range, and shall appear as black tape in visible light. Brand Name Only: Cejay Engineering, LLC, P/N IFF-980 (NSN 9390-01-467-7519). Quantity: 2 sheets



3.16.25 Tool Set, Breaching. The breaching tool set shall consist of the items described in subparagraphs 3.16.25.1 through 3.16.25.7. Brand Name Only: Cutting Edge Tactical, Mechanical Breaching Kit, P/N CETMBK002. Quantity 2 kits.

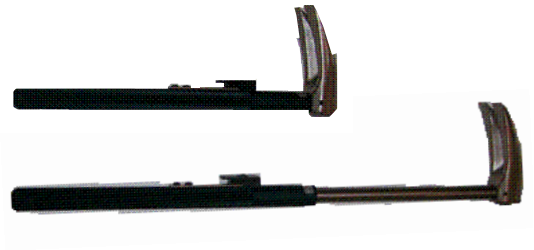
3.16.25.1 *Wheeled Carrying Case. The wheeled carrying case shall be designed for rugged use and shall have fold down handle and wheels. Case shall be provided with die cut foam inserts to securely hold each tool and to verify accountability of all kit components. Case inside dimensions shall be 29.00"L x 18.00"W x 13.80"D, and outside dimensions shall be 31.30"L x 20.40"W x 15.50"D. The empty case approximate weight shall be 34 lbs with foam inserts and with kit components shall be not weigh more than 105 lbs. Brand Name Only: Cutting Edge Tactical Inc., P/N CETMBKMC. Quantity: 2 each total (1 per kit).

3.16.25.2 *Ram, Door, Mini. The ram shall be a one man ram of carbon steel construction, 12” long by 8” wide with a knurled grip rotating handles. The ram shall have a removable plug at the end to allow for filling with additional sand. Weight is approximately 26 lbs. empty. Brand Name Only: Cutting Edge Tactical Inc., P/N ALTI-RAM II. Quantity: 2 each total (1 per kit).

3.16.25.3 *Hammer, Sledge. The sledge hammer shall have a 6 lb head on an extendable handle. The handle shall consist of titanium alloy shaft and non-reflective black aluminum knurled handle sleeve that telescopes from a collapsed length of 17" to an extended length of 28". Total weight shall be 9 lbs. Brand Name Only: Cutting Edge Tactical Inc., P/N ALTI-9427S6. Quantity: 2 each total (1 per kit).

3.16.25.4 *Tool, Hinge Breaker (Claw). The hinge breaker shall have a 5.5 lb hinge breaker claw head on an extendable handle. The handle shall consist of titanium alloy shaft and non-reflective black aluminum knurled handle sleeve that telescopes from a collapsed length of 17" to an extended length of 28". Handle shall have a detent to lock handle in the

collapsed and extended positions. Total weight shall be 8.5 lbs. Brand Name Only: Cutting Edge Tactical Inc., P/N ALTI-9429HB. Quantity: 2 each total (1 per kit).



3.16.25.5 *Tool, Bolt Cutters. The bolt cutters shall have a 7.5 lb bolt cutter head with two extendable handles. Each handle shall consist of nonconductive fiberglass shaft and non-reflective black aluminum knurled handle sleeve that telescopes from a collapsed length of 17" to an extended length of 28". Both handles shall have a detent to lock handle in the collapsed and extended positions. The bolt cutters shall be nonconductive and rated for 10,000 volts. Brand Name Only: Cutting Edge Tactical Inc., P/N BCNC-001. Quantity 2: each total (1 per kit).

3.16.25.6 *Tool, Halligan. The Halligan tool shall have a 5.5 lb combination spike and adze head on an extendable handle. The handle shall consist of titanium alloy shaft and non-reflective black aluminum knurled handle sleeve that telescopes from a collapsed length of 17" to an extended length of 28". Handle shall have a detent to lock handle in the collapsed and extended positions. Total weight shall be 8.5 lbs. Brand Name Only: Cutting Edge Tactical Inc., P/N ALTI-9428-H. Quantity: 2 each total (1 per kit).

3.16.25.7 *Tool Repair Kit. The tool repair kit shall consist of one additional activating trigger, Allen screws, Allen wrench, and a small carrying case (equivalent to Pelican 1120). The case dimensions shall be 8.25" long by 6.56" wide by 3.56" high. Brand Name Only: Cutting Edge Tactical Inc., P/N CETRKT. Quantity: 2 each total (1 per kit).

3.16.25.8 *Instructional DVD. The instructional DVD shall be included in the breaching tool set, and shall demonstrate proper use and repair techniques for the tools in the kit. Brand Name Only: Cutting Edge Tactical Inc., P/N CETMBKDVD. Quantity: 2 each total (1 per kit).

3.16.26 *Wedge, Door. The door wedge/stop shall be wedge shaped, have anti-skid grippers on the bottom and be capable of holding open doors with up to a 1-1/2" opening. Wedge shall be capable of holding door open when applied either on top of door, over a hinge pin, or on the floor. Shall be black, made of either rubber or plastic, and have approximate dimensions of 3.5" long by 2.5" wide. Brand Name Only: Open Door Industries, P/N Wedge-It. Quantity: 8 EA.

3.16.27 *Burner, DVD, Portable. The portable DVD burner shall support Blank DVD+R/RW, DVD-R/RW, DVD+/-R DL, and CD-R/CD-RW disc types. The burner shall also be compatible with CompactFlash™, MicroDrive™, MultiMediaCard, SD™ Card, MemoryStick / Pro, and xD card type memory cards. The DVD burner shall use a hi-speed USB 2.0 interface. The burner shall have a 2.0" color TFT display for user-friendly interface and photo previewing. The power source for the burner shall be 110-240V universal AC adapter or 4 rechargeable AA Ni-MH batteries. The DVD burner shall not exceed 1.4 pounds and shall come with a carrying bag, USB cable, AV cable, IR-remote control, user manual, and CD/DVD burning software. The appropriate ISO 3864 / ANSI Z535.4 Safety Labels need to be affixed to the DVD burner regarding Laser Radiation. Dimensions of the burner shall be approximately

5.7”W x 6.0”L x 1.7”H. Brand Name Only: EzPnP-USA, P/N EzDigiMagic DM220-P08. Quantity 1 each.

3.16.28 Breaching Saw Kit. The breaching saw kit shall include a 36V cut-off tool, 1 hour charger, two 36V Li-Ion batteries, two 4.5” and 7” diamond blades, 4.5” and 7” blade guard, side handle, handle yoke, wrench and custom storage box. The cut-off tool shall be commercial grade, compact, lightweight and operated utilizing a 36V Li-Ion rechargeable battery. It shall not weigh more than 8 lbs and have a no load speed of 6,500 rpm. The battery shall be rechargeable from a 120 VAC supply to a full operational charge in no more than one hour. The diamond blades shall consist of a double layer diamond brazed cutting edge. Brand Name or Equal to: Broco Inc., P/N BRO-36V-KIT. Quantity: 2 kits.

3.16.28.1 Battery Charger. The battery charger shall provide one hour charging for 36 VDC rechargeable batteries used with the cut-off tool, paragraph 3.16.28. The battery charger input voltage shall be 220 VAC. Black and Decker Inc. Brand Name or Equal to: DeWalt Div., P/N 1006632-00. Quantity: 1 each.

3.17 Unique Item Identification (UII/UID). In addition to the requirements stated above and those of DFARS clause 252.211-7003 incorporated elsewhere in the contract, each Urban Ops Squad Deployment & Storage Bag (see Paragraph 3.16.2) shall be marked with a unique item identifier that has machine-readable data elements that will distinguish it from all other like and

unlike items. The UII/UID on each deployment bag shall place placed on the data plate described in Paragraph 3.19. Each unique item identifier shall be globally unique and unambiguous. The UII/UID data elements shall be contained in a Data Matrix ECC200 symbol in accordance with ISO/IEC 16022. Any component of this set for which the cost to the Government will exceed $5000 shall also be marked with a unique item identifier. Marking shall conform to MIL-STD-130. The required marking shall be applied to a label securely fastened to the item case. The identifier shall remain intact and readily human and machine readable for the expected life of the Urban Operations Squad. The unique item identifier shall not be repeated during the life of the contract. If construct number 2 is used (serialization within the original part number of the enterprise), the contractor shall maintain the original part number on the item for the life of the item. The contractor shall bear the responsibility to populate the UII registry with the parent UII and any children (components) relating to that parent UII. Further guidance on unique item identification may be found at http://www.acq.osd.mil/dpap/pdi/uid/index.html.

3.18 Material Safety Data Sheets (MSDS). A MSDS for each hazardous material needs to be laminated and included in the set in a type of binder or booklet format that attaches each sheet together.

3.19 Data Plate. A data plate or permanent label conforming to Commercial Item Description A-A-50271 Composition A, Class 2 or Composition D. The data plate shall be permanently affixed in a plainly visible location on the exterior of each Deployment & Storage Bag (see Paragraph 3.16.2). The plate size and thickness shall be the manufacturer's standard sizes as applicable for the unit. Data plates affixed location on the Deployment & Storage Bag, and size shall remain consistent across all Urban Ops Squad set(s). The data plate shall be resistant to deterioration caused by heat, cold, solar radiation, water, and petroleum products to the extent that they will remain intact and readily legible for 5 years or the expected life of the Urban Ops Squad set. The data plate shall be printed in the English language and may be supplemented by graphical symbols. Plate shall have smooth edges and shall be free from burrs and sharp edges or projections. The data plate shall have Unique Item Identification (UII) described in paragraph 3.17. Each Deployment & Storage Bag shall have a data plate containing the following information, including all information required to be inserted in the blanks indicated.

a. End Item Nomenclature: ENGINEER EQUIPMENT SET URBAN OPERATIONS (URBAN OPS) SQUAD
b. End Item LIN: T30195
c. End item NSN:
d. End Item Serial No.: *
e. Bag __ of __
f. Specification data: DFP ECB-047
g. Volume_____cu ft, Length____in, Width_____in, Height_____in
h. Manufacturer: CAGE or FSCM and PIN **
i. Contract number #
j. Acquisition instrument identification number
k. UII/UID marking as described in Paragraph 3.17 and 3.19

* The first completed set End Item Serial No. shall be SQD1000. Each completed set after SQD1000 shall increase by one number (e.g. SQD1001, SQD1002).

** Format optional

3.20 Logistical Support. Technical publications, supply support and training aides shall be addressed in separately provided SOWs.

4 QUALITY ASSURANCE PROVISIONS

4.1 General provisions. The inspections (examinations and tests) herein shall be performed to determine whether the test set conforms to Section 3 of this DFP.

4.1.1 Responsibility for inspection and product performance verification. Unless otherwise specified in the contract, the contractor is responsible for inspecting and verifying that product performance meets all requirements as specified herein. Except as otherwise specified in the contract, the contractor may use any facility suitable for the performance of the inspection and product verification in accordance with the requirements specified herein unless disapproved by the Government. The contractor shall provide certification and warranty that all inspection and product verification has been performed on the unit in accordance with the requirements specified herein and that the unit has successfully met all of the requirements. Failure of the contractor to provide this certification and warranty shall be cause for rejection. The Government reserves the right to perform inspection and product verification as set forth in the requirements of this specification at any time where such inspection and product verification are deemed necessary to assure equipment and services conform to prescribed requirements.

4.1.2 Responsibility for compliance. All items must meet all requirements of Sections 3 and 5. The inspections set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products submitted to the government for acceptance comply with all requirements of the contract.

4.1.3 Verification. The product offered shall be demonstrated in such a manner to verify that it meets all of the contract requirements. Verifications consist of three basic types 1) visual inspections; 2) performance demonstration; and 3) Certificates of Conformance. Each requirement set forth in section 3 above shall be verified by one or more of the three types. All testing to assure that the products offered are properly designed to perform as required shall have been completed with satisfactory results before products are presented to Government personnel witnessing the demonstration of the product. Verification shall include conformance to design, adequacy of markings, proper cleaning, and freedom from identified defects. The verification provisions may be applied at the earliest practical point in manufacturing at which it is feasible to inspect for acceptance without risk of change in the characteristic by subsequent operation. Failure of the contractor to provide objective evidence that the item and its components have passed the examinations prescribed for them by the contractor's inspection system shall be cause for rejection. The required Certificates of Conformance (COC) shall be submitted to the Government with the preproduction performance verification test report.

4.1.4 Classification of inspections. The inspection requirements specified herein are classified as follows:

a. Product verification inspection (see Paragraph **4.2**)
b. Conformance inspection (see Paragraph **4.3**)

4.1.5 Changes to materials, processes, or configuration. The Procurement Contracting Officer (PCO) shall be informed of any changes to the materials, processes, or configuration of any characteristic of the units. The contracting officer shall determine if the reported changes to

materials, processes, or configuration shall require any of the verifications under paragraph **4.2** to be repeated.

4.1.6 COC format requirements. COCs shall contain the following information. Refer to MIL-W-63150.

a. Name of company providing the COC and the date of submittal.
b. Contract number and DFP paragraph number that the COC applies to.
c. A brief description of the item for which the COC is being provided.
d. The test standard used to certify the requirement.
e. The signature and title of the certifying official.

4.1.7 Calibration. All test equipment used to validate the requirements set forth in this document shall have current National Institute of Standards and Technology (NIST) traceable calibrations in place prior to use. Documentation will be available for Government inspection prior to the start of any testing.

4.2 Product Verification Inspection.

4.2.1 Submission. The contractor shall submit a product verification sample as designated by the Contracting Officer. The product verification inspection shall consist of a minimum of one complete Urban Operations Squad Set.

4.2.2 Inspections to be performed. The product verification sample will be subjected to all of the verification methods specified in 4.4

4.3 Conformance Inspection.

4.3.1 Compliance. Conformance inspection shall be applied to production units being offered for acceptance under the contract. Lot formation shall be in accordance with Section 4 of MIL-STD-1916. Inspections shall include all verification methods in 4.4.

4.3.1.1 Sampling plan determination. When required by contract or cited herein, attribute-sampling inspections shall be conducted in accordance with MIL-STD-1916 using Verification Level (VL) I.

4.3.2 Conformance of subsequent production quantity. All products offered for acceptance throughout the life of the contract shall conform to all of the requirements of the contract. The Government reserves the right to re-verify conformance with requirements, at its own facility and at its own expense, at any time during the life of the contract and return to the contractor for warranty replacement such product that does not conform to the specified requirements.

4.4 Verification

4.4.1 Industrial quality tools. Provide a Certificate of Conformance to certify that the components supplied meet the requirements of paragraph **3.9**

4.4.2 Workmanship. Contractor will provide certification that the Urban Operations Squad Set has been manufactured with skill and care and free from irregularities and anomalies that degrade form, fit, function, performance or appearance. (See paragraph **3.11**)

4.4.3 Warranty. Verify that warranties are provided in accordance with paragraph **3.12**. The Government reserves the right to re-verify conformance with the requirements, at its own facility and at its own expense, at any time during the life of the contract and return to the contractor for warranty replacement such product that does not conform to specified requirements

4.4.4 Component Verification

4.4.4.1 Axe, Battle. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.1**.

4.4.4.2 Bag, Deployment &Storage. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.2**.

4.4.4.3 Cable Tie. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.3**.

4.4.4.4 Camera, Thermal Imaging Digital Kit. Inspection: A Certificate of Conformance and visual inspection shall verify requirements of paragraph 3.16.4.

4.4.4.5 Chalk. Verify by visual inspection presence of colors 2 blue, 2 yellow, and 2 white pieces to a box per paragraph 3.16.5

4.4.4.6 Holder, Chalk. Verify color and length per paragraph **3.16.6**.

4.4.4.7 Cord, Parachute. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.7.**

4.4.4.8 Headset. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.8**.

4.4.4.9 Goggles, Ballistic Protection. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.9**.

4.4.4.10 Grapnel Trip Wire. Verify design, color, and size per paragraph **3.16.10**.

4.4.4.11 Grapnel Hook. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.11.**

4.4.4.12 Hood, Flash. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.12.**

4.4.4.13 Ladder Kit, Dual Purpose Climbing-Bridging. Third party testing shall be utilized for the verification of the following testing requirements ref 3.16.13.1. Contractor shall submit testing results for approval.

4.4.4.13.1 Side-Rail Cantilever Dynamic Drop Test. The 12' ladder (maximum extension) shall be tested IAW A14.2-2007 7.3.9.2 Side-Rail Cantilever Dynamic Drop Test. Ladder feet shall remain on the section, but shall be taped so the bottom surface makes a 90˚ angle with the rail length. The ladder shall be placed in a horizontal position with the rungs vertical, with the lower rail of the base section 36" from a concrete floor. Support shall be placed so that the ladder is horizontal within one (1) inch. The rails of the base section shall be guided in a vertical plane during free fall drop. The allowable permanent deformation of the lower side rail shall not exceed 1/4 inch. This shall be then repeated for the opposing base section.

4.4.4.13.2 Simulated In-Use Inclined Load Test. The ladder shall be tested in reference to A14.2-2007 7.3.3 Simulated In-Use Inclined Test at 12' (maximum extension). The load shall be applied at the first rung at midspan or above. The load shall be applied using two (2) 3.5 in. straps which shall be located next to a rail and centrally loaded through an equalizer bar on the climbing side of the ladder. Support and loading apparatus shall conform to the Inclined Load Test Figure 4 and Table 9 Simulated In-Use Inclined Load Test. Test load shall be Special duty – Type IAA 1200 lbs, IAW A14.2-2007 and OSHA 1926.1053. The full load shall be applied for a period of one minute before release. The ladder shall sustain this load without ultimate failure or permanent deformation to ladder, rungs, pins, functionality or load capacity of the ladder.

Ladder hooks and ladder shall be deployed against a ledge/frame and retested IAW ANSI-ASC A14.6-2007 7.3.3 Simulated In-Use Inclined Load Test for Special Duty – IAA rating. Ladder hooks shall not sustain damage, loosening, or failure when deployed with the 12' ladder under load.

4.4.4.13.3 Dynamic Joint Lock Test for the Straight Ladder Position. The ladder shall be tested in reference to A14.2-2007 7.4.5.2 Dynamic Joint Lock Test for the Straight Ladder Position at 12' (maximum extension). The test shall be conducted with the ladder on a test surface of A-C plywood, which shall be pre-sanded using 320 fine wet/dry sandpaper. The A side of the plywood shall be placed in contact with the feet of the ladder. The ladder shall be set at 75.5˚ angle. A dead load of 300 lbs (Extra Heavy Duty – Type IA) composed of lead weights or equivalent to maximize the density of the loading medium, shall be suspended to the rung closest to the midspan, or the first rung above midspan if the two closest rungs are equidistant. The load shall be equalized to both side rails. A horizontal force of 75 lbs shall be applied toward the vertical support wall on the middle of the third rung of the ladder above the floor. The feet of the ladder shall be blocked from sliding, but not otherwise restrained. The top of the ladder shall not be blocked or restrained. The horizontal force shall be cycled for 6000 cycles at 50-70 cycles per minute. The application of the horizontal force toward the vertical support wall and then removing the force shall be considered one (1) cycle. The ladder shall not collapse, or have any loosening in its connection, pins, locks etc. All locks and fasteners shall be in their locked position at the end of the test.

4.4.4.13.4 Scaffold Bending Strength Test. The ladder shall be tested in reference to A14.2-2007 7.4.1 Scaffold Bending Strength Test. The ladder shall be tested to Extra Heavy Duty – Type IA, 1200 lbs Scaffold Bending Strength (Table 17 Articulated Ladder Tests). The ladder shall be extended to its maximum straight length and placed in its bridging configuration, and supported 6" from each end of the ladder by 1" nominal radius support bars, as depicted in A14.2-2007 7.3.2 Deflection Test Figure 2. The supports shall be of sufficient height that the ladder does not touch the floor or any other surface during the test. The ladder shall not be secured or fastened to any supports. The load shall be applied for 1 minute to the center of the standing area of the ladder on the manufacturer's recommended decking material/plank, or a steel plate 6" wide and 3/8" thick (Figure 18a Scaffold Bending Strength and Dynamic Joint Lock Tests). There shall no visible permanent change or failure of any hardware. The ladder shall sustain this load without ultimate failure or permanent deformation to ladder, rungs, pins, functionality or load capacity of the ladder. The ladder shall be capable of being placed back into its stowage configuration.

4.4.4.13.5 Metal and Fiberglass Ground Ladders. The ladder shall be tested for horizontal bending IAW NFPA 1932 Edition 2010, A14.2-2007 7.2.1 Horizontal Bending Test. The ladder shall be fully extended and placed in a flat horizontal position in its bridging configuration and supported 6" from each end of the ladder by 1" nominal diameter cylinder support bars. The supports shall be placed of sufficient height that the ladder does not come in contact with any other surface during the test (Figure 7.2.1.1 Extension Ladder Positioned for Horizontal Bending Test). The ladder shall not be secured or fastened to any supports. Straps or ties are permitted to ensure that the ladder pawls remain engaged. The test load shall be placed equally across the beams of the ladder and at the center of the ladder. Test load shall be across 32" in length over the center of the ladder. The ladder shall be loaded with a 350 lb preload for 1 minute to set the ladder prior to the completion of the rest of the test. The preload shall then be removed, and the distance between the bottom edge of each beam and surface upon which the ladder supports are placed, measured at the center of the ladder. The ladder shall then be loaded with a 500 lb test load for five (5) minutes. The load shall then be removed and the ladder allowed to rest for 5 minutes. The distance as aforementioned, shall be measured again at the same point. The difference between the measurements at 350lbs and 500lbs shall not exceed 0.5".

4.4.4.13.6 Front Stability Test. The ladder shall be tested IAW A14.2-2007 7.5.6 Front Stability Test. The ladder shall be tested to Special Duty – Type IAA (Table 18 Stability Test Load). A uniform distributed load of 200 lbs comprising of lead weights or equivalent shall be applied to the second highest step or rung (Figure 21 Front, Side, and Rear Stability Test) in step ladder/A-frame configuration. A horizontal pulling force of 25 lbs shall be applied to the geometric center of the stepladder top cap, at a distance of not more than 1/2 inch above its top surface, towards the front of the ladder. The pulling force shall be applied to the top horizontal guardrail member of platform ladders, to the apex of the base section of trestle ladders, and to the top cap of combination ladders or to the top step when no top cap is used. The test surface shall be such that the ladder does not slip or slide during the test. The minimum load that causes the ladder to tip over shall not be less than 25 lbs (IAW Table 18 Stability Test Loads of A14.2-2007).

4.4.4.13.7 Side Stability Test. The ladder shall be tested IAW A14.2-2007 7.5.7 Side Stability Test. The ladder shall be tested to Special Duty – Type 1AA (Table 18 Stability Test Load) in step ladder/A-frame configuration. A uniform distributed load of 200 lbs comprising of lead

weights or equivalent shall be applied to the second highest step or rung (Figure 21 Front, Side, and Rear Stability Test). A horizontal pulling force of 20 lbs shall be applied to the side of the front rail, at the geometric center of the stepladder top cap, at a distance of not more than 1/2 inch above its top surface. The test surface shall be such that the ladder does not slip or slide during the test. The minimum load that causes the ladder to tip over shall not be less than 20 lbs (IAW Table 18 Stability Test Loads of A14.2-2007). The test shall be run with the force applied to both sides, and the values shall be averaged to obtain the minimum load.

4.4.4.13.8 Rear Stability Test. The ladder shall be tested IAW A14.2-2007 7.5.8 Rear Stability Test. The ladder shall be tested to Special Duty – Type IAA (Table 18 Stability Test Load) in step ladder/A-frame configuration. A uniform distributed load of 200 lbs comprising of lead weights or equivalent shall be applied to the second highest step or rung (Figure 21 Front, Side, and Rear Stability Test). A horizontal pulling force shall be applied to the geometric center of the stepladder top cap, at a distance of not more than 1/2 inch above its top surface, in a rearward direction. The test surface shall be such that the ladder does not slip or slide during the test. The minimum load that causes the ladder to tip over shall not be less than 45 lbs (IAW Table 18 Stability Test Loads of A14.2-2007).

4.4.4.13.9 Torsional Stability Test. The ladder shall be tested IAW A14.2-2007 7.5.9 Torsional Stability Test. The ladder shall be tested to Special Duty – Type IAA (Table 18 Stability Test Load) in step ladder/A-frame configuration. A uniform distributed load of 200 lbs compromising of lead weights or equivalent shall be applied to the second highest step or rung (Figure 22 Torsional Stability and Rail Torsion and Spreader Tests). A horizontal force of 35 lbs shall be applied to the ladder top cap at a distance of 18 inches from the vertical centerline of the ladder. The force shall be maintained perpendicular to the moment arm, at the final load position, with a tolerance of +/- 10 degrees during the test. The test shall be conducted on dry, uncoated, vinyl flooring. Relative movement in excess of 1 inch of the ladder with respect to the floor shall constitute failure. Permanent deformation and weakening of the ladder structure upon release of the test force shall constitute failure. Minor deformation of less than 1/8 inch to individual components shall not constitute failure.

4.4.4.14 Ladder Kit, Climbing. Third party testing shall be utilized for the verification of the following testing requirements in 3.16.13.2. Contractor shall submit testing results for approval.

4.4.4.14.1 Horizontal Bending Test. The ladder shall be tested IAW ANSI-ASC A14.5-2007 8.3.1 Horizontal Bending Test for Special Duty – IAA duty rating. The ladder shall be extended to its maximum working length and placed in a flat horizontal position (Figure 1a). The ladder shall be loaded with 280 lbs preload (Table 10) applied to the center of the rung nearest to the center of the test span over a 3.5” length of the rung. The load shall be applied equally to both side rails. The preload shall be held for a minimum period of 1 minute and then unloaded. After pre-loading, a deflection test load of 375 lbs shall be applied in the same manner as the preload. Vertical measurements shall be taken of both rails before and during loading, and after removal of the load. The maximum average deflection of both rails shall not exceed 3.6 inches. The ladder shall then be subjected for at least 1 minute to an ultimate test load of 470 lbs. The ladder shall sustain the ultimate test load without ultimate failure. The test load shall be sequentially applied at the three different rung locations: first to the center of the highest base rung below the

middle rung of the ladder, second to the center of the middle rung of the ladder, and third to the center of the rung directly above the middle rung of the ladder.

4.4.4.14.2 Simulated In-Use Inclined Load Test. The ladder (longest extension) shall be tested IAW ANSI-ASC A14.5-2007 8.3.3 Simulated In-Use Inclined Load Test. The ladder shall be extended to its maximum working length. The 1200 lbs load shall be applied equally to both side rails at the first rung at midspan or above. Test load Special Duty – Type IAA 1200 lbs, shall be applied using two 3.5" straps each located next to a rail and centrally loaded through an equalizer bar on the climbing side of the ladder. Ladder loading, supporting and loading apparatus shall conform to ANSI-ASC 14.5-2007 Figure 4 and Table 14. The load shall be applied for a 1 minute before release. The ladder shall sustain the load without ultimate failure, permanent deformation or crack.

Ladder shall then be tested IAW MIL-STD-810G Cold Storage conditions at -50˚F and stabilized for 4 hours (paragraph 2.3.2 Exposure Duration). Any visual examination of cracks or permanent deformation constitutes failure. The ladder shall then be tested under Basic Cold Operating conditions at -25˚F after 2 hours (minimum) stabilization IAW 8.3.3 Simulated In-Use Inclined Load Test. The ladder shall demonstrate capability of being unpacked from storage configuration to 12' extension and repacked into its collapsed storage position without failure. Any permanent deformation or crack shall constitute failure of the ladder.

Swivel hooks and ladder shall be deployed against a ledge/frame and retested IAW ANSI-ASC A14.6-2007 8.3.3 Simulated In-Use Inclined Load Test for Special Duty – IAA rating. Swivel hooks shall not sustain damage, loosening, or failure when deployed with the 12' ladder under load.

4.4.4.14.3 Extension-Ladder Rung Bending Strength Test. The ladder shall be tested IAW ANSI-ASC A14.5-2007 8.3.5 Extension-Ladder Rung Bending Strength Test. The test shall be conducted on a single section of the ladder. The ladder unit shall be set at a working angle of 75.5˚ to horizontal. The 1000lb load shall be applied IAW Figure 11a and Table 16 Special Duty – IAA rating. The rung tested shall be unbraced, and the load shall be applied for a period of 1 minute. Upon removal of the test load, permanent deformation shall be measured with a straight edge and a rule. The allowable permanent deformation shall not exceed L/K for rung length (L) and K duty rating factor 25. Other than buckling related to the allowable permanent deformation, there shall be no test failure.

4.4.4.14.4 Rung-to-Side-Rail Shear Strength Test. The ladder shall be tested IAW ANSI-ASC A14.5-2007 8.3.6 Rung-to-Side-Rail Shear Strength Test. The test shall be conducted on a single section of the ladder. The test unit shall be set at a working angle of 75.5˚ to horizontal. A downward distributed load Special Duty – Type IAA IAW Table 16, shall be applied for a minimum period of 1 minute, rest on the widest like cross section braced and unbraced test rungs nearest to the side rail. Upon removing the load, the ladder section shall not show indication of test failure either in the fastening means attaching the rung or in the side rail.

4.4.4.14.5 Side-Rail Cantilever Dynamic Drop Test. The 12' ladder (longest extension) shall be tested IAW A14.5-2007 8.3.9.2 Side-Rail Cantilever Dynamic Drop Test. Ladder feet shall remain on the section, but shall be taped so the bottom surface makes a 90˚ angle with the rail

length. The ladder shall be placed in a horizontal position with the rungs vertical. The fly section shall be supported 6 inches from the very top of the fly section, so that the lower rail of the base section is 36 inches from a concrete floor (Figure 15a). Both rails of the base section shall be guided in a vertical plane during a free-fall drop. The allowable permanent deformation of the lower side rail shall not exceed 0.25".

Ladder shall then be tested IAW MIL-STD-810G Cold Storage conditions at -50˚F and stabilized for 4 hours (paragraph 2.3.2 Exposure Duration). Any visual examination of cracks or permanent deformation constitutes failure. The ladder shall then be tested under Basic Cold Operating conditions at -25˚F after 2 hours (minimum) stabilization IAW 8.3.9.2 Side-Rail Cantilever Dynamic Drop Test. The ladder shall demonstrate capability of being unpacked from storage configuration to 12' extension and repacked into its collapsed storage position without failure.

4.4.4.14.6 Foot Slip Test. The 12' ladder shall be tested for slip resistance IAW A14.5-2007 8.3.11 Foot Slip Test. The test surface shall be A-C plywood, which shall be pre-sanded using 320 fine wet/dry sandpaper. The "A" side of the plywood shall be placed in contact with the bottom of the ladder. The surface that the top of the ladder rests against shall also be A-C plywood similarly treated. A dead load of 200 lbs (Special Duty – Type IAA) shall be centrally applied to the third highest rung. A horizontal test load of 50 lbs shall be statically applied centrally to the bottom of the ladder at one inch above the test surface, shall not cause movement in excess of 1/4 inch across the test surface.

4.4.4.14.7 Cyclic Joint Test. The ladder shall be tested for cyclic joint test with reference to A14.5-2007 Cyclic Joint Test. The pair of joints at the interface between the folded sections shall be cycled from the closed/collapsed position to fully open and back to the closed position for 6000 cycles. Next, the pair of joints at the rails shall be cycled from the closed/collapsed position to climbing configuration (minus safety strap) and back to the closed position for 6000 cycles. The hinges are to be locked and unlocked in each of its locking positions during every cycle. The use of additional lubricant on the joints or hinges during the test is not permissible. Clamp either the top or lower ladder section to a fixed member and cycle the opposite ladder section through the hinged position. There shall be no failure of the joints or structural compromise of the ladder. Following the test, the ladder shall meet the requirements of paragraph 3.16.13.2.6.1 Horizontal Bending Test, and 3.16.13.2.6.2 Simulated In-Use Inclined Load Test at ambient conditions only.

4.4.4.15 Marker, Infrared. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.14.**

4.4.4.16 Marker/Light Stick, Infrared. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.15.**

4.4.4.17 Marker/Light Stick, Green. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.16.**

4.4.4.18 Marker/Light Stick, Orange. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.17.**

4.4.4.19 Marker/Paint Stick Set. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.18.**

4.4.4.20 Pad, Elbow. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.19.**

4.4.4.21 Pad, Knee. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.20.**

4.4.4.22 Ballistic Shield Kit, Litter. Contractor shall submit 3rd party documentation as evidence that the ballistic shield shall is certified by the National Institute of Justice (NIJ) Ballistic Resistant Protective Materials 0108.01 III-A Armor type (Table 1. Test Summary), and meet MIL-STD-662F V50 for 2g, 4g, 16g, and 64g blast fragmentation.

4.4.4.23 Rappelling Kit, Tactical. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.22.1** through **3.16.22.14.** The tactical rappelling kit shall be functionally tested by assembling the components and demonstrating use.

4.4.4.24 Sealer, Rope. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.23.**

4.4.4.25 Tape (Infrared), Combat Identifier. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.24.**

4.4.4.26 Tool Set, Breaching. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.25.1** through **3.16.25.8.** The breaching tool set shall be functionally tested by assembling the components and demonstrating use.

4.4.4.27 Wedge, Door. Visual inspection shall verify requirements of paragraph **3.16.26.**

4.4.4.28 Burner, DVD, Portable. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.27.**

4.4.4.29 Breaching Saw Kit. A Certificate of Conformance and visual inspection shall verify requirements of paragraph **3.16.28** through **3.16.28.1**.

4.4.4.30 Unique Item Identification. Verify the Urban Ops Squad set for which the cost to the Government exceeds $5000 is marked with a Unique Item Identifier (UID) that has machine-readable data elements distinguishing it from all other like and unlike items in accordance with MIL-STD-130. Verify each UID is globally unique and unambiguous. Verify the UID data elements are contained in a Data Matrix ECC200 symbol in accordance with ISO/IEC 16022. The government reserves the right to verify labels with a machine reader and reserves the right to monitor the UID registry to insure proper and timely population. Failure of a UID to be read by a machine reader shall be cause for rejection of that label**3.17.**

4.4.4.31 Data Plate. Verify data plate by visual inspection per paragraph 3.19 requirements. Failure to supply a data plate with required information shall be cause for rejection.

4.4.4.32 Plates and Labels. Verify all identification, warning and instruction plates and labels are permanently affixed to the applicable Urban Ops Set items and contains the information described in section 3.

5 PRESERVATION AND PACKAGING

5.1 Packaging. The preservation, packaging and packing requirements shall be as specified in the contract or delivery order.