



## WILLIAMSON COUNTY

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To Whom It May Concern:

Williamson County is accepting bids for protective coats and pants for EMS personnel and firefighters for the Office of Public Safety. Minimum bid specifications are enclosed. Please note any exceptions to the bid. Williamson County anticipates purchasing approximately 30 sets. We are requesting that bidders agree to hold their price for twelve months from date of award of bid. We are requesting that pricing be extended to the cities of Brentwood, Fairview, Franklin and Spring Hill. Bid must include delivery.

It is not the intent of Williamson County to favor one vendor; however, we do, from time to time, have to rely on vendors' help in writing specifications. We will accept all bids with exceptions noted, and all bids will be given equal consideration.

Bids will be opened on Thursday, February 16, 2017, 2:00 p.m. Bids should be submitted in a sealed envelope to the County Mayor's Office, 1320 West Main Street, Suite 125, Franklin, TN 37064. Each envelope should be plainly marked: **Bid – Protective Coats and Pants, February 16, 2017, 2:00 p.m. Envelope must also include bidder's company name. PLEASE NOTE: IF THE SEALED PACKAGE IS NOT LABELED EXACTLY AS SPECIFIED ABOVE, THE BID WILL NOT BE OPENED.**

Williamson County reserves the right to reject any and/or all proposals, to waive technicalities or informalities, and to accept any proposal deemed to be in the best interest of Williamson County. **No bid shall be valid unless signed.** No bid shall be accepted by FAX machine. Williamson County reserves the right to award the bid to one vendor, or by item to multiple bidders.

Enclosed is an *Ethical Standards Affidavit* and *Business Tax and License Affidavit*. Please complete these documents and return them with your bid.

If you have any questions, please e-mail [lesliem@williamson-tn.org](mailto:lesliem@williamson-tn.org). All questions must be submitted in writing by 4:30 p.m. CST on February 9, 2017. No addenda will be issued within 48 hours of the bid opening date and time.

Sincerely,

Leslie Mitchell, CPPO, CPPB  
Purchasing Agent

LM/lw  
Enclosure

**WILLIAMSON COUNTY  
PROTECTIVE COAT AND PANT SPECIFICATIONS  
FOR EMS RESCUE GEAR**

**SCOPE**

This specification details design and materials criteria to afford protection to the upper and lower body, excluding head, hands, feet, against adverse environmental effects during Emergency Medical Operations. All materials and construction will meet or exceed NFPA Standard 1999 (2013 edition) Standard on Protective Clothing for Emergency Medical Operations.

Comply       Exception

**COAT REQUIREMENTS**

Protective coat manufactured to this specification shall, meet or exceed the requirements set forth in NFPA 1999 Standard on Protective Clothing for Emergency Medical Operations, 2013 edition to include all temporary interim amendments. **Where specific information or brand is provided, it is done so to establish a minimum level of quality, design, and/or performance. It is not the intention of this specification to limit or restrict the use of alternate methods however; where exceptions, deviations or clarifications are noted, a detailed explanation shall be provided describing how they are equal to or greater than the item specified.**

Comply       Exception

**SIZES AND MEASUREMENTS**

SIZES

The garments shall be labeled using alpha sizes, as follows:

MEASUREMENTS

Chest:	32-34	36-38	40-42	44-46	48-50	52-54	56-58
Alpha designation:	XS	S	M	L	XL	2XL	3XL

Coat length:

Longer coat back length is 32".

Comply       Exception

**OUTER SHELL MATERIAL**

The outer shell shall be constructed of TENCATE "**BRIGADE™ (DEFENDER) 600**" Nomex® IIIA aramid, also known as "BRIGADE 600" with an approximate weight of 6 oz. per square yard and shall be of plain weave. The shell material must be treated with **SST® (SUPER SHELLTITE)** which is a durable water-repellent finish that also enhances abrasion resistance. Bids offering this shell material without the SST® will not be considered. Color of garments to be Navy Blue.

Comply       Exception

**MOISTURE BARRIER**

The permanent waterproof-breathable lining shall consist of a **CROSSTECH® EMS** waterproof-breathable membrane laminated to a woven polyester fabric (W.L. Gore US101) resulting in a washable waterproof material with high moisture vapor transmission, blood-borne pathogen resistance, and common chemical resistance. A 7.5 inch by 9.5 inch pocket, constructed of self material, shall be affixed to the inside of the coat liner on the left side by means of a lock stitch.

Comply       Exception

**COAT CONSTRUCTION:**

**STITCHING**

The outer shell shall be assembled using stitch type #301, #401 and #516. The moisture barrier shall be assembled using stitch type #301 and #516. Stitching in all seams shall be continuous. There shall be no joined stitching in midseam. All major A outer shell structural seams, major B structural liner seams, and minor seams including but not limited to pockets, flaps, and material reinforcements, shall have a minimum of 8 to 10 stitches per inch.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SEALED MOISTURE BARRIER SEAMS**

All moisture barrier seams shall be sealed with 2-layer Gore-Seam tape 1 inch in width compatible with the permanent waterproof-breathable lining using GORE Seam Sealing machines. One side of the tape shall be coated with a heat activated glue adhesive. The adhesive side of the tape shall be oriented toward the moisture barrier seam. The adhesive shall be activated by heat and the sealing tape shall be applied to the moisture barrier seams by means of pressure exerted by rollers for that purpose. The tape shall not be affected by weather, temperature or storage. The taped seams shall tested for waterproofing in accordance with Federal Test Std. #191A, Method #5516 when new and after 25 wash/dry cycles and dry cleanings. There shall be no appearance of water in the test area at 3 PSI for a period of 2 minutes.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**LINER ACCESS OPENING**

There shall be a liner access opening at the bottom back of the coat to allow for inspection. The opening shall have one snap tab, slightly offset from the middle, to secure the liner to the outer shell.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**BODY**

The body of the shell shall be constructed of three separate body panels consisting of two front panels and one back panel. The body panels shall be shaped so as to provide a tailored fit thereby enhancing body movement.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SLEEVES**

Sleeves shall be 2-piece, drop shoulder style, with FR Velcro® cuff closure and epaulets. To provide access to the shell for sewing on emblems on sleeves without damaging the waterproof-breathable permanent lining; there shall be a liner access opening at the bottom of the coat. There shall be a ½ inch wide ribbon loop inserted in the sleeve inseam of the lining to attach the optional fleece liner coat.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SLEEVE CUFF ADJUSTABLE STRAPS**

The sleeve shall terminate at the cuff with an adjustable strap. The strap shall be constructed of a double layer of outer shell material and measure approximately 1 inch wide by 3 inches long. There shall be a 1 inch wide by 2 inch long piece of hook fastener tape sewn to the underside of the strap and a corresponding 1 inch wide by 5 inch long piece of loop fastener tape sewn to the cuff to allow for adjustment.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**ZIP-UP COLLAR**

The collar shall be of one-piece, three-layer design measuring approximately 3 inches high and graded to size. The outer layers shall consist of outer shell material, with a layer of specified moisture barrier sandwiched between (see Moisture Barrier section). The inside ply of moisture barrier shall be sewn to the outer shell at the edges only. The left and right side of the collar ends zip together as an extension of the complete coat closure system and are further secured with the double storm flap consisting of FR Velcro® fastener tape (see Storm Flap And Coat Front Closure System section). The multi-layered configuration shall provide protection from water and other common chemicals. There shall be angled collar pockets with diagonal openings at top corners of the collar constructed of a double layer of outer-shell material. (The corners of the optional Fleece Liner collar shall tuck into the openings for storage.) Stitching of the collar shall be on the periphery along the top and front edges only to maintain waterproof integrity.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**INTERIOR HANGER LOOP**

There shall be a collar hanger loop sewn to the center juncture of the collar. The hanger loop shall be constructed of self material measuring approximately 2 inches long and ½ inches wide.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**EPAULETS**

The permanent epaulets shall be 2 inches wide. The ends of the epaulets shall be sewn into the sleeve joining seam and the collar-joining seam of the coat. Epaulets shall be constructed of two plies of shell fabric. The epaulets shall be topstitched along the periphery and securely backtacked on all four openings leaving a minimum 2½ inch opening in the center for the user to clip on an external microphone or other equipment.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**DUAL ACTION POCKETS**

The double entry pleated patch pockets shall measure approximately 9 inches wide by 8 ½ inches high. The front pocket shall be pleated to provide expansion. A pocket flap with mitered corners measuring approximately 7½ inches long 2¾ inches wide at the center, will cover the top opening of the front pocket. There shall be two 1 inch by 2 inch pieces of FR Velcro® at each flap and pocket corner for closure. The outside (top) edge of the pocket and pocket flap shall be securely backtacked.

Additionally, a separate hand warmer pocket compartment will be provided under the expandable cargo pocket. This compartment will be accessed from the rear of the pocket. The hand warmer pocket shall be lined with fleece material for extra warmth.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**COAT FRONT FACINGS**

The inside front facing shall have zipper tracks to accommodate a zip-out liner coat. Facings shall be 1¼ inch wide. Liner zippers shall be set from the top of the collar and extend towards the hem.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**STORM FLAP**

The front closure shall incorporate a double storm flap. There shall be top and under storm flaps both covering the front zipper. Both storm flaps shall be constructed of two layers of outer shell material, with a center layer of moisture barrier. The top flap shall measure 2½ inches wide and will be sewn on the left front body panel of the coat. The under storm flap shall measure 1¾ inches wide and will be sewn on the right side body panel. The storm flaps shall extend from the top of the collar to within 4" from the bottom of the coat.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**STORM FLAP AND COAT FRONT CLOSURE SYSTEM**

The coat shall be closed by means of a heavy duty zipper on the coat fronts and FR Velcro® fastener tape on the storm flaps. The front zipper shall be delrin, one-way, size #5, and sized appropriately. The storm flaps shall close over the left and right coat body panels and shall be secured to each other with flame resistant FR Velcro® fastener tape. A 1 inch by full length piece of loop fastener tape shall be installed along the underside of the top storm flap. A corresponding 1 inch by full length piece of hook fastener tape shall be sewn to the front of the under storm flap and positioned to engage the loop fastener tape when the storm flaps are closed over the front of the coat.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**RETROREFLECTIVE FLUORESCENT TRIM & REINFORCED TRIM STITCHING**

Each coat shall have an adequate amount of retroreflective fluorescent trim affixed to the outside of the outer shell. Trim shall not extend over the storm flap. The retroreflective fluorescent trim shall be 2" lime/yellow 3M Scotchlite™ Triple Trim (L/Y borders with silver center). The retroreflective fluorescent trim shall be **basic style**; trim stripes - around the bottom of the coat within approximately 1 inch of the hem and around the back and chest area approximately 3 inches below the armpit, around each sleeve below the elbow. All reflective trim is secured to the outer shell with Nomex® thread, using a locking chainstitch, this strip of 3/32-inch strong, durable, flame resistant black Kevlar® cording provides a bed for the stitching along each edge of the retroreflective fluorescent trim surface and affords extra protection for the thread from abrasion. All trim ends shall be securely sewn into a seam for a clean finished appearance.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SEWN ON RETROREFLECTIVE LETTERING**

Each coat shall have 3" lime/yellow 3M Scotchlite™ lettering on upper back of the coat reading: WMC-EMS.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**LETTER PATCHES**

**Sew-On Letter Patch**

The above letters will be on a sewn-on letter patch. The sewn-on letter patch shall be constructed of a layer of outer shell material.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**EMBLEMS**

Each coat shall have a 6-inch Star of Life sewn to the coat and located on back and a 3-inch Star of Life sewn to the coat and located on left chest.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**RADIO POCKET**

Each coat shall have a pocket designed for the storage of a portable radio. This pocket shall be of box type construction, double stitched to the coat and shall have one drainage eyelet in the bottom of the pocket. The pocket flap shall be constructed of two layers of outer shell material measuring approximately 5 inches deep and ¼ inch wider than the pocket. The pocket flap shall be closed by means of FR Velcro® fastener tape. A 1½ inch by 3 inch piece of FR Velcro® hook fastener tape shall be installed on the inside of the pocket flap beginning at the center of the bottom of the flap. A 1½ inch by 3 inch piece of FR Velcro® loop fastener tape shall be installed horizontally on the outside of the pocket near the top center and positioned to engage the hook fastener tape. In addition, the entire inside of the pocket shall be lined with neoprene coated cotton/polyester impermeable barrier material to ensure that the radio is protected from the elements. The impermeable barrier material shall also be sandwiched between the two layers of outer shell material in the pocket flap for added protection. The radio pocket shall measure approximately 2 inches deep by 3 inches wide by 7 inches high and shall be installed on the right chest. The radio pocket must have chest trim continued across the lower portion.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**MICROPHONE STRAP**

A strap shall be constructed to hold a microphone for a portable radio. It shall be sewn to the coat at the ends only. The size of the microphone strap shall be 1 inch x 3 inches. The microphone strap shall be mounted on the left chest above the radio pocket and shall be constructed of double layer outer shell material.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**STETHOSCOPE POCKET**

EMS Stethoscope pocket shall have a finished measurement from the zipper of approximately 11.25 inches tall, sloping from 3 inches across the top to a measurement of 7 inches across the bottom. The EMS Stethoscope pocket shall be mounted on the left chest.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**SIDE ZIPPERS**

The coat will be equipped with side zippers for access to equipment worn on a belt. The side zippers will be a one way design approximately 15 inches long, graded to size and will begin at the hem. The action of the zipper will close upward from the hem of the coat.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**REMOVABLE FLEECE LINED COAT**

There shall be a zip-out waist-length fleece coat which can also be used separately as an outer coat. The bottom hem and cuffs shall be finished with Lycra binding for comfort. The inside neck seam shall be finished with bias cut binding and the on seam pockets shall be finished with 0.5 inch twill on the inside for durability.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**VELCRO HOOD ATTACHMENT**

There shall be an FR Velcro® hood attachment installed on the back of the coat for means of attaching optional detachable hood.

\_\_\_\_\_Comply            \_\_\_\_\_Exception

**DETACHABLE HOOD**

The optional detachable hood shall be a two-piece radial design. The hood shall attach to the coat by means of FR Velcro® set through and 1 inch from the bottom edge of the hood. The shell fabric shall match the coat in construction and color. The hood shall be permanently lined with the specified waterproof breathable fabric with joining seams seam-taped and stitched to the shell only around the periphery of the hood. There shall be an elasticized drawstring with nylon cord locks to adjust the hood snugly about the face.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**PANT REQUIREMENTS**

Protective Pant manufactured to this specification shall, meet or exceed the requirements set forth in NFPA 1999 Standard on Protective Clothing for Emergency Medical Operations, 2013 edition to include all temporary interim amendments.

**Where specific information or brand is provided, it is done so to establish a minimum level of quality, design, and/or performance. It is not the intention of this specification to limit or restrict the use of alternate methods however; where exceptions, deviations or clarifications are noted, a detailed explanation shall be provided describing how they are equal to or greater than the item specified.**

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**SIZES AND MEASUREMENTS**

SIZES

The waist measurement shall be labeled using alpha sizes, as follows:

Waist:	24-26	28-30	32-34	36-38	40-42	44-46	48-50
Alpha designation:	XS	S	M	L	XL	2X	3X

Inseam: labeled using exact measurements

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**OUTER SHELL MATERIAL**

The outer shell shall be constructed of TENCATE "BRIGADE® (DEFENDER) 600" Nomex® IIIA aramid, also known as "BRIGADE 600" with an approximate weight of 6 oz. per square yard and shall be of plain weave. The shell material must be treated with SST® (SUPER SHELLTITE) which is a durable water-repellent finish that also enhances abrasion resistance. Bids offering this shell material without the SST® will not be considered. Color of garments to be Navy Blue.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**MOISTURE BARRIER**

The permanent waterproof-breathable lining shall consist of a CROSSTECH® EMS waterproof-breathable membrane laminated to a woven polyester fabric (W.L. Gore US101) resulting in a washable waterproof material with high moisture vapor transmission, blood-borne pathogen resistance, and common chemical resistance. A 7.5 inch by 9.5 inch pocket, constructed of self material shall be affixed to the inside of the jacket liner on the left side by means of a lock stitch.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

## **PANT CONSTRUCTION:**

### **STITCHING**

The outer shell shall be assembled using stitch type #301, #401 and #516. The moisture barrier shall be assembled using stitch type #301, and #516. Stitching in all seams shall be continuous. There shall be no joined stitching in midseam. All major A outer shell structural seams, major B structural liner seams, and minor seams including but not limited to pockets, flaps, and material reinforcements, shall have a minimum of 8 to 10 stitches per inch.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **SEALED MOISTURE BARRIER SEAMS**

All moisture barrier seams shall be sealed with 2-layer Gore-Seam tape 1.0 inch in width compatible with the permanent waterproof-breathable lining using GORE Seam Sealing machines. One side of the tape shall be coated with a heat activated glue adhesive. The adhesive side of the tape shall be oriented toward the moisture barrier seam. The adhesive shall be activated by heat and the sealing tape shall be applied to the moisture barrier seams by means of pressure exerted by rollers for that purpose. The tape shall not be affected by weather, temperature or storage. The taped seams shall tested for waterproofing in accordance with Federal Test Std. #191A, Method #5516 when new and after 25 wash/dry cycles and dry cleanings. There shall be no appearance of water in the test area at 3 PSI for a period of 2 minutes.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **LINER ACCESS OPENING**

There shall be a liner access opening at the fly to allow for inspection.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **BODY**

The body of the shell shall be constructed of four separate body panels consisting of two front panels and two back panels. The body panels shall be shaped so as to provide a tailored fit, thereby enhancing body movement.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **WAISTBAND**

The pant shall incorporate a 2 inch wide elasticized waistband. The top of the outer shell body panels shall be folded over the elasticized band and sewn with 2 rows of stitching approximately 1¼ inches apart to form the waistband. The suspender attachments shall be constructed of a double layer of black aramid measuring approximately ½ inch wide by 3-inches long. They shall be sewn in a horizontal position on the ends only to form a loop.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **PANT CLOSURE SYSTEM**

The fly flap shall be constructed of two pieces of outer shell material with a center ply of Crosstech S/R moisture barrier sandwiched in between. The fly flap shall be stitched to the left front body panel and shall measure 3½ inches wide and the length shall be graded to size. Flame resistant hook and loop fastener tape shall close the flap. The loop portion of FR fastener tape shall be sewn to the inside of the leading edge of the external fly flap. The corresponding hook portion of FR fastener tape shall be sewn to the right front body panel positioned to engage the loop portion when the external fly flap is in the closed position.

Appropriate hook & loop fastener tape measuring approximately 1 inch by 2 inches shall be installed at the leading edge of the waistband for the purpose of alignment and further securing the trousers in the closed position.

The internal fly flap closure shall consist of a heavy duty high-temp polymer zipper and 1 inch wide by full

length flame resistant hook and loop fastener tape. The teeth of the zipper shall be mounted on Nomex<sup>®</sup> cloth and shall be sewn into the leading edges of the respective left and right front body panels from the crotch area to the waist band.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**RETROREFLECTIVE FLUORESCENT TRIM & REINFORCED TRIM STITCHING**

Each pant shall have an adequate amount of retroreflective fluorescent trim affixed to the outside of the outer shell around the cuffs. The retroreflective fluorescent trim shall be 2" lime/yellow 3M Scotchlite<sup>®</sup> Triple Trim (L/Y borders with silver center). All reflective trim is secured to the outer shell with Nomex<sup>®</sup> thread, using a locking chainstitch protection. This strip of 3/32-inch strong, durable, flame resistant black Kevlar<sup>®</sup> cording provides a bed for the stitching along each edge of the retroreflective fluorescent trim surface and affords extra protection for the thread from abrasion. All trim ends shall be securely sewn into a seam for a clean finished appearance.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**POCKETS**

There shall be pleated pockets centered and sewn across the outseam of each leg set approximately 12 inches down from the top of the waistband. The pockets shall measure approximately 9 inches wide by 8 ½ inches deep. The pocket front shall incorporate two vertical expansion pleats. Two rust resistant metal drain eyelets shall be installed in the bottom of each expansion pocket to facilitate drainage of water. *The expansion pocket shall be reinforced with a layer of Kevlar<sup>®</sup> approximately 5 inches up on the inside of the pocket.* The pocket flaps shall have mitered corners and shall measure approximately 3 inches wide by 9 ¼ inches long. There shall be two 1 inch by 2 inch pieces of hook and loop fastener tape at each flap and pocket corner for closure. The pocket shall be securely backtacked at the top on each side.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**HIP PATCH POCKET**

The pants shall be equipped with a hip style patch pocket measuring approximately 6 ½ inches wide by 6 inches deep, located on the right hip. The pocket flap shall be constructed of two layers of outer shell material, rectangular in shape, and shall measure 1½ inches high and 6½ inches wide. The pocket and pocket flap shall be stitched to the right back body panel approximately 3 inches down from the top of the waistband.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**ZIPPERED LEG**

The lower legs shall be equipped with zippered openings on the outseams of the pants to ease donning and doffing. A zipper shall close each lower leg portion of the outer shell. The leg zippers shall extend 17 inches up from the bottom of the cuff and will close in the down position. A 2-layer panel expansion gusset shall be installed on the inside of each leg corresponding to the opening to provide extra fullness from the knee area to the cuff. It shall be constructed of outer shell material and moisture barrier material as previously specified. The panel shall be shaped like an elongated triangle, measuring approximately 8 inches wide at the bottom and tapering to a point at the top. The panel shall be sewn to the respective layers of the garment and will assure there is no interruption in protection to the legs, whether the zipper is open or closed.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**PANT CUFF ADJUSTABLE STRAPS**

The pants shall be equipped with adjustable straps near the cuffs. The straps shall be constructed of a double layer of outer shell material and measure approximately 1 inch wide by 4½ inches long and sewn to the cuff on one end. There shall be a 1 inch wide by 3 inch long piece of hook fastener tape sewn to the underside of the strap on the opposite end. A corresponding piece of 1 inch wide by 5 inch long piece of loop fastener tape will be sewn horizontally along the cuff and positioned to engage the strap to allow for adjustment.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**PANT CUFF**

The lower leg body panels shall be turned to the inside of the pants approximately 1-inch and stitched to form a cuff.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**PADDED RIP-CORD SUSPENDERS & ATTACHMENT**

On the inside waistband shall be attachments for the standard "H" style "Padded Rip-Cord" suspenders. There will be four attachments total – 2 front, 2 back. The suspender attachments shall be constructed of a double layer of black aramid twill measuring approximately 5/8 inch wide by 3 inches long. They shall be sewn in a horizontal position on the ends only to form a loop. The appearance will be much like a horizontal belt loop to capture the suspender ends.

A pair of "H" style "Padded Rip-Cord" suspenders shall be specially configured for use with the pants. The main body of the suspenders shall be constructed of 2 inch wide black strap webbing. The suspenders shall run over each shoulder to a point approximately shoulder blade high on the back, where they shall be joined by a 2 inch wide horizontal piece of webbing measuring approximately 8 inches long, forming the "H". This shall prevent the suspenders from slipping off the shoulders. The shoulder area of the suspenders will be padded for comfort.

The rear ends of the suspenders will be sewn to 2 inch wide elasticized webbing extensions measuring approximately 8 inches in length and terminating with thermoplastic loops. The forward ends of the suspender straps shall be equipped with specially configured non-slip metal slides. Through the metal slides will be the 9 inch lengths of strap webbing "Rip-Cords" terminating with thermoplastic loops on each end. Pulling on the "Rip-Cords" shall allow for quick adjustment of the suspenders.

Threaded through and attached to the thermoplastic loops on the forward and rear ends of the suspenders will be black aramid suspender attachments incorporating two snap fasteners. The aramid suspender attachments are to be threaded through the suspender attachment loops on the inside waistband of the pants. The aramid suspender attachments will then fold over and attachment to themselves securing the suspender to the pant.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**BLACK ARAMID BELT WITH BELT LOOPS**

The pants shall be equipped with a series of outer shell material belt loops spaced around the waist to accommodate an aramid style belt.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**KNEE REINFORCEMENTS**

The knee area shall be reinforced with an extra layer of outer shell material. The knee reinforcement shall be centered on the leg to insure proper coverage when bending, kneeling and crawling. The knee reinforcements shall be double stitched to the outside of the outer shell in the knee area for greater strength and abrasion resistance.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**ADDITIONAL REPLACEMENT EMS COAT FLEECE LINER**

In addition to the above EMS coats and pants, the bidder shall provide a quote for replacement fleece liners for their existing EMS coats. They shall be a zip-out waist-length fleece coat liner which can also be used separately as an outer coat. The bottom hem and cuffs shall be finished with Lycra binding for comfort. The inside neck seam shall be finished with bias cut binding and the on seam pockets shall be finished with 0.5 inch twill on the inside for durability.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**CERTIFICATION - THIRD PARTY TESTING AND LISTING PROGRAM**

The manufacturer will furnish written certification of all materials utilized in the construction of the garments and the finished garments shall comply with the criteria as specified in the general provisions of this specification. Protective Coats and Pants that are represented as being compliant with NFPA 1999 Standard on Protective Clothing for Emergency Medical Operations, current edition, shall be certified as so. Certification shall be performed by Underwriters Laboratories, NO EXCEPTIONS. Such certification shall be denoted by the Underwriters Laboratories mark on the product label. Successful bidder shall provide written certification that the protective Coat and Pant complies with the criteria of this section.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**BIDDER QUALIFICATIONS and QUALITY ASSURANCE**

To assure that the protective Coat and Pant manufactured to this specification consistently meet established levels of quality control and are constructed to this specification, the manufacturer of the Coat and Pant shall be certified to ISO Standard 9001. No exceptions. Successful bidder shall provide evidence of manufacturer's ISO 9001 certification prior to award of contract. No exceptions.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**DELIVERY INSPECTION**

All garments will be inspected before acceptance by an authorized representative of the department for workmanship, appearance, and proper functioning of all components and conformance to all requirements of these specifications. Should deficiencies be found, it will be the responsibility of the supplier to repack and return the units in question, make necessary corrections or replacements, and return the units to the Department for re-inspection and acceptance.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**COUNTRY OF ORIGIN**

Pants shall be manufactured in the United States.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**LABELS**

Appropriate warning label(s) shall be permanently affixed to each garment. Additionally, the label(s) shall include the following information:

- Compliance to NFPA Standard #1999 - current edition
- Underwriters Laboratories classified mark
- Manufacturer's name
- Manufacturer's address
- Manufacturer's garment identification number
- Date of manufacture
- Size
- Fiber contents

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**EXCEPTIONS TO SPECIFICATIONS**

Any and all exceptions to the above specifications must be clearly stated for each heading on a separate page.

## GENERAL SPECIFICATIONS PROTECTIVE JACKET AND PANTS FOR STRUCTURAL FIRE FIGHTING

### SCOPE

This specification details design and materials criteria to afford protection to the upper and lower body, excluding head, hands, feet, against adverse environmental effects during structural firefighting. All materials and construction will meet or exceed NFPA Standard 1971 (2013 edition) and OSHA for structural fire fighters protective clothing.

Comply       Exception

Where specific information or brand is provided, it is done so to establish a minimum level of quality, design, and/or performance. It is not the intention of this specification to limit or restrict the use of alternate methods however; where exceptions, deviations or clarifications are noted, a detailed explanation shall be provided describing how they are equal to or greater than the item specified.

### OUTER SHELL MATERIAL - JACKETS AND PANTS

The outer shell shall be constructed of ARMOR AP 6.5oz Twill 40% Dupont Nomex/60% Dupont Kevlar blend material. The shell material must be treated with **SST™ (SUPER SHELLTITE)** which is a durable water-repellent finish that also enhances abrasion resistance. Color of the garments shall be dark gold.

Comply       Exception

### THERMAL INSULATING LINER - JACKET AND PANTS

The thermal liner shall be constructed of 7.4ozy GLIDE ICE; consisting of two layers of 60% KEVLAR filament yarn with 40% NOMEX/LENZING FR blend spun yarn twill weave. A 7 inch by 9 inch (7"x9") pocket, constructed of self material and lined with moisture barrier material, shall be affixed to the inside of the jacket thermal liner on the left side by means of a lock stitch. The thermal liner shall be sewn to the moisture barrier and bound around its perimeter with bias-cut Neoprene coated cotton/polyester binding. Further mention of "Thermal Liner" in this specification shall refer to this section.

Comply       Exception

### MOISTURE BARRIER - JACKETS AND PANTS

The moisture barrier material shall be STEDFAST (**STEDAIR® 3000**) ePTFE moisture barrier is engineered using an E-89™ substrate and BHA Technologies ePTFE membrane, with an approximate weight of 5.5 oz. per square yard. The Stedair bi-component ePTFE membrane is a combination of microporous and monolithic technologies. The moisture barrier material shall meet all moisture barrier requirements of NFPA 1971-2007 edition, which includes water penetration resistance, viral penetration resistance and common chemical penetration resistance. The moisture barrier shall be sewn to the thermal liner at the edges only and bound with bias-cut neoprene-coated cotton/polyester binding. Further mention of "Specified Moisture Barrier" in this specification shall refer to this section.

Comply       Exception

### SEALED MOISTURE BARRIER SEAMS

All moisture barrier seams shall be sealed with a minimum 1 inch wide sealing tape. One side of the tape shall be coated with a heat activated glue adhesive. The adhesive side of the tape shall be oriented toward the moisture barrier seam. The adhesive shall be activated by heat and the sealing tape shall be applied to the moisture barrier seams by means of pressure exerted by rollers for that purpose.

Comply       Exception

### **METHOD OF THERMAL LINER/MOISTURE BARRIER ATTACHMENT FOR JACKETS AND PANTS**

The thermal liner and moisture barrier shall be completely removable from the jacket shell. Two strips of 5/8 inch wide FR Velcro® fastener tape shall secure the thermal liner/moisture barrier to the outer shell along the length of the neck line under the collar (see Collar section). The remainder of the thermal liner/moisture barrier shall be secured with snap fasteners appropriately spaced on each jacket facing and Ara-Shield® snap fasteners at each sleeve end. One of the Ara-shield® snap tabs shall be a different color in the liner to correspond with color coded snap tabs for ease of matching the liner system to the outer shell after inspection or cleaning is completed.

The thermal liner and moisture barrier shall be completely removable from the pant shell. Nine snap fasteners shall be spaced along the waistband to secure the thermal liner to the shell. The legs of the thermal liner/moisture barrier shall be secured to the shell by means of Ara-Shield® snap fasteners, 2 per leg. The Ara-shield® snap tabs shall be color coded to a corresponding snap tab in the liner for ease of matching the liner system to the outer shell after inspection or cleaning is completed.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **THERMAL PROTECTIVE PERFORMANCE**

The assembled garment, consisting of an outer shell, moisture barrier, and thermal liner, shall exhibit a TPP (Thermal Protective Performance) rating of not less than 35.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **SIZING**

The jacket length shall be measured from the juncture of the collar and back panels to the hem of the jacket. The manufacturer shall provide the following sizes:

- 27 inches in the front/31 inches long in the back.
- 29 inches in the front/33 inches long in the back. (standard)
- 32 inches in the front/36 inches long in the back.
- 35 inches in the front/39 inches long in the back.

The jacket shall be available in male and female patterns in even size chest measurements of two inch increments, and shall range from a small size of 30 to a large size of 68. Generalized sizing, such as small, medium, large, etc., will not be considered acceptable. Sleeve lengths shall be available in 1" increments for proper fitting.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **STITCHING**

The outer shell shall be assembled using stitch type #301, #401, #514 and #516. The thermal liners and moisture barriers shall be assembled using stitch type #301, #401, #504, #514, and #516. Stitching in all seams shall be continuous. Major A outer shell structural seams, major B structural liner seams and shall have a minimum of 8 to 10 stitches per inch. All Major A seams shall be sewn with ball point needles only. All seams shall be continuously stitched only.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

## **JACKET CONSTRUCTION**

### **BODY**

The body of the shell and AXTION® liner system shall be constructed of three separate panels consisting of two front panels and one back panel. The body panels shall be shaped so as to provide a tailored fit thereby enhancing body movement and shall be joined together by double stitching with Nomex® thread. One-piece outer shells shall not be acceptable.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **DRAG RESCUE DEVICE (DRD)**

A Firefighter Drag Rescue Device shall be installed in each jacket. The ends of a 1½ inch wide strap, constructed of black Kevlar® with a red Nomex® center stripe, will be sewn together to form a continuous loop. The strap will be installed in the jacket between the liner system and outer shell such that when properly installed will loop around each arm. The strap will be accessed through a portal between the shoulders on the upper back where it is secured in place by an FR strap. The DRD shall be removable for laundering. The access port will be covered by an outside flap of shell material, with beveled corners designed to fit between the shoulder straps of an SCBA. The flap will have a NFPA-compliant 3M Scotchlite™ reflective logo patch sewn to the outside to clearly identify the feature as the DRD (Drag Rescue Device). The DRD shall not extend beyond the outside flap. This device provides a quickly deployed means of rescuing a downed firefighter. Flimsy, rope-style DRD straps will not be considered.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **LINER ACCESS OPENING - JACKET**

The liner system of the jacket shall incorporate an opening at each of the leading edges of the left and right front panels. This opening shall run a minimum of 12 inches along the perimeters for the purpose of inspecting the integrity of the jacket liner system. When installed into the outer shell the Liner Access Opening will be covered and protected by the overlap of the outer shell facing.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### **RETROREFLECTIVE FLUORESCENT TRIM**

The retroreflective fluorescent trim shall be lime/yellow ORALITE BRILLIANCE SERIES FTP-1575-S:3" diamond trim with center stripe. Each jacket shall have an adequate amount of retroreflective fluorescent trim affixed to the outside of the outer shell to meet the requirements of NFPA #1971 and OSHA. The trim shall be in the following widths and shall be 3 inch wide stripes - around the bottom of the jacket within approximately 1 inch of the hem, horizontally around the back and chest area approximately 3 inches below the armpit, around each sleeve below the elbow, around each sleeve above the elbow, two vertical stripes on the back (one on each side) beginning at the top of the bottom band of trim and extending up to the bottom of the upper band of trim.

\_\_\_ Comply                      \_\_\_\_\_ Exception

### REINFORCED TRIM STITCHING

All reflective trim is secured to the outer shell with Nomex® thread, using a locking chainstitch protected by flame resistant black Kevlar® cording providing a bed for the stitching along each edge of the retroreflective fluorescent trim surface and affording extra protection for the thread from abrasion. All trim ends shall be securely sewn into a seam for a clean finished appearance.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

### SEWN ON RETROREFLECTIVE LETTERING AND APPLICATION

Each jacket shall have arched 2" lime/yellow ORALITE BRILLIANCE 1550 SERIES lettering on the upper section of the back reading: WILLIAMSON The lettering will be on a sewn-on letter patch. The sewn-on letter patch shall be constructed of a layer of outer shell material.

Below the above section, each jacket shall have 3" lime/yellow REFLEXITE BRILLIANCE SERIES lettering on a FR Velcro® letter patch. The patch shall be constructed of a double layer of outer shell material. The letter patch will attach to the back of the jacket with FR Velcro® hook & loop fastener tape. Each jacket shall have one (1) of following, indicated by official Williamson County representative:

FIRE/RESCUE, ARRINGTON, NOLENSVILLE, COLLEGE GROVE, PEYTONSVILLE, FLAT CREEK-BETHESDA, EMA, PUBLIC SAFETY.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

### HANGING LETTER PATCH

Attached to the lower jacket area will be a hanging letter patch. The Hanging letter patch shall be constructed of a double layer of outer shell material. The letter patch will attach to the rear inside hem of the jacket with a combination of snap fasteners and FR Velcro® hook & loop fastener tape. Each hanging letter patch shall have 3" lime/yellow 3M Scotchlite™ lettering displaying the last name (and first initial in some cases) of the firefighter being measured.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

### COLLAR & FREE HANGING THROAT TAB

The collar shall consist of a four-layer construction and be of two-piece design. The outer layers shall consist of one layer of specified outer shell material on outside and a layer of PCA black Advance™ as standard on the inside and two layers of specified moisture barrier. The rear inside ply of aramid pajama check shall be sewn to the collar's back layer of outer shell at the edges only. The forward inside ply of moisture barrier shall be sewn to the inside of the collar at the edges only. The multi-layered configuration shall provide protection from water and other hazardous elements. The collar shall be a minimum of 3 inches high and graded to size. The leading edges of the collar shall extend up evenly from the leading edges of the jacket front body panels so that no gap occurs at the throat area. The collar's back layers of outer shell and moisture barrier shall be joined to the body panels with two rows of stitching. Inside the collar, above the rear seam where it is joined to the shell shall be a strip of 5/8 inch wide FR Velcro® loop fastener tape running the full length of the collar. The collar's front layers of moisture barrier and outer shell shall have an additional strip of 5/8 inch wide FR Velcro® hook fastener tape stitched to the inside lower edge and running the full length of the collar. These two inside strips of 5/8 inch wide FR Velcro® fastener tape sewn to the underside of the collar shall engage corresponding pieces of FR Velcro® fastener tape on the neck extension of the liner system. A self material fabric hanger loop shall be sewn at the top of collar.

The throat tab shall be a scoop type design and constructed of two plies of outer shell material with two center plies of moisture barrier material. The throat tab shall measure not less than 2½ inches wide at the center tapering to 2 inches at each end with a total length of approximately 7½ inches. The throat tab will be attached to the right side of the collar by a 1 inch wide by 1½ inch long piece of Nomex® twill webbing. The throat tab shall be secured in the closed and stowed position with FR Velcro® hook and loop fastener tape. The FR Velcro® hook and loop fastener tape shall be oriented to prevent exposure to the environment when the throat tab is in the closed position. A 1½ inch by 3 inch piece of FR Velcro® loop fastener tape shall be sewn horizontally to the

inside leading end of the throat tab and a 1½ inch by 3 inch piece of FR Velcro® hook fastener tape shall be sewn horizontally to the opposite end of the throat tab. A corresponding piece of FR Velcro® hook fastener tape measuring 1½ inches by 3 inches shall be sewn horizontally to the leading outside edge of the collar on the left side, for attachment and adjustment when in the closed position and wearing a breathing apparatus mask. The collar closure strap shall fold in half for storage with the FR Velcro® loop fastener tape engaging the FR Velcro® hook fastener tape.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

#### **JACKET FRONT**

The jacket shall incorporate separate facings to ensure there is no interruption in thermal or moisture protection in the front closure area. The facings shall measure approximately 3 inches wide, extend from collar to hem, and be double stitched to the underside of the outer shell at the leading edges of the front body panels. A breathable moisture barrier material shall be sewn to the jacket facings and configured such that it is sandwiched between the jacket facing and the inside of the respective body panel. The breathable film side shall face inward to protect it. There shall be wicking barrier constructed of MOISTURE BARRIER MATERIAL installed on the front closure system on the left and right side directly below the front facings to ensure continuous protection and overlap. The wicking barrier shall extend no more than a maximum of ¾" beyond the inner facing and false facing shall be unacceptable. The thermal liner and moisture barrier assembly shall be attached to the jacket facings by means of snap fasteners.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

#### **STORM FLAP**

A rectangular storm flap measuring approximately 3¼ inches (6 inches for hook and dee inside/FR Velcro® outside closure; aka #7C) wide and a minimum of 21 inches long shall be centered over the left and right body panels to ensure there is no interruption in thermal or moisture protection in the front of the jacket. The outside storm flap shall be constructed of two plies of outer shell material with a center ply of breathable moisture barrier material. The outside storm flap shall be double stitched to the right side body panel and shall be reinforced at the top and bottom with backtacks.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

#### **STORM FLAP AND JACKET FRONT CLOSURE SYSTEM**

The jacket shall be closed by means of a 20 inch size #10 heavy duty high-temp smooth-gliding YKK Vislon® zipper on the jacket fronts and FR Velcro® fastener tape on the storm flap. The teeth of the zipper shall be mounted on black Nomex® tape and shall be sewn into the respective jacket facings. The storm flap shall close over the left and right jacket body panels and shall be secured with FR Velcro® fastener tape. A 1½ inch piece of FR Velcro® loop fastener tape shall be installed along the leading edge of the storm flap on the underside with four rows of stitching. A corresponding 1½ inch piece of FR Velcro® hook fastener tape shall be sewn with four rows of stitching to the front body panel and positioned to engage the loop fastener tape when the storm flap is closed over the front of the jacket.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

#### **SEMI-EXPANSION (BELLOWS) POCKETS**

Each coat front body panel shall have a 10 inch wide by 8 inch high semi-expansion pocket double stitched to it and shall be located to provide accessibility. The leading edge of the pockets shall be sewn flush with the coat. The rear of the pockets shall expand to a depth of 2 inches. The entire inside of each semi-expansion pocket shall be reinforced with a layer of Kevlar®. Two rust resistant metal drain eyelets shall be installed in the bottom of each semi-expansion pocket to facilitate drainage of water. The pocket flaps shall be constructed of two layers of outer shell material and shall measure 3 inches deeper than the pocket expansion and ½ inch wider than the pocket. The pocket flaps shall be angled with the front edge 1" shorter than the back edge, the upper pocket corners and pocket flaps shall be reinforced with backtacks. The pocket flaps shall be closed by means of flame resistant Velcro® hook and loop fastener tape. Two pieces of 1½ inch by 3 inch FR Velcro® hook fastener tape shall be installed vertically on the inside of each pocket flap (one piece on each end). Two corresponding pieces

of 1½ inch by 3 inch FR Velcro® loop fastener tape shall be installed horizontally on the outside of each pocket near the top (one piece on each end) and positioned to engage the hook fastener tape.

Additionally, a separate hand warmer pocket compartment will be provided under the expandable cargo pocket. This compartment will be accessed from the rear of the pocket and shall be lined with Nomex® fleece for warmth and comfort.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

### **JACKET SLEEVES**

The sleeves shall be of two piece construction and contoured, having an upper and a lower sleeve. Both the under and upper sleeve shall be graded in proportion to the chest size. For unrestricted movement, on the underside of each sleeve there shall be two outward facing pleats located on the front and back portion of the sleeve on the shell and thermal liner. On the moisture barrier, the system will consist of two darts, rather than pleats, to allow added length in the under sleeve. The moisture barrier darts will be seam sealed to assure liquid resistance integrity. The pleats shall expand in response to upper arm movement and shall fold in on themselves when the arms are at rest. This expansion shall allow for greater multi-directional mobility and flexibility in the shoulder and arm areas, with little restriction or jacket rise. Neither stove-pipe nor raglan-style sleeve designs will be considered acceptable.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

### **SLEEVE CUFF REINFORCEMENTS**

The sleeve cuffs shall be reinforced with black suede leather. The cuff reinforcements shall not be less than 2 inch in width and folded in half, approximately one half inside and one half outside the sleeve end for greater strength and abrasion resistance. The cuff reinforcement shall be double stitched to the sleeve end; a single row of stitching shall be considered unacceptable. This independent cuff provides an additional layer of protection as compared to a turned and stitched cuff. Jackets finished with a turned and stitched cuff do not provide the same level of abrasion resistance and will be considered unacceptable.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

### **WRISTLETS / SLEEVE WELLS**

Each jacket shall be equipped with Nomex® hand and wrist guards (over the hand) not less than 7 inches in length and of double thickness. A separate thumbhole with an approximate diameter of 2 inches shall be recessed approximately 1 inch from the leading edge. The color of the wristlets shall be white. The wristlets shall be sewn to a piece of self-material leader that is then stitched into the cuff. Two Ara-shield® snap tabs will be sewn into the juncture of the sleeve well and wristlet. The tabs will be spaced equidistant from each other and shall be fitted with female snap fasteners to accommodate corresponding male snap tabs sewn onto the liner sleeves. One of the Ara-shield® snap tabs shall be a different color in the liner to correspond with color coded snap tabs for ease of matching the liner system to the outer shell after inspection or cleaning is completed. This configuration will ensure there is no interruption in protection between the sleeve liner and wristlet.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

### **LINER SHOULDER THERMAL ENHANCEMENT**

A minimum of one additional layer of thermal liner material shall be used to increase thermal insulation in the shoulder area of the liner system. This thermal enhancement layer shall drape over the top of each shoulder extending from the collar to the sleeve/shoulder seam, and 5" to the front, 2" to the back of the shoulder cap. The shoulder thermal enhancement layers shall be sandwiched between the thermal liner and moisture barrier layers of the liner system and shall be stitched to the thermal liner layer only. The thermal enhancement layer shall have finished edges by means of over-edging. Raw or unfinished edges shall be considered unacceptable. Thermal scraps shall not be substituted for full-cut fabric padding. Smaller CCHR reinforcements shall not be considered acceptable since they provide far less area of coverage.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

**RADIO POCKET**

Each jacket shall have a pocket designed for the storage of a portable radio. This pocket shall be of box type construction, double stitched to the jacket and shall have one drainage eyelet in the bottom of the pocket. The pocket flap shall be constructed of two layers of outer shell material measuring approximately 5 inches deep and ¼ inch wider than the pocket. The pocket flap shall be closed by means of FR Velcro® fastener tape. A 1½ inch by 3 inch piece of FR Velcro® hook fastener tape shall be installed on the inside of the pocket flap beginning at the center of the bottom of the flap. A 1½ inch by 3 inch piece of FR Velcro® loop fastener tape shall be installed horizontally on the outside of the pocket near the top center and positioned to engage the hook fastener tape. In addition, the entire inside of the pocket shall be lined with neoprene coated cotton/polyester impermeable barrier material to ensure that the radio is protected from the elements. The impermeable barrier material shall also be sandwiched between the two layers of outer shell material in the pocket flap for added protection. The radio pocket shall measure approximately 2 inches deep by 3 inches wide by 7 inches high and shall be installed on the left chest. The bottom of the radio pocket shall be even with the bottom of the trim across the chest; therefore, requiring trim across the lower section of the radio pocket.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

**NOTCHED RADIO POCKET FLAP**

The radio pocket flap shall be notched to accommodate the radio antenna on the both sides for a dual antenna notch.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

**MICROPHONE STRAP**

Two ½" x 3" straps shall be constructed to hold a microphone for a portable radio. It shall be sewn to the coat at the ends only and shall be constructed of double layer OUTER SHELL MATERIAL. The microphone strap shall be mounted high on chest of the jacket on each side, one above the radio pocket and one outboard of the storm flap.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

**UNIVERSAL CLIP (for P.A.S.S., mic, flashlight, etc.)**

A strap shall be configured to hold a personal alert devise equipped with a clip holder, flashlight equipped with a clip holder, etc. The overall dimensions of the strap shall be approximately 4 ½ inches long by 1 ½ inches high and constructed of OUTER SHELL MATERIAL. The outer shell material shall encase a piece of rigid leather measuring approximately 3/16 inch thick by 3 inches long by 1 1/4 inches high and centered in the outer shell material. Each end of the strap shall be attached to the outer shell with two rows of stitching. This will leave a usable area of 3 inches in length. The strap shall be mounted on the right chest.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

**DEE RING ON REINFORCEMENT PATCH**

A small reinforcement patch shall be sewn to the jacket. The reinforcement patch will be of sufficient size to accommodate a dee ring. A metal dee ring shall be riveted to the jacket in a vertical position, through the reinforcement patch and the underlying outer shell material. The reinforcement patch shall be constructed of black suede leather and the dee ring and reinforcement patch shall be installed on the right chest above the jacket pocket.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

**COAT HOOK/MIC STRAP COMBO UNIVERSAL HOLDER**

Each jacket shall be equipped with a Coat Snap/Mic Strap Combo holder. An inward facing coat hook shall be triple riveted in a vertical position to the upper chest. The inward facing metal coat hook will accommodate the clip portion of the flashlight. Below the coat hook will be a 1 inch by 3 inch mic strap constructed of outer shell material sewn to the coat at both ends. Below the mic strap will be an additional strap measuring approximately 2½ inches high and 9 inches wide and will hold the barrel of the flashlight. The lower strap will be equipped with a 1½ inch by 2½ -inch FR Velcro® closure at the front of the strap to facilitate easy removal of the flashlight. The "Coat Snap/Mic Strap Combo" holder shall be sewn to the jacket on the right chest.

\_\_\_\_\_ Comply      \_\_\_\_\_ Exception

**EMBROIDERED AMERICAN FLAG – RIGHT SLEEVE**

Each jacket shall have a Nomex® embroidered American flag that measures approximately 2½ inches high by 3½ inches wide. Per Military protocol the field of stars shall be to the top right corner for installation on the right sleeve. Flags made of fabric other than Nomex® shall be considered unacceptable.

\_\_\_\_\_ Comply      \_\_\_\_\_ Exception

**PANT CONSTRUCTION**

**BODY**

The body of the shell shall be constructed of four separate body panels consisting of two front panels and two back panels. The body panels shall be shaped so as to provide a tailored fit, thereby enhancing body movement, and shall be joined together by double stitching with Nomex® thread. The body panels and seam lengths shall be graded to size to assure accurate fit in a broad range of sizes.

\_\_\_\_\_ Comply      \_\_\_\_\_ Exception

**SIZING**

The pant shall be available in even size waist measurements of two inch increments and shall be available in a range of sizes from 24 to 68. The pant inseam measurement shall be available in two inch increments. Generalized sizing, such as small, medium, large, etc., will not be considered acceptable. Sizing specifically for women shall also be available.

\_\_\_\_\_ Comply      \_\_\_\_\_ Exception

**REINFORCED TRIM STITCHING**

All reflective trim is secured to the outer shell with Nomex® thread, using a locking chainstitch. In addition there will be a strip of 3/32-inch strong, durable, flame resistant black Kevlar® cording provides a bed for the stitching along each edge of the retroreflective fluorescent trim surface and affords extra protection for the thread from abrasion. All trim ends shall be securely sewn into a seam for a clean finished appearance.

\_\_\_\_\_ Comply      \_\_\_\_\_ Exception

**LINER ACCESS OPENING (PANT)**

The combined moisture barrier and the thermal liner shall be completely removable for the pant. The thermal liner and moisture barrier layers of the liner system shall be stitched together and bound around the cuffs, but each layer will be individually bound at the top of the waist. The binding shall be of Bias-Cut neoprene coated cotton/polyester material for a finished appearance that prevents fraying and wicking of contaminants. The thermal liner and moisture barrier layers are attached at the waist band with a snap one either side and one center snap. Additionally, there shall be four independent snap tabs that secure the moisture barrier layer to

the shell to prevent any gapping. The bottom of the liner fly opening shall have a reinforcement of black Nomex® Twill which serves to prevent the liner from tearing in this area which is highly stressed as a result of the constant donning and doffing of the pants.

The liner system of the pant shall incorporate a full length opening along the entire waistline for ease in inspecting the inner layers as well as performing the complete Liner Inspection. The thermal liner and moisture barrier shall be individually bound with a neoprene coated bias cut tape, and joined together with a snap at the center back. There shall be a minimum of 4 snap tabs sewn to the underside of the waistband, with corresponding snaps in the moisture barrier layer to secure the barrier to the shell. As described previously, the pant thermal layer snaps directly to the independent waistband by means of nine snap fasteners. There shall be no hook and loop used to close the liner access opening.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**WAISTBAND**

The waist area of the pants shall be reinforced on the inside with a separate piece of black aramid outer shell material not less than two inches in width. Neoprene coated cotton/polyester shall be sewn to the back of the waistband as a reinforcement to create a three-layer protection. The top edge of the waistband reinforcement shall be double stitched to the outer shell at the top of the pants. The lower edge of the waistband shall be serged and unattached to the shell to accept the thermal liner and moisture barrier. The top of the thermal liner and moisture barrier shall be secured to the underside of the waistband reinforcement so as to be sandwiched between the waistband reinforcement and outer shell to reduce the possibility of liner detachment while donning and to avoid pass through of snaps from the outer shell to the inner liner. The independent waistband construction affords greater comfort and fit than a turned and stitched method. Pants that do not include an independent waistband only serve to save the manufacturer both money and labor and shall be considered unacceptable.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**RETROREFLECTIVE FLUORESCENT TRIM**

The pant shall have a stripe of retroreflective fluorescent trim encircling each leg below the knee to comply with the requirements of NFPA #1971 in 3 inch lime/yellow ORALITE BRILLANCE SERIES FTP-1575-S:3" diamond trim with center stripe. The pants shall be the same width as the jacket at each leg cuff approximately 3 inches from the cuff hem fully around the pant leg, and a stripe running vertical up each outside pant leg to the belt.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**BLACK ARAMID BELT WITH BELT LOOPS**

Each pant shall include a 2 inch wide belt constructed of aramid webbing material with an adjustable hi-temp thermoplastic Delrin buckle serving as the exterior primary positive locking closure. This buckle shall also provide a quick-release mechanism for donning and doffing. The pants shall be equipped with a series of outer shell material belt loops spaced around the waist to accommodate the aramid belt.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**BAIL-OUT HARNESS LOOPS**

Each pant shall include a series of OUTER SHELL MATERIAL belt loops (5 around the waste and 1 on each inner thigh) constructed such that an aftermarket standard Bail-Out Harness can be easily attached to the Pant Assembly. The material shall be constructed of two layers of outer shell material with each loop being securely closed using no less than 2 snaps. NO BAIL-OUT HARNESS IS BEING REQUESTED TO ADD TO THIS SPEC. ONLY AFTERMARKET HARNESSES WILL BE ADDED BY THE FIREFIGHTER.

**EXTERNAL / INTERNAL FLY FLAP**

The pants will have a vertical outside fly flap constructed of two layers of outer shell material, with a layer of moisture barrier material sandwiched between. The fly flap shall be double stitched to the left front body panel and shall measure approximately 2 ½ inches wide, with a length graded to size based on waist measurement and reinforced with backtacks at the base. An internal fly flap constructed of one layer of outer shell material, thermal liner and specified moisture barrier, measuring approximately 2 inches wide, with a length graded to size based on waist, shall be sewn to the leading edge of the right front body panel. The inside of the right front body panel shall be thermally enhanced directly under the outside fly with a layer of moisture barrier and thermal liner material. The underside of the outside fly flap shall have a 1½ inch wide piece of FR Velcro® loop fastener tape quadruple stitched along the full length and through the shell material only; stitching shall not penetrate the moisture barrier insert between the two layers to insure greater thermal protection and reduced water penetration. A corresponding strip of 1½ inch wide piece of FR Velcro® hook fastener tape shall be quadruple stitched to the outside right front body panel securing the fly in a closed position. Appropriate snap fastener halves shall be installed at the leading edge of the waistband for the purpose of further securing the pants in the closed position.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**PANT KNEE**

The outer shell of the pant legs shall be constructed with horizontal expansion pleats in the knee area with corresponding darts in the liner to provide added fullness for increased freedom of movement and maximum flexibility. The pleats shall be folded to open outwardly towards the side seams to insure no restriction of movement. The pant knee will be installed proportionate to the pant inseam, in such a manner that it falls in an anatomically correct knee location. The thermal liner shall be constructed with four pleats per leg in the front of the knee. Two will be located above the knee (one on each side) and two will be located below the knee (one on each side). On the moisture barrier, the system will consist of two darts, rather than pleats, to allow added length in the under knee. The darts in the liner provide a natural bend at the knee. The pleats and darts in the liner work in conjunction with the expansion panels in the outer shell to increase freedom of movement when kneeling, crawling, climbing stairs or ladders, etc.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**LINER KNEE THERMAL ENHANCEMENT**

A minimum of one additional layer of specified thermal liner and one additional layer of moisture barrier material, measuring a minimum of 9 inches by 11 inches, will be sewn to the knee area of the liner system for added CCHR protection and increased thermal insulation in this high compression area.. The knee thermal enhancement layers shall be sandwiched between the thermal liner and moisture barrier layers of the liner system and shall be stitched to the thermal liner layer only. The thermal enhancement layer shall have finished edges by means of overedging. Raw or unfinished edges shall be considered unacceptable. Thermal scraps shall not be substituted for full-cut fabric padding. Smaller CCHR reinforcements shall not be considered acceptable since they provide far less area of coverage.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

**KNEE REINFORCEMENTS**

The knee area shall be reinforced with a layer of black Dragonhide® material. The knee reinforcement shall be slightly offset to the outside of the leg to insure proper coverage when bending, kneeling and crawling. The knee reinforcements shall measure 9 inches wide by 12 inches high and shall be double stitched to the outside of the outer shell in the knee area for greater strength and abrasion resistance. Knee reinforcements of a smaller size do not provide the same protective coverage and shall be considered unacceptable. The knee reinforcement specified shall be removable without opening up any seams of the outer shell of the pant.

\_\_\_\_\_ Comply                      \_\_\_\_\_ Exception

### PADDING UNDER KNEE REINFORCEMENTS

Padding for the knees shall be accomplished with one layer of **Silizone**<sup>®</sup> foam sewn to the liner, sandwiched between the thermal liner and moisture barrier.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

### EXPANSION POCKETS

An expansion pocket, measuring approximately 2 inches deep by 10 inches wide by 10 inches high shall be double stitched to the side of each leg straddling the outseam above the knee and positioned to provide accessibility. *The lower half of each expansion pocket shall be reinforced with a layer of Kevlar<sup>®</sup> material on the inside.* Two rust resistant metal drain eyelets shall be installed on the underside of each expansion pocket to facilitate drainage of water. The pocket flaps shall be rectangular in shape, constructed of two layers of outer shell material and shall measure 3 inches deeper than the pocket expansion and ½ inch wider than the pocket. The pocket flaps shall be closed by means of FR Velcro<sup>®</sup> hook and loop fastener tape. Two pieces of 1½ inch by 3 inch FR Velcro<sup>®</sup> hook fastener tape shall be installed vertically on the inside of each pocket flap (one piece on each end). Two corresponding pieces of 1½ inch by 3 inch FR Velcro<sup>®</sup> loop fastener tape shall be installed horizontally on the outside of each pocket near the top (one piece on each end) and positioned to engage the hook fastener tape. The right pocket shall have a divider made of outer shell material dividing the pocket in a 50/50% proportion.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

### 3-PACK TOOL COMPARTMENT

A tool pocket constructed of Arashield material and measuring approximately 8 inches high by 10 inches wide will be installed on the inside of the left pocket with double stitching. The front pockets will measure 7 inches high. Two separate rows of stitching will divide the tool pocket into three compartments measuring approximately 3 inches wide and set side-by-side.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

### PANT CUFF REINFORCEMENTS

The cuff area of the pants shall be reinforced with black suede leather. The cuff reinforcements shall not be less than 2 inch in width and folded in half, approximately one half inside and one half outside the leg cuff for greater strength and abrasion resistance. The cuff reinforcement shall be double stitched to the end of the leg for a minimum of two rows of stitching. This independent cuff provides an additional layer of protection over a hemmed cuff. Pants that are turned and stitched at the cuff, as opposed to an independent cuff reinforcement, do not provide the same level of abrasion resistance and shall be considered unacceptable.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

### PADDED RIP-CORD SUSPENDERS & ATTACHMENT

On the inside waistband shall be attachments for the standard "H" style "Padded Rip-Cord" suspenders. **Each suspender shall be equipped with reflective striping.** There will be four attachments total – 2 front, 2 back. The suspender attachments shall be constructed of a double layer of black aramid measuring approximately ½ inch wide by 3-inches long. They shall be sewn in a horizontal position on the ends only to form a loop. The appearance will be much like a horizontal belt loop to capture the suspender ends.

A pair of "H" style "Padded Rip-Cord" suspenders shall be specially configured for use with the pants. The main body of the suspenders shall be constructed of 2 inch wide black webbing straps. The suspenders shall run over each shoulder to a point approximately shoulder blade high on the back, where they shall be joined by a 2 inch wide horizontal piece of webbing measuring approximately 8-inches long, forming the "H". This shall prevent the suspenders from slipping off the shoulders. The shoulder area of the suspenders will be padded for comfort by fully encasing the webbing with aramid batting and wrap-around black aramid.

The rear ends of the suspenders will be sewn to 2-inch wide elasticized webbing extensions measuring approximately 8-inches in length and terminating with thermoplastic loops. The forward ends of the suspender straps shall be equipped with specially configured black powder coat non-slip metal slides with teeth. Through the metal slides will be the 9 inch lengths of strap webbing "Rip-Cords" terminating with thermoplastic loops on

each end. Pulling on the "Rip-Cords" shall allow for quick adjustment of the suspenders.

Threaded through and attached to the thermoplastic loops on the forward and rear ends of the suspenders will be black aramid suspender attachments incorporating two snap fasteners. The aramid suspender attachments are to be threaded through the suspender attachment loops on the inside waistband of the pants. The aramid suspender attachments will then fold over and attach to themselves securing the suspender to the pants.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

#### **PANT SEAT**

The rise of the rear pant center back seam, from the top back of the waistband to where it intersects the inside leg seams at the crotch, shall exceed the rise at the front of the pant by 2½ inches. The longer rear center back seam provides added fullness to the seat area for extreme mobility without restriction when stepping up or crouching and will be graded to size. This feature in combination with other design elements will maintain alignment of the knee directly over the knee pads when kneeling and crawling.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

#### **REVERSE BOOT CUT**

The outer shell pant leg cuffs will be constructed such that the back of the leg is approximately 1 inch shorter than the front. The liner will also have a reverse boot cut at the rear of the cuff and a concave cut at the front to keep the liner from hanging below the shell. This construction feature will minimize the chance of premature wear of the cuffs and injuries due to falls as a result of "walking" on the pant cuffs. Pants that have "cut-outs" in the back panel rather than a contoured boot cut shall be considered unacceptable.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

#### **THIRD PARTY TESTING AND LISTING PROGRAM**

All components used in the construction of these garments shall be tested for compliance to NFPA Standard #1971 by Underwriters Laboratories (UL). Underwriters Laboratories shall certify and list compliance to that standard. Such certification shall be denoted by the Underwriters Laboratories certification label.

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

#### **LABELS**

Appropriate warning label(s) shall be permanently affixed to each garment. Additionally, the label(s) shall include the following information:

Compliance to NFPA Standard #1971  
Underwriters Laboratories classified mark  
Manufacturer's name  
Manufacturer's address  
Manufacturer's garment identification number  
Date of manufacture  
Size

\_\_\_\_\_ Comply          \_\_\_\_\_ Exception

#### **ISO CERTIFICATION / REGISTRATION**

The protective clothing manufacturer shall be certified and registered to ISO Standard 9001 to assure a satisfactory level of quality. Indicate below whether the manufacturer is so certified and registered by checking either "Yes" or "No" in the space provided.

\_\_\_\_\_ Yes          \_\_\_\_\_ No

**WARRANTY**

The manufacturer shall warrant these jackets and pants to be free from defects in materials and workmanship for their serviceable life when properly used and cared for.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**HOOK AND LOOP SUPPORT PROGRAM**

Support program shall cover hook or loop tape that has begun to fray or otherwise degrade from normal wear. This program shall remain in effect for a period of five years from the original date of manufacture of the garment.

This support program shall cover the repair or replacement, without charge, of any hook and/or loop on the garments produced by the manufacturer providing the garments are otherwise serviceable.

This support program does NOT cover damage from fire, heat, chemicals, misuse, accident or negligence. Failure to properly care for garments will serve to void this support program.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**BAR-CODE/RECORD KEEPING INTERFACE**

A 1 dimensional barcode, in the interleaved 2 of 5 format shall be printed on the label of each separable layer of the garment.

This barcode shall represent the serial number of the garment. The manufacturer shall be able to provide a detailed list of each asset of a drop-shipped order, and shall include the following:

- Brand
- Order Number
- Serial Number
- Style Number
- Color
- Description
- Chest/Waist Size
- Jacket/pant Length
- Sleeve Length
- Date of Manufacture
- Mark-For Data

This information shall be able to be imported into the manufacturers web-based system designed to facilitate the organization and tracking of assets in accordance with the cleaning and inspection requirements of OSHA and NFPA 1851.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**SIZING BY VENDOR**

A sizing kit of eight coats and eight pants will be used by the vendor to achieve accurate measurements.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**COUNTRY OF ORIGIN**

Jackets and Pants shall be manufactured in the United States.

\_\_\_\_\_Comply                      \_\_\_\_\_Exception

**EXCEPTIONS TO SPECIFICATIONS**

Any and all exceptions to the above specifications must be clearly stated for each heading on a separate sheet of paper.

**Bid Sheet  
Turnout Gear  
Williamson County Public Safety**

Total Bid, EMS Rescue Suit \$ \_\_\_\_\_

Unit Price, Replacement EMS Coat Fleece liner \$ \_\_\_\_\_

Total Bid, Structural Fire Fighting Suit \$ \_\_\_\_\_

Will you hold your price thru March 31, 2017? Yes or No \_\_\_\_\_

**Bid must include delivery.**

Williamson County reserves the right to award the bid to one vendor, or by item to multiple bidders.

The bidder has received the following addenda:

Addendum # _____	Dated _____

Company Name \_\_\_\_\_

Physical Address \_\_\_\_\_

Remittance Address \_\_\_\_\_

Authorized Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

Email Address \_\_\_\_\_

Date \_\_\_\_\_

**Ethical Standards Affidavit**

**State of Tennessee**

**County of Williamson County**

**Ethical Standards Affidavit.** After first being duly sworn according to law, the undersigned ("Affiant") states that he/she has the legal authority to swear to this on behalf of \_\_\_\_\_, ("Contractor") that no part of any other governmental monies provided for the services or products contemplated in this Agreement which was received from the State of Tennessee or Williamson County shall be paid directly to an employee or official of the State of Tennessee or Williamson County as wages, compensation, or gifts in exchange for acting as a Contractor, officer, agent, employee, subcontractor, or consultant to the County or the Contractor in connection with any Services or Work contemplated or performed relative to this Agreement. Affiant and Contractor further swears that no federally, state, or county appropriated funds have been paid or will be paid, by or on behalf of the Contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, any employee of the State of Tennessee, or employee of Williamson County in connection with the awarding of any federal, state, or county contract, the making or awarding of any government grant, the making of any government loan, and entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal, state or county contract, grant, loan, or cooperative agreement.

**Affiant**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_

Date \_\_\_\_\_

## ***Business Tax and License Affidavit***

***Business Tax and License Affidavit.*** The undersigned, ("Affiant"), states that he/she has the legal authority to swear to this on behalf of \_\_\_\_\_, ("Contractor"); that Contractor is not in any manner in violation of *Tennessee Code Annotated, Section, 5-14-108(l)* which provides that "(n)o purchase shall be made or purchase order or contract of purchase issued for tangible personal property or services by county officials or employees, acting in their official capacity, from any firm or individual whose business tax or license is delinquent." Affiant affirms and warrants that Contractor's licenses are currently valid and all business taxes have been paid and are current as of the date of this affidavit. Contractor is licensed and pays business taxes in \_\_\_\_\_ (County), Tennessee.

### **Affiant**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_

Date: \_\_\_\_\_