CITY OF RINCON, GEORGIA
PO Box 232 / 302 S. Columbia Avenue
Rincon, GA 31326
(912) 826-5745 P / (912) 826-2083 F

BID SUBMITTAL FORM

SCOPE OF WORK:

The **City of Rincon Fire Department** is requesting sealed proposals for **fourteen (14) sets of Turn Out Gear, consisting of fourteen (14) coats and fourteen (14) pairs of pants, and fourteen (14) sets of suspenders**. Bids will be received by the City of Rincon at City Hall until 10:00 AM on Thursday, May 4, 2017. All bids will be publicly opened and read aloud at that time.

The City of Rincon reserves the right to reject any and all bids and to waive any informality in the bidding process. All bid prices must be good for at least 60 days from the date of the bid opening. Contact City Planner LaMeisha Hunter Kelly, AICP at (912) 826-5996 or lhkelly@cityofrincon.com for more information.

All bids are to be enclosed in a sealed envelope and addressed as follows:

City of Rincon
PO Box 232 / 302 S. Columbia Ave
Rincon, GA 31326
Attn: Bid for Turn Out Gear

CONTACT INFORMATION

Name of Bidder _____

Contact Name _____

Mailing Address _____

Physical Address _____

Phone _____ Fax _____

Email _____

Completed by _____ Date _____

Bid Proposal _____

Detailed Technical Specifications

For

Protective Clothing for Structural Firefighting

Coat and Pant

Limb and Torso Protection

This specification dated March 8, 2017, supersedes, modifies, and replaces all previous editions.

1.0 PURPOSE AND SCOPE

This specification defines the minimum requirements for structural firefighter personal protective equipment (PPE) providing limited protection as defined by NFPA 1971, *Standard on Protective Ensemble for Structural Fire Fighting,* 2007 Edition. In the absence of comment on a particular point, industry standard practice shall be presumed to prevail. Every exception to specifications must be clearly spelled out at the time of bid.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

2.0 UNITS OF MEASURE

Current NFPA standards applicable to this product specification express values for measurement requirements in SI (metric-based) units, followed by US (inch-pound) approximate equivalents in parentheses. For the convenience of the fire department, this product specification *reverses the order* and presents the more familiar US approximation first, followed by the SI requirement in parentheses.

3.0 CERTIFICATION

The manufacturer must certify that the garments proposed in its bid meet or exceed all requirements of NFPA 1971. The manufacturer must also list and label this product with Underwriters Laboratories Inc. (UL) or Safety Equipment Institute (SEI), as the third party certification organization prescribed in NFPA 1971. All certification testing and test preconditioning must have been performed by an ISO 17025-certified laboratory. UL, SEI or a UL Authorized Client Test Data Program laboratory will fulfill this requirement.

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Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

The manufacturer shall be registered to ISO 9001, *Quality Management Systems – Requirements*, 2000.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

4.0 WARRANTY

The manufacturer must provide a lifetime warranty against defects in materials and workmanship with the bid package.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

5.0 PRODUCT COUNTRY OF ORIGIN

For liability reasons, garments must be manufactured in the United States of America or Canada by companies with their assets and incorporation within the United States of America or Canada.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

6.0 LABELING REQUIREMENTS

Labels shall be permanently and integrally printed onto breathable materials that meet all the requirements for labels of NFPA 1971. Garment labels shall meet all requirements of NFPA 1971 Flame Resistance Test One (for vertical flame resistance of cloth). The garment shall be clearly labeled to fully identify the material content of all three layers: outer shell, moisture barrier and thermal liner. In addition, each separable layer of garment shall be labeled with the FEMSA-style DANGER label in an obvious location.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

7.0 CARE INSTRUCTIONS

The manufacturer shall provide a user information guide for the garments, which complies with user information requirements of NFPA 1971. Topics shall include, but not necessarily be limited to: pre-use information, preparation for use, inspection frequency and details, don/doff, use consistent with NFPA 1500, maintenance and cleaning, and retirement and disposal criteria and considerations.

This document shall be packaged with each garment along with a specification summary sheet describing garment custom options, sizing and production details. This written information shall be in complete compliance with NFPA 1971 requirements, and shall reference same.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

8.0 TRACEABILITY PROGRAM

The manufacturer shall have in place a computer maintained traceability program that provides for the assignment of a production control number to each garment. The traceability program must be capable of tracing the garment through production, from the bolts of cloth used in all three layers of the garment composite construction, to the assignment of the garment to the individual firefighter. This production control number shall be visibly located on the garment label and on other protected areas of garment.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

9.0 PATENT CONSIDERATIONS

The Bidder, without exception, shall indemnify and save harmless the Purchaser and its employees from liability of any nature and kind, including cost and expenses for or on account

of any copyrighted, patented or un-patented invention, process, or article manufactured or used in the performance of the contract, including its use by the Purchaser. If the Bidder uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

10.0 SIZING

To ensure a perfect fit, sizing shall be based on actual measurements taken of the firefighter by a trained measurement specialist, or sizing try-ons, or both. Sizing measurements shall be taken according to a schedule and location(s) mutually agreed between the manufacturer and the department.

Garments shall be available in custom sizing as follows: coat chest in 2-inch (5.1 cm) increments, coat sleeve in 0.5-inch (1.3 cm) increments, coat back length in 1-inch (2.5 cm) increments, pant waist in 2-inch (5.1 cm) increments and pant inseam in 1-inch (2.5 cm) increments. A full range of women's sizing, on women's patterns, must also be available. Each sleeve and inseam length shall provide 100% gradation from shoulder to wrist, and from hip to ankle, to provide proper fit for individual arm and leg lengths. Pattern tailoring to custom-fit neck, bicep, hip/seat and thigh circumferences must also be provided, when needed, at no additional charge. Neither Small-Medium-Large-Extra Large sizing nor women's garments cut to men's patterning are considered acceptable, since proper fit facilitates mobility and minimizes stress.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

11.0 FLAMMABILITY OF CONSITUENT MATERIALS

Labels, bindings, hang-up loops and production labels shall be tested for flame resistance and shall comply with the requirements of NFPA 1971 Flame Resistance Test One (for vertical flammability of cloth).

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

12.0 SELF-BINDING

Liner and moisture barrier shall be stitched together and turned, then topstitched, to create a self binding. The extra bulk of separate binding material is specifically prohibited.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

13.0 THREAD

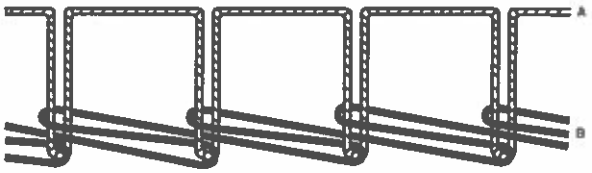
All thread used in structural seams shall be Nomex® of minimum Tex size T-70. Light colored garments and trim areas shall feature yellow thread. Black and dark garments shall feature black thread. Tan or bronze colored garments shall feature tan thread.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

14.0 STITCH METHODS

14.1 MAJOR A & B SEAMS

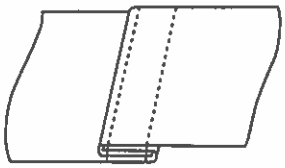
Except for the collar Major A seam, which is single-needle lock stitched three times, all Major A & B seams (as defined by NFPA 1971) shall be double stitched, double feld throughout all three layers (outer shell, moisture barrier and thermal liner), and shall be made with Nomex® thread, Tex size T-90. Detailed stitch and seam type requirements are shown below.



Stitch Type 401

Stitch Type 401

Double lockstitch, as defined by ASTM D 6193-97


Seam Type LSc-2 (Modified)

Modified Seam Type LSc-2

Double feld seam, modified only to ensure that both stitch lines penetrate all layers of cloth at joining, otherwise as defined by ASTM D 6193-97

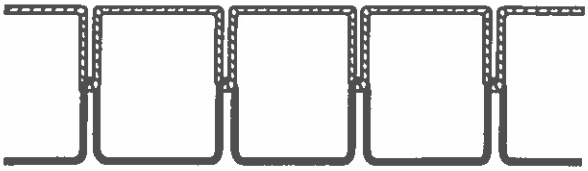
Also, all moisture barrier seams shall be tape-sealed to meet all requirements of the NFPA 1971 Liquid Penetration Resistance Test.

Does Your Bid Comply With All Aspects Of This Section?

For Outer Shell:	Yes _____	No _____
For Thermal Lining:	Yes _____	No _____
For Moisture Barrier:	Yes _____	No _____

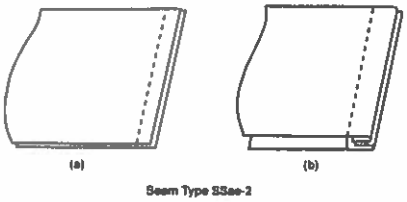
14.2 MINOR SEAMS

Most Minor seams, such as storm shields and mated hems, shall also be stitched with the specified Nomex thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

Lockstitch as defined by ASTM D 6193-97



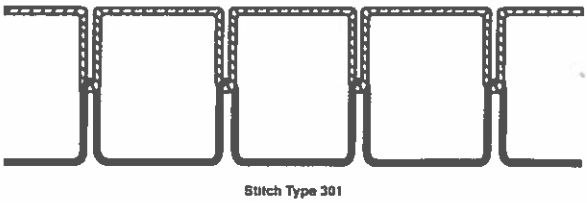
Seam Type SSae-2

As defined by ASTM D 6193-97, shown (a) before and (b) after required turning

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

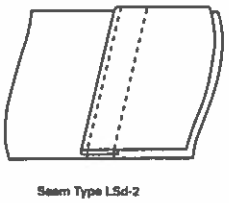
14.3 POCKETS

Flat garment pockets shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

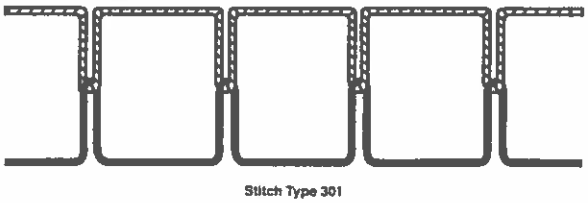
Lockstitch as defined by ASTM D 6193-97



Seam Type LSd-2

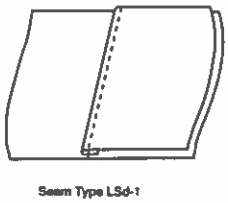
As defined by ASTM D 6193-97

3-Dimensional pocketing shall feature these same construction details, but the reinforced single stitch Seam Type LSd-1 may be substituted for LSd-2. Detailed seam type requirements are shown below.



Stitch Type 301

Lockstitch as defined by ASTM D 6193-97



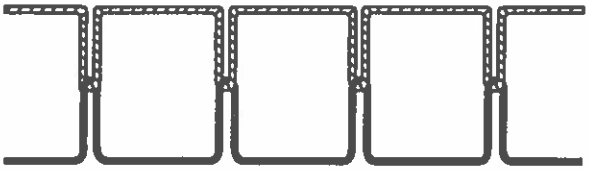
Seam Type LSd-1

As defined by ASTM D 6193-97

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

14.4 TRIM AND DANGER LABELS

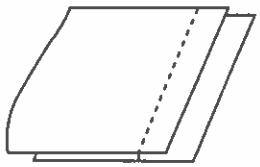
Trim and DANGER labels shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97



Seam Type SSbd-1

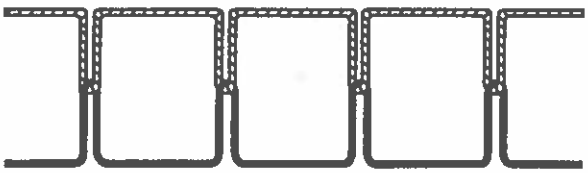
Seam Type SSbd-1

As defined by ASTM D 6193-97

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

14.5 SINGLE LAYER HEMMING AND FINISHING

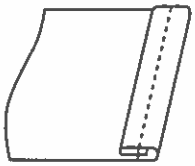
Single layer hemming and finishing shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97



Stitch Type EFb-1

Seam Type EFb-1

As defined by ASTM D 6193-97

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

15.0 POCKETS

If exterior pockets are specified in either the COAT CUSTOM OPTIONS TO BE PROVIDED section or in the PANT CUSTOM OPTIONS TO BE PROVIDED section, the following requirements shall apply to all such custom option specified exterior pockets:

All pockets and flaps shall be reinforced at the top corners with bar tack stitching.

All pockets shall be reinforced with an extra layer of NFPA-certified outer shell, moisture barrier, or other NFPA-certified reinforcement material for extra durability. The exact location of the reinforcements shall be identified in the custom options section(s).

All pockets shall have a means to drain water and shall have a means of closure.

All pocket closures shall be made either with hook and loop fastener tape a minimum of 1.5 inches (3.8 cm) wide, with a flap, or with snaps. The specific placement of the closure system shall be declared at the time of order.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

16.0 TAILORED GRADING OF GARMENT LININGS

Wherever garment linings are specified, including but not limited to thermal linings and moisture barriers, each such lining layer shall be tailor-graded to fit within the overall garment composite of all layers without causing bunching or binding when the garment is worn.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

17.0 POINTS OF STRESS

All points of stress shall be reinforced with sturdy bartacks. Rivets are not acceptable because of their potential for rust and electrical or heat conduction.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

18.0 HIGH TEMPERATURE, NFPA 1971-CERTIFIED MATERIAL REINFORCEMENTS

Reinforcements shall be provided at cuffs and pockets and shall meet the requirements of NFPA 1971.

For cuff reinforcements only: Manufacturer shall provide cuff reinforcements made of outer shell material at no additional cost. If the purchaser specifies reinforcements made of materials other than outer shell material, the manufacturer shall identify the additional cost for the specified material.

For pocket reinforcements only: Any NFPA 1971-certified material may be used in the reinforcement of the pocket. If the purchaser requests specific NFPA 1971-certified materials for pocket reinforcements, the manufacturer shall identify the additional cost for the specified material.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

19.0 ASSET TRACKING SERVICES

Upon request, the manufacturer shall be capable of providing a Windows-compatible software program for the tracking of care, cleaning and maintenance of the department's PPE.

This tracking program shall meet or exceed all record-keeping requirements of standard NFPA 1851, *Standard on Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensembles*, 2001 Edition

Labels on each separable part of the garment shall include a standard style interleaved 2 of 5 barcode containing (at a minimum) an individualized serial number for asset tracking purposes.

The manufacturer must be capable of providing onsite or internet training to department personnel who are involved with the daily use of this tracking program, and if there is an additional cost involved for this service, the Bidder must disclose those costs at the time of bid.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

20.0 REPAIRS AND ALTERATION SUPPORT

The manufacturer shall furnish, free of charge, reasonable quantities of NFPA 1971-certified thread, materials and other supplies to allow the department to manage its own ongoing internal maintenance efforts. Also, the manufacturer shall provide on call at no charge, during normal business hours, a liaison for the repair department to assist the Fire Department on a telephone consultation basis, on all maintenance or repair questions that might arise. Additionally, the manufacturer shall agree to expedite, on its own cost-only basis, all repairs that must be performed at the manufacturer's plant, rather than in department, over the life of the contract.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

21.0 HIGH TEMPERATURES THERMAL INSULATING MATERIALS REQUIREMENT

Because thermally stable materials are essential to maximizing protective performance in firefighters' PPE, and because NFPA only states "minimum" performance requirements, all thermal liner or thermal enhancing materials used in the garments shall also meet the following criteria after the 500 degree F oven test:

1) Material shall remain intact and flexible
2) No portion of the material shall crack, crumble or flake

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

22.0 BREATHABILITY REQUIREMENT

Excluding where required by NFPA standard, necessary for functionality, or specifically called out in the custom option sections, all materials used in the construction of the garments shall be breathable and all moisture barrier material must be as specified in the following materials section, or must be Crosstech.

The breathability requirement includes but is not limited to: collar, chinstrap, storm shield, fly, waterwells, front coat facings, labels, and reinforcement cushioning where applicable.

Areas where non-breathability is allowed (absent Custom Option specifications): trim, hook and loop fastening, hardware or hardware backing, and external pocketing.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

23.0 CONDUCTIVE AND COMPRESSIVE HEAT RESISTANCE (CCHR)

Using breathable materials as outlined in the section titled Breathable Materials, there shall be a minimum area of 4" x 4" (10.2 cm x 10.2 cm) at the shoulders and elbows that provide a minimum of 25 CCHR at 2 psi, and a minimum 6" x 6" (15.2 cm x 15.2 cm) area at the knees that provide 25 CCHR at 8 psi. All three compression areas shall be constructed of high

temperature fiber based materials and sewn to the thermal liner on the inside of the liner toward the moisture barrier.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

24.0 SEAM PROTECTION AT CUFFS

At the coat and pant cuff Major A seams, the reflective trim shall stop just before the folding of the full feld seam and for additional abrasion protection be covered by a sewn on, 0.75" (1.91 cm) wide black Nomex webbing material laid on top of the Major A seam and covering each end of the trim.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

25.0 APPLICABLE DOCUMENTS

The following standards in their active versions on the date of invitation for bid shall form a part of this specification to the extent specified herein.

STANDARD	TITLE
ASTM D 6193-97	Standard Practice for Stitches and Seams
NFPA 1500, 2002 Edition	Standard on Fire Department Occupational Safety and Health Program
NFPA 1851, 2001 Edition	Standard on Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensembles
NFPA 1971, 2007 Edition	Standard on Protective Ensemble for Structural Fire Fighting

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

COAT

To avoid liability and interface problems, coats and pants shall be procured from the same manufacturer.

26.0 DESIGN CONCEPT (STYLING)

The coat shall be approximately 6 inches (15.2 cm) longer at the rear hem than at the front and provide continuous and unbroken moisture barrier and thermal liner protection from the collar seam to the hem at the bottom of the coat tail. Each coat length shall be determined by each individual's torso length and the coat-to-pant interface as defined by NFPA 1500. Coat design must interface properly with standard waist high bunker pants.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

27.0 PATTERNING CONCEPT

Garments shall feature a tailored three-piece body, one-piece back construction throughout the outer shell, moisture barrier and thermal liner layers. One-piece garments (either all layers or some layers) will not be considered acceptable since they cannot be tailored to hard-to-fit personnel. Similarly, garments with seams in mid-back are not considered acceptable because of backbone irritation that can occur with SCBA use. To facilitate individual tailoring needs, the major A & B seams joining the one-piece back to the right and the left front body panels (outer shell and all interior layers) shall be located at the most lateral position when the coat is laid flat for inspection.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

28.0 PATTERNING REQUIREMENTS

To assure maximum freedom of movement and reduce kinetic resistance with minimum garment weight and bulk, coat patterning shall include the following features:

- Degree of slope on shoulders shall be no more than 20%.

- Hydraulic Butterfly sleeve patterning with 85-degree Lift Up Release Action shall be provided to minimize coat hem rise.
- Sleeve attachment shall minimize shoulder lift and allow a full 360 degrees freedom of movement.
- Coat hem rise with overhead reach of both arms not to exceed 4-inch (10.2-cm) maximal extension on properly fitted garments.
- Shell-and-liner retraction at the cuff shall not exceed 1 inch (2.5 cm) when both arms are raised overhead. This helps eliminate wrist exposure.
- 10-inch (25.4-cm) chest over-sizing shall be provided.
- Coat sweep measurements must be consistent with the chest over-size at the hem.
- Reach when measured from cuff to cuff, with coat lying flat, and standard length sleeves extended to each side, shall be provided as detailed below.

Chest Size	Standard Reach
40 in (101.6 cm)	66 in (167.6 cm)
42 in (106.7 cm)	67 in (170.2 cm)
44 in (111.8 cm)	68 in (172.7 cm)
46 in (116.8 cm)	68 in (172.7 cm)

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

29.0 DRAG RESCUE DEVICE (DRD)

Manufacturer shall supply an NFPA required and certified Drag Rescue Device with each coat. The device shall be designed to fit each individual chest size. Each strap will be properly labeled with DANGER labels that include what chest size the Rescue Strap is designed to fit along with instructions for care and installation/removal of the Rescue Strap.

Rescue Strap shall be designed in a fashion that it functionally provides a dynamic and articulated action and to eliminate excess strapping material hanging down the back when installed between the garment's liner and outer shell.

The device shall be constructed using two components: a 1.75" (4.45 cm) Kevlar webbing grab handle; and a free-floating loop of Kevlar rope to go around each of the wearer's arms/shoulder. The grab handle shall be positioned at the rear of the upper torso and through the grab handle.

The grab loop shall extend upward and pass through a reinforced slot in the coat outer shell just below the center rear of the collar seam where it will exit the outer shell where it will be covered by an outer shell tunnel. The protruding grab loop shall then fold back down over the top of the tunnel and be stowed by Velcro with the pile sewn for the width of the tunnel and the hook sewn on the grab loop. There shall then be an outer shell flap sewn below the collar that will fold down over the stored grab loop and held in place with Velcro to reduce the chances of snagging the grab loop by accident.

To facilitate comfort and safety the Grab Handle shall be constructed of soft and pliable Kevlar webbing meeting the following specifications:

Description	100% Kevlar Double Plain Weave - Black with Natural Kevlar Center
Warp Yarn	1500/1000/2.75z Kevlar T-970F Black
	1500/1000/2.75z Kevlar T-961 Natural
Weft Yarn	1500/1000/2.75z Kevlar T-970F Black

Catch cord	Tex size T-50 3-Ply/9.5z Bonded Kevlar Sewing Thread Black
Width	1.75" (4.45 dm)
Thickness	0.064" ± 0.010" (.163 cm ± .0254 cm)
Tensile	5,000 lb minimum (22.24 kN)

To facilitate comfort and safety the free-floating loop shall be constructed of soft and pliable Kevlar rope meeting the following specifications:

Description	100% Kevlar Tubular Plain Weave - Natural
Warp Yarn	1500/1000/2.75z Kevlar T-961 Natural
Weft Yarn	1500/1000/2.75z Kevlar T-961 Natural
Catch cord	Tex size T-35 Crispin Kevlar thread
Width	.038" (.097 cm)
Thickness	0.144" ± 0.005" (.366 cm ± .013 cm)
Tensile	3500 lb minimum (15.57 kN)

Rescue Strap shall be sewn with Kevlar thread with a minimum Tex size T-210

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

30.0 LINER ATTACHMENT

The completed liner-moisture barrier assembly shall attach by means of four (4) evenly spaced glove snaps to each outer shell front facing to reduce weight, bulk and stiffness. To provide continuous moisture and pathogen protection at the front, the liner shall be positioned so it is sandwiched between the coat front facing and a breathable pathogen shield. The use of zippers or hook and loop fasteners in this area is not allowed due to their added weight, bulk and stiffness.

Liner sleeves shall be attached at the outer shell cuff by means of snaps on two (2) sets of outer shell fabric tabbing strips per cuff. These snaps shall be isolated by the tabbing material so that they will not abrade against the outer shell.

To provide continuous moisture protection and pathogen protection at the neck, the liner shall be positioned so that it is sandwiched between an outer-facing pathogen shield and an inside facing of the specified outer shell material, both folded over and sewn in at the neck seam.

The liner system design shall not allow products of combustion or other contaminants to move into the liner interior between the moisture barrier and thermal liner. For instance, separately hemmed and bartacked liner and moisture barrier with open edge designs would not be acceptable.

Attachment shall be by means of four (4) glove straps that penetrate only the layer of the attachment facing towards the liner, so that metal contact at a wearer's neckline is completely eliminated.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

31.0 COAT CERTIFICATION LABEL ON LINER

The coat certification label on the liner shall be integrally printed on FR Cotton Indura® and lockstitched to the inside right body panel in a fashion to provide an inside liner pocket.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

32.0 COAT CERTIFICATION LABEL ON SHELL

The coat certification label on the shell shall be integrally printed on FR Cotton Indura® and lockstitched to the shell along one side of the label at the back of coat.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

33.0 COLLAR

The collar shall be of layered construction, consisting of a layer of waterproof moisture barrier and a layer of NFPA 1971-certified insulating material, sandwiched between two (2) layers of specified outer shell material. NFPA compliant collars shall be at least 3 inches (7.6 cm) high while CGSB compliant collars shall be at least 4 inches (10.2 cm) high. The design shall incorporate in its patterning a natural contour that will allow proper fit and performance in the standing (upright) or stowed position.

There shall be no vertical or horizontal seams or stitching in the body of the collar. Left outside of collar shall have a sewn piece of 2-inch x 2-inch (5.0-cm x 5.0-cm) hook and loop fastener hook tape for chinstrap-to-collar closure. Each collar shall be graded to individual coat sizes.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

34.0 CHIN STRAP

The chinstrap shall be of layered construction identical to that of the collar configuration described in the previous paragraphs. Chinstrap shall be of a crescent shaped design with minimum dimensions of, + or – 0.50 inch (1.2 cm): 9 inches (22.5 cm) long across the top corners, 10.5 inches (26 cm) long across the bottom corners, and 3.5 inches (8.75 cm) in vertical height, measured at the center. The leading underside edge of the chinstrap shall have a 1.5-inch-wide (3.8 cm-wide) horizontal strip of hook and loop fastener pile to ensure closure and to ensure passage of the Whole Garment Liquid Penetration Test.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

35.0 HANG-UP LOOP

An 80-pound (36.3 kg) tear strength hang-up loop shall be provided at the interior collar seam. The loop shall be constructed of triple layers of the specified outer shell material, lockstitched to the coat. Webbing is not acceptable.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

36.0 SLEEVES

To prevent stovepiping, sleeves shall be individually graded by coat size and sleeve length. For maximum freedom, sleeve design shall feature extra full cut one-piece outer shell set-in sleeves with built-in bellows. To reduce the chances of possible top seam failure in that high thermal exposure area, the sleeve Major A seam shall follow the underside of the arm and shall not cross over the outside of the elbow joint. Sleeve seam and sleeve attachment to coat body in all layers shall be 100% double feld and double stitched for maximum strength (that is, Major A seam requirement, as previously defined in this specification).

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

37.0 INNER WRISTLET & WATERWELL

Every coat shall feature 4.5-inch (11.4-cm) long, double-layer 100% Nomex knit inner wristlets protected by a flame-resistant and moisture-resistant waterwell. The inner wristlet shall be sewn to the thermal liner sleeve end (not to the outer shell). A specified moisture barrier waterwell with an elastic gather shall be sewn to the moisture barrier sleeve end with all seams sealed to allow maximum channeling of water away from inside the moisture barrier/ thermal liner sleeve end. This waterwell must pass the NFPA 1971 Whole Garment Liquid Penetration Test. The thermal liner/wristlet shall be bar tacked and seam sealed at the junction of the moisture barrier sleeve to waterwell seam to prevent liner pullout. This inner waterwell assembly shall be interface capable with the appropriate glove to provide wrist protection during the NFPA 1971 Whole Garment Liquid Penetration Test.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

38.0 EXTERNAL WRISTLET

Every coat shall feature a 2.5-inch (6.4 cm) long 100% Nomex knit outer wristlet, which shall be mounted to the end of each outer shell sleeve to prevent liquid and debris movement up the sleeve between the outer shell and the moisture barrier/ thermal liner assembly.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

39.0 FRONT CLOSURE PROTECTIVE OVERLAP

Two-inch-wide (5.1 cm-wide) panels of breathable moisture/ pathogen barrier and specified thermal liner materials shall be provided at coat front closure facings to preclude any type of break in the protective envelope. The entire circumference of a closed coat shall consist of

specified shell, moisture barrier and thermal liner materials.

The inside trailing edge of each 2-inch-wide (5.1-cm-wide) inner panel shall have the breathable moisture/ pathogen material wrapped around the edge by 0.5 inch (1.3 cm) to create an anti-wick guard to prevent soakthrough during the required NFPA 1971 Whole Garment Liquid Penetration Test. An additional layer of 6-inch-wide (15.2-cm-wide) breathable moisture/ pathogen barrier material shall be sewn between the 2-inch-wide (5.1 cm-wide) panels and outer shell coat body for the entire length of coat front in a fashion to prevent liquid entry during the NFPA 1971 Whole Garment Liquid Penetration Test.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

40.0 COMPOSITE MATERIALS

The specifier has determined the ONLY acceptable combination of materials. Any substitution of materials shall be grounds for immediate disqualification of bid without further consideration.

1.1 OUTER SHELL
7.0 oz.; Kevlar/Nomex ripstop weave; 40% Nomex/60% Kevlar; EWR - Black

1.2 THERMAL LINING
7.4 oz - 60% Kevlar Filament, 40% Nomex /FR Rayon Spun Yarn; 2 Layers E89

1.3 MOISTURE BARRIER
Crosstech Type 2F
Does Your Bid Comply With All Aspects Of This Section?

For Outer Shell:	Yes _____	No _____
For Thermal Lining:	Yes _____	No _____
For Moisture Barrier:	Yes _____	No _____

2.0 COAT CUSTOM OPTIONS TO BE PROVIDED

Instructions in this custom options section that contradict earlier specifications or statements supersede those earlier specifications or statements as long as the required certifications are not compromised.

Wristlets- Long Hybrid with tabs -Nomex
Std-Articulating Rapid Rescue Strap with New Coat
Trim- Projects Fire 1 -Lime 2-Tone Scotchlite
Back Patch -Kevlar/Nomex EWR Black
< RINCON >6 -3" sewn letters -lime Scotchlite
Hem Patch w/Velcro -Kevlar/Nomex EWR Black
FF LAST NAME or 1st INITIAL + LAST NAME - Avg. 7 Letters - OK to use 2" Letters to Fit7 - 3" sewn letters -lime Scotchlite
Chicago Closure -2" Velcro/Hooks & Dees -Kevlar/Nomex EWR Black
LTO-Comfort Chinstrap -Kevlar/Nomex EWR Black
Dead Air Panels - Coat
Coat Cuffs -Arashield Black
Handwarmer Pockets -Kevlar/Nomex EWR Black
Mic Tab -Kevlar/Nomex EWR Black - left chest - 0.5 x 2.5
Radio Pocket -Kevlar/Nomex EWR Black - left chest - 8 x 3 x 2
Notch Flap -Right - left chest

Notch Flap -Left - left chest
SL-90 Flashlight Clip -Kevlar/Nomex EWR Black - right chest

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

PANTS

To avoid liability and interface problems, coats and pants shall be procured from the same manufacturer.

3.0 DESIGN CONCEPT (STYLING)

The pant shall be of a traditional waist-high-only design to facilitate full torso ventilation of front, rear and sides of trunk for maximum body cooling effect to help minimize firefighter heat stress. For this reason, other than waist-high pants shall not be considered acceptable or "equal," since additional trunk wrapping traps heat and moisture, increasing heat stress buildup while also creating mechanical resistance when covering the natural torso flexion point of the waist.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

4.0 PATTERNING CONCEPT

Garments shall feature a tailored four-piece outer shell with a two-piece moisture barrier and lining. A pant with a four-piece moisture barrier and thermal liner shall be provided, at no additional charge, when and if an individual's tailoring needs require it.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

5.0 PATTERNING REQUIREMENTS

To assure maximum freedom of movement and reduced kinetic resistance with minimum garment weight and bulk, the pants patterning shall:

- incorporate hydraulic, swivel action leg-to-torso interfaces.
- incorporate an oversized diamond-shaped crotch insert, graded according to size, for maximum action stride, optimum stepping reach and no "in-crotch" seaming.
- meet individual tailoring needs, and offer superior functionality. Diamond shall extend from just above the left knee to just above the right knee, and be centered equally from front to rear. Width of diamond at top of crotch shall be approximately 4 inches (10.2 cm), graded to size.
- ensure that pants rest in normal body line balance of 22 inches (55.9 cm) center distance at the cuff.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

6.0 REINFORCED CUSHIONED KNEE

The cushioning for the Knee reinforcement if required, and the thermal pad sewn to the internal side of the thermal liner assembly, shall provide a minimum of 25 CCHR and be comprised of breathable, fiber based materials.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

7.0 SUSPENDER BUTTONS

Eight (8) heavy duty, rust-resistant suspender buttons shall be positioned around the waist. Suspender buttons shall be mounted through waistband of triple layer outer shell material that is internally reinforced with an additional band of coated needlepunch aramid.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

8.0 LINER ATTACHMENT

The moisture barrier and thermal liner assembly shall be attached to the outer shell at the cuff by means of two (2) Nomex® webbing snap assemblies per leg, and to the waistband, at the waist, with seven (7) evenly-spaced glove snaps.

The liner system design shall not allow products of combustion or other contaminants to move into the liner interior between the moisture barrier and thermal liner. For instance, separately hemmed and bartacked liner and moisture barrier with open edge designs would not be acceptable.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

9.0 PANT CERTIFICATION LABEL ON LINER

The pant certification label on the liner shall be integrally printed on FR Cotton Indura and lockstitched to the inner left hip area.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

10.0 PANT CERTIFICATION LABEL ON SHELL

The pant certification label on the shell shall be integrally printed on FR Cotton Indura and lockstitched at the top rear of the waist, at the inside.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

11.0 FLY FRONT

The outer shell fly shall be lockstitched to the left side of the front opening and shall be in proportion to waist size and crotch rise in both length and width. Fly inner lining shall extend at least 2 inches (5.1 cm) to the left of the outer shell fly attachment seam and shall be constructed of certified breathable moisture barrier and thermal liner. The right front pant opening shall have an internal facing extending at least 2 inches (5.1 cm) to the right and constructed of specified fabric. In combination with the liner, the system shall offer 360-degree protection without gaps during movement of the outer shell moisture barrier and thermal liner. Closure shall be by means of a minimum 1.5-inch-wide (3.8-cm-wide) hook and loop fastener, and all construction techniques used shall provide liquid penetration protection under the NFPA 1971 Whole Garment Liquid Penetration Test. The fly shall be graded to the waist size of garments and crotch rise.

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

12.0 COMPOSITE MATERIALS

The specifier has determined the ONLY acceptable combination of materials. Any substitution of materials shall be grounds for immediate disqualification of bid without further consideration.

12.1 OUTER SHELL
7.0 oz.; Kevlar/Nomex ripstop weave; 40% Nomex/60% Kevlar; EWR - Black

12.2 THERMAL LINING
7.4 oz - 60% Kevlar Filament, 40% Nomex /FR Rayon Spun Yarn; 2 Layers E89

12.3 MOISTURE BARRIER
CROSSTECH TYPE 2F

Does Your Bid Comply With All Aspects Of This Section?

For Outer Shell:	Yes _____	No _____
For Thermal Lining:	Yes _____	No _____
For Moisture Barrier:	Yes _____	No _____

13.0 PANT CUSTOM OPTIONS TO BE PROVIDED

Instructions in this custom options section that contradict earlier specifications or statements supersede those earlier specifications or statements as long as the required certifications are not compromised.

Trim- 3" Cuff -Lime 2-Tone Scotchlite
Angled Cuffs -Pants -Kevlar/Nomex EWR Black
Pants Cuffs -Arashield Black
BiFlex Heat Channel Knees - Kevlar/Nomex EWR Black
Horizontal Strips in BiFlex knee to be Arashield Black
Take Up Straps 2 Postman -Kevlar/Nomex EWR Black
Bellows Pockets -Pants -Kevlar/Nomex EWR Black - 9" x 9" x 1.5"
Tool Divider -Pants -Kevlar
6" High - Place Inside Right Bellows Pocket at Bottom - On Pant Portion NOT on Pocket - Divide into 2 Equal CompartmentsFull Kevlar Lined
Pencil Pocket -Pants -Kevlar - inside right bellows pocket-pant - 6" x 3"
Place Centered at Bottom of Tool Pocket DividerSnap Style Suspender Attachment
Dyna-Fit Suspenders w Snap Attach and Quick Adjust Installed

Suspender Padding

Does Your Bid Comply With All Aspects Of This Section? Yes _____ No _____

PERCENTAGE SPECIFICATION COMPLIANCE CALCULATIONS

	Total Number "Yes/No" Questions		
	Total Number of **Yes** Answers		
	Total Number of **No** Answers		
% Specification Compliance: [(Total Yes Answers) ÷ (Total Answers)] x 100%			%

Each "No" answer requires a full written explanation.
Each "Yes/No" question not checked where provided will be considered a "No" answer.

Tail Black

*** Revision 1 ***

LTO Tail Outer Shell -7 osy Fusion - Black
LTO Tail Thermal Liner -7.4 osy Glide Ice 2 Layer
LTO Tail Moisture Barrier -4.7 osy Type 2F Crosstech Black
Std -Inspection Port Liner
Std-Liner detachable
Std -SET Thermal Enhancement
Std -Liner Label Pocket
Std -Take Up Straps - 2 Postman
Std -Wristlets- Long Hybrid with tabs - Nomex
(R01) Std-Articulating Rapid Rescue Strap
Std -Trim Double-Stitched

Trim -(2) NFPA Hi-viz -lime 2-tone Scotchlite (3")
Back Patch - Fusion - Black
< RINCON >
6 -3" sewn letters -lime Scotchlite
Hem Patch w/Velcro - Fusion - Black
- FF LAST NAME (1st INITIAL when specified)
- Avg. 7 letters
- OK to use 2" letters to fit
7 -3" sewn letters -lime Scotchlite

(E08) Chicago Closure -2" Velcro/Hooks & Dees

(Q02) LTO Comfort Chinstrap

Dead Air Panels

Tail Black

Coat Cuffs - Arashield - Black

Handwarmer Pockets - Fusion - Black

Mic Tab - Fusion - Black

- left chest
- 0.5 x 2.5

Radio Pocket - Fusion - Black

- left chest
- 8 x 3 x 2

Notch Flap - Double Notches (both left & right)

SL-90 Flashlight Clip - Fusion - Black

- right chest

***28 FRONT LENGTH & LONGER**

Spec Limitations:

Handwarmer Pockets will not fit on a 27" front length & shorter -

Pants Black

*** Revision 1 ***

LTO Pant Outer Shell -7 osy Fusion - Black
LTO Pant Thermal Liner -7.4 osy Glide Ice 2 Layer
LTO Pant Moisture Barrier -4.7 osy Type 2F Crosstech Black
(J02) STD Narrow Fly -2" Velcro w/ Hook & Dee
Std -Inspection Port Liner
Std -Liner Detachable
Std -Trim Double-Stitched

Trim -(7) NFPA -lime 2-tone Scotchlite (3")

(O03) Angled Cuffs - Arashield - Black
Pant Cuffs - Arashield - Black
BiFlex Heat Channel Knees - Fusion - Black
Horizontal Strips in BiFlex knees to be Arashield - Black
Take Up Straps - 2 Postman - Fusion - Black

Bellows Pockets - Fusion - Black
-- 9" x 9" x 1.5"
Tool Divider - Kevlar
- 6" High
- Place Inside Right Bellows Pocket at Bottom
- On Pant Portion
- Divide into 2 Equal Compartments
Full Kevlar Lined
Pencil Pocket - Kevlar
-- inside right bellows pocket-pant
-- 6" x 3"
- Place Centered at Bottom of Tool Pocket Divider

Pants Black

Snap Style Suspender Attachment

Dyna-Fit Suspenders w/ Snap Attach & Quick Adjust Installed

Suspender Padding