

AN ORDINANCE 2011-09-29-0773

AUTHORIZING THE SECOND YEAR EXTENSION AND AMENDMENT FOR THE PERSONAL PROTECTIVE CLOTHING FOR FIREFIGHTERS CONTRACT WITH MORNING PRIDE MANUFACTURING, LLC BEGINNING OCTOBER 1, 2011 AND ENDING SEPTEMBER 30, 2012, FOR AN AMOUNT UP TO \$514,083.00 UTILIZING THE FY 2012 GENERAL FUND WITH THE OPTION FOR ONE MORE ONE-YEAR EXTENSION.

* * * * *

WHEREAS, pursuant to Ordinance No. 2008-12-11-1139, the City entered into the Personal Protective Clothing Contract with Morning Pride Manufacturing, LLC for the term October 1, 2008, to September 30, 2010; and

WHEREAS, said contract provides for up to three one-year extensions at the sole discretion of the City; and

WHEREAS, pursuant to Ordinance 2010-09-30-0849, the parties extended said contract for a period of one year, from October 1, 2010, to September 30, 2011; and

WHEREAS, the parties now wish to extend said contract for an additional period of one year, from October 1, 2011, to September 30, 2012, for an amount not to exceed \$514,083.00; and

WHEREAS, the parties also wish to make certain amendments to said contract; **NOW THEREFORE:**

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

SECTION 1. The City Manager and her designee are hereby authorized to execute a contract amendment to the Personal Protective Clothing Contract with Morning Pride Manufacturing, LLC, providing for a one-year extension and certain amendments to the contract. The terms of the contract extension and amendment attached hereto as **Exhibit A** are hereby approved.

SECTION 2. Funding for this ordinance up to \$514,083.00 is available as part of the FY 2012 budget per the table below. Payment not to exceed the budgeted amount is authorized to Morning Pride Manufacturing, LLC and should be encumbered with a purchase order.

Amount	Cost Center	General Ledger	Fund
\$288,095.00	2001060002	5201040	11001000
\$225,988.00	2001060003	5201040	11001000
Total Amount: \$514,083.00			

SECTION 3. The financial allocations in this ordinance are subject to approval by the Chief Financial Officer (CFO), City of San Antonio. The CFO may, subject to concurrence by the City Manager or the City Manager's designee, correct allocations to specific cost centers, WBS elements, internal orders, general ledger accounts, and fund numbers, as necessary to carry out the purpose of this ordinance.

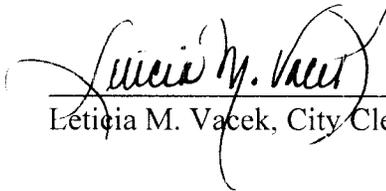
SECTION 4. This ordinance is effective immediately upon passage, provided that it is passed by eight or more affirmative votes; otherwise, this ordinance will be effective ten days from the date of passage.

PASSED AND APPROVED this 29th day of September, 2011.

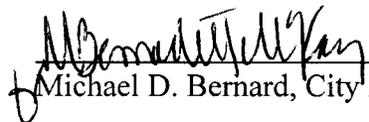

M A Y O R
Julián Castro

ATTEST:

APPROVED AS TO FORM:



Leticia M. Vacek, City Clerk

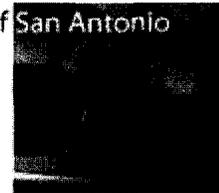


Michael D. Bernard, City Attorney



Request for
COUNCIL
 ACTION

City of San Antonio



Agenda Voting Results - 7

Name:	5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 19A, 19B, 20B, 20C, 21, 22, 23, 25, 26A, 26B, 26C, 26D, 26E, 26F, 26G, 26H, 26I, 26J, 27A, 27B, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 40, 41A, 41B, 41C						
Date:	09/29/2011						
Time:	11:04:43 AM						
Vote Type:	Motion to Approve						
Description:	An Ordinance authorizing the second year extension and amendment for the Personal Protective Clothing for Firefighters contract with Morning Pride Manufacturing, LLC beginning October 1, 2011 and ending September 30, 2012, for an amount up to \$514,083.00 utilizing the FY 2012 General Fund with the option for one more one-year extension. [Erik J. Walsh, Assistant City Manager; Charles N. Hood, Fire Chief]						
Result:	Passed						
Voter	Group	Not Present	Yea	Nay	Abstain	Motion	Second
Julián Castro	Mayor		x				
Diego Bernal	District 1		x			x	
Ivy R. Taylor	District 2		x				
Jennifer V. Ramos	District 3		x				
Rey Saldaña	District 4		x				x
David Medina Jr.	District 5	x					
Ray Lopez	District 6		x				
Cris Medina	District 7		x				
W. Reed Williams	District 8		x				
Elisa Chan	District 9		x				
Carlton Soules	District 10		x				

**AMENDMENT AND EXTENSION TO
PERSONAL PROTECTIVE CLOTHING CONTRACT**

This Amendment to Personal Protective Clothing Contract is entered into by and between the City of San Antonio (CITY) and Morning Pride Manufacturing, LLC (VENDOR).

WHEREAS, pursuant to Ordinance No. 2008-12-11-1139, CITY and VENDOR entered into the Personal Protective Clothing Contract for the term October 1, 2008, to September 30, 2010; and

WHEREAS, said contract provides for up to three one-year extensions at the sole discretion of CITY; and

WHEREAS, the parties wish to provide for a one-year extension of said contract, from October 1, 2011, to September 30, 2012; and

WHEREAS, the parties wish to make certain amendments to said contract; **NOW THEREFORE**:

THE PARTIES HEREBY AGREE AS FOLLOWS:

SECTION 1. The Personal Protective Clothing Contract entered into by CITY and VENDOR pursuant to Ordinance No. 2008-12-11-1139 is hereby extended for the period October 1, 2011, to September 30, 2012.

SECTION 2. Based on a cost increase of 0.47% on the March, 2011 issue of the Producers Price Index, Attachment I (Annual Usage and Cost Sheet) to the Personal Protective Clothing Contract is hereby amended, in its entirety, as set out in Exhibit 1.

SECTION 3. Attachment II (Detailed Technical Specifications) to the Personal Protective Clothing Contract is hereby amended, in its entirety, as set forth in Exhibit 2.

SECTION 4. Attachment III (Harness Option Specifications) to the Personal Protective Clothing Contract is hereby amended, in its entirety, as set forth in Exhibit 3.

SECTION 5. All provisions of the Contract for a Web-Based Commissary System to Provide Uniforms for the San Antonio Fire Department, as previously amended, not addressed by this amendment, shall remain in full force and effect.

EXECUTED on _____, 2011

MORNING PRIDE
MANUFACTURING, LLC.

CITY OF SAN ANTONIO

Jeff Morris
Vice President

Sheryl L. Sculley
City Manager

Approved as to Form:

Michael Bernard
City Attorney

Exhibit 1

ATTACHMENT I

Annual Usage and Cost Sheet

<u>Item</u>	<u>Estimated Usage</u>	<u>Cost</u>
Bunker Coats	80 each	\$817.61
Bunker Pants	80 each	\$606.03
Bunker Pants with Harness	80 each	\$692.08
Protective Hoods (HD-300-22557FNF)	80 each	\$ 27.80
Suspenders (Style# SP-DFSI)"snaps"	80 each	\$ 22.45
Suspenders (Style SP-DF(for old style) "hooks"		\$ 22.46
Bunker Boots (Style #4132SG)	40 pair	\$225.03
Bunker Boots (Style# 5006)	20 pair	\$225.03
Inserts (DRYZ)	10	\$ 5.99
Inserts (for 4132SG)	20	\$ 4.67
Right over Left Spider Harness (shipped loose, no pant adaptation)		\$150.54
Right over Left Patriot Harness (shipped loose, no pant adaptation)		\$132.24
Class II Harness (Old harness style)		\$ 65.13

The manufacturer for the moisture barrier that is currently being purchased by San Antonio Fire Department has notified us that the current Crosstech 2C moisture barrier will be phased out within the current year and will be replaced with Crosstech Black. Crosstech Black moisture barrier is equivalent in performance to Crosstech 2C and will be an industry wide change.

<u>COAT ALTERATIONS</u>	<u>PRICE</u>
Hem Patch (Name patch)	\$16.95
Lengthen Sleeves 2" or less	\$151.60
Lengthen Sleeves 3"	\$188.47
Lengthen Sleeves more than 3" (New OS Sleeve)	\$243.78
Shorten Sleeves 2" or less	\$105.50
Shorten Sleeves more than 2"	\$141.35
Increase Chest up to 4" (+ \$25.00 for circumferential rope pocket)	\$149.55
Flare coat at waist (old coat)	\$122.92
Decrease Chest up to 4" (+ \$25.00 for circumferential rope pocket)	\$106.53
Decrease Chest up to 4" the new way	\$165.94
Shorten Coat with no pockets	\$121.89
Shorten Coat with Patch or Bellows pockets	\$137.26
Shorten Coat w/Hand warmer or Circumferential rope pocket	\$215.10
Lengthen Coat	\$170.03
Lengthen Coat w/Hand warmer or Circumferential rope pocket	\$243.78
Cut to Tails	\$153.65

Alter Tail Coat to a Straight Coat	\$170.03
Alter Tail Coat to Straight with Hand Warmer pockets	\$243.78
Replace One Outer Shell Sleeve	\$112.67
Replace Hand Warmer Pockets	\$51.23
Remove Zipper and add Hooks & Dees	\$56.34
Add Zipper to Existing Hook & Dee with Velcro	\$37.90
Change Closure from Zipper & Velcro to Chicago	\$70.68
Change Closure from Standard to Chicago	\$202.81
Change Closure from Standard to Zipper Velcro	\$202.81
Change Chicago Closure to any Closure	\$276.56
Change Chicago Closure to any by patching holes & replace Shield	\$119.84
Retrofit to Wild Land Design	\$153.65
Replace Water Wells	\$47.18
Replace Collar	\$76.82
Patch Hole in Outer Shell- SM	\$16.39
Patch Hole in Outer Shell- MED.	\$25.61
Patch Hole in Outer Shell-LG	\$31.75
Patch Hole in Moisture Barrier Liner- Regular	\$56.34
Patch Hole in Moisture Barrier Liner- Large	\$80.92
Tape Hole in Moisture Barrier Liner	\$39.44
Patch Hole in Thermal Barrier Liner- Regular	\$28.68
Patch Hole in Thermal Barrier Liner – Large	\$46.09
Add a Liner Port	\$22.53
Seal Seam Tape a Coat Liner	\$52.24
Replace Shield	\$51.22
Replace Abused Velcro Coat	\$30.73
Replace Abused Velcro Closure	\$19.46
Replace Abused Velcro Collar	\$19.46
Replace Abused Velcro Pocket	\$5.63
Add back patch	\$37.00
Add Tabs to Std Long Wristlets	\$17.25
Add velcro hem patch	\$35.75
Athletic Cut up to 2" each side	\$101.25
Broken stitches	\$16.75
Change Chicago closure to any other closure	\$267.25
Change Chicago closure to any other closure	\$280.10
Change Chicago closure to any other closure by patching holes/repl shield	\$176.70
Change Chinstrap to LTO	\$50.50

Change closure from Std to Chicago	\$193.75
Change closure from Std to Zipper/Velcro	\$195.00
Change pocket flaps to EX grip	\$25.75
Check all hardware and replace as needed	\$17.75
Correct spelling on patch	\$9.75
Install wristlet, nomex, std or thumbhole, each	\$17.85
Make and install radio pkt	\$43.50
Make and install radio pkt w/notch flap	\$43.50
Make Sewn in Shingle Cuff	\$34.75
Patch hole in MB - small	\$38.50
Remove & Replace Customization Patch	\$18.50
Remove & Replace Dead Air Trim	\$18.50
Remove & Replace Elastic Water Well	\$34.50
Remove & Replace Lettering Patch Velcro	\$17.50
Remove & Replace whole zipper including bartacks	\$21.50
Remove & Restitch Back Patch	\$16.75
Remove & Restitch Hem Patch	\$16.75
Remove lettering patch	\$16.75
Repair Raw	\$16.75
Repair Raw on Collar	\$16.75
Repair raw on seam	\$16.75
Repair raw on shoulder seam	\$16.75
Repair Trim, up to 12"	\$25.00
Replace Comfort Chinstrap	\$27.00
Replace cuff, each	\$15.90
Replace Foldover Comfort	\$40.00
Replace Gore Liner (Warranty)	\$96.15
Replace LTO chinstrap	\$42.00
Replace Morning Pride Logo	\$9.75
Replace NY/PF Trim	\$89.90
Replace one front in Finished coat	\$85.50
Replace Sizing Label	\$16.90
Replace Std Trim	\$118.50
Turned Thumbhole	\$25.00

Pants Alteration	Price
Add a row of stitches across the hem	\$16.75
Add a row of stitches to the angles	\$16.75
Add belt loops	\$76.92
Add belt with buckle	\$22.95
Change pocket flap to EZ grip	\$18.50
Change suspender attachments to snap style	\$53.75
Check all hardware and replace as needed	\$18.50
Class 2 harness	\$65.00
Exchange suspender for snap style suspender	\$53.75
Increase Circumference Leg 4"	\$82.65
Increase Circumference of Leg 2"	\$82.65
Increase Circumference of Legs	\$82.65
Increase crotch rise at waist	\$190.50
Increase crotch rise, larger diamond	\$190.50
Increase crotch rise-top of waist	\$190.50
Increase waist 2" - butt seam	\$131.00
Install leg zipper into Boot Access Panel, Long zipper	\$241.81
Install leg zipper into Boot Access Panel, Short Zipper	\$162.13
Make and install 1 take up strap	\$18.75
Make and install 2 take up strap	\$18.75
Make and install universal rope pocket	\$66.00
Make and replace Cushioned Reinforced knees	\$109.25
Make and replace Heat Channel knees	\$187.75
Make fly, no zipper	\$60.00
NY Style harness closure for Spider harness repair (does not include harness cost)	\$200.00
Older class II option closure for Spider Harness repair (does not include harness cost)	\$210.00
Older class II option closure for spider harness replace (does not include harness cost)	\$270.00
Patch Cushioned Reinforced knee left	\$25.25
Patch Cushioned Reinforced knee right	\$25.25
Patch Heat Channel knee left	\$25.25
Patch Heat Channel knee right	\$25.25
Patch hole at snap on leg seam	\$18.75
Patch knee frame left	\$32.00
Patch knee frame right	\$32.00
Patch knee left	\$32.00
Patch knee right	\$32.00
Patch Reinforced knee left	\$32.00
Patch Reinforced knee right	\$32.00

Reduce crotch rise at waist	\$114.75
Reduce crotch rise, smaller diamond	\$101.25
Remove & Replace Cuff Trim	\$23.50
Repair cuff, large patch, each	\$31.00
Repair cuff, med patch, each	\$25.00
Repair cuff, sm patch, each	\$18.25
Repair Raw	\$16.75
Repair raw on diamond	\$16.75
Repair Raw on leg	\$16.75
Repair Raw on Pocket	\$16.75
Repair raw on seam	\$16.75
Repair Trim, up to 12 "	\$25.00
Repair twisted liner leg	\$16.75
Replace Bar coded PIN Number	\$10.00
Replace Cuff Trim	\$23.50
Replace cuff, each	\$21.24
Replace Cuffs	\$43.00
Replace fly velcro-new fly	\$88.45
Replace Gore Liner (Warranty)	\$96.15
Replace logo	\$19.75
Replace Side Seam Trim	\$41.75
Replace snap knee left	\$12.50
Replace snap knee right	\$12.50
Replace Take-Up Straps	\$41.27
Requilt thermal liner	\$39.00
Retrofit bi flex knee to side access opening	\$31.50
Retrofit pant to class 2 harness (does not include harness cost)	\$125.00
Retrofit pant to class 2 harness w/zipper (does not include harness cost)	\$147.25
Seal Seam pant liner	\$30.00
Std pant closure for Spider Harness replace (does not include harness cost)	\$270.00
Std pant closure for Spider Harness-repair	\$220.00
Taper leg up to 2" each side	\$45.50
Turn hem up once	\$16.75
Turn hem up once and replace angles	\$27.50
Decrease Waist up to 4"	\$73.75
Cut Pant Down to Pattern	\$266.32
Increase Waist by adding a Larger Fly, up to 2"	\$80.92
Increase Waist at the side seams up to 4"	\$128.04
Shorten inseam 2" or less with no Options	\$59.41
Shorten inseam 2"with Option 1	\$71.70

Shorten inseam 2"with Option 2	\$83.99
Shorten inseam 2"with Option 3	\$96.28
Shorten inseam 2"with Option 4	\$108.58
Shorten inseam 3" or more with no Options	\$87.07
Shorten inseam 3" with Option 1	\$99.36
Shorten inseam 3" with Option 2	\$111.65
Shorten inseam 3" with Option 3	\$123.94
Shorten inseam 3" with Option 4	\$136.23
Lengthen inseam 2" or less with no Options	\$72.73
Lengthen inseam 2" with Option 1	\$85.02
Lengthen inseam 2" with Option 2	\$97.31
Lengthen inseam 2" with Option 3	\$109.60
Lengthen inseam 2" with Option 4	\$121.89
Lengthen inseam 3" or more no Options	\$91.16
Lengthen inseam 3" with Option 1	\$103.45
Lengthen inseam 3" with Option 2	\$115.75
Lengthen inseam 3" with Option 3	\$128.04
Lengthen inseam 3" with Option 4	\$140.33
Replace Diamond with Smaller or Larger Diamond	\$122.92
Remove Boot Access Panels	\$112.67
Replace 1 Pant Panel front or back	\$112.67
Retrofit to Wild Land Design	\$97.31
Patch Hole in Outer Shell – SM	\$16.39
Patch Hole in Outer Shell – MED	\$25.61
Patch Hole in Outer Shell – LG	\$31.75
Patch Hole in Moisture Barrier Liner – Regular	\$56.34
Patch Hole in Moisture Barrier Liner – Large	\$80.92
Tape Hole in Moisture Barrier Liner	\$39.44
Patch Hole in Thermal Barrier Liner – Regular	\$28.68
Patch Hole in Thermal Barrier Liner – Large	\$46.09
Add a Liner Port	\$22.53
Install Barcodes to Shell & Liner System	\$6.15
Replaced Abused Velcro on Pant	\$26.63
Remove Zipper and Add Velcro	\$25.61
Add Zipper (do not remove Hook & Dee)	\$25.61
Replace the complete coat liner with Crosstech & Thermal	\$362.51
Replace the complete pant liner with Crosstech & Thermal	\$271.02
Replace the Crosstech coat liner	\$311.25
Replace the Crosstech pant liner	\$232.21
Replace the Thermal coat liner	\$232.52
Replace the Thermal pant liner	\$174.32

ATTACHMENT II

Detailed Technical Specifications

for

Protective Clothing for Structural Firefighting
Coat and Pant
Bloodborne Pathogen Resistant

San Antonio Fire Dept
115 Auditorium Circle
San Antonio, TX 78205

This specification dated September 14, 2011 supersedes, modifies, and replaces all previous editions.

LEGAL RIGHT TO SPECIFY

The Fire Department (for the remainder of this section referred to as the “specifier”) chooses to exercise its Legal Right to Specify as determined by the U.S. Supreme Court’s affirmation of the decision handed down in the case of Whitten Corp. vs. Paddock, by the U.S. District Court of Massachusetts, the First Federal District Court, which in effect states:

- 1) That as trained professionals, specifiers make informed judgments on products that they feel best serve their needs. Also, that proprietary specifications (if chosen) DO NOT violate any antitrust laws. Technically, very few brands of material or equipment are exactly alike, and if the specifier wants to limit the specification to one source, he has the right to do so and enforce it.
- 2) Only the specifier has the responsibility and judgment for determining whether a proposed substitution is an “or equal”.
- 3) That from start to finish in the purchasing process, only the specifier can ultimately decide if another desirable product is available in lieu of the specification.
- 4) Finally, that the courts concluded “the burden is on the supplier or manufacturer, who has NOT been specified, to convince the specifier that their product is equal for the purpose of a particular project”.

The specifier has determined that this product specification shall represent the product to which all offerings shall be compared. Due to the fact that firefighting is an ULTRAHAZARDOUS, UNAVOIDABLY DANGEROUS activity, only trained Fire Department personnel with specific knowledge in the area of Personal Protective Equipment shall be allowed to make the final determining decision on the selection of the appropriate product to serve the Fire Department’s needs.

0.0 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.

1.0 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.

2.0 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. UL, SEI, or a laboratory accredited by UL or SEI shall have performed all certification testing and test preconditioning.

Bloodborne pathogen protection shall be defined as follows: When used with BPR gloves, BPR boots, and a BPR helmet (with BPR face shield and ear covers), the garments shall provide head-to-toe bloodborne pathogen resistance protection, including the interface areas, as defined by the NFPA 1971 Whole Garment Liquid Penetration Test.

Barrier layer material[s] and barrier layer seams shall meet requirements of the NFPA 1971 Viral Penetration Resistance Test.

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

3.0 WARRANTY

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

4.0 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.

5.0 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.

6.0 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.

7.0 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.

8.0 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.

9.0 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.

10.0 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).

11.0 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.

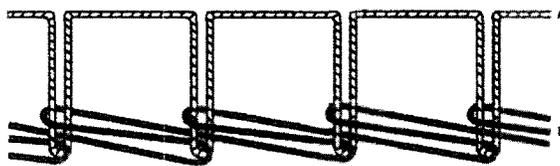
12.0 THREAD

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.

13.0 STITCH METHODS

13.1 MAJOR A & B SEAMS

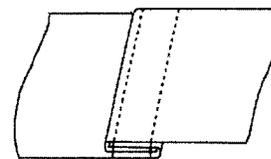
Most Major A & B seams (as defined by NFPA 1971) shall be double stitched, double feld throughout all three layers (outer shell, moisture barrier and thermal liner), and shall be made with Nomex® thread, Tex size T-90. Detailed stitch and seam type requirements are shown below.



Stitch Type 401

Stitch Type 401

Double lockstitch, as defined by ASTM D 6193-97.



Seam Type LSc-2 (Modified)

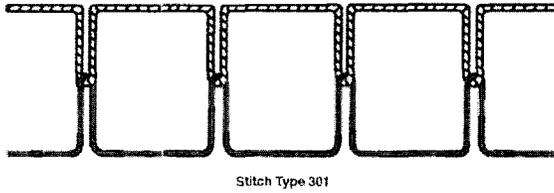
Modified Seam Type LSc-2

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.

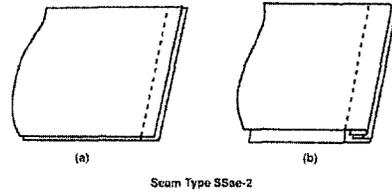
13.2 MINOR SEAMS

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.

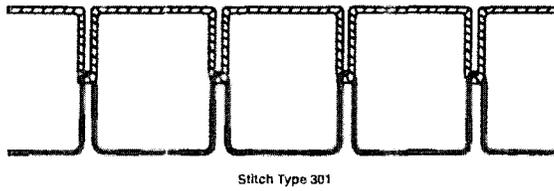


Seam Type SSae-2

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

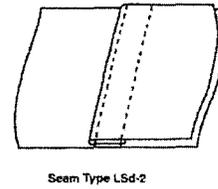
13.3 POCKETS

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



Stitch Type 301

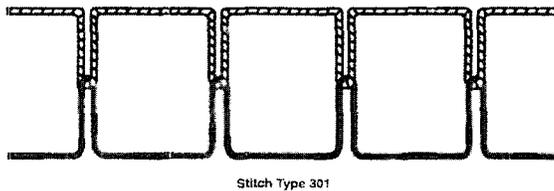
Lockstitch as defined by ASTM D 6193-97.



Seam Type LSd-2

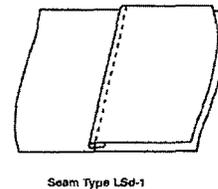
As defined by ASTM D 6193-97.

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

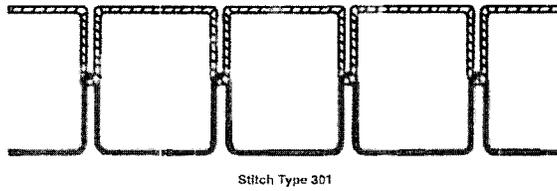
As defined by ASTM D 6193-97.

Does Your Bid Comply With All Aspects Of This Section?

Yes _____ No _____

13.4 TRIM AND DANGER LABELS

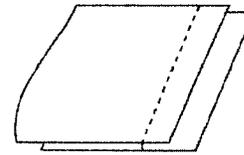
Trim and DANGER labels shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



Stitch Type 301

Stitch Type 301

Lockstitch as defined by ASTM D 6193-97.



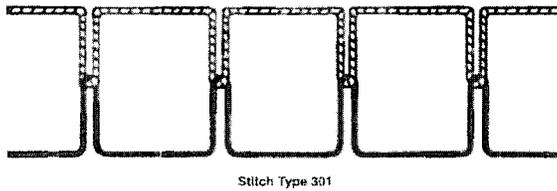
Seam Type SSbd-1

Seam Type SSbd-1

As defined by ASTM D 6193-97.

13.5 SINGLE LAYER HEMMING AND FINISHING

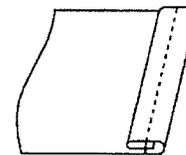
Single layer hemming and finishing shall be stitched with the specified Nomex® thread. Detailed stitch and seam type requirements are shown below.



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.

14.0 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.

15.0 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.

16.0 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.

17.0 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.

18.0 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.

19.0 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.

20.0 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

21.0 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 **at the knees, shoulders and elbows** where applicable.

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

22.0 CONDUCTIVE AND COMPRESSIVE HEAT RESISTANCE (CCHR)

Using breathable materials as outlined in Section 21.0, there shall be a minimum area of 4" x 4" at the shoulders and elbows that provide a minimum of 25 CCHR at 2 p.s.i., and a minimum 6" x 6" area at the knees that provide 25 CCHR at 8 p.s.i. 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.

23.0 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 fold seam and for additional abrasion protection be covered by a sewn on, 0.75" wide black Nomex webbing material laid on top of the Major "A" seam and covering each end of the trim.

24.0 DRAG RESCUE DEVICE

Manufacturer shall supply with each coat a Kevlar Rescue Strap system 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" Kevlar webbing grab handle; and a free floating loop of Kevlar rope to go around each of the wearer's arms/shoulder. Each end of the dynamic/articulating loop will be sized per coat chest size with the center of the loop 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
Catchcord	Tex 50 3 Ply/9.5z Bonded Kevlar Sewing Thread Black
Width	1.75"

Thickness 0.064" +/- 0.010"
Tensile 5,000 lb minimum

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
Catchcord Tex 35 Craqspun Kevlar thread
Width .038"
Thickness 0.144" +/- 0.005"
Tensile 3500 lb minimum

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

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.

<u>STANDARD</u>	<u>TITLE</u>
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 and Proximity Fire Fighting

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.

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.

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.

<u>Chest Size</u>	<u>Standard Reach</u>
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)

29.0 LINER ATTACHMENT & INSPECTION PORT

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.

The liner system shall incorporate a hook and loop fastener port at the lower right body panel to allow for

field inspection of the “internal” condition of the moisture barrier membrane, seam sealing and thermal insulation layer quilt stitching.

30.0 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.

31.0 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.

32.0 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.

33.0 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 “Fold-over” crescent shaped design with minimum dimensions of, + or - 0.50 inches (1.2 cm): 11 inches (27.5 cm) long across the top corners, 13 inches (32.5 cm) long across the bottom corners, and 5 inches (12.5 cm) in vertical height, measured at the center. The top underside edge shall incorporate Nomex knit material to ensure comfort when wearing the chinstrap in either the “Up or Down” position. 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 NFPA 1971 Whole Garment Liquid Penetration Test.

34.0 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.

35.0 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 fold and double stitched for maximum strength (that is, Major A seam requirement, as previously defined in this specification).

36.0 INNER WRISTLET & WATERWELL WITH THUMB TAB

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), and shall provide a thumb attachment by means of a Nomex tabbing

material bar tacked at each end approximately 2 inches (5.1 cm) apart at the cuff opening. 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.

37.0 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.

38.0 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.

39.0 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.

39.1 OUTER SHELL

7.0 oz.; Kevlar/Nomex ripstop weave; 40% Nomex/60% Kevlar; EWR - Khaki

39.2 THERMAL LINING

7.2 oz.; 100% spun 3.4 oz. Nomex facecloth; light 3.8 oz. Kevlar batt

39.3 MOISTURE BARRIER

5.0 oz; Crosstech Bi-Component (PTFE) on a 3.2 oz. Nomex III A facecloth

40.0 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.

Foldover Comfort Chinstrap
Coat Cuffs
Inspection Port Liner
Liner Detachable
Liner Label Pocket
Take Up Straps 2 Postman
Nomex-Tabbed long wristlets

Iron On Label with Fire Fighter Name
Property of San Antonio FD
NAME
- Place on Pellon & below Label Pocket

Wildland Design & Labeling -Kevlar/Nomex EWR Khaki
Positive Closure Articulating Rapid Rescue Strap in New Coat
STD-3 trim -Lime 2-Tone Scotchlite
Split Cuff Trim -3" 2-Tone Lime Scotchlite
1" apartHem Patch -Kevlar/Nomex EWR Khaki
FF LAST NAME or 1st INITIAL + LAST NAME - delete 1st initial ONLY if necessary
- avg 8 letters - Ok to use 2" letters to fit

8 -3" sewn letters -lime Scotchlite
Shield 7" Wide
1.5" Velcro/Zipper Coat Closure -Kevlar/Nomex EWR Khaki
Split Velcro On Closure for Positive Closure RRS
Collar & Chinstrap lined w/Aralite + Crosstech/PJ
Dead Air Panels Extended - Coat
Half Hi Bellows Pockets -Kevlar/Nomex EWR Khaki - 6" x 9" x 1.5"
Mic Tab -Kevlar/Nomex EWR Khaki - on shield - 1.5" x 3"
Place 4" down from top of shield
Mic Tab -Kevlar/Nomex EWR Khaki - left chest - 0.5" x 2.5"
- Aligned with Mic Tab on Closure
-Or As close to this position as possible - Place Mic Tab 1/2" over from shield
Mic Tab -Kevlar/Nomex EWR Khaki - right chest - 0.5" x 2.5"
Aligned with Mic Tab on Shield -placed 1/2" over from shield
Large Hook on Patch -Kevlar/Nomex EWR Khaki - right chest
As Close To Shield As Possible - Place directly above trim Radio Pocket -Kevlar/Nomex EWR Khaki -
left chest - 6.5" x 3.5" x 2"
Top of Pocket Not Flap to be 9.5" down from the shoulder seam or as close to this position as possible -
Flap to be 2"W x 5.5"L - Align right edge of flap with right edge of pocket

Hinged Pocket Design -Kevlar/Nomex EWR Khaki - left chest

PANTS

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

41.0 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.

42.0 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.

43.0 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.

44.0 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.

45.0 LINER ATTACHMENT AND INSPECTION PORT

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.

The thermal liner/ moisture barrier shall incorporate a hook and loop fastening port at the right side fly seam to allow access for field inspection of the moisture barrier membrane, seam sealing and thermal insulating layer/ quilt stitching.

46.0 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.

47.0 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.

48.0 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.

49.0 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.

49.1 OUTER SHELL

7.0 oz.; Kevlar/Nomex ripstop weave; 40% Nomex/60% Kevlar; EWR - Khaki

49.2 THERMAL LINING

7.2 oz.; 100% spun 3.4 oz. Nomex facecloth; light 3.8 oz. Kevlar batt

49.3 MOISTURE BARRIER

5.0 oz; Crosstech Bi-Component (PTFE) on a 3.2 oz. Nomex III A facecloth

50.0 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.

Narrow 1.5" Velcro Fly

Inspection Port Liner

Liner Detachable

Iron On Label with Fire Fighter Name

Property of San Antonio FD

Name

- placed on fly liner & thermal next to liner port

Wildland Design & Labeling -Kevlar/Nomex EWR Khaki

3" Cuff trim -Lime 2-Tone Scotchlite

Thermal Knees - 3 layers Nomex Batt

Angled Cuffs -Pants -Kevlar/Nomex EWR Khaki

Pants Cuffs -Kevlar/Nomex EWR Khaki

BiFlex Heat Channel Knees Replaceable - Kevlar/Nomex EWR Black

Horizontal Strips in BiFlex knee to be Arashield Black

Knees -Stitched Twice

Take Up Straps 2 Postman -Kevlar/Nomex EWR Khaki

X-Large Bellows Pockets -Pants -Kevlar/Nomex EWR Khaki - 10" x 10" x 2"

Tool Divider -Pants -Kevlar

Place in left bellows pocket - 2 equal compartments - tool divider to be 6" high - on pant portion

Full Kevlar Lined

3 Vertical Strips Velcro on Flap/Full on Pocket

Snap Style Suspender Attachment

Dyna-Fit Suspenders w/Snap Attachment Installed

w/Barcoded Label Bartacked On

ATTACHMENT III

Harness Options

RS-HRNSKVR-G CLASS II HARNESS, SLIDING D- RING, HARDWARE AND LEG LOOP KEEPERS WITH BUNKER PANT ADAPTATION. HARNESS LEG LOOPS ARE LOCATED EXTERIOR TO THE PANT SHELL

The system described is for a ***right-over-left harness and pant closure*** where the escape system is worn and deployed from the right hip or leg.

Provide with the bunker pants a Class II Harness certified by UL to NFPA 1983 (latest edition). The harness shall close at the front from the right to the left. The waist belt is mounted external. The leg loops are installed under the outer shell. The leg loops shall be tightened by an upward pulling motion at the waist. The waist is tightened at the left hip with a forward pulling, natural motion. The waist and leg loops must be easily and fully adjustable while wearing the bunker pants.

Harness Materials

- All materials shall also be certified to NFPA 1971 (latest edition)
- Waist belt and A-Frame webbing shall be: 1.6875 inch (4.2 cm) width, woven filament, black Kevlar webbing with a natural Kevlar stripe down the center and a minimum tensile strength of 7,000 lbs (3,182 kilograms). Example: Sturges #36517 or equal
- Leg loop webbing shall be: 1.75 inch (4.4 cm) width, woven filament, black Kevlar webbing with natural Kevlar tracers down the sides and a minimum tensile strength of 7,000 lbs (3,182 kilograms). Example: Sturges #37506 or equal
- Webbing for tabs shall be one-inch width Nomex or Kevlar. Example: Offray NOMBIND or KEVBIND
- One-inch Velcro hook and pile
- Slotted D-Rings shall be: approximate 3.5 ounce; with 1.75-inch I.D. slot and "D". Example: Bourdon Forge PS22046-1 or equal.
- Adapter/Adjusters shall be: Quick Fit style; 1.75-inch I.D.; with sliding lock bar. Example: Bourdon Forge PS70114-1 or equal.
- Snap Hook with Adjuster shall be: approximate 5.8 ounce; Parachute harness hook; quick fit style; 1.75-inch I.D.; with sliding lock bar. Example: Bourdon Forge PS22043-1 or equal.
- Thread shall be: natural color, 100% Kevlar, minimum size TEX 70

Load Bearing Construction

All load bearing, webbing-to-hardware, connection points shall be sewn with a minimum 1.25 inch (3.1 cm) Box & Diamond stitch. At the waist the ends of the webbing shall be folded toward the body before Box & Diamond stitching. On the Leg Loops the ends of the webbing shall be folded away from the body before Box & Diamond stitching.

Design

Waist belt shall be comprised of the following components:

- There shall be an approximately 9.5 inch (23.75 cm) wide *Center Piece* comprised of two forged D-Rings with the flat sides facing inward; the D-Ring slot bars provide the attachment points for the Center Piece webbing; and the flat side of the D-Rings provide the attachment points for the harness A-Frame and a sliding D-Ring. At the apex of the A-Frame on the underside provide a sewn on one-inch wide Kevlar webbing cross member to keep a customer supplied ladder hook/carabineer centered.
- Sewn to the right side D-Ring of the Center Piece there shall be a *Back Belt* that wraps around the waist and to the rear of the left hip area and terminates with a sewn on, forged adapter with sliding adjuster bar.
- Waist closure shall be provided by a *Hook & Take-up Strap* comprised of Kevlar webbing sewn to a Snap Hook with adjuster bar and the loose trailing end of the webbing threaded through the adapter/adjuster end of the *Back Belt*.
- Provide one-inch wide Kevlar and Velcro hardware keeping tabs in the following locations: on the left side of the A-Frame five inches from the flat side of the attachment D-ring; just left of center on the harness *Center Piece*; two inches to the right of the *Center Piece* on the *Back Belt*; and a trailing style tab on the divider bar on the sliding D-ring.

Each adjustable Leg Loop shall consist of one continuous piece of Kevlar webbing with a forged adapter/adjuster Box & Diamond stitched to one end.

- The left leg loop attaches to the *Hook & Take-up Strap* by wrapping over the top of the webbing just behind the Snap Hook then it is bar-tacked into place.
- The right leg loop attaches by wrapping over the top of the webbing of the *Back Belt* behind the Box & Diamond stitching connecting the *Back Belt* to the *Center Piece* then it is bar-tacked into place.
- The adapter/adjuster end of each Leg Loop will pass from the waist belt, down through the crotch and around the leg/buttocks to the outside of the leg below and just behind the hip.
- The loose end of the Leg Loop will pass from the waist, down the side of the hip/leg, thread through the adapter/Adjuster then back up the leg/hip to provide for easy gripping of the loose end at the waist to tighten the Leg Loops.
- Each leg loop shall have two, one-inch webbing, sewn on "Velcro Keeper Tabs" to retain the loose end of the webbing used to adjust leg/seat tension. The first tab shall be located just below waist belt and the second tab approximately seven inches below the waist belt. The loose (adjusting) end will be threaded back up and through the "Keeper Tabs".

Pant Adaptation for Kevlar Class II Harness

There shall be a three-inch (7.5 cm) wide fly sewn to the pant's right front body panel that closes over the left front body panel. The pant positive closure shall be a Vislon zipper inside and the fly closes by means of 1.5 inch (3.75 cm) Velcro outside. The harness waist belt shall be externally mounted around the pant waist. The waist provides a total of eight vertical breakaway tabs and two horizontal breakaway tabs as follows:

- The harness back belt shall be mounted using four one-inch wide (2.5 cm) vertical outer shell and Velcro, two-piece breakaway tabs even spaced across the rear of the pant.
- The Snap Hook with sliding bar used for harness closure shall install using a one-inch wide (2.5 cm) vertical two-piece and an 1.5 inch (3.75 cm) wide horizontal one-piece outer shell and Velcro breakaway tab located on the left front pant panel.
- The closure D-Ring shall install using a one-inch wide (2.5 cm) vertical outer shell and Velcro, two piece break away tab near the leading edge of the fly.

- The trailing D-Ring of the harness *Center Piece* and leading edge of the *Back Belt* are held in place by two one-inch (2.5 cm) wide vertical outer shell and Velcro, two-piece break away tabs on the right front body panel.
- On the exterior of the shell, below and on either side of the fly bartack an outer shell tab with a glove snap on the opposite end nearest the knee.

To allow the option of the same pair of pants accepting a Kevlar Ladder / Escape Belt provide one extra 1.5 inch (3.75 cm) wide horizontal one-piece outer shell and Velcro breakaway located underneath the vertical, two-piece breakaway tab along the leading edge of the fly.

**RS-HRNSKVR-P PATRIOT CLASS II HARNESS, SLIDING D- RINGS,
TETHER AND LEG LOOP KEEPERS. WITH BUNKER PANT ADAPTATION.
HARNESS LEG LOOPS ARE LOCATED INTERIOR TO THE PANT SHELL.**

The system described is for a *right-over-left harness and pant closure* where the escape system is worn and deployed from the right hip or leg. Bidder shall provide prices for Harness, Tether and Ladder Hook style carbineer separately

Provide with the bunker pants a Class II Harness certified by UL to NFPA 1983 (latest edition). The harness shall close at the front from the right to the left. The waist belt is mounted external. The leg loops are installed under the outer shell. The leg loops shall be tightened by an upward pulling motion at the waist. The waist is tightened at the left hip with a forward pulling, natural motion. The waist and leg loops must be easily and fully adjustable while wearing the bunker pants.

Harness Materials

- All materials shall also be certified to NFPA 1971 (latest edition)
- Waist belt shall be: 1.6875 inch (4.2 cm) width, woven filament, black Kevlar webbing with a natural Kevlar stripe down the center and a minimum tensile strength of 7,000 lbs (3,182 kilograms). Example: Sturges #36517 or equal
- Leg loop webbing shall be: 1.75 inch (4.4 cm) width, woven filament, black Kevlar webbing with natural Kevlar tracers down the sides and a minimum tensile strength of 7,000 lbs (3,182 kilograms). Example: Sturges #37506 or equal
- Webbing for tabs shall be one-inch width Nomex or Kevlar. Example: Offray NOMBIND or KEVBIND
- One-inch Velcro hook and pile
- Slotted D-Rings shall be: approximate 3.5 ounce; with 1.75-inch I.D. slot and "D". Example: Bourdon Forge PS22046-1 or equal.
- Adapter/Adjusters shall be: Quick Fit style; 1.75-inch I.D.; with sliding lock bar. Example: Bourdon Forge PS70114-1 or equal.
- Snap Hook with Adjuster shall be: approximate 5.8 ounce; Parachute harness hook; quick fit style; 1.75-inch I.D.; with sliding lock bar. Example: Bourdon Forge PS22043-1 or equal.
- Tether Snap Hook without adjuster: approximate 4.2 ounce; Parachute style; 1.75-inch I.D. Example: Bourdon Forge #PS22044-1 or equal
- Thread shall be: natural color, 100% Kevlar, minimum size TEX 70

Load Bearing Construction

All load bearing, webbing-to-hardware, connection points shall be sewn with a minimum 1.25 inch (3.1 cm) Box & Diamond stitch. At the waist the ends of the webbing shall be folded toward

the body before Box & Diamond stitching. On the Leg Loops the ends of the webbing shall be folded away from the body before Box & Diamond stitching.

Design

Waist belt shall be comprised of the following components:

- A Closure D-Ring with *Back belt* constructed of #36517 webbing and available in two-inch increments to custom fit each bunker pant waist size. The back belt also has two sliding D-rings at the front to provide attachment points for a tether and an escape system, and wraps around the right hip to underneath the left kidney area and terminates with a sewn on, forged adapter with sliding adjuster bar.
- Waist closure shall be provided by a *Hook & Take-up Strap* comprised of #36517 webbing sewn to a Snap Hook with adjuster bar and the loose trailing end of the webbing threaded through the adapter/adjuster end of the *Back Belt*.
- Provide two, one-inch wide Kevlar and Velcro hardware keeping tabs in the following locations: Set two-inches and seven-inches back from the closure D-ring of the *Back Belt*.

Each adjustable Leg Loop shall consist of one continuous piece of #37506 webbing with a forged adapter/adjuster Box & Diamond stitched to one end.

- The left leg loop attaches to the *Hook & Take-up Strap* by wrapping over the top of the webbing just behind the Snap Hook then it is bar-tacked into place.
- The right leg loop attaches by wrapping over the top of the webbing of the *Back Belt* behind the two hardware Velcro keepers and Two sliding D-rings.
- The adapter/adjuster end of each Leg Loop will pass from the waist belt, down through the crotch and around the leg/buttocks to the outside of the leg below and just behind the hip.
- The loose end of the Leg Loop will pass from the waist, down the side of the hip/leg, thread through the adapter/Adjuster then back up the leg/hip to provide for easy gripping of the loose end at the waist to tighten the Leg Loops.
- Each leg loop shall have one, oversized, two-inch #37506 webbing, sewn on "Velcro Keeper Tab" to retain the loose end of the webbing used to adjust leg/seat tension. The first tab shall be located just below waist belt and the second tab approximately seven inches below the waist belt. The loose (adjusting) end will be threaded back up and through the "Keeper Tabs".

Tether Design

The tether shall made of 1.6875-inch (4.2 cm) width webbing and a snap hook without adjuster and shall be available with a length of 14-inch (35 cm) +/- 0.50-inch (1.0 cm):

- One end of the tether shall be a loop created by triple folding the webbing lengthwise and bar-tacking a three inch (7.5 cm) section which is then folded in half with the remaining loose end of the webbing Box & Diamond stitched to the tether main body.
- The opposite end of the tether shall terminate with the Snap Hook being Box & Diamond stitched into place.

Pant Adaptation for Kevlar Class II Harness

There shall be a three-inch (7.5 cm) wide fly sewn to the pant's right front body panel that closes over the left front body panel. The pant positive closure shall be a Vislon zipper inside and the

fly closes by means of 1.5 inch (3.75 cm) Velcro outside. The harness waist belt shall be externally mounted around the pant waist. The waist provides a total of eight vertical breakaway tabs and two horizontal breakaway tabs as follows:

- The harness back belt shall be mounted using four one-inch wide (2.5 cm) vertical outer shell and Velcro, two-piece breakaway tabs even spaced across the rear of the pant.
- The Snap Hook with sliding bar used for harness closure shall install using a one-inch wide (2.5 cm) vertical two-piece and an 1.5 inch (3.75 cm) wide horizontal one-piece outer shell and Velcro breakaway tab located on the left front pant panel.
- The closure D-Ring shall install using a one-inch wide (2.5 cm) vertical outer shell and Velcro, two piece break away tab near the leading edge of the fly.
- The trailing D-Ring of the harness *Center Piece* and leading edge of the *Back Belt* are held by in place by two one-inch (2.5 cm) wide vertical outer shell and Velcro, two-piece break away tabs on the right front body panel.
- Provide two horizontal slots in the pant shell for the leg loops to pass through. Each slot shall be approximately four inches wide and one-half inch high. Each slot will be back up with matching outer shell material to insure no gap in thermal protection. The forward edge of each slot shall start eight inches back from the leading edge of the right and left front body panels at the fly (excluding the fly itself)

To allow the option of the same pair of pants accepting a Kevlar Ladder / Escape Belt provide one extra 1.5 inch (3.75 cm) wide horizontal one-piece outer shell and Velcro breakaway located underneath the vertical, two-piece breakaway tab along the leading edge of the fly.