

# OPTION 2

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

### Danville Fire Dept

#### COAT SPECIFICATION

##### NFPA Compliance

All materials and construction will meet or exceed the NFPA 1971 standard, 2013 edition for structural fire fighters protective clothing. All components used in the construction of these garments shall be tested for compliance to NFPA 1971, 2013 edition by Underwriters Laboratories (UL). UL shall certify compliance to that standard. All garments shall carry the UL certification label. The outer shell and liner of each protective garment shall have a garment label permanently and conspicuously attached to the outer shell and thermal liner upon which the following statement shall be printed legibly on the product label. All letters shall be at least 2.5 mm (0.10") high. The following label shall be sewn to the jacket outer shell: "THIS GARMENT MEETS THE GARMENT REQUIREMENTS OF NFPA 1971, STANDARD ON PROTECTION ENSEMBLE FOR STRUCTURAL FIRE FIGHTING, 2013 EDITION."

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

##### FX-R Coat Construction

The coat shall be designed to provide maximum functionality and mobility and relieve firefighter working stress. The Active Posture™ Design shall incorporate an "arms forward" pattern designed to accommodate the firefighter in their real working position. The pattern shall include underarm gussets and darts in the elbows for unrestricted movement. The shoulder seams on shell and liner shall be placed close to the collar in a modified Raglan pattern to mimic the natural location of the shoulder joint and minimize coat rise and extend range of motion when wearing an air pack. The sleeves shall be two-panel construction. The coat sleeve shall be naturally tapered designed and manufactured to provide unrestricted movement while bending the arm. The outer shell shall include four darts at the elbow area - two above and two below the natural bend of the elbow along the sleeve seams. The thermal/moisture barrier liner shall be specially designed to work in conjunction with the shell with a fuller cut pattern. The body of the shell and liner shall be four-panel construction. The front two panels of shell and liner shall extend up to the top of the collar and be an integral part of the collar in a "Shawl" collar design. See Collar Construction.

All seams joining the main body panels shall be felled and double needle lock stitched. The stitch type shall be 401, double lock stitch, as defined by Federal Standard 751a and seam type LSC-2 as defined by Federal Standard 751a, ensuring that all stitches penetrate four layers of cloth at the joining. All seams shall be sewn with an average of nine stitches per inch. All thread shall be 100% Tex 80 Nomex® thread. No chain stitching shall be allowed due to the chance of unraveling if one stitch is broken.

Coat sizing shall be available in 2" increments in chest and 1" increments in sleeve. The length is measured from the collar seam to the bottom of the hem at the rear of the coat. Stock or Alpha sizing is unacceptable.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Standard Thermal Reinforcement

*Shoulders and elbows* shall include a fourth layer of protective thermal material in addition to the already present three layers of shell, thermal and moisture barriers. A patch of thermal lining material shall be sewn to the thermal liner at the top of the shoulders and at the elbows to provide enhanced thermal protection and to meet NFPA 1971 CCHR requirements for those areas. Additionally, thermal material shall be included on the liner behind all trim, reinforcements and patches on the sleeves to meet requirements of Stored Energy test.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Sleeves and Underarm Gussets

The set-in, two panel sleeves shall be incorporate a tapered design shaped to follow the natural contour of the arm. Each coat shall incorporate an underarm gusset in all three layers between the underside of the sleeve and the body of the coat. This rounded shaped gusset shall measure approximately 7" wide X 12" long (graded to coat size).

The attachment point of the sleeves to the coat body panels at the top of the shoulder must be 2" – 4" from the outside of the shoulder when standing with the arms at rest at the side of the fire fighter. This moves the coat sleeve interface to the natural bend point of the body providing optimal mobility when donning an SCBA and minimizing coat rise. The sleeve panels shall be sewn together using seam type 401, double needle lock stitch. The outseam of the shell shall be felled and double needle lock stitched. The under seam and underarm gusset seams of the shell shall be double needle serged, then folded and top stitched with double needle lock stitching to reduce thread abrasion.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Inner sleeve

A liquid resistant water well shall be sewn into the sleeve end to prevent liquids and other hazardous materials from entering when the arms are raised. This water well shall be constructed of moisture barrier material with the film side facing out. It shall be double needle lock stitched to the outer shell approximately 5" from the sleeve cuff and continue down the inside of the outer shell to the cuff area. Two-layer Nomex® wristlets shall be sewn to the water well inside the sleeve. Two 1" wide polymer-coated aramid (PCA) tabs will be sewn in at the union of the sleeve water well and the knit wrist on the underside of the sleeve. These tabs will be spaced equally from each other and incorporate female snap fasteners which accommodate corresponding male snaps attached to the thermal liner. A 6" wide layer of quilted Nomex® thermal lining material shall be lock stitched to the underside of the shell, between shell and water well, to provide continuous thermal protection at the sleeve and reduce the risk of steam burns under the cuff trim.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Collar Construction

The Shawl collar design shall be constructed as an integral part of the body panels, inner shell facings and the liner to provide uninterrupted and continuous protection to the firefighter. The collar shall measure not less than 3" high measured from where the collar pleats are placed on the body panels at the base of the neck. The exterior of the collar shall be an extension of the front panels with a pleat placed for comfort and the upper rear collar panel shall be joined with a double needle serged seam that is double needle topstitched on the back of the wearer's neck. A panel of shell material shall join the two inner front facings creating the inside of the collar. The coat thermal/moisture barrier lining shall extend up to the top of the inside collar without seams and attach inside the collar via five pieces of 3/4" hook and loop sewn with double needle lock stitching to the top of the thermal liner and inside the top of the collar. The storm flap shall extend to the mid-throat. This design shall meet the NFPA standard for overall liquid integrity while more effectively interfacing with the s.c.b.a. face-piece when the collar is worn in the upright position. A shell material hang-up loop shall be lock stitched to the collar. The hang up loop shall be able to withstand a load of at least 80 pounds.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Moisture Barrier/Thermal Liner Construction

The moisture barrier shall be bound to the thermal liner around the perimeter of the liner using a 1" FR Neoprene coated binding tape double needle lock stitched. This method deters liquids from wicking into the liner and reinforces the edges of the liner from abrasion. Liners not equipped with this reinforcement will not be acceptable. Each liner shall have a 9" X 8" pocket sewn to the inside of the liner on the left side. This liner pocket shall be constructed from the specified thermal liner material and lined with moisture barrier material. All edges of the pocket shall be serged to prevent unraveling. The NFPA compliant labeling shall be applied to the thermal liner pocket. All moisture barrier seams shall be sealed to prevent moisture penetration as per the moisture barrier manufacturers' specifications. To ensure minimum seam abrasion, the moisture barrier seams shall be oriented with the stitching toward the inside of the thermal barrier.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Outer Shell/Liner Assembly Attachment

The coat liner shall be secured to the outer shell by means of five, nickel coated brass snap fasteners placed along the leading edges of the left and right facings. The male snap portion on the liner shall be positioned to correspond to the female snap portion on the shell based on size of garment. Two male snaps shall be positioned at each liner sleeve cuff to align with two female snaps attached to fabric tabs bartacked inside the outer shell sleeves. 3/4" loop fastener tape shall be lock stitched along the top of the thermal liner inside the collar to match hook fastener tape lock stitched to the inside of the shell collar panels.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Drag Rescue Device

A completely removable Drag Rescue Device (DRD) meeting all requirements of NFPA 1971 shall be located between the liner and outer shell of each coat. The DRD design shall provide for easy removal, inspection and re-installation and a large easy-to-use surface area of DRD to grasp and deploy. The drag rescue device shall be made of 1-1/4" wide Kevlar® webbing strap. Two 2" wide slits shall be cut on a diagonal 2" apart into the upper rear panel of the coat shell near bottom of the collar. The area around the slits shall be reinforced with a layer of polymer coated Kevlar® material both inside and outside the shell. Additionally, slits shall be bartacked on all four corners. The Kevlar® webbing strap shall be sewn with heavy duty Kevlar® thread to form a circle. When the circle is folded in half and the ends inserted into the slits in the shell, they shall encircle the shoulders, while the remaining portion left outside the shell shall create a two layer "handle" of Kevlar webbing. The handle portion shall be wide enough to grasp with a large gloved hand. The DRD shall pull out from the shell approximately 18" extending beyond the helmet and S.C.B.A. A 4" X 7-1/2" flap of outer shell material with beveled corners and reflective trim is to be double needle lock stitched above to cover the external DRD and slit openings. Reflective trim shall be double needle locked stitched to the flap to identify the DRD. A leather pull tab shall be sewn to the bottom of the flap to allow for easier access with a gloved hand. The outer shell and flap will have mated hook and loop fastener tape lock stitched to it to close and secure the flap.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## COAT CLOSURE

The coat shall have a thermoplastic inner zipper with a self material pull tab and a hook and loop outer closure

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Outer Shell Color

The outer shell color shall be GOLD.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Outer Shell Material

The outer shell shall be TECGEN71, a rip-stop twill weave, 60% Kevlar/22% Nomex/18% TECGEN fabric with an approximate weight of 6.5 ounces per square yard, treated with a water repellent finish. Color shall be Gold

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Thermal Liner Material

The thermal liner shall be Glide™ 1-Layer, consisting of 1 layer of 2.3 oz. DuPont™ Nomex® E89™ spunlace batting, quilted to a 3.6 oz. Glide Ice™ face cloth consisting of 60% Nomex® Filament and 40% DuPont™ Nomex®/Lenzing FR spun yarns. The total weight of the thermal liner shall be approximately 5.9 ounces per square yard.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Moisture Barrier Material

The moisture barrier shall be Stedair® 4000™, a tri-component moisture barrier constructed using a 3.2 oz/yd2 woven Nomex® pajama check substrate laminated to a membrane comprised of an expanded PTFE matrix combined to a continuous hydrophilic and oliophoebic polymer coating that is impregnated into the matrix. The approximate weight shall be 5.0 (+/- 0.2) ounces per square yard.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Sealed Moisture Barrier Seams

All moisture barrier seams shall be sealed with a minimum 7/8-inch wide sealing tape. One side of the tape shall be coated with heat activated glue adhesive. The adhesive side of the tape shall be oriented toward the moisture barrier seam. The adhesive is to be activated by heat and the sealing tape shall be applied to the moisture barrier seams by means of pressure exerted by rollers designed for that purpose.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Coat Trim

The coat trim configuration shall be 3" NYC and be placed as follows: One 3" strip shall be sewn horizontally around the chest area and one 3" strip shall be sewn around the hem of the coat. One 3" strip shall be sewn around each sleeve end and one 3" strip above the elbow. Each coat shall have an adequate amount of trim sewn to the outside of the outer shell to meet the requirements of NFPA 1971, current edition. All trim shall be secured to the shell with four rows of lock stitching – no exceptions.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Coat Trim Material

The trim material shall be 3M™ Scotchlite™ Reflective Material - Series 560 Fire Coat Comfort Trim. 3M™ Scotchlite™ - Series 5600 Fire Coat Comfor Trim is compliant to NFPA 1971, 2013.

The reflective surface is composed of wide angle, exposed retroreflective lenses integrally centered on a fluorescent background color bonded to a heat-activated adhesive and is comprised of reflective patterned segments on a clear plastic liner. When tested in accordance with NFPA 1971, 2013 Edition, Section 8.6 per ISO 17493 for five minutes at 260 degrees C, the material shall meet all requirements for trim in Section 8.6.7.3 and shall maintain a minimum RA of 350 or greater when measured at 0.2 degree observation angle/5 degrees entrance angle per the procedure defined in ASTM E808-01 and E809-08. When tested in accordance with NFPA 1971, 2013 Edition, Section 8.1.3, Convective Heat Exposure Test, the material shall maintain a minimum RA of 350 or greater when measured as described above.

When tested in accordance with NFPA 1971, 2013 Edition, Section 8.71, Transmitted and Stored Thermal Energy Test, the material shall pass all requirements without any other modifications. Shall be made in America.

When washed 50 cycles in accordance with ISO-6330 Method 6N (60 degrees C home wash), the retroreflective material shall maintain a minimum RA of 100 or greater when measured as described above.

Trim is heat-adhered directly to the outer shell fabric and is not sewn.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## COAT POCKETS

### Semi-Bellows Pocket LEFT

A semi-bellows pocket measuring approximately 2" deep in the rear by 8" wide by 8" high shall be double stitched to the garment. A layer of FR Fleece shall be sewn to the inside front of each hand warmer pocket to provide thermal protection and warmth to the hands. Two rust resistant brass drainage eyelets shall be installed in the bottom of each pocket to provide the drainage of water. The pocket flaps shall be constructed of outer shell material and measure approximately 3" wide X 8" long. The pocket flaps shall be closed by means of hook and loop fastener tape. Two 1-1/2" X 2" squares shall be used on each pocket to provide even closure with a gloved hand. The upper corners of each pocket shall be bartacked for reinforcement.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Semi-Bellows Pocket RIGHT

A semi-bellows pocket measuring approximately 2" deep in the rear by 8" wide by 8" high shall be double stitched to the garment. A layer of FR Fleece shall be sewn to the inside front of each hand warmer pocket to provide thermal protection and warmth to the hands. Two rust resistant brass drainage eyelets shall be installed in the bottom of each pocket to provide the drainage of water. The pocket flaps shall be constructed of outer shell material and measure approximately 3" wide X 8" long. The pocket flaps shall be closed by means of hook and loop fastener tape. Two 1-1/2" X 2" squares shall be used on each pocket to provide even closure with a gloved hand. The upper corners of each pocket shall be bartacked for reinforcement.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Radio Pocket – Left Chest

A 7"x3.5"x2" radio pocket shall be placed on the left chest and shall have a single notch in the flap covering it

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## COAT LETTERING

Each jacket shall have

3" lime/yellow 3M Scotchlite™ lettering on Row 2 reading: DANVILLE

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## FLAG PATCH

An American Flag patch shall be placed on the left sleeve with the stars toward the front of the coat so that the flag appears to be moving.. The flag shall be the "Thin Red Line Flag"

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## LETTER PATCH

Lettering on Row 9 will be on a FR hook and loop letter patch. The letter patch will attach to the back of the jacket with FR hook and loop fastener tape. The coat shall have an elongated back to accommodate the patch. The individuals last name only, unless otherwise advised, shall be adhered using 3" Lime/Yellow Scotchlite letters

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## COAT REINFORCEMENT CUFF

Reinforced Cuff: Each cuff end shall be reinforced with a 2" wide piece of black leather folded in half, approximately one half inside and one half outside and sewn to the shell with two rows of lock stitching.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## COAT WRIST

Nomex Knitwrist w/ Cotton Thumbloop - 7" long, two layer Nomex/Spandex wristlets shall be sewn to the water well. Each wristlet shall have a cotton thumbloop with an approximate opening of 2" in diameter properly set as to align with the wearer's thumb.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## COAT MISCELLANEOUS

### Flashlight Holder

A trigger type snap hook with a survivor flashlight holder shall be attached to the right chest

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Mic Clip

Fabric Mic Clip - A 1" X 3" strap made of two layers of outer shell material shall be bartacked at each end to the shell. The clip will be used to house a portable radio external microphone.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Thermoplastic Zipper

The zipper closure of the garment shall be made of thermoplastic.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Coat Cuff Attachment

In addition to the standard male snaps positioned at the shell sleeve cuff shall be two additional snaps that attach to the female snaps on the liner. All four snaps shall be spaced evenly around the cuff. Male snaps are located on fabric tabs around the shell cuff and positioned in exactly the same location to attach to the female snap attached directly to the liner cuff.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Zipper Pull

Shell material shall be threaded through the zipper pull and sewn to finish at 1/2" x 2 1/2"

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## PANT SPECIFICATION

The pant outer shell and liner system shall be constructed of seven body panels consisting of two front panels, four back panels and a large seamless crotch panel. The pant rise shall be approximately 14" (graded according to size). The body panels shall be ergonomically designed to construct a pant with a noticeable natural bend at the knee. The outer shell and liner shall have four darts - two above and two below the natural bend of the knee along the side seams to permit an unrestricted range of motion when the knee is bent.

All seams joining the body panels shall be felled and double needle lock stitched. The stitch type shall be 401, double lock stitch, as defined by Federal Standard 751a and seam type LSC-2 as defined by Federal Standard 751a, ensuring that all stitches penetrate four layers of cloth at the joining. All seams shall be sewn with an average of nine stitches per inch. All thread shall be 100% Nomex® Tex 80 thread. No chain stitching shall be allowed due to the chance of unraveling if one stitch is broken.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Waistband

Each pant shall have a separate waistband of shell and moisture barrier material bound together by Neoprene coated poly-cotton binding tape. The waistband shall be lock stitched to the shell along the top of the waistline. The liner shall be secured under the waistband by means of eight nickel coated brass snap fasteners. The position of the male snap portion on the liner shall be in exactly the same location on similar liner sizes as the female snap portion on the waistband of similar shell sizes. The use of a waistband is necessary to deter the wearer from accidentally placing the foot between the shell and liner when donning the pants and it does not allow foreign objects that could cause damage to enter the pants between shell and liner.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Pant Closure

The pant shall have an inner zipper closure and outer hook and loop with a snap at the top

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Standard Knee Enhancements

The knee area shall be thermally enhanced with a fourth and fifth layer of protective material in addition to the already present three layers of shell, thermal and moisture barriers. 7in. X 9in. patches of Neoprene coated poly cotton and thermal lining materials shall be sewn to the thermal liner at the knee area to provide padding and enhanced thermal protection as necessary exceed NFPA 1971 CCHR requirements.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_



# OPTION 2

## Outer Shell Color

The outer shell color shall be GOLD.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Outer Shell Material

The outer shell shall be TECGEN71, a rip-stop twill weave, 60% Kevlar/22% Nomex/18% TECGEN fabric with an approximate weight of 6.5 ounces per square yard, treated with a water repellent finish. Color shall be Gold

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Thermal Liner Material

The thermal liner shall be Glide™ 1-Layer, consisting of 1 layer of 2.3 oz. DuPont™ Nomex® E89™ spunlace batting, quilted to a 3.6 oz. Glide Ice™ face cloth consisting of 60% Nomex® Filament and 40% DuPont™ Nomex®/Lenzing FR spun yarns. The total weight of the thermal liner shall be approximately 5.9 ounces per square yard.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Moisture Barrier Material

The moisture barrier shall be Stedair® 4000™, a tri-component moisture barrier constructed using a 3.2 oz/yd<sup>2</sup> woven Nomex® pajama check substrate laminated to a membrane comprised of an expanded PTFE matrix combined to a continuous hydrophilic and oliophoebic polymer coating that is impregnated into the matrix. The approximate weight shall be 5.0 (+/- 0.2) ounces per square yard.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Sealed Moisture Barrier

Seams All moisture barrier seams shall be sealed with a minimum 7/8-inch wide sealing tape. One side of the tape shall be coated with heat activated glue adhesive. The adhesive side of the tape shall be oriented toward the moisture barrier seam. The adhesive is to be activated by heat and the sealing tape shall be applied to the moisture barrier seams by means of pressure exerted by rollers designed for that purpose.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Water Dam

The pant shall have an elastic water dam at the bottom of the coat cuff

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## Coat Trim

Three-inch retro-reflective trim shall encircle the pant leg, sewn to the shell, 3 inches above the cuff with four rows of lock stitching.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Coat Trim Material

The trim material shall be 3M™ Scotchlite™ Reflective Material - Series 560 Fire Coat Comfort Trim. 3M™ Scotchlite™ - Series 5600 Fire Coat Comfor Trim is compliant to NFPA 1971, 2013.

The reflective surface is composed of wide angle, exposed retroreflective lenses integrally centered on a fluorescent background color bonded to a heat-activated adhesive and is comprised of reflective patterned segments on a clear plastic liner.

When tested in accordance with NFPA 1971, 2013 Edition, Section 8.6 per ISO 17493 for five minutes at 260 degrees C, the material shall meet all requirements for trim in Section 8.6.7.3 and shall maintain a minimum RA of 350 or greater when measured at 0.2 degree observation angle/5 degrees entrance angle per the procedure defined in ASTM E808-01 and E809-08. When tested in accordance with NFPA 1971, 2013 Edition, Section 8.1.3, Convective Heat Exposure Test, the material shall maintain a minimum RA of 350 or greater when measured as described above.

When tested in accordance with NFPA 1971, 2013 Edition, Section 8.71, Transmitted and Stored Thermal Energy Test, the material shall pass all requirements without any other modifications. Shall be made in America.

When washed 50 cycles in accordance with ISO-6330 Method 6N (60 degrees C home wash), the retroreflective material shall maintain a minimum RA of 100 or greater when measured as described above.

Trim is heat-adhered directly to the outer shell fabric and is not sewn.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## PANT POCKETS

### Full Bellow Pocket 10x10x2" LEFT

A bellows pocket, measuring approximately 10" X 10" X 2", shall be double stitched to the garment. A continuous layer of Kevlar twill shall be sewn to the outer shell, 2" up from the bottom of each pocket to provide optimal strength when carrying small tools. Two rust resistant brass drainage eyelets shall be installed in the bottom of each pocket to provide the drainage of water. The pocket flaps shall be constructed of outer shell material and measure approximately 3" wide X 10" long. The pocket flaps shall be closed by means of hook and loop fastener tape. Two 1-1/2" X 2" squares shall be used on each pocket to provide even closure with a gloved hand. The upper corners of each pocket shall be bartacked for reinforcement.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Pocket Flap

Cargo pocket will have 2 layers of 1/2" wide foam, the width of the pocket at the end of the pocket flap so that a gloved hand can easily grip the flap and open pocket

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Full Bellow Pocket 10x10x2" RIGHT

A bellows pocket, measuring approximately 10" X 10" X 2", shall be double stitched to the garment. A continuous layer of Kevlar twill shall be sewn to the outer shell, 2" up from the bottom of each pocket to provide optimal strength when carrying small tools. Two rust resistant brass drainage eyelets shall be installed in the bottom of each pocket to provide the drainage of water. The pocket flaps shall be constructed of outer shell material and measure approximately 3" wide X 10" long. The pocket flaps shall be closed by means of hook and loop fastener tape. Two 1-1/2" X 2" squares shall be used on each pocket to provide even closure with a gloved hand. The upper corners of each pocket shall be bartacked for reinforcement.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Pocket Flap

Cargo pocket will have 2 layers of 1/2" wide foam, the width of the pocket at the end of the pocket flap so that a gloved hand can easily grip the flap and open pocket

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Pant Pocket Reinforcements

Each pant pocket will be reinforced with black PCA material on the exterior of the pocket

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Pant Pocket Liner

Each pant pocket will be fully Kevlar lined

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Pant Pocket Organizer

Both the left and right pocket will have a 6 tool pocket organizer

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Pant Knee Reinforcements:

The knee area shall have an exterior reinforcement with padding behind the reinforcement consisting of one layer of FR closed cell foam that is encased

between layers of moisture barrier. The reinforced knee pad shall be into the side seams of the pant thus graded in width according to pant size and be approximately 11" high. The bottom seam of the reinforcement pad shall not be exposed. The pad shall be contoured to the natural bend of the knee.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### Pant Cuff Reinforcement

Reinforced Cuff: Each cuff end shall be reinforced with a 1.5" wide piece of black PCA.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# OPTION 2

## Pant Cuff Reverse Cut

The cuff of the pant shall have a reverse cut to it

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## PANT MISCELLANEOUS

### BELT LOOPS

Each pant shall receive 1" wide X 4" long, shell material belt loops bar tacked to the outer shell along the waistline with Nomex® thread. There shall be four loops with two on the front and two on the rear.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### BELT LOOP TUNNEL

Belt loop "tunnel" 4" tall x 5" long made of outer shell material in color BLACK.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### MIC CLIP

Fabric Mic Clip - A 1" X 3" strap made of two layers of outer shell material shall be bartacked at each end to the shell. The clip will be used to house a portable radio external microphone. It shall be placed vertically on the BELT LOOP TUNNEL

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### PANT HARNESS

A ladder belt/harness shall be supplied with the pant

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

### PANT SUSPENDER

Each pant will be supplied with suspenders attached. The X-back suspender shall be constructed of 2" wide black non-elasticized cotton webbing and cross over in the rear. A black foam padding shall wrap around the suspender at the shoulder and shall be sewn to the webbing by lock stitching. The suspender shall be equipped with a Cyberian Cam lock. This thermoplastic buckle has a cam mechanism that allows the suspender length to be adjusted when open. The suspender webbing is thread through the cam lock in a means to open and adjust the suspender length. A 2.5" wide thermoplastic "D" is sewn to the end of the webbing for ease of adjustment. When in the closed position the cam lock shall lock firmly into position to prevent slippage on the adjusted suspender. The suspender shall be affixed with hook and loop fastener tape allowing for removal and replacement. No suspender rivets or metal clip ends shall be permitted.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

# **OPTION 2**

## **SIZING BY VENDOR**

Sizing samples shall be on hand for use when sizing. The vendor shall be available to perform all sizing requirements within 96 hours of written notice. Measuring with a tape measure is not acceptable.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## **GARMENT TRAINING AND SUPPORT**

OSHA requires employees be trained on the capabilities and limitations of their Personal Protective Equipment. The selected vendor shall provide the following:

On-site care and maintenance training shall be provided by the manufacturer. Training shall be in compliance with NFPA 1851, current edition, at the conclusion of which each participant shall receive a certificate of completion.

An on-site OSHA mandated training class about the limits of PPE shall be provided at no charge. The training shall include structural firefighting coat, pant and boots.

COMPLY \_\_\_\_\_ EXCEPTION \_\_\_\_\_

## **EXCEPTIONS TO SPECIFICATIONS**

Any and all exceptions to the above specifications must be clearly stated for each heading. Use additional pages for exceptions, if necessary.