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State of West Virginia Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

# Request for Quotation

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JO ANN ADKINS 304-558-8802

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# GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

- 1. Awards will be made in the best interest of the State of West Virginia.
- 2. The State may accept or reject in part, or in whole, any bid.
- 3. All quotations are governed by the West Virginia Code and the Legislative Rules of the Purchasing Division.
- 4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125.00 registration fee.
- 5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
- 6. Payment may only be made after the delivery and acceptance of goods or services.
- 7. Interest may be paid for late payment in accordance with the West Virginia Code.
- 8. Vendor preference will be granted upon written request in accordance with the West Virginia Code.
- 9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
- 11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
- **12.** Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
- 13. BANKRUPTCY: In the event the vendor/contractor files for bankruptcy protection, this contract is automatically null and void, and is terminated without further order.
- 14. HIPAA Business Associate Addendum The West Viginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

#### **INSTRUCTIONS TO BIDDERS**

- 1. Use the quotation forms provided by the Purchasing Division.
- 2. SPECIFICATIONS: Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as EQUAL to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
- Complete all sections of the quotation form.
- 4. Unit prices shall prevail in cases of discrepancy.
- 5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
- 6. BID SUBMISSION: All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

#### **SIGNED BID TO:**

Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130



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## SCOPE OF CONTRACT

The purpose of this Contract shall be to provide retroreflective sign sheeting, and associated tapes, inks, and films to various state agencies.

## SPECIFICATIONS-GENERAL

Sheetings, inks, and films to be considered for award as part of this Contract are to have completed a minimum of two (2) years of the specified outdoor weathering testing in the AASHTO NTPEP Outdoor Reflective Sheeting Performance Testing Program, with the exception of orange and fluorescent-orange sheetings (one (1) year testing required). All materials must also have been previously evaluated and approved to be in conformance with the specific manufacturing requirements of the WVDOH. The inclusion of a specific material on the WVDOH Approved Products Listing (APL) shall not be interpreted as qualifying that material for bidding as part of this Contract.

To best serve the motorist, the attached retroreflective sheeting (hereinafter called sheeting) specifications require different "levels" of reflectivity and angularity. These include: ASTM Types I, III, and IX sheetings, all of which are defined in this contract.

ASTM Types I, III, IX sheetings are required to be part of a "matched component system" that ensures the compatibility of inks and overlay films that are used with the sheeting and maintains the stated warranties, as herein noted. The manufacturer's inks (for Type III and IX sheetings), transparent EC films, and opaque vinyls must all be approved for use by the DOH in order for consideration to be given by the DOH for award of Bid Item Sections II, V, and VII. The manufacturer's transparent EC films and opaque vinyls must all be approved for use by the DOH in order for consideration to be given by the DOH for award of Bid Item Section III.

**Technical Assistance:** The successful bidder shall be able to provide technical assistance for the service of application equipment and the instruction and training of State personnel. This shall include, but not be limited to, calibration and trouble shooting of application equipment, training films, material application, screen-printing techniques, packaging, storage and inks.

Electrocut Films for use on Retroreflective Sheeting: Highly durable, transparent, acrylic, pressure sensitive colored film. Shall be as recommended by the sheeting manufacturer as part of the "matched component system". Shall in no way diminish warranties stated herein.

Transfer Tape for use with Electrocut Films: Transparent, low-tack, pressure sensitive, reusable tape used to transfer weeded legends and symbols in the manufacture of highway signs shall be as recommended by the sheeting manufacturer.

**Opaque electronic cuttable graphic films:** Highly durable, opaque, cast vinyl, pressure sensitive colored film. Shall be as recommended by the sheeting manufacturer as part of the "matched component system". Shall in no way diminish warranties stated herein.

**Certification submittal:** Certifications will be required for all sheeting ordered as part of this Contract. Certifications are to be received within ten (10) calendar days after receipt of material. Any change in formulation of the material must be submitted in writing to the WVDOH. The WVDOH will then determine if these changes will require retesting or additional testing of the material and if they comply with these specifications.

**Delivery Schedule:** All deliveries shall be provided F.O.B. to the State's designated point of delivery (Charleston, WV or 60 miles from Charleston's boundary). The first expected delivery of material shall be no later than thirty (30) days following official notification of contract award and initial order. All subsequent deliveries shall be F.O.B. destination within 15 days after receipt of order.

**Liquidated Damages:** Deliveries not completed in a timely manner shall be subject to liquidated damages as set forth in section 108.7 of the current edition of "Standard Specifications Roads and Bridges". See table 108.7.1.

# TRANSPARENT ELECTRONIC CUTTABLE ACRYLIC GRAPHIC FILMS – SPECIFICATIONS

### **DESCRIPTION:**

The electronic cuttable graphic film is a durable, transparent, acrylic colored film coated with a transparent, pressure-sensitive adhesive that is protected by a removable liner. This film is primarily used for signing.

# **REQUIREMENTS:**

**Film:** The film shall permit cutting and application with compatible sheetings at temperatures of 60 to 100 F (15 to 38 C) and relative humidity at 20 to 80 percent.

This film shall utilize a transparent film release liner designed to aid the cutting process and the removal of the film weed after cutting. The liner shall be transparent with no reference or grid lines.

The liner shall resist moisture absorption and static buildup, shall lay flat for easier assembly of graphics, and shall allow superior cutting and weeding.

**Adhesive:** The adhesive shall have a proper bond, not to allow removal from the panel in one piece without the aid of a mechanical tool.

The adhesive shall be transparent.

When applied in accordance with the recommendations of the film manufacturer, the pre-coated adhesive shall form a durable bond to the manufacturer's recommended sheetings, and shall keep the film adhered to the sheeting which it is applied to for the duration of the warranty periods as described herein.

Color, Luminance Factor, and Retroreflectivity: When applied to white sheeting, the film/sheeting combination shall meet the color, Luminance Factor, and Retroreflectivity requirements as described in the included sheeting specifications.

# GENERAL CHARACTERISTICS AND PACKAGING:

The material shall withstand a shelf life of one year after receipt from the manufacturer.

Rolls, sheets, or letters shall be individually packaged in suitable containers and in such a manner that no damage or defacement may occur to this graphic film during transport to destination.

# OPAQUE ELECTRONIC CUTTABLE GRAPHIC VINYL FILMS - SPECIFICATIONS

#### **DESCRIPTION:**

The electronic cuttable graphic film is designed for permanent graphics that may be pre-spaced and electronically cut, screen printed, or used in a narrow width thermal transfer printing systems. A polyethylene coated liner shall resist moisture absorption and static buildup, shall lay flat for easier assembly of graphics and shall allow superior cutting and weeding. With the exception of 1/2, 5/8, 3/4, 7/8, 1-1/4, and 2 inch widths, the liner shall be transparent with no reference or grid lines. 1/2, 5/8, 3/4, 7/8, 1-1/4, and 2 inch widths shall be supplied on a paper liner. These films are long term durable and shall resist gasoline vapors and occasional petroleum spills when used for fleet and vehicle graphics. This film is primarily used for vehicle fleet graphics, clear, window or two-way graphics, and exterior graphics and signing.

#### REQUIREMENTS:

**Film:** This material shall be sufficiently flexible to permit application over, and conform to moderately contoured surfaces. This film shall be an opaque cast vinyl.

The unapplied or applied film or both, shall be readily processed and shall insure adequate adhesion with process inks recommended by the manufacturer.

The thickness of the film graphic shall be 2 mils (without adhesive), or 3.0 to 4.0 mils with adhesive.

Service temperature range shall fall between -40 deg to +225 deg F.

This film shall be the same color on both sides.

This film shall utilize a transparent synthetic liner.

**Adhesive:** The adhesive shall have a proper bond, not to allow removal from the panel in one piece without the aid of a mechanical tool.

When applied in accordance with the recommendations of the film manufacturer, the pre-coated adhesive shall form a durable bond to smooth, clean and weather resistant surfaces, shall be of uniform thickness, and shall be non-corrosive to applied surfaces.

Color: The film shall be the same color on both sides.

All colors shall be glossy in appearance except for Matte White.

# **GENERAL CHARACTERISTICS AND PACKAGING:**

The material shall withstand a shelf life of two years after receipt from the manufacturer. Processed film shall have a shelf life of one year.

Rolls, sheets, or letters shall be individually packaged in suitable containers and in such a manner that no damage or defacement may occur to this graphic film during transport to destination.

# TYPE ASTM-I REFLECTIVE SHEETING - SPECIFICATIONS

#### **DESCRIPTION:**

The reflective sheeting shall consist of optical lens elements incorporated within a transparent weatherproof film having a smooth, flat outer surface.

#### **REQUIREMENTS:**

**General:** The reflective sheeting shall have sufficient strength so that it can be handled, processed, and applied according to the recommendations of the sheeting manufacturer without appreciable stretching, tearing, or other damage. The sheeting shall permit cutting and color processing with compatible transparent and opaque process inks at temperatures of 60 to 100 F (15 to 38 C) and relative humidity at 20 to 80 percent. The sheeting shall be heat resistant and permit force curing without staining of applied or unapplied sheeting at temperatures as recommended by the manufacturer.

½" and 1" width rolls of this material supplied as part of this Contract shall be on a paper liner.

Coefficient of Retroreflection: The reflective sheeting shall have minimum reflective intensity values 0.2 degrees and 0.5 degrees, observation angle, as shown in Table I below, expressed as candle power per foot candle per square foot (candelas per lux per square meter) of material.

	TABLE I												
Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Brown						
0.2	-4	70	50	9	14	4	1						
0.2	+30	30	22	3.5	6	1.7	0.3						
0.5	-4	30	25	4.5	7.5	2	0.3						
0.5	+30	15	13	2.2	3	0.8	0.2						
measurement	s shall be m	nade per AS	TM D4956	•									

**Color:** Daytime and nighttime color of the sheeting shall have substantially the same hue. The daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table II below when tested in accordance with ASTM D4956.

			7	ABLE II				
Color	1	I	2	2	3		4	
Color -	X	у	х	у	x	У	X	У
White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329
Yellow	0.498	0.412	0.557	0.442	0.479	0.520	0.438	0.472
Green	0.026	0.399	0.166	0.364	0.286	0.446	0.207	0.771
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346
Blue	0.140	0.035	0.244	0.210	0.190	0.255	0.065	0.216
Brown	0.430	0.340	0.610	0.390	0.550	0.450	0.430	0.390
Fluorescent-								
Yellow-	0.387	0.610	0.369	0.546	0.428	0.496	0.460	0.540
Green								
Fluorescent-	0.470	0.500	0.446	0.483	0.512	0.421	0.557	0.442
Yellow	0.479	0.520	0.440	0.403	0.312	U.42 I	0.557	0.442
Fluorescent- Orange	0.583	0.416	0.535	0.400	0.595	0.351	0.645	0.355

The saturation limit of green and blue may extend to the border of the CIE chromaticity locus for spectral colors. The corresponding values above shall also apply to screen printed or EC film transparent colored areas on white sheeting

**Luminance Factor:** The luminance factor Y (%) for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table III below when tested in accordance with ASTM D4956.

TABLE III						
Color	Min	Max				
White	27					
Yellow	15	45				
Green	3	9				
Red	2.5	12				
Blue	1	10				
Brown	4	9				

Adhesive: The adhesive shall be a Class 1 adhesive, as defined by ASTM D4956. The adhesive backing shall be pressure sensitive, require no heat, solvent, or other preparation for adhesion to smooth, clean surfaces. Additional adhesive coats on either the reflective sheeting or application surface shall not be necessary. When tested in accordance with ASTM D4956, the adhesive backing of the sheeting shall produce a bond that will support a 13/4-lb (0.79-kg) weight for 5 min, without the bond peeling for a distance of more than 2 in. (51 mm).

Shrinkage: The sheeting shall not shrink in any dimension more than 1/32 in. (0.8 mm) in 10 min or more than 1/8 in. (3.2 mm) in 24 h when tested in accordance with ASTM D4956.

**Flexibility:** The sheeting shall be sufficiently flexible to show no cracking when tested in accordance with ASTM D4956.

**Liner Removal:** The liner shall be easily removed without soaking in water or other solutions, and shall not break, tear, or remove adhesive from the sheeting. The liner shall be easily removed after accelerated storage as described in ASTM D4956.

**Impact Resistance:** The sheeting shall show no cracking or delamination outside of the actual area of impact when subjected to the impact test in accordance with ASTM D4956.

**Specular Gloss:** The sheeting shall have a specular gloss of not less than 40 when tested in accordance with ASTM D4956.

**Durability:** The sheeting shall be weather resistant and show no appreciable cracking, scaling, pitting, blistering, edge lifting, or curling, or more than 1/32-in. (0.8-mm) shrinkage or expansion when tested in accordance with ASTM D4956. Two (2) year NTPEP outdoor weathering test results shall indicate a minimum maintained retroreflectivity level of 50% of the values shown in Table I when tested at 0.2° observation and - 4° and +30° entrance angles. The same level of retroreflectivity shall be maintained by the sheeting in actual use for a period of seven (7) years after installation. The sheeting daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table II after two (2) years NTPEP outdoor weathering is completed. The sheeting luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table III after two (2) years NTPEP outdoor weathering is completed.

#### **GENERAL CHARACTERISTICS AND PACKAGING:**

The reflective sheeting as supplied shall be of good appearance free from ragged edges, cracks, and extraneous materials, and shall be furnished in both rolls and sheets as may be specified. The average number of splices shall not be more than three per 50 yards of material with a maximum of four splices per 50 yard length and splices shall be suitable for continuous application as supplied.

Rolls shall be packed snugly in corrugated fiberboard boxes in such a manner that no damage or defacement may occur to the reflective sheeting during shipment or storage.

Cut sheets shall be packaged flat between pressed composition board or corrugated pads of the same dimension as the sheets to prevent damage or defacement during shipment or storage.

Stored under normal conditions, the reflective sheeting shall be suitable for use for a period of at least one year.

## TYPE ASTM- III REFLECTIVE SHEETING - SPECIFICATIONS

#### **DESCRIPTION:**

The sheeting shall be a high-intensity encapsulated glass-bead retroreflective material or unmetallized microprismatic retroreflective element material with a transparent, weatherproof topcoat having a smooth outer surface. The sheeting shall have a pre-coated adhesive backing protected by a removable liner.

#### **REQUIREMENTS:**

**General:** The reflective sheeting shall have sufficient strength so that it can be handled, processed, and applied according to the recommendations of the sheeting manufacturer without appreciable stretching, tearing, or other damage. The sheeting shall permit cutting and color processing with compatible transparent and opaque process inks at temperatures of 60 to 100 F (15 to 38 C) and relative humidity at 20 to 80 percent. The sheeting shall be heat resistant and permit force curing without staining of applied or unapplied sheeting at temperatures as recommended by the manufacturer.

Coefficient of Retroreflection: The sheeting shall have minimum reflective intensity values 0.2 degrees and 0.5 degrees, observation angle, as shown in Table IV below, expressed as candle power per foot candle per square foot (candelas per lux per square meter) of material.

	Table IV							
Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Brown	
0.2	-4	250	170	45	45	20	12	
0.2	+30	150	100	25	25	11	8.5	
0.5	-4	95	62	15	15	7.5	5	
0.5	+30	65	45	10	10	5	3.5	

measurements shall be made per ASTM D4956. The values of 0° and 90° rotation are averaged to determine conformance.

For screen printed transparent colored areas on white sheeting, the coefficient of retroreflection shall not be less than as follows:

Observation Angle	Entrance Angle	Yellow	Green	Red	Blue	Brown
0.2	-4	119	32	32	14	8.4
0.2	+30	70	18	. 18	7.5	6.0
0.5	-4	43	11	11	5.0	3.5
0.5	+30	32	7.0	7.0	3.5	2.5

measurements shall be made per ASTM D4956. The values of 0° and 90° rotation are averaged to determine conformance.

For E.C. film applied transparent colored areas on white sheeting, the coefficient of retroreflection shall fall within the follwing range:

Transparent	Min.	Max.
Color		
Green	32	50
Blue	16	50
Red	35	60
Yellow	150	200
Brown	12	

measurements shall be made per ASTM D4956. measurments shall be made at 0.2° observation angle, -4° entrance angle, and 0° rotation.

**Color:** Daytime and nighttime color of the sheeting shall have substantially the same hue. The daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table II when tested in accordance with ASTM D4956.

**Luminance Factor:** The luminance factor Y (%) for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table III (encapsulated glass-bead retroreflective material) or Table V below (unmetallized microprismatic retroreflective element material) when tested in accordance with ASTM D4956.

	TABLE V	,
Color	Min	Max
White	40	
Yellow	24	45
Green	3	12
Red	3	15
Blue	1	10
Brown	1	6

**Adhesive:** The adhesive shall be a Class 1 adhesive, as defined by ASTM D4956. The adhesive backing shall be pressure sensitive, require no heat, solvent, or other preparation for adhesion to smooth, clean surfaces. Additional adhesive coats on either the reflective sheeting or application surface shall not be necessary. When tested in accordance with ASTM D4956, the adhesive backing of the sheeting shall produce a bond that will support a 13/4-lb (0.79-kg) weight for 5 min, without the bond peeling for a distance of more than 2 in. (51 mm).

**Shrinkage:** The sheeting shall not shrink in any dimension more than 1/32 in. (0.8 mm) in 10 min or more than 1/8 in. (3.2 mm) in 24 h when tested in accordance with ASTM D4956.

Flexibility: The sheeting shall be sufficiently flexible to show no cracking when tested in accordance with ASTM D4956.

**Liner Removal:** The liner shall be easily removed without soaking in water or other solutions, and shall not break, tear, or remove adhesive from the sheeting. The liner shall be easily removed after accelerated storage as described in ASTM D4956.

**Impact Resistance:** The sheeting shall show no cracking or delamination outside of the actual area of impact when subjected to the impact test in accordance with ASTM D4956.

**Specular Gloss:** The sheeting shall have a specular gloss of not less than 40 when tested in accordance with ASTM D4956.

**Durability:** The sheeting shall be weather resistant and show no appreciable cracking, scaling, pitting, blistering, edge lifting, or curling, or more than 1/32-in. (0.8-mm) shrinkage or expansion when tested in accordance with ASTM D4956.

Three (3) year NTPEP outdoor weathering test results shall indicate a minimum maintained retroreflectivity level of 80% of the values shown in Table IV when tested at 0.2° observation and - 4° and +30° entrance angles. The material shall maintain the levels of retroreflectivity indicated in Table VI below for a period of twelve (12) years after installation.

The sheeting daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table II after three (3) years NTPEP outdoor weathering is completed. The preceding daytime color requirement shall apply to screen printed or EC film transparent colored areas on white sheeting as well.

The sheeting luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table III (encapsulated glass-bead retroreflective material) or Table V (unmetallized microprismatic retroreflective element material) after three (3) years NTPEP outdoor weathering is completed.

#### MANUFACTURER'S FIELD PERFORMANCE OBLIGATION:

The reflective sheeting processed, applied to sign blank materials, and cleaned in accordance with manufacturer's recommendations, shall perform effectively for the number of years stated in Table VI. The retroreflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retroflection is less than the minimum specified for that sheeting during that period listed in Table VI.

Where it can be shown that the performance requirements of sheeting supplied and used according to the manufacturer's recommendations have not been met, the manufacturer shall cover the sign costs as follows for sheeting shown to be unsatisfactory during:

- The First Seven Years: The sheeting manufacturer will cover the cost of restoring the sign panel to its original effectiveness at no cost to the agency for materials or labor.
- Years 8 thru 10: The sheeting manufacturer will replace the sheeting required to restore the sign panel to its original effectiveness.
- Years 11 thru 12: The sheeting manufacturer will replace fifty percent of the sheeting required to restore the sign panel to its original effectiveness.

#### TABLE VI

Age: 0 years through 7 years:

Mye. U years	Age. 0 years through 7 years.								
Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Brown		
0.2	-4	200	136	36	36	16	9.5		
0.2	+30	140	108	24	24	8.5	6.5		
0.5	-4	76	49	12	12	6	4		
0.5	+30	56	48	9.5	9.5	4	2.5		

measurements shall be made per ASTM D4956 after sign cleaning. The values of 0° and 90° rotation are averaged to determine conformance. For screenprinted and E.C film applied transparent colored areas on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for the corresponding color in the above table.

Age: 7 years through 12 years:

Age. 7 years though 12 years.								
Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Brown	
0.2	-4	175	119	31	31	14	8	
0.2	+30	122	94	21	21	7.5	5.5	
0.5	-4	66	43	10	10	5	3.5	
0.5	+30	49	42	8	8	3.5	2	

measurements shall be made per ASTM D4956 after sign cleaning. The values of 0° and 90° rotation are averaged to determine conformance. For screenprinted and E.C film applied transparent colored areas on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for the corresponding color in the above table.

#### PROCESS INKS:

If special inks designed for this product are required by the manufacturer of the sheeting in order to fulfill the obligation of the above section, they shall be provided at no additional cost based on the following:

- Transparent Inks and Clear: 1 Gal. each per 1200 sq. ft of sheeting
- Black Ink: 1 Gal. per 2400 sq. ft. of sheeting

Ink supplied will be either transparent or black as specified on order.

Ink supplied will be rounded up to the next whole gallon.

All inks shall include a UV inhibitor.

If the manufacturer of the sheeting does not require special inks, then the WV Division of Highways will use its standard inks for Type ASTM-III sheeting. A failure of the inks, whether supplied by the manufacturer or the WV Division of Highways, to properly perform on the sheeting will constitute a failure of the sheeting and replacement will be made as outlined in above.

#### **SLIP SHEETING:**

Slip sheeting compatible with the reflective sheeting and inks shall be provided in rolls equal to the amount and size of reflective sheeting ordered at no additional cost.

#### **WASHERS:**

Washers, if recommended by the manufacturer to protect the sheeting from damage by bolts or other fasteners, shall be provided at no additional cost.

# GENERAL CHARACTERISTICS AND PACKAGING:

The reflective sheeting as supplied shall be free from ragged edges, cracks, and extraneous materials and shall be furnished in both rolls and sheets. The average number of splices shall not be more than three per 50 yard roll with a maximum of four per 50 yard of material and splices shall be suitable for continuous application as supplied.

Rolls shall be packaged in corrugated fiberboard boxes in such a manner that no damage or defacement may occur to the reflective sheeting during shipment or storage.

Cut sheets shall be packaged flat between pressed composition boards or corrugated pads of the same dimensions as the sheets and shall be so packed as to prevent damage or defacement during shipment or storage.

The reflective sheeting as supplied and stored under normal conditions shall be suitable for use for at least one year after purchase.

# TYPE ASTM- IX REFLECTIVE SHEETING - SPECIFICATIONS

#### **DESCRIPTION:**

The sheeting shall consist of wide angle retroreflective sheeting with optimized performance over a broad range of observation angles. The sheeting shall have a pre-coated adhesive backing protected by a removable liner. The sheeting shall have a transparent, weatherproof topcoat having a smooth outer surface.

#### **REQUIREMENTS:**

**General:** The reflective sheeting shall have sufficient strength so that it can be handled, processed, and applied according to the recommendations of the sheeting manufacturer without appreciable stretching, tearing, or other damage. The sheeting shall permit cutting and color processing with compatible transparent and opaque process inks at temperatures of 60 to 100 F (15 to 38 C) and relative humidity at 20 to 80 percent. The sheeting shall be heat resistant and permit force curing without staining of applied or unapplied sheeting at temperatures as recommended by the manufacturer.

Coefficient of Retroreflection: The sheeting shall have minimum reflective intensity values 0.2 degrees, 0.5 degrees, and 1.0 degrees observation angle, as shown in Table VII below, expressed as candle power per foot candle per square foot (candelas per lux per square meter) of material.

	TABLE VII									
Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Fluorescent Yellow- Green	Fluorescent Yellow	Fluorescent Orange	
0.2	-4	380	285	38	76	17	300	230	115	
· 0.2	+30	215	162	22	43	10	170	130	65	
0.5	-4	240	180	24	48	11	190	145	72	
0.5	+30	135	100	14	27	6	110	81	41	
1.0	-4	80	60	8	16	3.6	64	48	24	
1.0	+30	45	34	4.5	9	2	36	27	14	

measurements shall be made per ASTM D4956. The values of 0° and 90° rotation are averaged to determine conformance.

For screen printed transparent colored areas on white sheeting, the coefficient of retroreflection shall not be less than

Observation Angle	Entrance Angle	Yellow	Green	Red	Blue
0.2	-4	200	27	53	12
0.2	+30	113	15	30	7.0
0.5	-4	126	17	34	7.5
0.5	+30	70	10	19	4.0
1.0	-4	42	5.5	11	2.5
1.0	+30	24	3.0	6.0	1.0

measurements shall be made per ASTM D4956. The values of 0° and 90° rotation are averaged to determine conformance.

For E.C. film applied transparent colored areas on white sheeting, the coefficient of retroreflection shall fall within the following range:

Transparent Min. Max. Color Green 49 76 Blue 25 76 53 91 Red Yellow 228 304 19

measurements shall be made per ASTM D4956. measurments shall be made at 0.2° observation angle, -4° entrance angle, and 0° rotation.

**Color:** Daytime and nighttime color of the sheeting shall have substantially the same hue. The daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table II when tested in accordance with ASTM D4956.

**Luminance Factor:** The luminance factor Y (%) for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table V for non-fluorescent colors when tested in accordance with ASTM D4956.

High Conspicuity and Fluorescence Luminance Factor: The high conspicuity luminance factor Y (%) and fluorescence luminance factor Yf (%) for CIE standard illuminant D65 and the 1931 CIE 2° standard observer shall be in accordance with Table VIII below for fluorescent colors when tested in accordance with ASTM D4956.

TABLE VIII						
Colon	Υ(	%)	Yf	(%)		
Color	min	max	min	max		
Fluorescent Yellow- Green	60		35			
Fluorescent Yellow	45		25			
Fluorescent Orange	25		20			

**Adhesive:** The adhesive shall be a Class 1 adhesive, as defined by ASTM D4956. The adhesive backing shall be pressure sensitive, require no heat, solvent, or other preparation for adhesion to smooth, clean surfaces. Additional adhesive coats on either the reflective sheeting or application surface shall not be necessary. When tested in accordance with ASTM D4956, the adhesive backing of the sheeting shall produce a bond that will support a 13/4-lb (0.79-kg) weight for 5 min, without the bond peeling for a distance of more than 2 in. (51 mm).

**Shrinkage:** The sheeting shall not shrink in any dimension more than 1/32 in. (0.8 mm) in 10 min or more than 1/8 in. (3.2 mm) in 24 h when tested in accordance with ASTM D4956.

**Flexibility:** The sheeting shall be sufficiently flexible to show no cracking when tested in accordance with ASTM D4956.

**Liner Removal:** The liner shall be easily removed without soaking in water or other solutions, and shall not break, tear, or remove adhesive from the sheeting. The liner shall be easily removed after accelerated storage as described in ASTM D4956.

**Impact Resistance:** The sheeting shall show no cracking or delamination outside of the actual area of impact when subjected to the impact test in accordance with ASTM D4956.

**Specular Gloss:** The sheeting shall have a specular gloss of not less than 40 when tested in accordance with ASTM D4956.

Heat Resistance (fluorescent yellow and fluorescent yellow-green): Apply sheeting to standard panel and condition. Measure coefficients of retroreflection for all test geometries. Expose panel in an air circulating oven at 160+ 5°F (71+ 3°C) for a period of 24 hours. Re-condition after exposure and re-measure at all test geometries. Requirement - Coefficients of retroreflection measured after exposure shall be between 85% and 115% of the values measured before exposure.

Heat Resistance (fluorescent orange): Apply sheeting to a standard panel and condition. Measure coefficient of retroreflection at 0.2° observation and -4° entrance angles. Expose panel in circulating oven at 160 + 5°F (71 + 3°C) for a period of 24 hours. Recondition after exposure and re-measure. Coefficient of retro reflection measured after exposure shall be between 80% and 120% of original tested value at 0.2° observation and -4° entrance angles.

**Durability:** The sheeting shall be weather resistant and show no appreciable cracking, scaling, pitting, blistering, edge lifting, or curling, or more than 1/32-in. (0.8-mm) shrinkage or expansion when tested in accordance with ASTM D4956.

Three (3) year NTPEP outdoor weathering test results, excluding fluorescent orange, shall indicate a minimum maintained retroreflectivity level of 80% of the values shown in Table VII when tested at 0.2° observation and - 4° and +30° entrance angles. One (1) year NTPEP outdoor weathering test results for fluorescent orange shall indicate a minimum maintained retroreflectivity level of 80% of the values shown in Table VII when tested at 0.2° observation and - 4° entrance angles.

Non-fluorescent materials shall maintain the levels of retroreflectivity indicated in Table IX below for a period of twelve (12) years after installation. Fluorescent yellow and fluorescent yellow green materials shall maintain the levels of retroreflectivity indicated in Table IX below for a period of ten (10) years after installation. Fluorescent orange materials shall maintain the levels of retroreflectivity indicated in Table IX below for a period of three (3) years after installation.

The sheeting daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer, excluding fluorescent orange, shall be in accordance with Table II after three (3) years NTPEP outdoor weathering is completed. The sheeting daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent orange shall be in accordance with Table II after one (1) year NTPEP outdoor weathering is completed. The preceding daytime color requirement shall apply to screen printed or EC film transparent colored areas on white sheeting as well.

The sheeting daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent sheetings, excluding fluorescent orange, shall be in accordance with Table II for a period of ten (10) years after installation. The sheeting daytime color chromaticity coordinates for

CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent orange sheeting shall be in accordance with Table II for a period of three (3) years after installation.

The sheeting luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for non-fluorescent material shall be in accordance with Table V after three (3) years NTPEP outdoor weathering is completed.

The sheeting high conspicuity luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent material, with the exception of fluorescent orange, shall be in accordance with Table VIII after three (3) years NTPEP outdoor weathering is completed. The sheeting high conspicuity luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent orange material shall be in accordance with Table VIII after one (1) year NTPEP outdoor weathering is completed.

The sheeting high conspicuity luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent material, with the exception of fluorescent orange, shall be in accordance with Table VIII for a period of ten (10) years after installation. The sheeting high conspicuity luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent orange material shall be in accordance with Table VIII for a period of three (3) years after installation.

The sheeting fluorescence luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent material, with the exception of fluorescent orange, shall be in accordance with Table X below after three (3) years NTPEP outdoor weathering is completed. The sheeting fluorescence luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent orange material shall be in accordance with Table X below after one (1) year NTPEP outdoor weathering is completed.

The sheeting fluorescence luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent material, with the exception of fluorescent orange, shall be in accordance with Table X below for a period of ten (10) years after installation. The sheeting fluorescence luminance factor for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent orange material shall be in accordance with Table X below for a period of three (3) years after installation.

#### TABLE IX

Non-Fluorescent colors: Age 0 years through 7 years:

Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue
0.2	-4	304	228	30	61	14
0.2	+30	172	130	18	34	8.0
0.5	-4	192	144	19	38	8.5
0.5	+30	108	80	11	- 22	4.5
1.0	-4	64	48	6.0	13	2.5
1.0	+30	36	27	3.5	7.0	1.5

measurements shall be made per ASTM D4956 after sign cleaning. The values of 0° and 90° rotation are averaged to determine conformance. For screenprinted and E.C film applied transparent colored areas on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for the corresponding color in the above table.

Non-Fluorescent colors: Age 7 years through 12 years:

North Tablebook belefat rige . Years am eaght to year						
Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue
0.2	-4	266	200	27	53	12
0.2	+30	151	113	15	30	7.0
0.5	-4	168	126	17	34	7.5
. 0.5	+30	95	70	10	19	4.0
. 1.0	-4	56	42	5.5	11	2.5
1.0	+30	32	24	3.0	6.0	1.0

measurements shall be made per ASTM D4956 after sign cleaning. The values of 0° and 90° rotation are averaged to determine conformance. For screenprinted and E.C film applied transparent colored areas on white sheeting, the coefficients of retroreflection shall not be less than 70% of the values for the corresponding color in the above table.

Fluorescent yellow and yellow-green colors: Age 0 years through 10 years:

· Color	Observation	Ra
	Angle	
Fluorescent	0.2	165
Yellow	1	30
Fluorescent	0.2	225
Yellow-	4	45
Green	'	40

measurements shall be made at -4 entrance angle. measurements shall be made per ASTM D4956 after sign cleaning. The values of 0° and 90° rotation are averaged to determine conformance.

Fluorescent orange: Age 0 years through 3 years:

Color	Observation	Ra	
	Angle		
Fluorescent	0.2	125	
Orange	0.2	120	

measurements shall be made at -4 entrance angle. measurements shall be made per ASTM D4956 after sign cleaning. The values of 0° and 90° rotation are averaged to determine conformance.

	TABLE X					
Warranted Fluorescence Luminance Factors, Yf (%)						
Color	Yf (%)					
COIOI	min	max				
Fluorescent Yellow- Green	20					
Fluorescent Yellow	20					
Fluorescent Orange	15					

### MANUFACTURER'S FIELD PERFORMANCE OBLIGATION:

The reflective sheeting processed, applied to sign blank materials, and cleaned in accordance with manufacturer's recommendations, shall perform effectively for the number of years as stated in this specification. The retroreflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retroreflection during the specified warranty period is less than the minimum specified values as described herein; or (3) the High Conspicuity Luminance Factor or Fluorescence Luminance Factor during the specified warranty period is less than the minimum specified values as described herein; or (4) the daytime color chromaticity coordinates for CIE standard illuminant D65 and the 1931 CIE 2° standard observer for fluorescent sheetings during the specified warranty period does not meet the requirements as described herein.

Where it can be shown that the performance of sheeting supplied and used according to the manufacture's recommendations have not been met, the manufacturer shall cover the sign costs as follows for sheeting shown to be unsatisfactory during:

- Years 0 thru 3 (fluorescent orange only): Material failing to meet requirements shall be replaced at a rate of 1 1/2 (replacement) to 1 (purchased).
- The First Seven Years (excludes fluorescent orange): The sheeting manufacturer will cover the cost of restoring the sign panel to its original effectiveness at no cost to the agency for materials or labor.
- Years 8 thru 10 (excludes fluorescent orange): The sheeting manufacturer will replace the sheeting required to restore the sign panel to its original effectiveness.
- Years 11 thru 12 (non-fluorescent only): The sheeting manufacturer will replace fifty percent of the sheeting required to restore the sign panel to its original effectiveness.

#### **PROCESS INKS:**

If special inks designed for this product are required by the manufacturer of the sheeting in order to fulfill the obligation of Section 5, they shall be provided at no additional cost based on the following:

- Transparent Inks and Clear: 1 Gal. each per 1200 sq. ft of sheeting
- Black Ink: 1 Gal. per 2400 sq. ft. of sheeting

Ink supplied will be either transparent or black as specified on order.

Ink supplied will be rounded up to the next whole gallon.

All inks shall include a UV inhibitor.

If the manufacturer of the sheeting does not require special inks, then the WV Division of Highways will use its standard inks for Type ASTM-IX sheeting. A failure of the inks, whether supplied by the manufacturer or the WV Division of Highways, to properly perform on the sheeting will constitute a failure of the sheeting and replacement will be made as outlined in above.

#### **SLIP SHEETING:**

Slip sheeting compatible with the reflective sheeting and inks shall be provided in rolls equal to the amount and size of reflective sheeting ordered at no additional cost.

#### **WASHERS:**

Washers, if recommended by the manufacturer to protect the sheeting from damage by bolts or other fasteners, shall be provided at no additional cost.

#### **GENERAL CHARACTERISTICS AND PACKAGING:**

The reflective sheeting as supplied shall be free from ragged edges, cracks, and extraneous materials and shall be furnished in both rolls and sheets. The average number of splices shall not be more than three per 50 yard roll with a maximum of four per 50 yard of material and splices shall be suitable for continuous application as supplied.

Rolls shall be packaged in corrugated fiberboard boxes in such a manner that no damage or defacement may occur to the reflective sheeting during shipment or storage.

Cut sheets shall be packaged flat between pressed composition boards or corrugated pads of the same dimensions as the sheets and shall be so packed as to prevent damage or defacement during shipment or storage.

The reflective sheeting as supplied and stored under normal conditions shall be suitable for use for at least one year after purchase.

#### **BID SCHEDULE FOR AWARD**

- Bid Item Section I will be evaluated, and if need be, awarded independently of the other Bid Item Sections.
- Bid Item Sections II, V, and VII will be evaluated as a whole, and will be awarded as such. If need be, these Sections will be awarded independently of the other Bid Item Sections.
- Bid Item Section III will be evaluated, and if need be, awarded independently of the other Bid Item Sections.
- Bid Item Section IV will be evaluated, and if need be, awarded independently of the other Bid Item Sections.
- Bid Item Section VI will be evaluated, and if need be, awarded independently of the other Bid Item Sections.
- Bid Item Section VIII will be evaluated, and if need be, awarded independently of the other Bid Item Sections.

Vendors are to submit pricing for each Item within the Sections they are bidding, regardless of the presence of a value in the Estimated Quantity column.

For Items without a value in the Estimated Quantity column, the vendor is to submit their price for one (1) roll in the Unit Cost column. The Total Cost column should be left blank in this case.

In determining the vendor's total bid for each Section for award purposes, the figures in the Total Cost column associated with Items with an estimated quantity indicated will be totaled. Pricing for Items without a value in the Estimated Quantity column will not be used in determining the award of the Contract.

The estimated quantities shown on the Bid Schedule are estimated quantities only. Actual quantities ordered may be more or less than those shown.

Retroreflective Sheeting Bid Items with sizes marked with an asterisk (\*) indicate that the specific size required is indicated. The width material supplied shall be equal to or greater than the size indicated. For 12-3/4" width sheetings, the width supplied shall be 12-3/4". For other sizes, "industry standard" widths shall be supplied, which shall be the width indicated plus a marginal amount to allow for edge trimming.

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	Transfer Tape, Low Tack 48"x100 yds	Transfer Tape, Low Tack 42"x100 yds	Transfer Tape, Low Tack 36"x100 yds	Transfer Tape, Low Tack 30"x100 yds	Transfer Tape, Low Tack 24"x100 yds	Transfer Tape, Low Tack 18"x100 yds	Transfer Tape, Low Tack 15"x100 yds	Transfer Tape, Low Tack 12"x100 yds	Transfer Tape, Low Tack 3"x100 yds	Transfer Tape, Low Tack 2"x100 yds	BID ITEM SECTION I - TRANSFER TAPES		DESCRIPTION
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EC film, Transparent, Pressure Sensitive, Acrylic 24"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 24"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 24"x50 yds. Blue	EC film, Transparent, Pressure Sensitive, Acrylic 24"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 24"x50 yds. Yellow	EC film, Transparent, Pressure Sensitive, Acrylic 18"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 18"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 18"x50 yds. Blue	EC film, Transparent, Pressure Sensitive, Acrylic 18"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 18"x50 yds. Yellow	EC film, Transparent, Pressure Sensitive, Acrylic 15"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 15"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 15"x50 yds. Blue	EC film, Transparent, Pressure Sensitive, Acrylic 15"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 15"x50 yds. Yellow	EC film, Transparent, Pressure Sensitive, Acrylic 12"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 12"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 12"x50 yds. Blue	EC film, Transparent, Pressure Sensitive, Acrylic 12"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 12"x50 yds. Yellow	BID ITEM SECTION II - TRANSPARENT EC FILM & OPAQI	DESCRIPTION
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47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31		ITEM NUMBER
								2	4				31	2				ESTIMATED QTY
EC film, Transparent, Pressure Sensitive, Acrylic 48"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 48"x50 yds. Yellow	EC film, Transparent, Pressure Sensitive, Acrylic 42"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 42"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 42"x50 yds. Blue	EC film, Transparent, Pressure Sensitive, Acrylic 42"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 42"x50 yds. Yellow	EC film, Transparent, Pressure Sensitive, Acrylic 36"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 36"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 36"x50 yds. Blue	EC film, Transparent, Pressure Sensitive, Acrylic 36"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 36"x50 yds. Yellow	EC film, Transparent, Pressure Sensitive, Acrylic 30"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 30"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 30"x50 yds. Blue	EC film, Transparent, Pressure Sensitive, Acrylic 30"x50 yds. Red	EC film, Transparent, Pressure Sensitive, Acrylic 30"x50 yds. Yellow	BID ITEM SECTION II - TRANSPARENT EC FILM & OPAQUE VIN	DESCRIPTION
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67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48		ITEM NUMBER
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EC film, Opaque, Pressure Sensitive, Cast Vinyl 30"x50 yds Blue	EC film, Opaque, Pressure Sensitive, Cast Vinyl 30"x50 yds Yellow	EC film, Opaque, Pressure Sensitive, Cast Vinyl 30"x50 yds Black	EC film, Opaque, Pressure Sensitive, Cast Vinyl 30"x50 yds Matte White	EC film, Opaque, Pressure Sensitive, Cast Vinyl 24"x50 yds Blue	EC film, Opaque, Pressure Sensitive, Cast Vinyl 24"x50 yds Yellow	EC film, Opaque, Pressure Sensitive, Cast Vinyl 24"x50 yds Black	EC film, Opaque, Pressure Sensitive, Cast Vinyl 24"x50 yds Matte White	EC film, Opaque, Pressure Sensitive, Cast Vinyl 18"x50 yds Blue	EC film, Opaque, Pressure Sensitive, Cast Vinyl 18"x50 yds Yellow	EC film, Opaque, Pressure Sensitive, Cast Vinyl 18"x50 yds Black	EC film, Opaque, Pressure Sensitive, Cast Vinyl 18"x50 yds Matte White	EC film, Opaque, Pressure Sensitive, Cast Vinyl 1-1/4"x50 yds Black (Opaque)	EC film, Opaque, Pressure Sensitive, Cast Vinyl 7/8"x50 yds Black (Opaque)	EC film, Opaque, Pressure Sensitive, Cast Vinyl 3/4"x50 yds Black (Opaque)	EC film, Opaque, Pressure Sensitive, Cast Vinyl 5/8"x50 yds Black (Opaque)	EC film, Opaque, Pressure Sensitive, Cast Vinyl 3/8"x50 yds Black (Opaque)	EC film, Transparent, Pressure Sensitive, Acrylic 48"x50 yds. Brown	EC film, Transparent, Pressure Sensitive, Acrylic 48"x50 yds. Green	EC film, Transparent, Pressure Sensitive, Acrylic 48"x50 yds. Blue	BID ITEM SECTION II - TRANSPARENT EC FILM & OPAQUE VIN	DESCRIPTION
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	512030	518030				518024						518125	518088	518075	518062	518038	906048	904048	905048		INVENTORY SUBCODE (DOH USE ONLY)

79	78	77	76	75	74	73	72	71	70	69	68		ITEM NUMBER
					-	2				4			ESTIMATED QTY
EC film, Opaque, Pressure Sensitive, Cast Vinyl 60"x50 yds Blue	EC film, Opaque, Pressure Sensitive, Cast Vinyl 60"x50 yds Yellow	EC film, Opaque, Pressure Sensitive, Cast Vinyl 60"x50 yds Black	EC film, Opaque, Pressure Sensitive, Cast Vinyl. 60"x50 yds Matte White	EC film, Opaque, Pressure Sensitive, Cast Vinyl 48"x50 yds Blue	EC film, Opaque, Pressure Sensitive, Cast Vinyl 48"x50 yds Yellow	EC film, Opaque, Pressure Sensitive, Cast Vinyl 48"x50 yds Black	EC film, Opaque, Pressure Sensitive, Cast Vinyl 48"x50 yds Matte White	EC film, Opaque, Pressure Sensitive, Cast Vinyl 36"x50 yds Blue	EC film, Opaque, Pressure Sensitive, Cast Vinyl 36"x50 yds Yellow	EC film, Opaque, Pressure Sensitive, Cast Vinyl 36"x50 yds Black	EC film, Opaque, Pressure Sensitive, Cast Vinyl 36"x50 yds Matte White	BID ITEM SECTION II - TRANSPARENT EC FILM & OPAQUE VIN	DESCRIPTION
												VINYL (CONTINUED)	MANUFACTURER PRODUCT CODE
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						518048			512036	518036			INVENTORY SUBCODE (DOH USE ONLY)

94	-	93	92	91	90	89	88	87	86	85	84	83	82	81	80		ITEM E
		-		<u> </u>	_	_											ESTIMATED
	Type ASTM-I Reflective Sheeting, Pressure Sensitive 48"x50 yds White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 42"x50 yds. Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 42"x50 yds. White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 36"x50 yds Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 36"x50 yds White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 30"x50 yds Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 30"x50 yds White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 21"x50 yds Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 21"x50 yds White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 15"x50 yds. Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 15"x50 yds. White	BID ITEM SECTION III - TRANSPARENT EC FILM AND OPAQUE VINYL DEPENDENT TYPE I SHEETINGS	DESCRIPTION
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	111048			112036	111036	112030	111030	112024	111024		111021	112018		112015	111015		INVENTORY SUBCODE (DOH USE ONLY)

107	106	105	104	103	102	101	100	99	98	97	96		NOMBER	ITEM
						-		-				BID ITE	QIY	ESTIMATED
Type ASTM-I Reflective Sheeting, Pressure Sensitive 48"x50 yds Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive 42"x50 yds. Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive 36"x50 yds Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive . 30"x50 yds Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive 21"x50 yds Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive 15"x50 yds. Blue	Type ASTM-I Reflective Sheeting, Pressure Sensitive 1"x50 yds* Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 1"x50 yds* White	Type ASTM-I Reflective Sheeting, Pressure Sensitive 1/2"x50 yds* Yellow	Type ASTM-I Reflective Sheeting, Pressure Sensitive 1/2"x50 yds* White	BID ITEM SECTION IV - TRANSPARENT INK, TRANSPARENT EC FILM, AND OPAQUE VINYL NON-DEPENDENT TYPE I SHEETINGS		DESCRIPTION
												VINYL NON-DEPEN	PRODUCT CODE	MANUFACTURER
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115048		115036	115030	115024			115015	112100	111100	112050	111050		(DOH USE ONLY)	INVENTORY

123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108		ITEM NUMBER
11	25		14	7	23	34	67	11	29		7	2	ω	- Andrews		BID I	ESTIMATED QTY
Type ASTM-III Reflective Sheeting, Pressure Sensitive 48"x50 yds Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 48"x50 yds White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 42"x50 yds. Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 42"x50 yds. White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 36"x50 yds Yellow	Type ASTM-III Reflective Sheeling, Pressure Sensitive 36"x50 yds White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 30"x50 yds Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 30"x50 yds White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 21"x50 yds Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 21"x50 yds White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 15"x50 yds. Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 15"x50 yds. White	BID ITEM SECTION V - TRANSPARENT INK, TRANSPARENT EC FILM, AND OPAQUE V	DESCRIPTION
		American de minimum proposation de la companya de l											A LA CALLES AND A			E VINYL DEPENDENT TYPE III SHEETINGS	MANUFACTURER PRODUCT CODE
																NT TYPE III S	UNIT COST
																SHEETINGS	TOTAL COST
212048	211048	212042	211042	212036	211036	212030	211030	212024	211024		211021	212018	211018		211015		INVENTORY SUBCODE (DOH USE ONLY)

143	142	141	140	139	138	137	136	135	134	133	132	131	130	129	128	127	126	125	124		ITEM NUMBER
	Address of the state of the sta										5	21	21		<b>A</b>					BID ITE	ESTIMATED
Type ASTM-III Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 21"x50 yds Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 21"x50 yds Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 21"x50 yds Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 15"x50 yds. Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 15"x50 yds. Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 15"x50 yds. Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 1"x50 yds* Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 1"x50 yds* White	Type ASTM-III Reflective Sheeting, Pressure Sensitive 1/2"x50 yds* Yellow	Type ASTM-III Reflective Sheeting, Pressure Sensitive 1/2"x50 yds* White	BID ITEM SECTION VI - TRANSPARENT INK, TRANSPARENT EC FILM, AND OPAQUE VINYL NON-DEPENDENT TYPE III SHEETINGS	DESCRIPTION
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										215015	216012	214012	215012	212012	211012		211100		211050		INVENTORY SUBCODE (DOH USE ONLY)

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156	155	154	153	152	151	150	149	148	147	146	145	144		ITEM
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Type ASTM-III Reflective Sheeting, Pressure Sensitive 48"x50 vds Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 48"x50 yds Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 48"x50 yds Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 42"x50 yds. Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 42"x50 yds. Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 42"x50 yds. Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 36"x50 yds Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 36"x50 yds Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 36"x50 yds Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 30"x50 yds Brown	Type ASTM-III Reflective Sheeting, Pressure Sensitive 30"x50 yds Green	Type ASTM-III Reflective Sheeting, Pressure Sensitive 30"x50 yds Blue	Type ASTM-III Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Brown	BID ITEM SECTION VI - TRANSPARENT INK, TRANSPARENT EC FILM, AND OPAQUE VINYL NON-DE	DESCRIPTION
													DEPENDENT TYPE III SHEETINGS (CONTINUED)	MANUFACTURER PRODUCT CODE
													SHEETINGS (	UNIT COST
													CONTINUED)	TOTAL COST
216048	214048	215048		214042	215042		214036	215036	216030	214030	215030	216024		INVENTORY SUBCODE (DOH USE ONLY)

176	175	174	173	172	171	170	169	168	167	166	165	164	163	162	161	160	159	158	157		NUMBER
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Type ASTM-IX Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Fluorescent Orange ·	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 21"x50 yds Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 21"x50 yds Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 21"x50 yds Fluorescent Orange	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 21"x50 yds White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Fluorescent Yellow	Type ASTW-IX Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Fluorescent Orange	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 15"x50 yds. Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 15"x50 yds. Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 15"x50 yds. Fluorescent Orange	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 15"x50 yds. White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Fluorescent Yellow-Green (To be used in the fabrication of flat sheet signs)	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12"x100 yds Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12"x100 yds White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 9"x100 yds. Fluorescent Yellow-Green	BID ITEM SECTION VII - TRANSPARENT INK, TRANSPARENT EC FILM, AND OPAQUE V	DESCRIPTION
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612424	612024	613024	611024					612418	612018		611018					012412	612012	611012			SUBCODE (DOH USE ONLY)

192	191	190	189	188	187	186	185	184	183	182	181	180	179	178	177		ITEM NUMBER
		2						-	11	ω	7.0	ω	4			BI	ESTIMATED QTY
Type ASTM-IX Reflective Sheeting, Pressure Sensitive 48"x50 yds Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 48"x50 yds Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 48"x50 yds Fluorescent Orange	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 48"x50 yds White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 42"x50 yds. Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 42"x50 yds. Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 42"x50 yds. Fluorescent Orange	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 42"x50 yds. White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 36"x50 yds Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 36"x50 yds Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 36"x50 yds Fluorescent Orange	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 36"x50 yds White	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 30"x50 yds Fluorescent Yellow-Green	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 30"x50 yds Fluorescent Yellow	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 30"x50 yds Fluorescent Orange	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 30"x50 yds White	BID ITEM SECTION VII - TRANSPARENT INK, TRANSPARENT EC FILM, AND OPAQUE VINYL DEPENDENT TYPE IX SHEETINGS (CONTINUED)	DESCRIPTION
				AND THE RESERVE OF THE PROPERTY OF THE PROPERT										A STATE AND A STATE OF THE PROPERTY OF THE PRO		EPENDENT TYPE IX S	MANUFACTURER PRODUCT CODE
																HEETINGS (CO	UNIT COST
															· ·	NTINUED)	TOTAL COST
612448	612048	613048	611048					612436	612036	613036	611036	612430	612030	613030			INVENTORY SUBCODE (DOH USE ONLY)

ITEM NUMBER	ITEM ESTIMATED NUMBER QTY	DESCRIPTION	MANUFACTURER PRODUCT CODE	TURER	CODE UNIT COST
	BID ITEN	BID ITEM SECTION VIII - TRANSPARENT INK, TRANSPARENT EC FILM, AND OPAQUE	VINYL NON-DEPENDENT TYPE IX SHEETINGS	DENT TYPE I	
193		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* White			
194		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Blue			
. 195		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Green			
196		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Fluorescent Orange			
197	4	Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Fluorescent Yellow			
198		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 12-3/4"x100 yds* Fluorescent Yellow-Green (To be used in the fabrication of extruded panel signs)			
199		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 15"x50 yds. Blue			
200		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 15"x50 yds. Green			
201		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Blue			
202		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 18-1/2"x50 yds* Green			-
203		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 21"x50 yds Blue			
204		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 21"x50 yds Green			
205		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Blue			<del> </del>
206		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 24-1/2"x50 yds* Green			ـــــــ
207		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 30"x50 yds Blue			ļ
208		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 30"x50 yds Green			—
209		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 36"x50 yds Blue			-
210		36"x50 yds			<del> </del>
211			The state of the s		
212					
213		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 48"x50 yds Blue			
214		Type ASTM-IX Reflective Sheeting, Pressure Sensitive 48"x50 yds Green			_

RFQ	No.	
RFQ	No.	

#### STATE OF WEST VIRGINIA Purchasing Division

#### PURCHASING AFFIDAVIT

**West Virginia Code §5A-3-10a states:** No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owned is an amount greater than one thousand dollars in the aggregate

#### **DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

**LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

**CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit **www.state.wv.us/admin/purchase/privacy** for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Authorized Signature: Date:	

Purchasing Affidavit (Revised 04/15/07)