Traffic Operations

APPROVED PRODUCTS LIST

TRAFFIC SIGNALS, HIGHWAY LIGHTING, AND HIGHWAY SIGNING EQUIPMENT

MISSOURI DEPARTMENT OF TRANSPORTATION
APPROVED PRODUCTS LIST

TRAFFIC SIGNALS AND HIGHWAY LIGHTING EQUIPMENT

I. GENERAL

This Approved Products List (APL) is based on equipment meeting department specifications and being tested for the specified test period with satisfactory performance. All models shall conform to the latest revision of the Missouri Standard Specifications for Highway Construction unless otherwise indicated. The models indicated on the list are approved, but are subject to final field inspection before acceptance.

The department frequently tests new products and equipment for traffic signals and highway lighting. These new products may be installed on a construction project, purchased on parts orders or with controller orders. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until an item is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form - Signal and Lighting Equipment. Copies of this form can be obtained from our website at www.modot.state.mo.us or contact MoDOT Traffic Operations. Minor model changes do not require an evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect.

All equipment evaluations are coordinated through MoDOT Traffic Operations. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified on the APL. Products that are not performing satisfactorily will be replaced with an approved product if the vendor cannot provide timely correction of the problem or if unsatisfactory operation of the intersection results.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Traffic Operations. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that do not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

Significant change in product specifications or design without notification to the department.

Failure to correct or replace products that are defective in manufacturing or workmanship.

Repeated patterns of malfunctions of a product not adequately corrected by the vendor.

Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.

Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will be removed from the list if it is not revised to meet specifications.

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II. TRAFFIC SIGNAL EQUIPMENT

All traffic signal equipment requires a one-year evaluation period.

CONTROLLERS

NEMA TS1 CONTROLLERS	MODEL
Econolite	ASC/2-2100
Econolite	ASC/2S-2100
Econolite	ASC/3-2100
Naztec	980
Peek	3000
Siemens	EPAC Genesis M40
Siemens	EPAC M42
Siemens	EPAC M52
Traffic Control Technologies (TCT)	LMD-8000

NEMA ON-STREET MASTER CONTROLLER	MODEL
Econolite	KMC-10,000
Econolite	ASC/2M
Siemens	MARC 360

SOLID STATE PRETIMED CONTROLLERS (ALL TYPES)	MODEL
Siemens	EPIC Series
Traffic Control Technologies (TCT)	LMD 40 Series

170 CONTROLLERS	MODEL
McCain	170E
Phillips/Sisson Industries, Inc.	170E
Safetran	170E
Siemens	170E

CABINETS AND BACK PANELS (NEMA & S.S. PRETIMED)

NOTE: Cabinets and Back panels that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.

NEMA CABINET AND BACK PANEL ASSEMBLIES

Control Technology
Econolite
Henke/Bison
IDC/Gibbons
Naztec P-44
Siemens

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SOLID STATE PRETIMED CABINET AND BACK PANEL ASSEMBLIES

Siemens

CABINETS AND RACKS (TYPE 170 CONTROLLERS)

NOTE: Cabinets and Racks that meet MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide a model that meets specifications and complete a satisfactory one-year evaluation as described above to be added to the list.

332 AND 336S CABINET AND RACK ASSEMBLIES

McCain
Phillips/Sisson Industries, Inc.
Safetran

CONFLICT MONITORS

NEMA CONFLICT MONITORS	MODEL
Eberle Design Incorporated (EDI)	NSM-6
Eberle Design Incorporated (EDI)	NSM-12
Eberle Design Incorporated (EDI)	SSM-12LE
Eberle Design Incorporated (EDI)	MMU-16E
Eberle Design Incorporated (EDI)	MMU-16LE
Naztec, Incorporated	NM512
Peek/Transyt	1200
Power Distribution & Control (PDC)	CM82-03
Power Distribution & Control (PDC)	CM82-06
Power Distribution & Control (PDC)	CM82-12
Reno A&E	MMU-1600 Series
Solid State Devices	NM-6
Solid State Devices	NM-12
Solid State Devices	LCD-6P
Solid State Devices	LCD-12P
Traffic Control Technologies (TCT)	LNM Series

170 CONFLICT MONITORS	MODEL
Eberle Design Incorporated (EDI)	210E
Reno A & E	2018
Solid State Devices	210P

CABINET ACCESSORIES

AUXILIARY TIME CLOCK	MODEL
Eltec	NTC-17E
Eltec	TC-14
RTC	AP41

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EXTERNAL T.B.C. COORDINATORS	MODEL
Eltec	TC-14

FLASHERS (NEMA & 170)	MODEL
Eberle Design Incorporated (EDI)	810
Power Distribution & Control (PDC)	SSF-86
Power Distribution & Control (PDC)	SSF-88
Reno A & E	FL-200
Traffic Sensor Corp	204
Traffic Sensor Corp	204-15
Traffic Sensor Corp	304
Traffic Sensor Corp	304-15

FLASH TRANSFER RELAYS	MODEL
AMECO	136-4962
Struthers-Dunn	21ACPX-2/21ACPXD-5
Mid-Tex	136-62T-3A1
Power Distribution & Control (PDC)	FTR 91
Reno	TR-200

LOAD SWITCHES (NEMA & 170)	MODEL
Eberle Design Incorporated (EDI)	510
Power Distribution & Control (PDC)	SSS-86
Power Distribution & Control (PDC)	SSS-88
Reno A & E	LS-200
Traffic Control Technologies (TCT)	SSS-86
Traffic Sensor Corp	200
Traffic Sensor Corp	200-15
Traffic Sensor Corp	300
Traffic Sensor Corp	300-15

ISOLATORS (170 only) (242=DC, 252=AC)	MODEL
Eberle Design Incorporated	242
GDI	242
GDI	252
Power Distribution & Control (PDC)	242
Power Distribution & Control (PDC)	252
Safetran	242
Safetran	252

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SURGE PROTECTORS	MODEL
Edco	SHA 1210
Edco	SHA-1250

TONE RECEIVERS	MODEL
Iniven	IR30M-05-30

TONE TRANSMITTERS	MODEL
Iniven	IT30

DETECTORS

MICROWAVE DETECTORS	MODEL
Microwave Sensors	TC-26B
Electronic Integrated Systems, Inc. (EIS)	RTMS X-2

MICROLOOP, PROBE	MODEL
3M	Canoga 701

PEDESTRIAN PUSH BUTTONS	MODEL
Campbell	4 EVR 120
Polara Engineering, Inc.	BDSP-010-B

POWER SUPPLY FOR CARD RACK DETECTORS - NEMA	MODEL
ICC	PS24
PGK	PS-1.2

SINGLE CHANNEL SHELF MOUNT DETECTORS, STANDARD	MODEL
Eberle Design Incorporated (EDI)	LMD301S
Sarasota	535B/MS

SINGLE CHANNEL SHELF MOUNT DETECTORS, TIME DELAY	MODEL
Eberle Design Incorporated (EDI)	LMD301T
Sarasota	535T/MS

ULTRASONIC DETECTORS	MODEL
Microwave Sensors	TC-30

2-CHANNEL CARD RACK COUNTING DETECTORS, DUAL OUTPUT

Eberle Design Incorporated (EDI).....LMD632

2-CHANNEL CARD RACK COUNTING DETECTORS, SINGLE OUTPUT PULSE MODE (NEMA)	MODEL
Eberle Design Incorporated (EDI)	LMD632T
ICC	S27B
Reno A & E	C

2-CHANNEL CARD RACK DETECTORS, STANDARD (170)	MODEL
Eberle Design Incorporated (EDI)	LM222
Eberle Design Incorporated (EDI)	LMD222
Reno A & E	222
Sarasota	222-GP5
Sarasota	222 GP6

2-CHANNEL CARD RACK DETECTORS, STANDARD (NEMA)	MODEL
Eberle Design Incorporated (EDI)	LMD602R
ICC	S27B
Reno A & E	C
Reno A & E	G

2-CHANNEL CARD RACK DETECTORS, TIME DELAY (NEMA)	MODEL
3M	Canoga C800 Series
Eberle Design Incorporated (EDI)	LMD602TR
Reno A & E	C
Reno A & E	GT

SIGNAL HEADS

BACKPLATES	MODEL
Chapel Hill	44xx Series
Intelight	BP INTLIT Series
Pelco	BK-100x Series
Neodesia Plastics	BP Series

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HARDWARE

NOTE: Hardware that meets MoDOT specifications from the following manufacturers will be accepted. ALL other manufacturers must provide equipment that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Pelco
Reliable 3/8" Strandvise 5202
Reliable ¼" Strandvise 5200

LOUVERS	MODEL
Pelco	GPL

POLYCARBONATE SIDE-MOUNT BRACKETS WITH RELATED HARDWARE	MODEL
Component Products	Any
Eagle	UKS1452AB

SIGNAL HEADS - OPTICALLY LIMITED	MODEL
Intelight, Inc.	ESB Series
McCain	HPTS Series

SIGNAL HEADS - POLY CONVENTIONAL	MODEL
Chapel Hill	SIG-TPB-305-CTN-NVN-0N (3 section)
Chapel Hill	SIG-TPB-586-CTN-NVN-0N (5 section)
Eagle	SA Series
Econolite	TP Series
General Traffic Equipment Corp.	T-30 POLY
IDC/Safetrans	LT Series
McCain	MTSTP Series
Traffic Control Technologies (TCT)	PSS Series

PEDESTRIAN HEAD – POLY 1-SECTION	MODEL
McCain	M32258

PEDESTRIAN LED SIGNAL INDICATION	MODEL

Pedestrian LED signal indications must be ETL verified. The ETL verified listing is located at Intertek ETL Verified Listing - Link

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POSTS AND MAST ARMS

Note: Posts and Mast Arms do not require an evaluation period. Posts and Mast Arms shall be fabricated in accordance with MoDOT specifications and standards. Posts and Mast Arms shall be pre-approved as required by the MoDOT standards and specifications to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Posts and Mast Arms are subject to field inspection before acceptance.

STEEL POSTS AND MAST ARMS	DRAWING NUMBER
Ameron International	MO9811 - Rev. 9 (Type C)
Ameron International	MO9812 - Rev. 10 (Type CL)
JEM Engineering & Manufacturing	MODOT1-4 Rev. 2 (Types C, CL, B & BL)
Maico Industries, Inc.	MOMAST 1-5A Rev. 1-6 (Types C, CL, B & BL)
Millerbernd Manufacturing Company	780C388 (Type B)
Millerbernd Manufacturing Company	780C389 (Type BL)
Millerbernd Manufacturing Company	780C49 (Type C)
Millerbernd Manufacturing Company	780C51 (Type CL)
Millerbernd Manufacturing Company	500A971
Pelco Structural, LLC	MODMA1001 & 1002 (Type B)
Pelco Structural, LLC	MODMAL1001 & 1002 (Type BL)
Pelco Structural, LLC	MOSMA1001 & 1002 (Type C)
Pelco Structural, LLC	MOSMAL1001 & 1002 (Type CL)
Union Metals	30443-B202 - Rev. 19 (Types C, CL, B & BL)
Valmont	DB00408 - Rev. C (Types C, CL, B & BL)

MISCELLANEOUS

LOOP SEALANTS (Loop sealants do not require material certification)	MODEL
3M	5000
Bondo	560
Bondo	575
Bondo	P606
Chemque	290S
Chemque	296-06
Durant Paints	Stat-A-Flex Polyseal
RAI Products	Pro-Seal 6006

PEDESTAL BASES	MODEL
Akron Foundry	TS-1000-L-P
Akron Foundry	TS-1000-L-WP
Component Products	CPI-BAS-1
Pelco	PB5336
Pelco	PB5337
Pelco	PB5340
Pelco	PB5341
Traffic Parts	TP 289 X

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SPLICE KITS (DETECTOR LEAD-IN)	MODEL
3M	DBY Series
HOMAC HMC Industries	RAB 1/0 Series

METER SERVICE PEDESTAL (SIGNALS/SIGNALS & LIGHTING)	MODEL
Milbank 120V Signal Only	CP3B51C1PAAOMO1
Milbank 120V Signal with 2 –Circuit 240V Lighting	CP3B51C1PBAOMO2
Milbank 120V Signal with 2-Circuit 240V Lighting Dual Meter	CP3B62C2NBAOMO1
Myers 120V Signal with 2-Circuit 240V Lighting	MEUGLA-M100-MDOT
Myers 120V Signal with 2-Circuit 240V Lighting	MEUG 20
Pacific Utility Products 120V Signal Only	USP16-M2100-112C-MODOT6-TS
Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting	USPA-100-100-MODOT
Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting	USP16-M2100-112C-MODOT
Pacific Utility Products 120V Signal with 2-Circuit 240V Lighting	USP24-M2100-100-MODOT6-TSL
Pacific Utility Products 120V Sgnl w/2-Circuit 240V Lighting Dual Mtr	USPD-2M2100-100-MODOT6
Tesco 120V Signal with 2-Circuit 240V Lighting	28-105 Type III BF
Tesco 120V Signal with 2-Circuit 240V Lighting	28-102F

LIGHT EMITTING DIODES (LED)

LED's (circular and arrow) must be ETL verified. The ETL verified listing is located at Intertek ETL Verified Listing - Link

PROGRAMMABLE VIEW	MODEL
Dialight	P463R33003 (Red Ball)
Dialight	P463Y33003 (Yellow Ball)
Dialight	P463G33003 (Green Ball)
GELcore	DR3-RCFB-01A (Red Ball)
GELcore	DR3-YCFB-01A (Yellow Ball)
GELcore	DR3-GCFB-01A (Green Ball)

VIDEO DETECTION SYSTEMS

VIDEO DETECTOR	MODEL
Econolite	Autoscope 2020
Econolite	Autoscope RackVision
Econolite	Autoscope RackVision Terra
Econolite	Autoscope Solo Terra
Iteris	Vantage Edge2
Traficon	VIP 3D.1
Traficon	VIP 3D.2

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III. HIGHWAY LIGHTING

All highway lighting equipment require a one-year evaluation period except for items noted requiring a six-month evaluation.

LIGHTING POLES

Note: Poles do not require an evaluation period. Poles shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Lighting poles are subject to field inspection before acceptance.

STEEL POLES	DRAWING NUMBER
Ameron International	MO98AT3 – Rev. 4 (Type AT45) Design 1 & 2
Ameron International	MO98AT2 – Rev. 4 (Type AT45)Design 3, 4 & 5
Ameron International	MO98AT4 – Rev. 3 (Type AT30)
Ameron International	MO98B2 – Rev. 3 (Type B45 & MB45)
Ameron International	MO98B4 – Rev. 2 (Type B30)
JEM Engineering and Manufacturing	MO-AT30 – Rev. 3 (Type AT30)
JEM Engineering and Manufacturing	MO-AT45 – Rev. 3 (Type AT45)
Millerbernd Manufacturing Co.	730B907 (Type AT30)
Millerbernd Manufacturing Co.	730B653 (Type AT45)
Millerbernd Manufacturing Co.	730B908 (Type B30)
Millerbernd Manufacturing Co.	730B909 (Type B45)
Millerbernd Manufacturing Co.	730B910 (Type MB45)
Union Metals	71020-B2 - Rev. 5 (Type AT30)
Union Metals	71020-B3 - Rev. 4 (Type B30)
Union Metals	71019-B6 - Rev. 7 (Type AT45)
Union Metals	71019-B7 - Rev .4 (Types B45 & MB45)
Union Metals	71019-B8 – Rev. 3 (Type B30)
Union Metals	71019-B9 – Rev. 3 (Type B45)
Union Metals	71019-B10 – Rev. 3 (Type MB45)
Union Metals	71020-B103 – Rev. 3 (Type AT30)
Union Metals	71020-B104 – Rev. 4 (Type AT45)
Valmont	DB00019 – Rev. N (Types AT30 & B30)
Valmont	DB00020 – Rev. N (Types AT45, B45 & MB45)

ALUMINUM POLES

Valmont	MO-051707 (Type AT-30)

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FOUNDATIONS

Note: Screw anchor foundations do not require an evaluation period. Screw anchor foundations shall be fabricated in accordance with MoDOT specifications and standards. They shall be pre-approved as required by the MoDOT standards and specifications in order to be added to the list. The following manufacturers have pre-approved fabrication details and documentation on file with the department. Screw anchor foundations are subject to field inspection before acceptance.

SCREW ANCHOR FOUNDATIONS	DRAWING NUMBER
Component Products, Inc.	SLSF 8-5 (Type AT30)
Component Products, Inc.	SLSF 10-7 (Type AT45)
Hubbell Chance	SA112-0696 – Rev. G (Type AT30)
Hubbell Chance	SA112-0786 – Rev. D (Type AT45)
Integrated Traffic Solutions, Inc.	ITS AT30 (Type AT30)
Integrated Traffic Solutions, Inc.	ITS AT45 (Type AT45)
J. H. Botts	JHB MOH 30 – Rev. C (Type AT30)
J. H. Botts	JHB MOH 45 – Rev. D (Type AT45)

LUMINAIRES

NOTE: Luminaires will not be furnished with photoelectric cells. Receptacles will have a shorting plug in place of cell. Multi-tap ballast for 120 Volt and 240 Volt fixtures is permissible.

BRACKET ARM MOUNT - 150 WATT	MODEL
American Electric Lighting	115 Series
American Electric Lighting	Durastar 2000, Series 30
Crouse-Hinds/Cooper	OVZ Series
Crouse-Hinds/Cooper	OVX Series
General Electric (GE)	M2RR Series
Holophane	Mongoose Series

BRACKET ARM MOUNT - 250 WATT	MODEL
American Electric Lighting	115 Series
American Electric Lighting	Durastar 2000, Series 30
Crouse-Hinds/Cooper	OVZ Series
Crouse-Hinds/Cooper	OVX Series
General Electric (GE)	MSRL Series
Holophane	Mongoose Series

BRACKET ARM MOUNT - 400 WATT	MODEL
American Electric Lighting	125 Series
American Electric Lighting	Durastar 2000, Series 30
Crouse-Hinds/Cooper	OVX Series
General Electric (GE)	MSRL Series
Holophane	Mongoose Series

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HIGH MAST LIGHTING	MODEL

NOTE: High mast lighting is custom designed for the location. Fixtures from the following manufacturer's series are considered pre-approved.

Cooper	HMC Series
General Electric (GE)	HMA Series
Holophane	HMAO Series
Holophane	HMS Series
Metrolux	VA Series

POLE TOP MOUNTING	MODEL
Holophane	HL2A Series
Holophane	Mongoose Series

SIGN LIGHTING - 250 WATT	MODEL
General Electric (GE)	V2FN Series
Guth	B17632 Series
Holophane	PANL Series
Holophane	SNVW Series

SIGN LIGHTING - 400 WATT	MODEL
Holophane	PANL Series
Holophane	SNVW Series

UNDERPASS (WALLPACKS)	MODEL
American Electric Lighting	582 Series
Cooper	WPK Series
General Electric (GE)	WAL Series
Holophane	MDWP Series
Holophane	WL2K Series
Hubbell	PGM-150S Series

CONTROL EQUIPMENT

CONTACTORS-ELECTROMECHANICAL	MODEL
Square D	Type S
Westinghouse/Cutler-Hammer	A202 Series

CONTACTORS-MERCURY	MODEL
Dayton/Duracool	6A/6X Series
Magnecraft	WM Series

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BASE MOUNTED CONTROL CABINETS

NOTE: Cabinets that meet MoDOT specifications from the following manufacturers will be accepted. All other manufacturers must provide a model that meets specifications and complete a satisfactory six-month evaluation as described above to be added to the list.

Cleveland Switchboard
Coxline
Hoffman
Shallbetter
Inland Technologies

MOUNTING SOCKET FOR PHOTOELECTRIC CONTROL.....MODEL

NOTE: Mounting sockets require a six-month evaluation.

American Electric Lighting .....PBC
Fischer-Pierce.....S476-71
General Electric (GE).....MB-PECTL

PHOTOELECTRIC CONTROL	MODEL
Area Lighting Research	SST-120 (120 volt)
Area Lighting Research	SST-240 (240 volt)
Area Lighting Research	SST-PV (120/240 volt)
American Electric Lighting	D120-1.0-STJ (Dark to Light) (120 volt)
American Electric Lighting	D124-1.0-STJ (120/240 volt)
American Electric Lighting	D240-1.0-STJ (240 volt)
American Electric Lighting	DE480-1.0-TJ (480 volt)
Fischer-Pierce	FPN7790B (105 – 285 volt)
Fischer-Pierce	FPN7772 (195 – 305 volt)
Fischer-Pierce	FPN7794 (480 volt)
Fischer-Pierce	FPN7760 (120 volt)
General Electric (GE)	PEC01TL (>120v/< 305v w/ time delay)
General Electric (GE)	PEC1TL (120v)
General Electric (GE)	PEC5TL (480v)
ITT	SAT-15
Tyco	6190 VPS

TYPE A CIRCUIT BREAKERS	MODEL
Square D	FAL Series
Westinghouse/Cutler-Hammer	EHD Series (1-Pole)
Westinghouse/Cutler-Hammer	FDB Series (2-Pole)

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MISCELLANEOUS

AVIATION LIGHTING	MODEL
Hughey & Philips	KG114

FUSED SLIP CONNECTORS	MODEL

NOTE: Slip connectors require a six-month evaluation.

Buss	HEB-JWRYC

METER SERVICE PEDESTAL (LIGHTING)	MODEL
Milbank 4-Circuit 240V Lighting	CP3B51C1PBAOMO3
Milbank 4-Circuit 480V Lighting	CP3B51D1PBAOMO1
Milbank 4-Circuit 480V Lighting (used for Ameren cold sequence)	CP3B51D1PBAOMOCS1
Pacific Utility Products 4-Circuit 240V Lighting	USP24-M2100-100-MODOT6
Pacific Utility Products 4-Circuit 480V Lighting	USP16-M2100-112C-MODOT
Pacific Utility Products 4-Circuit 480V Lighting	USP24-M2100-100-MODOT6-480

NAVIGATION LIGHTING	MODEL
Tideland	ML-140 with TF-3AC Lamp Changer
Automatic Power, Inc.	FA-143

SPLICE KITS	MODEL
3M	82A1 (Single)
3M	82A2 (Single)
3M	82B1 (Three Way)
3M	82B2 (Three Way)
HOMAC HMC Industries	RAB 1/0 Series

TRANSFORMER BASES	MODEL
Akron Foundry	TB1-17H (for AT30)
Akron Foundry	TB3-17H (for AT45)

IV. POWER SUPPLY EQUIPMENT AND PULL BOXES

All items require a six-month evaluation period.

MAIN SERVICE DISCONNECT ENCLOSURE WITH SAFETY SWITCH (NEMA 4)	**MODEL**
General Electric (GE)	TE 100 CS
Square D	FA-100-DS Series E2
Westinghouse	WFDN 100

PREFORMED PULL BOX-CLASS 1	**MODEL**
Straight	
Armorcast Products Company	A6001640TAPCX22 (Box & Lid)
Carson Industries	H1730-24 (Box)
CDR	A14-1730 series-22” (Box & Lid)
Composite Industries	CI183024PB1P
Highline	PHA173024HO1R
	H1730-PI (Lid)
Martin Enterprises	173022PC
Strongwell/Quazite	PG1730B532 (Box)
	PG1730H511 (Lid)
	PG1730BA Series
Synertech	S1730B24AA (Box)
	S1730HBB0A (Lid)
Flared	
Armorcast Products Company	A6001640TAX24 (Box & Lid)
CDR	A12-1730 series-22” (Box & Lid)
Highline	CHA173024HO1R
NewBasis	FCA173022CC4126-62 (Box & Lid)
NewBasis	FCA173022CC4749-61 (Box & Lid)
NewBasis	FCA173024T Series (Box & Lid)
Pencell Plastics	PEM-1830-PCX (Box & Lid)

PREFORMED PULL BOX-CLASS 2	**MODEL**
Straight	
Armorcast Products Company	A6001974TAPCX26 (Box & Lid)
Armorcast Products Company	A6001974TAPCX24
Carson Industries	H2436-24 (Box)
	H2436-PI (Lid)
CDR	A14-2436 series-24” (Box & Lid)
Composite Industries	CI243624PB1P
Highline	PHA243624HO1R
Martin Enterprises	243624PC
Strongwell/Quazite	PG2436B539 (Box)
	PG2436H508 (Lid)
	PG2436BA Series
Synertech	S2436B26AA (Box)
	S2436HCB0A (Lid)

Flared

Armorcast Products Company	A6001974TAX26 (Box & Lid)
Armorcast Products Company	A6001974TAX24
CDR	A12-2436 series-24” (Box & Lid)
Highline	CHA243624HO1R
NewBasis	FCA243630CC4126-61 (Box & Lid)
NewBasis	FCA243630CC4749-61 (Box & Lid)
NewBasis	FCA243624T Series (Box & Lid)
Pencell Plastics	PEM-2436-36 (Box & Lid)
Pencell Plastics	PEM-2436-PCX-24 (Box & Lid)
Synertech	S2436B24AA (Box)
	S2436HCB0A (Lid)

PREFORMED PULL BOX-CLASS 3	**MODEL**
Straight	
Armorcast Products Company	A6001430TAPCX36 (Box & Lid)
Carson Industries	H3048-36 (Box)
	H3048-P1 (Lid)
CDR	A14-3048 series-36” (Box & Lid)
Composite Industries	CI304836PB1P
Highline	PHA304836HO1R
Martin Enterprises	304836PC
Strongwell/Quazite	PG3048B560 (Box)
	PG3048H517 (Lid)
	PG3048BA Series
Synertech	S3048B36AA (Box)
	S3048HCB0A (Lid)
Flared	
Armorcast Products Company	A6001550TAX36 (Box & Lid)
CDR	A12-3048-series 36” (Box & Lid)
Highline	CHA304836HO1R
NewBasis	FCA304836EE4749-61 (Box & Lid)
NewBasis	FCA304836T Series (Box & Lid)
Pencell Plastics	PEM-3048-36-PCX-SPLIT (Box & Lid)

PREFORMED PULL BOX-CLASS 5	**MODEL**
Flared	
Armorcast Products Company	A6001466TA (Box & Lid)
Armorcast Products Company	A6000172TAX36 (Box & Lid)
CDR	A12-3200 series-36” (Box & Lid)
Highline Products	CRA3236H01
NewBasis	FCA320036T Series
NewBasis	FCA540036C4800 (Box & Lid)
NewBasis	FCA540036C40336 (Box & Lid)
NewBasis	FCA540036-MODOT
Quazite	PR3944Z504

MISSOURI DEPARTMENT OF TRANSPORTATION
APPROVED PRODUCTS LIST

HIGHWAY SIGNING EQUIPMENT

V. GENERAL

This Approved Products List (APL) for highway signing equipment contains current pre-approved products for highway signing. This list is applicable to department purchases and construction contracts. The list includes products that have been approved for use based on satisfactory performance during a specified test period. Products listed have undergone sufficient field testing to be considered acceptable for use at any time. All field tests of new products or pending products should be arranged with Central Office Traffic.

The department frequently tests new products and equipment for highway signing. These new products may be installed on a construction project or used for normal department installations and maintenance. Vendors may also submit items, at no cost to the department, for the test period. Only a limited number of units will be accepted for test statewide until the product is added to the Approved Products List. A vendor wishing to initiate a test on a new product shall submit a Product Evaluation Request Form. Copies of this form can be obtained from our website at www.modot.state.mo.us or contact MoDOT Central Office Traffic. Minor model changes of previously approved products do not require a new evaluation period, although the vendor shall submit specification sheets and a sample of the product for the Department to inspect. Any modifications determined to potentially alter the performance of the product may require the product to undergo additional field testing and evaluation.

All product evaluations are coordinated through MoDOT Central Office Traffic. The vendor supplying the equipment shall provide equipment specifications and a certification that the equipment meets department specifications before the test is performed. The equipment is tested for the period specified by Central Office Traffic (typically one year). Products that are not performing satisfactorily will be left off of the list. Products that were previously approved that begin to perform unsatisfactorily will be removed or replaced with an approved product if the vendor cannot provide timely correction of the problem.

If a vendor is proposing a product that does not meet department specifications, an explanation of why the product meets or exceeds the current specifications must be provided by the vendor in writing to Central Office Traffic. If approved, the product may be tested for the specified period as described above. If the product is satisfactory, the Department will consider a revision to the applicable specifications. Products will not be added to the Approved Products List that does not meet department specifications.

Products on the APL shall continue to perform satisfactorily. In addition, the vendors shall support the products. Products not performing as required or not supported are subject to removal from the APL.

Grounds for removal of products include but are not limited to:

- Significant change in product specifications or design without notification to the department.
- Failure to correct or replace products that are defective in manufacturing or workmanship.
- Repeated patterns of malfunctions of a product not adequately corrected by the vendor.
- Unreasonable pricing of repair parts or repair work. Repair work not completed in a reasonable time frame.
- Excessive delivery times for new purchases or replacement parts.

Changes in standard specifications may also necessitate removal of specific products from the APL. If this occurs, there will be a grace period where the product will be retained on the list after the specifications are changed. However the product will eventually be removed from the list if it is not revised to meet specifications.

MISSOURI DEPARTMENT OF TRANSPORTATION
APPROVED PRODUCTS LIST

VI. HIGWAY SIGNING EQUIPMENT

BREAKAWAY DEVICES

MANUFACTURER	DESCRIPTION, MODEL
Ultimate Highway Products	Triangular Slip Base for 2.5” PSST, Slip-Mate
Xcessories Squared	Kleen Break 425 for 2” PSST, XKB42520-G
Xcessories Squared	Redi-Torque 280 for 2.5” PSST, SB8C-250A-G
Xcessories Squared	Redi-Torque Bolt Kit, RTSB-MPHDW
Northwest Pipe Company	S-Q 8” Square Slipbase for 2.5” PSST, 31209
Designovations, Inc.	Snap n Safe S250 and S250 S
Dent Breakaway Industries, Inc	3/4” Dent Bolt, #6882
Dent Breakaway Industries, Inc	5/8” Dent Bolt, #6878
Dent Breakaway Industries, Inc	1/2” Dent Bolt, #6874
Dent Breakaway Industries, Inc	5/8” Ground Anchors (Galvanized)
Dent Breakaway Industries, Inc	5/8” Modified Dent Bolt, #6220
Dent Breakaway Industries, Inc	3/4" Modified Dent Bolt, #6882

FOUNDATIONS/ANCHORS

MANUFACTURER	DESCRIPTION, MODEL
None	None

SIGN HARDWARE

MANUFACTURER	DESCRIPTION, MODEL
Xcessories Squared	Aluminum Post Clamp for 2.5” Pipe, XAPC278RD
Xcessories Squared	Aluminum Post Clamp for 3” Pipe, XAPC350RD
Xcessories Squared	Aluminum Post Clamp for 4” Pipe, XAPC450RD
Xcessories Squared	Aluminum Bar for Post Clamps, XAB750
Xcessories Squared	Aluminum Sign Backer Bar, ASB200P1
Xcessories Squared	Extruded Panel Clamp for 2” PSST, EPPCS200SQ
Xcessories Squared	Extruded Panel Clamp for 2.5” PSST, EPPCS250SQ
Xcessories Squared	Extruded Panel Clamp for 2.5” Pipe, EPPCS250RD
Xcessories Squared	Extruded Panel Clamp for 3” Pipe, EPPCS300RD
Xcessories Squared	Extruded Panel Clamp for 4” Pipe, EPPCS400RD
Xcessories Squared	Extruded Panel Clamp for 4x4 Wood, EPPCS44W
Xcessories Squared	Extruded Panel Clamp for 4x6 Wood, EPPCS46W
Xcessories Squared	Extruded Panel Clamp for 6x6 Wood, EPPCS66W

SIGNS

MANUFACTURER	DESCRIPTION, MODEL
Tapco	Blinkersigns

MISSOURI DEPARTMENT OF TRANSPORTATION
APPROVED PRODUCTS LIST

ADDED:

SIGNAL HEADS - POLY CONVENTIONAL	**MODEL**
Econolite	TP Series

PREFORMED PULL BOX-CLASS 5	**MODEL**
Flared	
Highline Products	CRA3236H01

DELETED:

LIGHTNING ARRESTER	**MODEL**
Delta	LA 600 Series
General Electric Tranquell	9L15ECB001

REVISED:

Created Aluminum Poles category and moved Valmont MO-051707 from Steel Poles to Aluminum Poles.

CLASS 1 FLARED – NewBasis FCA173024CC40303 to FCA173024T Series
CLASS 2 FLARED – NewBasis FCA243624CC40716 to FCA243624T Series
CLASS 3 FLARED – NewBasis FCS304836EE40304 to FCA 304836T Series
CLASS 5 – FCA320036T-90003 to FCA320036T Series