



Department of Transportation
Bureau of Construction & Materials

LIST OF PREQUALIFIED TRAFFIC SIGNAL SYSTEMS & EQUIPMENT

PQL – 24.1

REVISED – 05/24/19

NEMA SYSTEMS

SPECIFICATION REFERENCE

3.2.2.2

CONTROLLER (TS Type 1 & Type 2)

Econolite

ASC 3/1000

ASC 3/2100

Model COBALT

Siemens

EPAC 50 Series

EPAC 60 Series

PEEK Traffic

ATC-1000

Model 3000E

Intelight

TS2

YCT-X1

YCT-X1L

YCT-X3

Trafficware

Naztec Model 980 ATC TS1/TS2 Type 2 controller

Naztec Commander ATC TS1/TS2 Type 2 controller

3.2.2.3

MALFUNCTION MANAGEMENT UNIT (Conflict Monitor) 12 or 16 Channel

PEEK Traffic

SG-1000

Eberle Design Incorporated (EDI)

MMU2-16LE

MMU2-16LE IP

SSM-12LE

Reno A & E

MMU-1600D

MMU-1600GE

NEMA SYSTEMS (continued)	
SPECIFICATION REFERENCE	
3.2.2.4	<p>NEMA LOAD BAY 8 LOAD SWITCH MoboTrex TS1-TF4004 TS2-TF5008 _____ HENKE Enterprise 4P84KDOT _____ 12 LOAD SWITCH MoboTrex TS1-TF4008 TS2-TF5012 _____ HENKE Enterprise 8P128KDOT _____ 16 LOAD SWITCH MoboTrex (TS2) TS1-TF4016 TS2-TF 5016 _____ HENKE Enterprise 8P168KDOT (TS-2) _____</p>
3.2.2.4.3	<p>SURGE PROTECTOR EDCO ACP-340 SHA-1210 SHA-1250 _____ HESCO HE1750 HE1800 _____</p>
3.2.2.4.7	<p>CABINET POWER SUPPLY MoboTrex Model CPS150 _____ Econolite PS-200 TS2 _____ Eberle Design Incorporated (EDI) PS-250 _____ Reno A&E CPS-TS2 _____</p>
3.2.2.5.1	<p>LOAD SWITCH Eberle Design Incorporated (EDI) 510 Model – Loadswitch _____ Power Distribution Control Corp. (PDC) Model SSS-86-3 _____ Reno A&E LS-200 _____</p>

NEMA SYSTEMS (continued)

SPECIFICATION REFERENCE

3.2.2.5.2	FLASHER Eberle Design Incorporated (EDI) 810 Flasher Power Distribution Control Corp. (PDC) Model SSF-86-3 Reno A&E FL-200
3.2.2.5.3	FLASHER TRANSFER RELAY Reno A&E TR-200 Magnecraft W21ACPX-5
3.2.2.6	CABINET POLE MOUNTED MoboTrex Size 4, Catalog No. EL 763 Size M, Catalog No. EL 702-S1 EDC, Inc. Erpel Design Corp., Inc. Size K, Catalog #EDCK 251651C PAD MOUNTED Bison Pro-Fab Size 6, #467 Rev. F MoboTrex Size M, Catalog No. EL 702 Size M-36, Catalog No. EL 704 Size P, Catalog No. EL 712 Size R, Catalog No. EL 720 Econolite Size 5 (M), ECPI-M Size 6 (P44), ECPI-P44 EDC, Inc. Erpel Design Corp, Inc. Size M, Catalog #EDCM 301750C Size P, Catalog #EDCP 442655C Intelight Size M, NEMA TS2 Cabinet (Size 5) Size P, NEMA TS2 Cabinet (Size 6)

NEMA SYSTEMS (continued)

SPECIFICATION REFERENCE

3.2.2.6 (cont.)

PEDESTAL MOUNTED

MoboTrex

Size 4, Catalog No. EL 762

Size M-36, Catalog No. 704-S2

Econolite

Size 4 (K), ECPI-K

EDC, Inc. Erpel Design Corp., Inc.

EDCK 251651C

3.2.2.7

BUS INTERFACE UNIT

MoboTrex

BIU 100

Eberle Design Incorporated (EDI)

BIU 700

Econolite

BIU-64

Peek Traffic

BIU 2012

Reno

BIU/2

2070 SYSTEMS

SPECIFICATION REFERENCE

3.2.3.4

CABINET

POLE MOUNTED

McCain Traffic Supply

Model 336A Controller Cabinet

Model 336S Controller Cabinet

Econolite

Model 336A

MoboTrex

Model 336L Cabinet

PAD MOUNTED

McCain Traffic Supply

Model 332A Controller Cabinet

Model 332B Controller Cabinet

Econolite

Model 332

Model 336S

MoboTrex

Model 332L Cabinet

Siemens

332L Cabinet - Caltrans

2070 SYSTEMS (continued)	
SPECIFICATION REFERENCE	
3.2.3.5	CONTROLLER Intelight YCT-2070E YCT-2070LC <hr/> Siemens 2070E <hr/> Trafficware Naztec 2070C/LX ATC Controller
3.2.3.7	CONFLICT MONITOR Eberle Design Incorporated (EDI) 2010 ECL 2010 ECL IP
3.2.3.8	FLASHER Eberle Design Incorporated (EDI) Model #EDI 810 <hr/> Power Distribution Control Corp. Model SSF-87 <hr/> Reno A&E FL-200 <hr/> Traffic Sensor Corporation TSC Model #304
3.2.3.9	LOAD SWITCH Eberle Design Incorporated (EDI) 510 Model – Load switch <hr/> Power Distribution Control Corp. Model SSS-87 Model SSS-87 I/O <hr/> Reno A&E LS-200 <hr/> Traffic Sensor Corporation TSC Model #300
3.2.3.10	FLASH TRANSFER RELAY Magnecraft W21ACPXD-5 <hr/> Reno A&E TR-200

2070 SYSTEMS (continued)

SPECIFICATION REFERENCE

3.2.3.11 SURGE PROTECTOR
EDCO
ACP-340
SHA-1210
SHA-12101RS
SHA-1250

3.2.3.12 **DC ISOLATOR MODEL 242**
Power Distribution Control Corp.
Model DCI-82-242
Eberle Design Incorporation (EDI)
242-J Model

3.2.3.13 **AC ISOLATOR MODEL 252**
Power Distribution Control Corp.
Model ACI-88-252

DETECTION SYSTEMS

SPECIFICATION REFERENCE

3.2.4.1 **LOOP DETECTOR SYSTEM**
TWO CHANNEL
Global Traffic Technologies
Model Canoga C922
Eberle Design Incorporated (EDI)
Model LMD 622
Model LMD 622T
RENO A&E
Model GT-200

FOUR CHANNEL
Global Traffic Technologies
Model Canoga C924
Eberle Design Incorporated (EDI)
Model LMD 624H
RENO A&E
Model Y/Z-200-SS

DETECTION SYSTEMS (continued)

SPECIFICATION REFERENCE

3.2.4.2 **VIDEO DETECTION SYSTEM (VDS)**
 Econolite
 Rackvision Pro 2 (RVP2)
 Autoscope Vision

 Iteris
 Vantage Vector (Combination Video & Radar System)
 Vantage Edge 2 Processor
RZ-4 Advanced WDR System

3.2.4.3 **RADAR DETECTION SYSTEM (RDS)**
 Iteris
 Vantage Vector (Combination Video & Radar System)
 Vantage Edge 2 Processor

 Wavetronix
 SmartSensor Matrix
 Intersection Preassembled Backplate –AC

GENERAL SIGNAL EQUIPMENT

SPECIFICATION REFERENCE

3.2.5.1.1 **SIGNAL HEAD - STANDARD VEHICLE**
 McCain Traffic Supply Vehicle Signals
 Polycarbonate

 MoboTrex
 “SA” Polycarbonate Vehicle Signal

 Econolite
 12-inch Polycarbonate Signal

 Peek Traffic Systems
 Polycarbonate Vehicle Signals

3.2.5.1.2 **LED ARROW MODULE**
 Dialight Corporation
 LED (Red) Part No. 432-1314-001XOD
 LED (Yellow) Part No. 431-3334-901XOD
 LED (Green) Part No. 432-2324-001XOD

 Duralight
 JXJ 300-07 Series LED Arrows
 JXJ-300VIE Series LED Arrows

 Act One Communications, Inc.
 LED (Red) TA-12R-4 Arrow
 LED (Yellow) TA-12A-4 Arrow
 LED (Green) TA-12G-4 Arrow

 Leotek
 LED Arrows TSL-12RA, YA, GA, LD-A1

GENERAL SIGNAL EQUIPMENT (continued)

SPECIFICATION REFERENCE

3.2.5.1.2 (cont.)

LED ARROW MODULE

GE (GT1 LED Arrow (12")
Tinted RED DR6-RTAAN-17A
Clear RED DR6-RCAAN-17A
Tinted YELLOW DR6-YTAAN-17A-YX
Clear YELLOW DR6-YCAAN-17A-YX
Tinted GREEN DR6-GTAAN-17A
Clear GREEN DR6-GCAAN-17A

3.2.5.1.3

LED MODULE

Act One Communications, Inc.

LED (Red) T1-12R-4
LED (Yellow) T1-12A-1
LED (Green) T1-12G-1

Dialight Corporation

LED (Red) Part No. 433-1210-003XL
LED (Yellow) Part No. 433-3230-901XL
LED (Green) Part No. 433-2220-001XL

Duralight

JXC 300-07 Series LED Traffic Signal Lamps
JXC 300 HF Series LED Traffic Signal Lamps

Leotek

TSL-12R-LX-IL6-A1-P2
TSL-12Y-LX-IL6-A1-P2
TSL-12G-LX-IL6-A1-P2

National Sign and Signal Company

LED Traffic Signal Retrofit Lamps – 12" Red Module

GE

VLA Model LED Signal Modules 12"

3.2.5.2

PEDESTRIAN TRAFFIC HEADS

MoboTrex

"SG" Polycarbonate Pedestrian Signal

McCain Traffic Supply

Pedestrian Signals

National Sign and Signal Company

LED Pedestrian Signal Retrofit Kit

Peek Traffic Systems

Polycarbonate Pedestrian Signals

Dialight Corporation

Count-down Pedestrian Signal Part No. 430-6479-001X

GENERAL SIGNAL EQUIPMENT (continued)

SPECIFICATION REFERENCE

3.2.5.2.1 & 3.2.5.2.2	LED PEDESTRIAN SIGNALS Duralight JXM 300/400 VIA Series LED Traffic Signal Lamps Dialight Model 430-6479-001X Leotek TSL-PED-16-CIL TSL-PED-16-CD GE LED Count-down Pedestrian Signals 16 x 18 inch
3.2.5.3	OPTICALLY LIMITED SIGNAL HEADS McCain Traffic Supply Model FS595A 13538 (Fed. Yellow) with black doors & visor
3.2.6.1	SIGNAL MOUNTING BRACKET MAST ARM Pelco Products, Inc. Astro-Brac Series, AB-116 Astro-Brac Series, AB-125 Astro-Brac Series, AG-0125 Astro-Brac Series, AS-125 SkyBracket SB Series SS-SB Series SBC Series SS-SBC Series
3.2.6.2	SIGNAL MOUNTING BRACKET SIDE-OF-POLE Component Products, Inc. CPI-50 PB [TSP-880] Siemens P/N PDM 405

GENERAL SIGNAL EQUIPMENT (continued)	
SPECIFICATION REFERENCE	
3.2.7	BACK PLATE Gades Sales Co., Inc. Vacummed Formed Plastic Backplate, BP483PO BP485DHPO BP484PO BP485PO _____ Mid American Signal, Inc. One Piece Vacuum Formed Backplate _____ McCain Traffic Supply Vehicle Signal Backplate _____ Pelco Products, Inc. Model BK-1003 Model BK-1005 _____
3.2.8	PEDESTRIAN PUSHBUTTON Pelco Products, Inc. ADA Round-SE2091-1039 _____ TEECO Safety, Inc. Type HC2 "ADA" Compliance-Model T1265 _____
3.2.8.1	ACCESSIBLE PEDESTRIAN SIGNALS (APS) Campbell Company Advanced Accessible Pedestrian Station (AAPS) APB 915 Sign (9"x15") APC III (control unit) (2 wire) Advisor Guide Accessible Pedestrian Station (AGPS) AGPS 915 Sign (9" x 15") (4 wire) _____ Pelco Products, Inc. IntelliCross APS System (9" x 15") _____ Polara Navigator APS EN23T (2 wire with 9"x15" MUTCD R10-3e) EN43T(4 wire with 9"x15" MUTCD R10-3e) _____
3.2.9	PEDESTRIAN SIGN Gades Sales Co., Inc. R10-3e _____ Pelco Products, Inc. SF-1074 Pedestrian Sign _____ TEECO Safety _____
3.2.10	STEEL TRAFFIC SIGNAL POLE Valmont _____ Maico _____

GENERAL SIGNAL EQUIPMENT (continued)

SPECIFICATION REFERENCE

3.2.11 ALUMINUM TRAFFIC SIGNAL PEDESTAL

Component Products Inc.
CPI-AP [Length] Pole
CPI-APC-1 Pole Cap
CPI-BAS-1 BASE
Gades Sales Co., Inc.

Pelco Products, Inc.
Spun Aluminum Pole – PB5100-L
Anchor Bolt Set – PB 5306
Alum. Sq. Base Assy. – PB 5335
Pole Cap – PB 5402

3.2.12 TERMINAL BLOCK

Cembre
Zeta Block

Marathon Special Products
Kulka 602 GP 24 Terminal Blocks

Vernitron Electrical Components
Series 21000-30 AMP

**3.2.13 JUNCTION BOX – IN GROUND
POLYMER REINFORCED CONCRETE**

Armorcast Products
A6001423TA

Oldcastle/Carson Industries, LLC
H Series, HLW 1212

CDR Systems Corporation
SA14-1212-12

GlasMaster Boxes
Model No. S1118 Cover Model S1118PB
Model No. S1730 Cover Model S1730PB
Model No. S2436 Cover Model S2436PB
Model No. S3048 Cover Model S2048PB

Highline Products
PHA 121212HD

Newbasis
PCA 111812-00030
PCA 243624-00030
PCA 243636-00030
PCA 304830-00062

GENERAL SIGNAL EQUIPMENT (continued)

SPECIFICATION REFERENCE

3.2.13 (cont.)

**JUNCTION BOX – IN GROUND
POLYMER REINFORCED CONCRETE**

Oldcastle/Synertech

S1212HFAOA

Hubbell/Quazite

Model#: PC1212

**JUNCTION BOX – IN GROUND
HDPE- HIGH DENSITY POLYETHYLENE**

Channell

BULK & SHIELD (Tier 15 or Tier 22 Load Category)

3.2.14

JUNCTION BOX – ABOVE GROUND

3.2.15

**SERVICE BOX
POLYMER REINFORCED CONCRETE**

Armorcast Products

A6001974HDAPCx36 (24*36*36)

A6001430HDAPCx36 (30*48*36)

A6001460HDAPCx36 (30*60*36)

A6001430HDAPCx36 (36*60*36)

A6001974TAPCx36 (24*36*36)

A6001430TAPCx36 (30*48*36)

A6001460TAPCx36 (30*60*36)

A6001430TAPCx36 (36*60*36)

Carson Industries, LLC

Model H2436-36

CDR Systems Corporation

SA12-2700-36

Highline Products

PHA 243624

Newbasis

FCA 270036T-00030

Hubbell/Quazite

PG 2436

Synertech

S2436HCBOA

**SERVICE BOX
CONCRETE**

McPherson Concrete Service Box

24" I.D. x 36" DEEP (600mm x 900mm)

**SERVICE BOX
CAST IRON COVER**

Deeter Foundry, Inc.

1720 Walkway Ring and Cover

1981 Inlet Ring and Cover

2000 Ring and Cover

GENERAL SIGNAL EQUIPMENT (continued)	
SPECIFICATION REFERENCE	
3.2.16	LUMINAIRES (see PQL 24.2)
3.2.17	LUMINAIRE LAMPS (see PQL 24.2)
3.2.18	PHOTOCELL (see PQL 24.2)
3.2.20	FUSED STREET LIGHT CONNECTOR KIT (see PQL 24.2)
3.2.20.1	FUSEHOLDERS & FUSES (see PQL 24.2)
3.2.21	OVERHEAD STREET SIGNS Gades Sales Co., Inc. Luther Sign Co. Newman Sign Co.
3.2.23	BLANK OUT SIGN (LED or FIBER OPTIC) DUAL INDICATION TURN ARROW National Sign & Signal Co. Dual Color Fiber Optic Turn Arrow Kit. Fiber Optic Blank Out Sign Traffic Sign Technology Fiber Optic Regulatory Blank Out Signs
3.2.24	ENTRANCE HEAD Blackburn Type DEH O-Z Gedney Type ECO
3.2.25	SERVICE ENCLOSURE – LOAD CENTER Siemens Type 3R Square D Type 3R
3.2.26	CIRCUIT BREAKERS Siemens Q One Pole Square D QO One Pole

GENERAL SIGNAL EQUIPMENT (continued)	
SPECIFICATION REFERENCE	
3.2.27	GROUND ROD Blackburn No. 7510 <hr/> Galvan Part No. 7510 (3/4" x 10'), Copper-coated
3.2.28	GROUND ROD CLAMP Blackburn No. JAB34H <hr/> Galvan Part No. 7510 <hr/> ERITCH Part No. 613400
3.2.29	SERVICE WIRE – TYPE USE-2 Anixter Class B, Bare Copper, Stranding per ASTM B-8 <hr/> Encore Wire USE-2 Copper Conductor <hr/> Essex Cross-Link Type USE-2 <hr/> Rome Cable Corp. Rome USE-2 <hr/> Service Wire Co. XLP USE-2 <hr/> Southwire USE-2
3.2.30	LIGHTING DISTRIBUTION WIRE – TYPE USE-2 (see PQL 24.2)
3.2.31	POLE & BRACKET WIRE – TYPE USE-2 (see PQL 24.2)
3.2.32	GROUND WIRE – SOLID BARE COPPER American Insulated Wire, Solid Bare Copper <hr/> Anixter, Solid B-3 <hr/> Encore Wire, Solid ASTM B-3 <hr/> Service Wire Co., Solid Bare Copper <hr/> Southwire, Solid Bare Copper ASTM B-3

GENERAL SIGNAL EQUIPMENT (continued)

SPECIFICATION REFERENCE

3.2.33

MULTI-CONDUCTOR CABLE – IMSA 19-1/IMSA 20-1

Advanced Digital Cable, Inc.

IMSA Type 20-1, Stranded Conductor, Signal Cable

Alcatel Wire & Cable Inc.

IMSA-Type 19-1, Traffic Control Cable

Anixter

IMSA 19-1, Stranded Conductor, Polyethylene Insulation

Belden

Duct Signal Cable IMSA 19-1/IMSA 20-1

BSCC

Type IMSA 19-1

Coleman Cable

14 AWG/7 conductor per IMSA 19-1

Part #559107-XX-08

Coleman Cable

14 AWG/7 conductor stranded with jacket per IMSA 20-1

Part #559307-XX-08

Janor Wire & Cable Corp.

Traffic Control Cable IMSA 19-1

Service Wire Co.

Multi Conduction Cable

TW Cable, (LLC)

Aerial & Duct Signal Cable, IMSA 19-1

3.2.34

SHIELDED DETECTOR LEAD-IN CABLE-IMSA 50-2

Alcatel

IMSA-Type 50-2 Loop Lead-In Cable

Anixter

IMSA-50-2 Loop Detector Lead-In

Belden

Signal Loop Detector Cable & Wires Lead-In IMSA 50-2

BSCC

IMSA 50-2

Coleman Cable

2 conductor IMSA 50-2

Part #513258-XX-08

Janor Wire & Cable Corp.

Loop and Lead-In Cable, IMSA 50-2

TW Cable, (LLC)

IMSA 50-2 Lead-In Cable

GENERAL SIGNAL EQUIPMENT (continued)

SPECIFICATION REFERENCE

3.2.35	DETECTOR LOOP WIRE – IMSA 51-5 Alcatel 51-5 Tube-Loop Detector Wire Anixter IMSA – 51-5 Loop Detector Belden IMSA – 51-5 Loop Detector Wire BSCC IMSA 51-5 Coleman Cable 14 AWG/1 conductor in tube per IMSA 51-5 Part #513264-XX-08 Janor Wire & Cable Corp. Loop and Lead-In Cable, IMSA 51-5 Service Wire Co. Detector Loop Wire TW Cable, (LLC) Traffic Tube Loop Cable, IMSA 51-5
3.2.36	LOOP SEALANT Chem Rex, Inc. Gold Label 1P Loop Sealant Chemque Q-SEAL 290S The Ruscoe Company Ruscoe PS-2000 3M Bondo No. 575 Black 5000 Gray 5794 Pecora Corporation Urexpan NR-201
3.2.37	PRE-FORMED LOOP Detech Manufacturing Model HDR Never-Fail preformed loops Models A, C, & F Patriot Detection Preformed Inductive Loops (P-ILDs)

GENERAL SIGNAL EQUIPMENT (continued)

SPECIFICATION REFERENCE

3.2.38.1

GALVANIZED RIGID STEEL CONDUIT

Allied Pipe

Galvanized Rigid Conduit

Maverick CMP, Inc.

Republic Conduit Galvite Electrical Rigid Metal Conduit

Western Tube

GRC Conduit

Wheatland Tube Company

Hot-Dipped GRC

GALVANIZED STEEL CONDUIT FITTINGS & ELBOWS

Conduit Pipe Products

Galvanized Elbows & Fittings

Picoma

Electrical Metallic Conduit Fittings

Robroy Industries

Electrical Conduit Fittings & Elbows

INSULATED GROUNDING BUSHINGS

O-Z/Gedney

Zinc Grounding Type Insulated Bushings

3.2.38.2

PVC CONDUIT

Contex

Schedule 40 Conduit

Schedule 80 Conduit

Allied Tube & Conduit

Schedule 40 PVC Electrical Conduit

Schedule 80 PVC Electrical Conduit

3.2.38.2

PVC CONDUIT

Carlton

Schedule 40 PVC Rigid Nonmetallic Conduit

Schedule 80 PVC Rigid Nonmetallic Conduit

PVC CONDUIT FITTINGS

Cantex

Schedule 40 Nonmetallic Conduit Fittings

Schedule 80 Nonmetallic Conduit Fittings

Allied Tube & Conduit

Schedule 40 Fittings

Schedule 80 Fittings

Carlton

Schedule 40 Fittings

GENERAL SIGNAL EQUIPMENT (continued)	
SPECIFICATION REFERENCE	
3.2.38.2 (cont.)	PVC CONDUIT ELBOWS Cantex Schedule 40 Nonmetallic Elbows Schedule 80 Nonmetallic Elbows Allied Tube & Conduit Schedule 40 Elbows Schedule 80 Elbows Carlson Schedule 40 Elbows Schedule 80 Elbows
3.2.38.3	POLYETHYLENE CONDUIT (HDPE) Dura-line Endot Enduct PetroFlex United Poly Systems Blue Diamond
3.2.38.4	FIBERGLASS CONDUIT Champion Fiberglass Conduit
3.2.39	EXPANSION FITTINGS Camtex Expansion Couplings- Two Piece O-Z Gedney Expansion Fitting Type AX Expansion Fitting Type AX-8 Gafco Green Expansion Fitting Type AF (4" conduit movement) Expansion Fitting Type AF8 (8" conduit movement) Deflection/Expansion Fittings Type DF Bonding Jumper Type AJ & AJE
3.4.1	BATTERY BACKUP SYSTEM (BBS)/UNINTERRUPTED POWER SYSTEM (UPS) TSI Power Outdoor-XUPS-600 Outdoor-XUPS-1500 Outdoor-XUPS-3000B Gades Battery Side Mount BBS System Alpha Technologies Alpha FXM 1100 (UPS Module) Marathon Battery Back-up System