

CONSTRUCTION AND MATERIAL REQUIREMENTS FOR LIGHTING SYSTEM

NOTE:
WHENEVER THE PLAN SPECIFICATIONS CONFLICT WITH THE STANDARD KANSAS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, 1990 EDITION, THE PLAN SPECIFICATIONS SHALL GOVERN.

CONSTRUCTION

SEE STANDARD SPECIFICATIONS, 1990 EDITION, SECTION 801.

LIGHT STANDARDS:

STEEL STANDARDS (AS CALLED FOR ON THE PLANS)

A. THE LIGHT STANDARDS SHALL COMPLY WITH THE REQUIREMENTS OF A.S.T.M. 607 WITH THE EXCEPTIONS AND/OR ADDITIONS AS LISTED IN THE STANDARD KANSAS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, 1990 EDITION, SECTION 1606.02 (C). THE LIGHT STANDARDS WITH 12 m MOUNTING SHALL BE ONE (1) SECTION. THE DIAMETER OF THE STANDARDS SHALL BE SHOWN ON THE DETAIL SHEETS.

1. BASE: THE BASE SHALL BE EITHER A ONE (1) PIECE STEEL BASE COMPLYING WITH THE REQUIREMENTS OF A.S.T.M. A-27, GRADE 65-35, A STEEL FORGED BASE COMPLYING WITH THE REQUIREMENTS OF A.S.T.M. A-668, CLASS C OR A PLATE BASE COMPLYING WITH THE REQUIREMENTS OF A.S.T.M. 36-77A. THE BASE SHALL BE SECURED TO THE BOTTOM SECTION BY TWO (2) CONTINUOUS ELECTRIC ARC WELDS.

2. MASTARMS: THE MASTARMS SHALL BE FABRICATED FROM 50 mm STANDARD PIPE MEETING THE REQUIREMENTS OF A.S.T.M. A-53 OR A.S.T.M. A-35.

ALUMINUM STANDARDS (AS CALLED FOR ON THE PLANS)

A. STANDARDS SHALL CONFORM TO THE PLAN DRAWINGS AND SPECIFICATIONS. THE SHAFT SHALL BE SPUN FROM ONE PIECE OF SEAMLESS TUBING (A.S.T.M. B-249) ALUMINUM ASSOCIATION ALLOY 6063-T6, WITH MINIMUM NOMINAL WALL THICKNESS OF 5 mm FOR 12 m MOUNTING HEIGHT. AFTER FABRICATION IT SHALL HAVE MECHANICAL STRENGTH OF NOT LESS THAN T6 TEMPER. THE SHAFT SHALL HAVE NO LONGITUDINAL NOR CIRCUMFERENTIAL WELDS EXCEPT AT THE LOWER END JOINING THE SHAFT TO THE BASE.

1. BASE: A ONE-PIECE CAST ALUMINUM (A.S.T.M. B-108 ALLOY S.G. 70A-T6) ANCHOR BASE OF ADEQUATE STRENGTH, SHAPE AND SIZE SECURED TO THE LOWER END OF THE SHAFT BY TWO (2) CONTINUOUS WELDS. THE BASE SHALL TELESCOPE THE SHAFT AND THE ONE WELD SHALL BE ON THE INSIDE OF THE BASE AT THE END OF THE SHAFT WHILE THE OTHER WELD SHALL BE ON THE OUTSIDE AT THE TOP OF THE BASE (THE TWO (2) WELDS SHALL DEVELOP THE DESIGN STRENGTH OF THE POLE ASSEMBLY.)

2. MASTARMS:

- a. SINGLE MEMBER TYPE: (AS CALLED FOR ON THE PLANS) THE BRACKET ARM ASSEMBLY SHALL CONSIST OF A TAPERED ALUMINUM ARM, OVALIPTIC IN SHAPE THE POLE END AND TAPERING TO A MINIMUM OF 60 mm O.D. AT THE LUMINAIRE END, MADE OF (A.S.T.M.B-429) ALUMINUM ASSOCIATION ALLOY 6063-T6 TUBING.
- b. TRUSS TYPE MEMBER: (AS CALLED FOR ON THE PLANS) THE UPPER AND LOWER MEMBERS SHALL BE 50 mm IPS ALUMINUM PIPE, (A.S.T.M.B-429) ALUMINUM ASSOCIATION ALLOY 6063-T6.

ELECTRICAL MATERIAL:

PHOTO-ELECTRIC CONTROL: PHOTO-ELECTRIC CONTROL SHALL BE SOLID STATE TYPE, 1000W /1800 VA MAX., SINGLE POLE, DOUBLE THROW, TWIST LOCK MOUNTING, 100-300 VOLT OPERATION. THE OPERATING LEVELS SHALL BE 3.23 LUX ON - 6.46 LUX OFF WITH AN ALLOWABLE 0.54 LUX VARIANCE ON OR OFF. THE PHOTO ELECTRIC CONTROL SHALL HAVE A MINIMUM OF A 45 SECOND TIME DELAY OFF.

SAFETY SWITCH: SAFETY SWITCH SHALL BE 480 VOLT, 15 AMP, SINGLE THROW DOUBLE POLE, FRONT OPERATED, FUSED, HEAVY DUTY, IN A N.E.M.A. TYPE 3R ENCLOSURE.

CONDUCTOR: CONDUCTOR SHALL MEET THE FOLLOWING REQUIREMENTS:

A. SECONDARY CABLE AND POWER LEAD-IN CABLE: POWER LEAD-IN CABLE SHALL BE #2 A.W.G. AND SECONDARY CABLE SHALL BE #4 A.W.G. STRANDED ANNEALED COPPER, SINGLE CONDUCTOR CABLES FOR OPERATION AT 600 VOLTS MAXIMUM. MATERIAL SHALL MEET THE APPLICABLE REQUIREMENTS OF I.P.C.E.A. STANDARD S-19-81, WITH THERMOPLASTIC INSULATION OF GRS-RUBBER BASE MEETING APPENDIX K (A) OF I.P.C.E.A. AND LISTED BY U.L. AS TYPE U.S.E. FOR DIRECT BURIAL, OR MATERIAL SHALL MEET THE APPLICABLE REQUIREMENTS OF I.P.C.E.A. STANDARD S-66-524, INTERIM STANDARD #2, WITH THE THERMO SETTING INSULATION OF CROSS LINK POLYETHYLENE MEETING REQUIREMENTS OF COLUMN "A" OF I.P.C.E.A. AND LISTED BY U.L. AS TYPE U.S.E. RHW-75°C.

B. POLE WIRING: POLE WIRING ABOVE HANDHOLE IN POLE LUMINAIRE(S) SHALL BE SINGLE CONDUCTOR CABLE WITH MINIMUM 600 VOLT RATING, NO. 10 A.W.G. TYPE THHN/THWN. CONDUCTOR SHALL BE STRANDED ANNEALED COPPER. THE POLE WIRING CABLES FOR TWIN LUMINAIRE POLES SHALL BE COLORED RED FOR THE NORTH OR WEST ORIENTED LUMINAIRE AND COLORED BLACK FOR THE SOUTH OR EAST ORIENTED LUMINAIRE.

C. GROUND: GROUND WIRE SHALL BE A #6 AWG SOLID BARE COPPER WIRE AND ARRANGEMENT SHALL BE AS NOTED ON PLANS.

D. ALL CONDUCTORS SHALL BE INSTALLED IN CONDUIT.

LUMINAIRES: ALL LUMINAIRES SHALL BE SUPPLIED WITH THE HIGH POWER FACTOR BALLAST.

A. 150 WATT LUMINAIRES: 150 WATT LUMINAIRE SHALL HAVE A HOUSING OF ALUMINUM

ALLOY CASTING WITH AN INTEGRAL SLIPFITTER FOR A 50 mm BRACKET MOUNTING WITH A NATURAL UNPAINTED ALZAK ALUMINUM REFLECTOR. THE BALLASTS SHALL BE A VOLTAGE AUTO-REGULATOR TYPE FOR HIGH PRESSURE SODIUM AT A VOLTAGE OF 480 VOLTS. THE REFRACTORS SHALL BE ACRYLIC WITH TYPE III LIGHT DISTRIBUTION.

B. 150 WATT UNDERDECK LUMINAIRE: 150 WATT LUMINAIRE SHALL BE OF HEAVY-DUTY DIE-CAST ALUMINUM TWO-PIECE HOUSING WITH DOOR ASSEMBLY HINGED AND LATCHED. LUMINAIRE SHALL HAVE FLAT SURFACE AND CEILING MOUNTING FRAME AND HAND WEAR FOR SEMI-RECESSED INSTALLATION (MAX PROTRUSION 76 MM). DOOR SHALL BE GASKETED TO WITHSTAND 689 KPA (100 PSI) HOSED DOWN (UL 1572). LUMINAIRE SHALL HAVE BUILT IN 480 VOLT AUTOREG BALLAST FOR HEIGHT PRESSURE SODIUM LAMP. ALUMINUM REFLECTOR AND TEMPERED GLASS LENS SHALL BE DESIGNED FOR MEDIUM CUTOFF TYPE IV LIGHT DISTRIBUTION.

C. 250 WATT SIGN LUMINAIRE: 250 WATT SIGN LUMINAIRE SHALL HAVE DIE CAST ALUMINUM HOUSING WITH A BUILT-IN BALLAST OF 480 VOLTS. THE LUMINAIRE SHALL HAVE A HYDROFORMED ALZAK ALUMINUM HOUSING REFLECTOR AND GLASS REFRACTOR WITH INNER PRISMS TO PROVIDE MAXIMUM UNIFORMITY.

1. PERFORMANCE SPECIFICATION: THE 250 WATT SIGN LUMINAIRE SHALL PERFORM WITHIN THE FOLLOWING STANDARDS ON A 5.5 m WIDE BY 3 m HIGH SIGN PANEL MOUNTED 300 mm DOWN AND 1.2 m OUT FROM THE SIGN FACE.

MAX/MIN 7:1
AVG/MIN 3:1
MAX 25 FC
LLF .72

D. 150 WATT DECORATIVE LIGHT POLE LUMINAIRE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE GRAPHIC DETAIL SHOWN ON THE DRAWINGS. THE FIXTURE BALLAST HOUSING SHALL BE ONE PIECE DIE CAST ALUMINUM. THE LUMINOUS ELEMENTS SHALL BE CAST ALUMINUM WITH AN INTERNAL LENS. THE LENS SHALL BE LIGHTLY DIFFUSED TEMPERED GLASS, SEALED TO THE HOUSING AND SHADE WITH MOLDED SILICONE GASKETS. THE HOODS SHALL BE HEAVY GAUGE SPUN ALUMINUM WITH HEMMED EDGES FOR ADDED RIGIDITY. THE FIXTURE SHALL BE LISTED WITH U.L. FOR OUTDOOR WET LOCATIONS (UL 1570 ABD 1572).

1. ALL INTERNAL AND EXTERNAL HARDWARE SHALL BE STAINLESS STEEL REFLECTOR SHALL CONSIST OF A DIE CAST ALUMINUM DOOR FRAME AND RING ASSEMBLY. THE HOOD RING ASSEMBLY SHALL BE FULLY SEALED WITH A MOLDED SILICONE GASKET. THE DOOR FRAME SHALL BE HINGED TO THE RING AND OPENED WITH CAPTIVE FASTENERS FOR RELAMPING. THE TEMPERED GLASS LENS IS HELD IN THE DOOR FRAME WITH A MOLDED SILICONE GASKET.

2. GLASS REFRACTOR: A BOROSILICATE GLASS REFRACTOR LENS WITH A TYPE 3 OR TYPE 5 DISTRIBUTION SHALL BE ATTACHED TO AN ALUMINUM FRAME. THREE CAPTIVE FASTENERS SHALL BE LOOSENED TO TURN AND REMOVE THE LENS FOR RELAMPING.

3. THE REFLECTOR MODULE SHALL BE COMPOSED OF FACETED, SEMI SPECULAR ANODIZED ALUMINUM PANELS RIGIDLY ATTACHED IN AN ALUMINUM TRAY. THE REFLECTOR SHALL BE EASILY REMOVED BY LOOSENING FOUR SCREWS AND LIFTING IT OUT OF THE TRAY. THE REFLECTOR TRAY SHALL BE ROTATABLE ON 90° CENTERS FOR ORIENTING THE LIGHT DISTRIBUTION. THE REFLECTORS SHALL MEET ANSI-IES STANDARDS FOR FULL CUTOFF REFLECTOR SYSTEMS.

4. THE BALLAST SHALL BE MOUNTED ON A PRE-WIRED TRAY WITH A QUICK DISCONNECT PLUG AND REMOVED BY LOOSENING TWO CAPTIVE SCREWS. PULSE START BALLAST FOR 175 WATT METAL HALIDE SHALL BE PREWIRED AT THE FACTORY FOR 240 VOLTS.

5. THE FIXTURE SHALL BE MOUNTED TO THE ARM ASSEMBLY WITH STAINLESS STEEL BOLTS IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATION THE CONNECTION SHALL BE SEALED WITH A SILICONE COMPRESSION GASKET.

SODIUM LUMINAIRE IGNITORS: ALL HPS LUMINAIRES SHALL BE EQUIPPED WITH THE FOLLOWING:

A. HIGH PRESSURE SODIUM IGNITORS: ELECTRONIC IGNITOR FOR THE IGNITION OF HIGH PRESSURE SODIUM (HPS) VAPOR LAMPS. THE IGNITOR SHALL BE DESIGNED TO DIRECT THE HIGH VOLTAGE SPIKE DIRECTLY TO THE LAMP WITHOUT BEING DIRECTED TO THE LAMP THROUGH THE BALLAST WINDINGS. THE IGNITOR SHALL BE CAPABLE OF BEING USED WITH ALL BRANDS AND TYPES OF 60 HERTZ HPS BRANDS. THE IGNITOR SHALL BE DESIGNED SO THAT CYCLING OR EXTINGUISHED LAMP SHALL NOT ADVERSELY AFFECT THE IGNITOR OR BALLAST. THE IGNITOR SHALL BE TOTALLY EPOXY ENCAPSULATED IN A METAL CAN AND SHALL BE OPEN CIRCUIT TESTED FOR A PERIOD OF 48 HOURS WITH POWER APPLIED AT ELEVATED TEMPERATURES TO 100°C WITH CONSTANT MONITORING OF CASE TEMPERATURES. THE IGNITOR SHALL HAVE A TWO (2) MINUTE TIME DELAY. IF THE LAMP DOES NOT START, THE IGNITOR WILL BE SHUT OFF UNTIL THE POWER TO THE LUMINAIRES IS RESET BY THE PHOTO CONTROL. THE IGNITOR SHALL BE WARRANTED AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN FIVE (5) YEARS FROM THE SHIPPING DATE OF LUMINAIRES TO THE PROJECT.

LAMPS

- A. HIGH PRESSURE SODIUM
 1. 250 WATT LAMPS, CLEAR FINISH, INITIAL LUMENS 28,000.
 2. 150 WATT LAMPS, CLEAR FINISH, INITIAL LUMENS 16,000.

B. METAL HALIDE

1. 175 WATT LAMPS, CLEAR FINISH, INITIAL LUMENS 12,000.

ENCLOSURE

CONTROL CENTER ENCLOSURE SHALL BE AN UNDERGROUND SERVICE TYPE, RATED FOR 100 A OR 200 A, 120/240 OR 277/480 VOLTS (AS SPECIFIED ON THE PLANS). THE ENCLOSURE CABINET SHALL BE CONSTRUCTED OF 5052 ALLOY ALUMINUM 3 mm THICK RAIN TIGHT CONSTRUCTION WITH INDIVIDUAL METER, PANEL, CONTACTOR, AND REAR SERVICE PULL "COMPARTMENTS". PANELBOARD COMPARTMENT SHALL CONTAIN PHOTO-CELL, CONVENIENCE RECEPTACLE, AND TEST SWITCH. THE CABINET SHALL BE OF CLEAN CUT DESIGN HAVING NO SHARP EDGES, CORNERS OR PROJECTIONS. THE CIRCUITING SHALL BE SERVICEABLE BY MEANS OF FULL LENGTH HINGED DOORS WITH PADLOCK PROVISIONS. THE ENCLOSURE SHALL HAVE 600 VOLT RATED MOLDED CASE MAIN AND SECONDARY BREAKERS, TWIST-LOCK PHOTO-CELL SOCKET, AND MERCURY CONTACTORS. THE EQUIPMENT WITHIN THE ENCLOSURE SHALL BE WIRED

PRIOR TO DELIVERY. THE ENCLOSURE SHALL HAVE A METER VIEW WINDOW AND A GLASS TO ALLOW LIGHT TO THE PHOTO-CELL. ENCLOSURES CAN BE FURNISHED EITHER METERED OR UNMETERED AS INDICATED ON THE PLANS.

A. MAIN AND SECONDARY BREAKERS: THE MAIN AND SECONDARY BREAKERS SHALL HAVE A MOUNTING DIMENSION OF 35 mm WIDE X 115 mm HIGH. MOUNTING HOLES SHALL BE POSITIONED TO ACCOMMODATE A BREAKER 70 mm WIDE SIDE BY SIDE. SEE ENCLOSURE DETAIL.

GENERAL MATERIALS AND NOTES:

MISCELLANEOUS HARDWARE: MISCELLANEOUS HARDWARE THAT REQUIRES GALVANIZING OR ELECTROPLATING SHALL CONFORM TO THE STANDARD SPECIFICATIONS, 1990 EDITION, SECTION 1703 (C).

CONDUIT:

A. CONDUIT PLACED UNDER EXISTING AND PROPOSED PAVEMENT OR SIDEWALK SHALL BE METALLIC CONDUIT.

B. CONDUIT PLACED UNDER EXISTING PAVEMENT OR SIDEWALK SHALL BE INSTALLED BY AN APPROVED JACKING OR DRILLING METHOD. THE EXISTING PAVEMENT SHALL NOT BE DISTURBED UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY THE ENGINEER. EXCESSIVE USE OF WATER SUCH THAT THE PAVEMENT MIGHT BE UNDERMINED, OR THE SUBGRADE SOFTENED, WILL NOT BE PERMITTED.

C. METALLIC CONDUIT:

1. METALLIC CONDUIT SHALL BE RIGID STEEL CONDUIT MEETING THE REQUIREMENTS OF AMERICAN STANDARD SPECIFICATION C-80.1.
2. METALLIC CONDUIT FITTINGS: METALLIC CONDUIT FITTINGS SHALL BE ZINC COATED AND SHALL MEET THE REQUIREMENTS OF AMERICAN STANDARD SPECIFICATION C-80.1.

D. NON-METALLIC CONDUIT:

1. NON-METALLIC CONDUIT SHALL BE RIGID POLYVINYL CHLORIDE MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATIONS NO. LP. 1036A, TYPE II ELECTRICAL CLASS 2, GRADE C. EACH LENGTH SHALL BEAR THE UNDERWRITERS, INC. LABEL.

2. NON-METALLIC CONDUIT FITTINGS: NON-METALLIC CONDUIT FITTINGS SHALL BE FABRICATED FROM POLYVINYL CHLORIDE HAVING THE SAME CHEMICAL AND PHYSICAL PROPERTIES AS THE CONDUIT WITH WHICH IT IS TO BE USED. EACH SHALL BEAR THE UNDERWRITERS, INC. LABEL. THE JOINTS SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

ANCHOR BOLTS: ANCHOR BOLTS SHALL CONFORM TO THE STANDARD SPECIFICATIONS, 1990 EDITION, SECTION 1613, TYPE I FOR LIGHT STANDARDS.

CABLE CONNECTORS: CABLE CONNECTORS FOR THE CONNECTIONS IN LIGHT STANDARD BASE SHALL BE THE FUSED CONNECTOR KIT TYPE WITH A MOLDED RUBBER HOUSING FOR WATERPROOFING. CONNECTORS SIZED TO FIT CABLE.

FRANGIBLE BASE: FRANGIBLE BASE SHALL BE CAST ALUMINUM TO MEET THE STANDARDS OF THE 1985 A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, AND TRAFFIC SIGNALS. THE FRANGIBLE BASE SHALL ACCOMMODATE A 320 mm BOLT CIRCLE TOP AND BOTTOM. THE FRANGIBLE BASE SHALL HAVE CAST ALUMINUM DOORS.

STRUCTURE MOUNTED JUNCTION BOX: JUNCTION BOX SHALL BE MADE OF 2 mm SHEET METAL (STEEL) WITH WELDED SEAMS, KNOCKOUTS AND WEATHERPROOF SCREW COVER. BOXES SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-123 OR ELECTROPLATED WITH A MINIMUM THICKNESS OF 1 mm AFTER FABRICATION. THE SURFACE OF THE JUNCTION BOX WHICH COMES IN CONTACT WITH CONCRETE SHALL BE COVERED WITH ALUMINUM COLORED BUTYL RUBBER SEALANT (CAULKING COMPOUND).

WEDGE TYPE STUD BOLT ANCHORS: THE CONTRACTOR SHALL INSTALL TWO 10 mm X 75 mm WEDGE TYPE ANCHORS FOR CONDUIT CLAMPS. THE ANCHORS SHALL BE WEDGE TYPE MADE FROM CARBON STEEL MEETING AISI 12L 14 STEEL. THE MINIMUM EMBEDDED DEPTH SHALL BE 45 mm.

CONDUIT CLAMPS WITH CLAMP BACKS: THE CONTRACTOR SHALL INSTALL CONDUIT CLAMPS WITH A COMPATIBLE CLAMP BACK. CLAMPS SHALL BE HEAVY DUTY STEEL TO SECURE THE CONDUIT TO STRUCTURE. CONDUIT CLAMPS ARE TO BE SPACED AT 1.8 m INTERVALS.

CABLE GRIP SUPPORTS: THE CONTRACTOR SHALL INSTALL ONE (1) CABLE SUPPORT GRIP IN EACH ROADWAY LIGHTING POLE. THE CABLE SUPPORT GRIP SHALL BE MADE OF HIGH GRADE NON-MAGNETIC TIN COATED BRONZE STRAND. THE CABLE SUPPORT GRIP SHALL BE CAPABLE OF SECURING TWO (2) #10 AWG TYPE USE-2 CABLES IN A VERTICAL POSITION HOLDING THE WEIGHT OF THE CABLES AND CABLE CONNECTORS OFF THE LUMINAIRE ASSEMBLY. SEE ROADWAY LIGHTING DETAILS SHEET.

ALL WELDS SHALL BE SMOOTH CLEAN DENSE DEPOSIT THAT WILL EXCLUDE MOISTURE AND CONFORM TO A.W.S. SPECIFICATION D1.1 (LATEST REVISION). FIELD WELDS WILL NOT BE ALLOWED.

SERVICE AND JUNCTION BOXES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS. THE CONTRACTOR MAY INSTALL, AT HIS OWN EXPENSE, SUCH ADDITIONAL BOXES AS MAY BE DESIRED TO FACILITATE THE WORK UPON APPROVAL OF THE ENGINEER.

PAINTING OF LIGHTING AND SIGNAL EQUIPMENT

ALL TRAFFIC SIGNAL AND LIGHTING POLES, TRAFFIC SIGNAL, LIGHTING MAST ARMS, AND LIGHTING LUMINAIRES SHALL HAVE A FACTORY APPLIED FINISH OF TGIC THERMOSET POLYESTER POWDER COAT PAINT. THE PAINT SHALL BE BLACK IN COLOR, AS APPROVED TO MEET THE CITY OF WICHITA STANDARD AND SHALL BE APPLIED AFTER ALL COMPONENTS ARE THOROUGHLY CLEANED AND PRIMED WITH A CHROMATE PRETREATMENT. THE COST OF PAINTING SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICES FOR "ELECTRIC LIGHTING SYSTEMS" AND "TRAFFIC SIGNAL INSTALLATION"

LIGHTING CONTROL

A 480 VOLT CONTROL CIRCUIT SHALL BE PROVIDED TO CONTROL THE P.E.C. ON/OFF OPERATION OF THE LIGHTING SYSTEM. WHERE 480 VOLT CONTROL SYSTEM CONDUCTORS OCCUPY LIGHTING SYSTEM AND TRAFFIC SYSTEM JUNCTION BOXES AND ENCLOSURES, THE CONTROL SYSTEM WIRING SHALL BE MULTI LABELED "WARNING 480 VOLT CONTROL SYSTEM"

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	54-87 K-8258-01	2003	153	223

IN THE MASTER LIGHTING CONTROL CENTER, AN ADDITIONAL 480 VOLT 30 AMP 2/P CIRCUIT SHALL BE PROVIDED IN ADDITION TO THE OTHER CIRCUITS. THIS CIRCUIT WILL BE ACTIVATED BY THE P.E.C. LOCATED IN THE CONTROLLER AND HAND/AUTO/TEST OPERATIONS SHALL BE UNCHANGED. PROVIDED WIRING, TERMINAL CLOCKS, SOCKETS, P.E.C. ETC. AS REQUIRED FOR STAND ALONE OPERATION BUT DISCONNECT SO AS NOT TO INTERFERE WITH THE CENTRAL CONTROL SYSTEM. A 30A/10P 277 VOLT COIL MERCURY RELAY SHALL BE USED FOR THE CONTROL SYSTEM.

IN THE OTHER LIGHTING CONTROL CENTERS AND THE TRAFFIC SIGNAL SERVICE PEDESTALS PROVIDE A 30A2P 480 VOLT COIL MERCURY RELAY FOR ON/OFF OPERATION OF THE BRIDGE LIGHTING. PROVIDED WIRING, TERMINAL BLOCKS, SOCKETS, MERCURY RELAY, P.E.C. ETC. AS REQUIRED FOR STAND ALONE OPERATION BUT DISCONNECT SO AS NOT TO INTERFERE WITH THE CENTRAL CONTROL SYSTEM. THE 480 VOLT CONTROL WIRING AND RELAY SHALL BE ENCLOSED IN A SEPARATE COMPARTMENT AND LABELED "480 VOLT CONTROL SYSTEM ON/OFF OPERATION SEPARATE LOCATION"

LIGHTING CONTROL SCHEDULE

SYSTEM	CONTROLLER AND LOCATION	
	CONTROLLER C (EXISTING) MASTER CONTROLLER NORTH FRONTAGE ROAD EAST OF COURTLEIGH	CONTROLLER D MASTER CONTROLLER BONNIE BRAE AND NORTH FRONTAGE ROAD
SYSTEM	NORTH FRONTAGE ROAD	KELLOGG (US-54) AVE.
METER	METERED	METERED
VOLT	480/277	480/277
MAIN	100A	100A
CIRCUITS	4-480V 30A2P LIGHT 1-277V 15A 1P PEC 1-480V 30A2P CON	4-480V 30A2P LIGHT 1-277V 15A 1P PEC

NOT IN CONTRACT

KANSAS DEPARTMENT OF TRANSPORTATION

LIGHTING SPECIFICATIONS

DATE

BY

REFERENCE NOTED

REFERENCE CHECKED

SCALE

Plotter:

Drawn by:

File:

CFS Cook, Flatt & Strobel
ENGINEERS, P.A.