

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	54-87 K-8258-01	2007	362	556

CONSTRUCTION AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL INSTALLATIONS

NOTE

WHENEVER THE PLANS SPECIFICATIONS CONFLICT WITH THE LATEST EDITION OF THE CITY OF WICHITA AND THE KANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, THE PLAN SPECIFICATIONS SHALL GOVERN, AND WHEN THE PLAN NOTES CONFLICT WITH PLAN SPECIFICATIONS, THE PLAN NOTES SHALL GOVERN.

CONSTRUCTION

SEE STANDARD SPECIFICATIONS, LATEST EDITION, SECTION 801, "ELECTRIC LIGHTING AND TRAFFIC SIGNALS" OF THE KANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND SECTION 700 "TRAFFIC SIGNALIZATION" THE CITY OF WICHITA STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL PROVIDE, ON THE JOB SITE AT ALL TIMES, AN EMPLOYEE WITH LEVEL II CERTIFICATION IN TRAFFIC SIGNAL INSTALLATION BY THE INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMS).

THE LOCAL POWER COMPANY SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO BEGINNING WORK TO DETERMINE THE PROPER TYPE AND METHOD OF HOOK UP FOR THE PARTICULAR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF ANY COSTS ASSOCIATED WITH THE POWER HOOK UP, INCLUDING CONDUIT, LEAD-IN WIRE, SERVICE POLE, METER LANDING, ETC., REGARDLESS OF WHETHER THESE COSTS HAVE BEEN LISTED ON THE BILL OF MATERIALS.

LOCATIONS FOR SIGNAL POLES, PEDESTALS, SERVICE BOXES, JUNCTION BOXES AND LOOP DETECTORS SHALL BE STAKED BY THE CONTRACTOR. STAKED LOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION OF EACH ITEM.

THE PLAN LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE BEGINNING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ALL DAMAGES WHICH MAY BE OCCASIONED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES. COMPANIES OR AGENCIES THAT HAVE IDENTIFIED UTILITIES IN THIS VICINITY ARE SHOWN IN THE PLANS.

MATERIALS

ALL MATERIALS USED IN THE FABRICATION OR ASSEMBLY OF THE ITEMS LISTED BELOW SHALL BE NEW AND SHALL COMPLY WITH THE APPLICABLE PARTS OF SUBSECTION 1703 "ELECTRIC LIGHTING AND TRAFFIC SIGNAL EQUIPMENT" OF THE STANDARD SPECIFICATIONS AND THE LATEST EDITION OF THE NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION STANDARD NO. TS-1.

ALL SIGNS, SIGNALS, AND MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

SEE SUBSECTION 1605 "STRUCTURAL STEEL" AND SUBSECTION 1606 "STRUCTURAL STEEL TUBING" OF THE STANDARD SPECIFICATIONS FOR THE BASIS OF ACCEPTANCE FOR MATERIAL FURNISHED UNDER THESE SUBSECTIONS.

SEE SUBSECTION 1613 "ANCHOR BOLTS FOR STRUCTURAL USES" OF THE STANDARD SPECIFICATIONS FOR THE BASIS OF ACCEPTANCE OF ANCHOR BOLTS FOR TRAFFIC SIGNAL POLES. IF TYPE "B" CERTIFICATION IS NOT PROVIDED ACCORDING TO SECTION 2600 "MATERIAL CERTIFICATIONS" OF THE STANDARD SPECIFICATIONS, THE ENGINEER MAY REQUIRE TESTING OF AN ANCHOR BOLT. ANCHOR BOLTS FOR CONTROLLER CABINETS AND TRAFFIC SIGNAL PEDESTALS SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS SPECIFICATION A308 "SPECIFICATION FOR STRUCTURAL STEEL" AND WILL BE VISUALLY ACCEPTED BY THE ENGINEER.

MAJOR ITEMS OF ELECTRONIC EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE OF THE SAME TYPE AND CONSIST OF PRODUCTS PROVIDED BY THE SAME SUPPLIER IN ORDER TO SECURE UNIFORMITY, SINGLE RESPONSIBILITY, AND MOST SATISFACTORY SERVICE.

TRAFFIC SIGNAL SPECIFICATIONS

I. GENERAL

A. TRAFFIC SIGNAL IMPROVEMENT POLICIES: THE WORK INCLUDED IN THIS PROJECT MAY INVOLVE REPLACEMENT AND/OR MODIFICATION OF EXISTING TRAFFIC SIGNAL EQUIPMENT AT A LOCATION WHICH IS PRESENTLY CONTROLLED BY OPERATING TRAFFIC SIGNALS. THE FOLLOWING POLICIES ARE TO BE OBSERVED DURING THE PROPOSED MODIFICATIONS AND IMPROVEMENTS:

- EXISTING OPERATION: THE CONTRACTOR SHALL PROVIDE CONTINUOUS OPERATION OF THE TRAFFIC SIGNALS DURING THE SIGNAL MODIFICATIONS AND IMPROVEMENTS EXCEPT FOR SHUTDOWNS TO ALLOW FOR ALTERATIONS AS REQUIRED FOR INSTALLATION OF THE PROPOSED IMPROVEMENTS.
- PERIODS OF DISRUPTION: SOME PERIODS OF DISRUPTION OF EXISTING SIGNAL OPERATION CAN BE TOLERATED DURING INSTALLATION OF THE PROPOSED IMPROVEMENTS; HOWEVER, THE CONTRACTOR SHALL COORDINATE ANY PLANNED DISRUPTION OF SIGNAL OPERATIONS WITH THE ENGINEER A REASONABLE TIME IN ADVANCE OF SUCH DISRUPTION OF OPERATIONS.
- EXISTING WIRING: ALL EXISTING WIRING WITHIN EXISTING CONTROLLER CABINETS SHALL BE IDENTIFIED BY THE CONTRACTOR AND EACH CONDUCTOR PROPERLY LABELED PRIOR TO DE-ENERGIZING THE EXISTING CONTROLLER TO INSTALL THE PROPOSED MODIFICATIONS AND IMPROVEMENTS.

B. SALVAGED EQUIPMENT

- REINSTALLED: WHEN SALVAGED EQUIPMENT IS TO BE REINSTALLED, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY MATERIALS AND EQUIPMENT INCLUDING ANCHOR BOLTS, NUTS, WASHERS, CONCRETE, ETC., REQUIRED TO COMPLEMENT THE SALVAGED EQUIPMENT IN THE NEW INSTALLATION.

- NOT REINSTALLED: WHEN SALVAGED EQUIPMENT IS NOT TO BE REINSTALLED, IT SHALL BE STORED ON SITE FOR REMOVAL BY THE OWNER OF THE EQUIPMENT. THE STORED EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL THE OWNER REMOVES IT FROM THE WORK SITE.
- REMOVAL OF EXISTING BASES: EXISTING BASES FOR TRAFFIC SIGNAL POLES, PEDESTALS AND CONTROLLERS SHALL BE REMOVED A MINIMUM OF 24" BELOW FINISHED GRADE.

C. TURN-ON

- FLASHING OPERATION: AT LOCATIONS WITHOUT PREVIOUS TRAFFIC SIGNAL CONTROL, THE NEW TRAFFIC SIGNALS SHALL BE FLASHED TWO TO THREE BUSINESS DAYS PRIOR TO FULL SIGNAL SYSTEM TURN-ON.
- SYSTEM TURN-ON: THE SIGNAL SYSTEM TURN-ON SHALL NOT OCCUR ON FRIDAYS, WEEKENDS, OR HOLIDAYS AND SHALL BE COMPLETED PRIOR TO 3:00 PM ON THE DAY OF THE TURN-ON.
- SUPPLIER REPRESENTATIVE: THE SUPPLIER OF CONTROL EQUIPMENT SHALL HAVE A REPRESENTATIVE PRESENT AT THE SIGNAL SYSTEM TURN-ON.
- TRAFFIC ENGINEERING NOTIFICATION: THE CITY OF WICHITA TRAFFIC ENGINEER SHALL BE NOTIFIED AT LEAST ONE WEEK IN ADVANCE OF THE DATE OF SIGNAL TURN-ON.

D. GUARANTEE: ALL EQUIPMENT FURNISHED ON A PROJECT BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST ANY IMPERFECTIONS IN WORKMANSHIP AND MATERIALS. SHOULD ANY DEFECT DEVELOP UNDER NORMAL AND PROPER OPERATING CONDITIONS DURING A 30 DAY TESTING PERIOD FOLLOWING COMPLETION OF ALL ELECTRICAL APPARATUS HOOK-UPS AND PRIOR TO ACCEPTANCE BY THE STATE, THIS MALFUNCTION SHALL BE CORRECTED BY AND AT THE EXPENSE OF THE CONTRACTOR, INCLUDING ALL LABOR, MATERIALS AND ASSOCIATED COSTS. THE CUSTOMARY MANUFACTURERS' WARRANTIES SHALL BE ASSIGNED TO THE MAINTAINING AGENCY.

II. TYPE 170E TRAFFIC SIGNAL CONTROL SYSTEM

A. GENERAL

- RESPONSIBLE PARTIES: ANY REFERENCE TO THE STATE, STATE OF CALIFORNIA, OR AGENCY SHALL MEAN THE LOCAL AGENCY RESPONSIBLE FOR MAINTAINING THE TRAFFIC SIGNAL. ANY REFERENCE TO THE CONTRACTOR SHALL MEAN EQUIPMENT MANUFACTURER OR SUPPLIER.
- TESTING: TWO MANUALS CONTAINING THE FLOW CHART, LISTING, AND INSTRUCTIONS OF THE TEST PROGRAM SHALL BE FURNISHED TO THE AGENCY RESPONSIBLE FOR MAINTAINING THE TRAFFIC SIGNAL WHEN THE CONTROLLER UNIT IS DELIVERED.

B. CONTROLLER CABINET:

- COLOR: THE CABINET SHALL BE BLACK.

III. SERVICE PEDESTAL, WIRE, AND CABLE

A. 120/240V 1X3W TRAFFIC SERVICE PEDESTAL SHALL BE FURNISH IN AN ALUMINUM RAINPROOF TYPE 3 ENCLOSURE AND SHALL BE ATTACHED TO CONTROLLER CABINET. FINISH AND COLOR SHALL MATCH CONTROLLER CABINET. THE SERVICE PEDESTAL SHALL INCLUDE AT A MIN. 4 jaw 100/200 AMP METER SOCKET, SINGLE POLE 50 AMP BREAKER FOR SIGNAL EQUIPMENT, SINGLE POLE G.F.I. 20 AMP BREAKER FOR RECEPTACLE, SINGLE OR DUAL POLE 30 AMP BREAKER FOR STREET LIGHTING, P.E. WITH AUTO/EST SWITCH AND 30 AMP 2/P. OR 1/P MERCURY RELAY. ALL INTERNAL WIRING AND BUSSES SHALL BE COPPER. ADDITIONAL CIRCUIT BREAKERS SHALL BE FURNISH IN INTERIOR OF CONTROLLER CABINET FOR VARIOUS EQUIPMENT. COLOR OF THE TRAFFIC SERVICE PEDESTAL SHALL BE BLACK. CONTROLLER FOUNDATION SHALL BE SIZED TOP PROVIDE ROOM FOR THE TRAFFIC SERVICE PEDESTAL. SEE LIGHTING SPECIFICATION FOR ADDITIONAL CIRCUITS AND OTHER ADDITIONAL REQUIREMENTS.

B. GROUNDING: ALL TRAFFIC SIGNAL POLES, PEDESTALS, CONTROLLER CABINETS, AND SERVICE CIRCUIT BREAKERS SHALL BE GROUNDED BY MEANS OF A NO. 6 AMERICAN WIRE GAUGE SOLID BARE COPPER WIRE BOLTED TO THE INSIDE OF THESE DEVICES WITH A 1/2 INCH INTERNAL GROUND LUG. ALL GROUND WIRES SHALL BE ATTACHED BY MEANS OF A GROUND CLAMP TO A COPPER-CLAD STEEL ROD. THE GROUND ROD SHALL BE 3/4 INCH IN DIAMETER AND 10 FEET LONG. GROUND RODS AT POLE BASES SHOULD BE A MINIMUM OF 2 FEET FROM THE POLE BASE AND A MINIMUM OF 1 FOOT BELOW THE GROUND SURFACE.

IV. TRAFFIC SIGNAL HEADS

L.E.D SIGNAL HEADS: ALL SIGNAL HEADS (INCLUDING PEDESTRIAN HEADS) WILL BE EQUIPPED WITH L.E.D. LAMPS. THE LENS IN EACH SIGNAL HEAD SHALL BE A SELF-CONTAINED, SEALED UNIT DESIGNED TO FIT A REGULAR 12-INCH TRAFFIC SIGNAL HOUSING. IT SHALL INCORPORATE A MINIMUM OF 186 HIGH RELIABILITY, HIGH INTENSITY LED INDICATORS. THE LENS SHALL PROVIDE A LIGHT BEAM SPREAD OF 30 DEGREES ON ALL SIDES OF ITS CENTER AXIS WHICH SHALL BE DESIGNED TO PROVIDE A 5 TO 7 DEGREE DOWNWARD ANGLE. THE LENS SHALL BE MADE OF UV STABILIZED PLASTIC. THE REAR COVER SHALL BE OF NON FLAMMABLE MATERIAL AND THE ENTIRE UNIT SHALL BE TOTALLY SEALED TO PRECLUDE THE ENTRANCE OF WATER, DUST OR OTHER CONTAMINANTS. THE SELF-CONTAINED, REGULATED POWER SUPPLY SHALL ALLOW THE UNIT TO OPERATE OVER AN INPUT VOLTAGE RANGE BETWEEN 89 AND 135 VOLTS AC AND SHALL BE CONFIGURED IN AT LEAST 3 PARALLEL CIRCUITS FOR RELIABILITY. LIGHT OUTPUT SHALL BE COMPARABLE TO THAT PROVIDED BY A STANDARD, 12 INCH TRAFFIC SIGNAL LENS ILLUMINATED BY A 150 WATT INCANDESCENT LAMP. THE RED WAVE LENGTH SHALL BE 630 TO 660 NM. THE MANUFACTURER SHALL WARRANT THE UNIT AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF AT LEAST FIVE YEARS AFTER DATE OF SHIPMENT. THIS WARRANTY SHALL BE ASSIGNED TO THE MAINTAINING AGENCY.

V. TRAFFIC SIGNAL POLES AND PEDESTALS

A. ALUMINUM TRAFFIC SIGNAL PEDESTALS

- GENERAL: ALUMINUM TRAFFIC SIGNAL PEDESTALS SHALL CONSIST OF A CAST ALUMINUM BASE. THE SHAFT SHALL BE SPUN FROM ONE PIECE OF SEAMLESS TUBING, MEETING THE REQUIREMENTS OF SUBSECTION 1626.02(b)(2) OF THE LATEST EDITION OF THE STANDARD SPECIFICATIONS HAVING A MINIMUM NOMINAL 0.125 INCH WALL THICKNESS. THE SHAFT SHALL HAVE NO LONGITUDINAL WELDS NOR CIRCUMFERENTIAL WELDS EXCEPT THOSE JOINING THE SHAFT TO THE BASE. ALL PEDESTALS SHALL HAVE A SET SCREW THROUGH THE SHAFT AT THE BASE.
- FINISH AND COLOR: THE SHAFT SHALL HAVE A UNIFORM POLISHED FINISH, COLOR SHALL BE BLACK. EACH SHAFT SHALL BE PROTECTED DURING SHIPMENT AND INSTALLATION.

VI. LUMINARIES AND LAMPS

- SEE LIGHTING SPECIFICATION FOR LIGHTING INFORMATION

C. PHOTOELECTRIC CONTROL: REFER TO LIGHTING FOR ADDITIONAL INFORMATION. PHOTO-ELECTRIC CONTROL SHALL BE SOLID STATE TYPE, 1000 WATT/1800 VA MAX., SINGLE POLE, DOUBLE THROW, TWIST LOCK MOUNTING, 120 VOLT OPERATION. THE OPERATING LEVELS SHALL BE 3 FC ON - 1.8 FC OFF WITH AN ALLOWABLE 25 PERCENT VARIANCE ON OR OFF. THE PHOTO-ELECTRIC CONTROL SHALL HAVE A MINIMUM OF A 30 SECOND TIME DELAY OFF. PHOTO-ELECTRIC CONTROL TO BE MOUNTED ON SERVICE PEDESTAL.

VII. SIGNS

A. GENERAL: THE DESIGN DETAILS (COLOR, LETTER HEIGHT AND LETTER SERIES) FOR ALL REGULATORY AND WARNING SIGNS SHALL BE AS SHOWN IN THE LATEST EDITION OF THE STANDARD HIGHWAY SIGNS MANUAL UNLESS SHOWN OTHERWISE IN THE PLANS. SIGN BLANKS FOR ALL REGULATORY AND WARNING SIGNS SHALL BE 0.080 INCH THICK ALUMINUM ALLOY UNLESS OTHERWISE NOTED IN PLANS. ALL SIGNS SHOWN IN THE BILL OF MATERIALS ON THE TRAFFIC SIGNAL QUANTITIES SHEET SHALL BE INCLUDED IN THE LUMP SUM COST FOR THE BID ITEM OF "TRAFFIC SIGNAL INSTALLATION".

B. OVERHEAD SIGNS

CONSTRUCTION: OVERHEAD STREET NAME SIGNS SHALL BE TYPE 5052-H38 ALUMINUM ALLOY 0.125 INCH THICK. THE SIGN FACES SHALL BE DIRECT-APPLIED WHITE ENCLOSED LENS HIGH PERFORMANCE REFLECTIVE LEGEND AND BORDERS ON A GREEN ENCLOSED LENS HIGH PERFORMANCE REFLECTIVE SHEETING BACKGROUND. THE GREEN SHEETING SHALL CONFORM TO FEDERAL COLOR STANDARD 595A, COLOR NO. 14109. UNLESS OTHERWISE SPECIFIED IN THE PLANS, COPY SIZE FOR THE LEGENDS SHALL BE AS FOLLOWS: SERIES "E" MODIFIED - 6" UPPER CASE FOR SW, ST, AV, SERIES "E" MODIFIED - 8" UPPER CASE W/6" LOWER CASE FOR NAMES; SERIES "E" MODIFIED - 8" FOR NUMERALS. THE LEGEND SHALL BE CENTERED ON THE SIGN FACE. THE BORDER SIZE SHALL BE 3/4" WIDE. ALL CORNERS ON SIGN BLANKS SHALL BE ROUNDED. 2. INSTALLATION: STREET NAME SIGNS SHALL BE INSTALLED ON MAST ARMS.

INSTALLATION: BETWEEN THE SIGNAL POLE AND THE FIRST TRAFFIC SIGNAL HEAD ASSEMBLY. THE FINAL LOCATION TO BE DETERMINED BY THE ENGINEER.

C. LAYOUT: BEFORE FINAL FABRICATION AND SHIPMENT, THE MANUFACTURER OR SUPPLIER SHALL PROVIDE THE ENGINEER WITH A LAYOUT OF EACH SIGN SHOWING THE EXACT STREET NAME LETTERING TO BE PLACED ON THE SIGN.

- REGULATORY SIGNS: THE R10 SERIES SIGNS SHALL BE MOUNTED ON THE MAST ARM TO THE RIGHT OF THE LEFT TURN SIGNAL HEAD USING AN APPROVED MOUNTING BRACKET AS SHOWN IN THE TRAFFIC SIGNAL INSTALLATION DETAILS. THE MOUNTING BRACKET SHALL BE CAPABLE OF WITHSTANDING A WIND LOAD IN EXCESS OF 100 MPH.
- OVERHEAD STREET NAME SIGNS: THE OVERHEAD STREET NAME SIGNS SHALL BE MOUNTED ON THE SIGNAL MAST ARM, BETWEEN THE SIGNAL POLE AND THE FIRST TRAFFIC SIGNAL HEAD ASSEMBLY. THE FINAL LOCATION WILL BE DETERMINED BY THE ENGINEER. INSTALLATION OF SIGNS ON MAST ARMS SHALL BE ACCOMPLISHED WITH SUITABLE STAINLESS STEEL BANDING, CLAMPS, AND BRACKETS CAPABLE OF WITHSTANDING 100 MPH WINDS. STREET NAME SIGNS OVER 18 INCHES IN HEIGHT SHALL BE INSTALLED USING APPROVED SIGN MOUNTING BRACKETS. ALL BOLTS INSERTED THROUGH SIGN FACES SHALL HAVE FLAT WASHERS INSTALLED BETWEEN THE REFLECTIVE SHEETING AND BOLT HEADS. BOLT HOLES IN SIGNS SHALL BE DRILLED IN THE FIELD. SIGNS SHALL BE MOUNTED SUCH THAT THE LEGEND IS LEVEL.
- PEDESTRIAN PUSHBUTTON SIGNS: SIGNS SHALL BE MOUNTED TO THE TRAFFIC SIGNAL POLE ABOVE THE APPROPRIATE PEDESTRIAN PUSHBUTTON. MOUNTING SHALL BE ACCOMPLISHED USING SUITABLE STAINLESS STEEL BANDING, CLAMPS AND BRACKETS CAPABLE OF WITHSTANDING 100 MPH WINDS. E. ACCEPTANCE: ALL SIGNS WILL BE ACCEPTED ON THE BASIS OF CATALOG CUTS AND E. ACCEPTANCE: VISUAL INSPECTION BY THE ENGINEER WHEN DELIVERED TO THE PROJECT SITE.

VII. TIMING A. SIGNAL TIMING SHALL BE BASED UPON TIMING FURNISHED BY THE ENGINEER AND SHALL BE RE-TIMED 6 MONTHS AFTER INITIAL TIMING. CONTRACTOR SHALL PROVIDE 1 HOUR OF A.M. AND P.M. PEAK INTERSECTION COUNTS FOR RE-TIMING. TIMING SHALL INCLUDE ALL INTERCONNECT SIGNALS.

VIII. LIGHTING CONTROL

REFER TO THE LIGHTING SPECIFICATION FOR CONTROL OF THE LIGHTING SYSTEM.

CONSTRUCTION AND MATERIAL REQUIREMENTS FOR TRAFFIC SIGNAL AND OTHER ELECTRICAL LIGHTING AND COMMUNICATION SYSTEMS

I. SHOP DRAWINGS

BEFORE COMMENCING WORK, A COMPLETE SCHEDULE OF MATERIALS AND EQUIPMENT PROPOSED FOR INSTALLATION SHALL BE SUBMITTED FOR THE APPROVAL OF THE ENGINEER. THIS SCHEDULE SHALL INCLUDE CATALOG CUTS, DIAGRAMS, DRAWINGS, AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED BY THE ENGINEER.

ALL SUBMITTALS SHALL INCLUDE THE MANUFACTURER BRAND NAME AND PART NUMBER WHERE APPLICABLE. WHERE MORE THAN ONE ITEM IS PRESENT ON A SUBMITTAL SHEET, THE APPROPRIATE ITEM OR ITEMS SHALL BE HIGHLIGHTED. ALL SUBMITTALS SHALL BE ORGANIZED AS MUCH AS PRACTICAL IN ORDER WITH THE SUMMARY OF QUANTITIES SHEET IN THE PLANS. FIVE (5) COPIES OF EACH SUBMITTAL SHALL BE SUPPLIED, WITH ONE COPY OF EACH SUBMITTAL INCLUDED IN A SUBMITTAL PACKAGE (5 PACKAGES TOTAL). IN THE EVENT ANY ITEMS OF MATERIAL OR EQUIPMENT CONTAINED IN THE SCHEDULE FAIL TO COMPLY WITH SPECIFICATION REQUIREMENTS OR ITEMS ARE NOT HIGHLIGHTED OR SUBMITTALS ARE NOT PACKAGED, SUCH ITEMS MAY BE REJECTED. NEW SUBMITTALS ON REJECTED ITEMS SHALL BE SUPPLIED TO THE ENGINEER FOR APPROVAL.

WHEN IT IS REQUIRED BY THESE SPECIFICATIONS THAT A TEST BE MADE OF THE MATERIAL TO BE USED ON THE WORK, THE CONTRACTOR SHALL FURNISH THE ENGINEER A CERTIFIED COPY OF SUCH TEST PRIOR TO THE INSTALLATION OF SUCH MATERIAL. WHEN ANY REFERENCE IS MADE IN THESE SPECIFICATIONS TO ANY SPECIFICATION SUCH AS A.S.T.M., I.P.C.E.A., A.I.E.E., ETC., OR A RELATED SPECIFICATION REFERRED TO BY REFERENCE THEREIN, OR REVISION THEREOF WHICH STATES THAT A CERTAIN TEST, OR TESTS ARE TO BE MADE ONLY AT THE REQUEST OF THE PURCHASER, IT SHALL BE CONSIDERED THAT THE ENGINEER DOES REQUEST SUCH TEST OR TESTS TO BE MADE AT THE CONTRACTOR'S EXPENSE AND SEVEN (7) CERTIFIED COPIES OF SAME BE FURNISHED AS ABOVE MENTIONED.

DATE	
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REFERENCE NOTED	
REFERENCE CHECKED	

SCALE

Drawn by: File: Plotter:



KANSAS DEPARTMENT OF TRANSPORTATION
**TRAFFIC SIGNAL SPECIFICATIONS
 TRAFFIC SIGNAL INSTALLATION AND
 SHOP DRAWINGS**