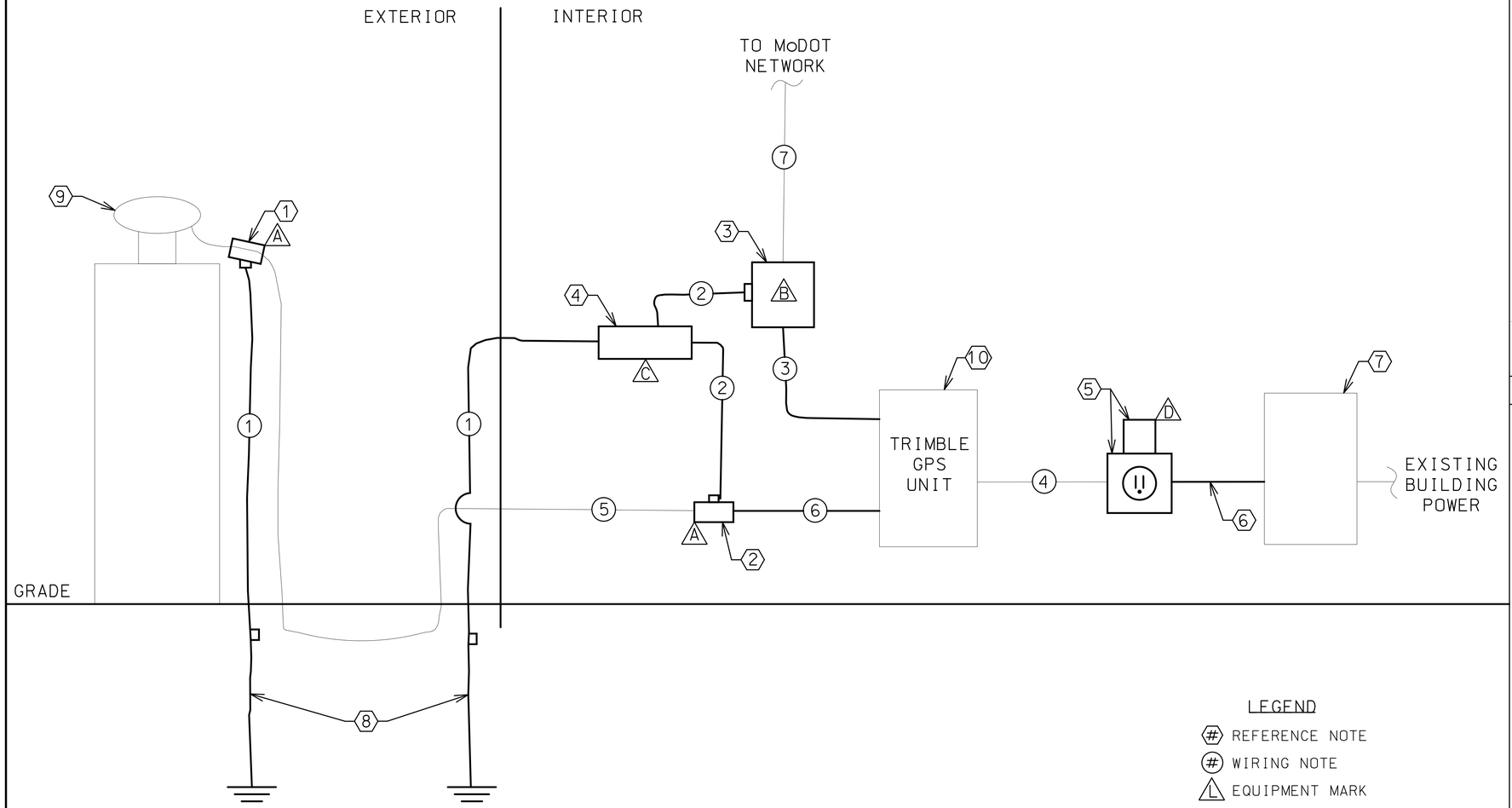
EQUIPMENT SCHEDULE

MARK	DESCRIPTION	NOTES
A	COAXIAL SURGE/LIGHTNING PROTECTOR. GAS DISCHARGE TUBE SUPPRESSION. REPLACEABLE GAS TUBE ELEMENT FOR MULT-STRIKE CAPABILITY. GROUND LUG AND TERMINAL FOR DIRECT GROUND CONNECTION. FREQUENCY RANGE = 0 - 6GHz; VSWR = 1:1.2 MAX; INSERTION LOSS = 0.6dB MAX; IMPEDANCE = 50 Ohm; GAS TUBE BREAKDOWN VOLTAGE = 90V ± 20%	1,2,3
B	1/100/1000 BASE-T SHIELDED CAT5/CAT5E/CAT6 SURGE/LIGHTING PROTECTOR. REPLACEABLE CIRCUIT BOARD. GROUND LUG AND TERMINAL FOR DIRECT GROUND CONNECTION. ETHERNET CONNECTORS = (2) SHIELDED RJ45 JACK; DATA CLAMPING VOLTAGE = ±58 VOLTS	1,3,4
C	BRONZE GROUNDING BRIDGE. FOUR TERMINATION POINTS CAPABLE FOR TERMINATION OF #6 AWG STRANDED COPPER CONDUCTORS. PROVIDE WITH PAINTABLE PLASTIC COVER.	
D	SURGE SUPPRESSOR FOR 120Vac, 60Hz, TWO-WIRE SYSTEM. BOX MOUNTABLE. SHORT CIRCUIT CURRENT RATING = 25kA; PEAK SURGE CURRENT RATING PER PHASE = 36kA.	5

NOTES:

1) COORDINATE INPUT/OUTPUT CONNECTION TYPE WITH EXISTING CONDITIONS.
2) PROVIDE REPLACEMENT GAS TUBES FOR ONE COMPLETE REPLACEMENT.
3) APPROVED MANUFACTURERS: SHARK ENERGY SOLUTIONS, HYPERLINK TECHNOLOGIES, POLYPHASOR.
4) PROVIDE (1) REPLACEMENT CIRCUIT BOARD.
5) APPROVED MANUFACTURER: SQUARE-D SDSA1175 OR EQUAL.



LEGEND

(#) REFERENCE NOTE
(#) WIRING NOTE
(L) EQUIPMENT MARK

GPS LIGHTNING PROTECTION WIRING DIAGRAM
NOT TO SCALE

WIRING SCHEDULE

1. 1-#6 COPPER, STRANDED THHN/THWN-2 IN ¾" PVC CONDUIT
2. 1-#6 COPPER, STRANDED THHN/THWN-2
3. 1-CAT5/5E/6 NETWORK CABLE
4. EXISTING TRIMBLE GPS UNIT POWER SUPPLY CABLE
5. EXISTING COAXIAL GPS ANTENNA CABLE.
6. COAXIAL ANTENNA CABLE JUMPER. MATCH EXISTING CABLE TYPE.
7. EXISTING CAT5/5E/6 CABLE FROM MODOT NETWORK.

REFERENCE NOTES:

1. PROVIDE COAXIAL SURGE SUPPRESSOR AS CLOSE TO THE CENTER OF THE DRIP LOOP AS POSSIBLE. PROVIDE WATERPROOF COAXIAL SPLICE KIT TO ENCLOSE SURGE SUPPRESSOR. MOUNT CONDUIT TO EXISITNG CONCRETE BASE AND PROVIDE WEATHER-HEAD. PROVIDE GROUNDING CONNECTION AS SHOWN.

2. PROVIDE COAXIAL SURGE SUPPRESSOR AS CLOSE TO THE EXISTING TRIMBLE UNIT AS POSSIBLE. PROVIDE GROUNDING CONNECTION AS SHOWN.

3. PROVIDE CAT5/5E/6 SURGE SUPPRESSOR IN LINE WITH BUILDING NETWORK CABLE. PROVIDE GROUNDING CONNECTION AS SHOWN.

4. PROVIDE GROUND BRIDGE AND PROVIDE GROUNDING CONNECTIONS AS SHOWN.

5. INSTALL SURFACE MOUNTED BOX WITH SIMPLEX RECEPTACLE FOR CONNECTION TO TRIMBLE POWER SUPPLY. PROVIDE SURGE PROTECTION DEVICE MOUNTED TO SURFACE MOUNTED BOX. VERIFY NEMA CONFIGURATION WITH EXISTING TRIMBLE GPS UNIT POWER SUPPLY CABLE.

6. PROVIDE CORD AND PLUG (MINIMUM #14AWG WITH GROUND) FOR CONNECTION OF SIMPLEX RECEPTACLE TO EXISTING UPS. VERIFY NEMA CONFIGURATION WITH EXISTING UPS. PROVIDE KELLUMS STRAIN RELIEF ON CORD AS REQUIRED.

7. EXISTING UPS TO REMAIN. FIELD VERIFY EXACT LOCATION.

8. PROVIDE ⅝" DIAMETER BY 10'-0" LONG COPPER-CLAD STEEL GROUND ROD. DRIVE GROUND ROD UNTIL TOP IS 2 INCHES BELOW GRADE. CONNECT GROUNDING CONDUCTOR TO GROUND ROD WITH EXOTHERMIC WELD CONNECTION BELOW GRADE.

9. EXISTING OUTDOOR GPS ANTENNA ON CONCRETE BASE. FIELD VERIFY EXACT LOCATION.

10. EXISTING TRIMBLE GPS REFERENCE STATION. FIELD VERIFY EXACT LOCATION.

GENERAL NOTES:

1. CONTRACTOR SHALL ADHERE TO ALL APPLICABLE STATE AND LOCAL BUILDING CODES.

2. INTENT OF WIRING DIAGRAM IS TO PROVIDE PROTECTION FOR THE EXISTING TRIMBLE GPS UNIT FROM LIGHTNING STRIKE BY PROVIDING SURGE SUPPRESSION DEVICES AT EACH INPUT AND OUTPUT OF TRIMBLE GPS UNIT. IF INPUT/OUTPUT CONNECTIONS ARE PRESENT THAT ARE NOT LISTED ON THE WIRING DIAGRAM, COORDINATE ANY ADDITIONAL SURGE SUPPRESSION DEVICES WITH OWNER.

3. ANY PENETRATIONS THROUGH EXTERIOR WALLS SHALL BE SEALED TO PREVENT WATER FROM ENTERING THE BUILDING. ANY PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE SEALED TO PROPERLY MAINTAIN EXISTING FIRE RATING.

4. EXISTING CONDITIONS AND EQUIPMENT LOCATIONS WILL VARY FROM SITE-TO-SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ALL NEW EQUIPMENT LOCATIONS WITH OWNER.

5. CONTRACTOR SHALL INSTALL ALL NECESSARY FITTINGS, CABLES, ADAPTERS, ETC. AS NEEDED TO PROVIDE A FULLY FUNCTIONAL SYSTEM.

6. CONTRACTOR SHALL INSTALL ALL GROUNDING CONDUCTORS WITH LONG RADIUS BENDS. 90 DEGREE BENDS WILL NOT BE ACCEPTABLE.

7. WHERE TERM "PROVIDE" IS USED, ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ASSOCIATED EQUIPMENT.

STATE OF MISSOURI
JENNIFER L. MCVEY
NUMBER PE-2010007729
PROFESSIONAL ENGINEER
4/01/16

DATE

DATE PREPARED
4/1/2016

ROUTE	STATE
	MO
DISTRICT	SHEET NO.
	1

COUNTY

JOB NO.
MOU NO. 16

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTION COMMISSION
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