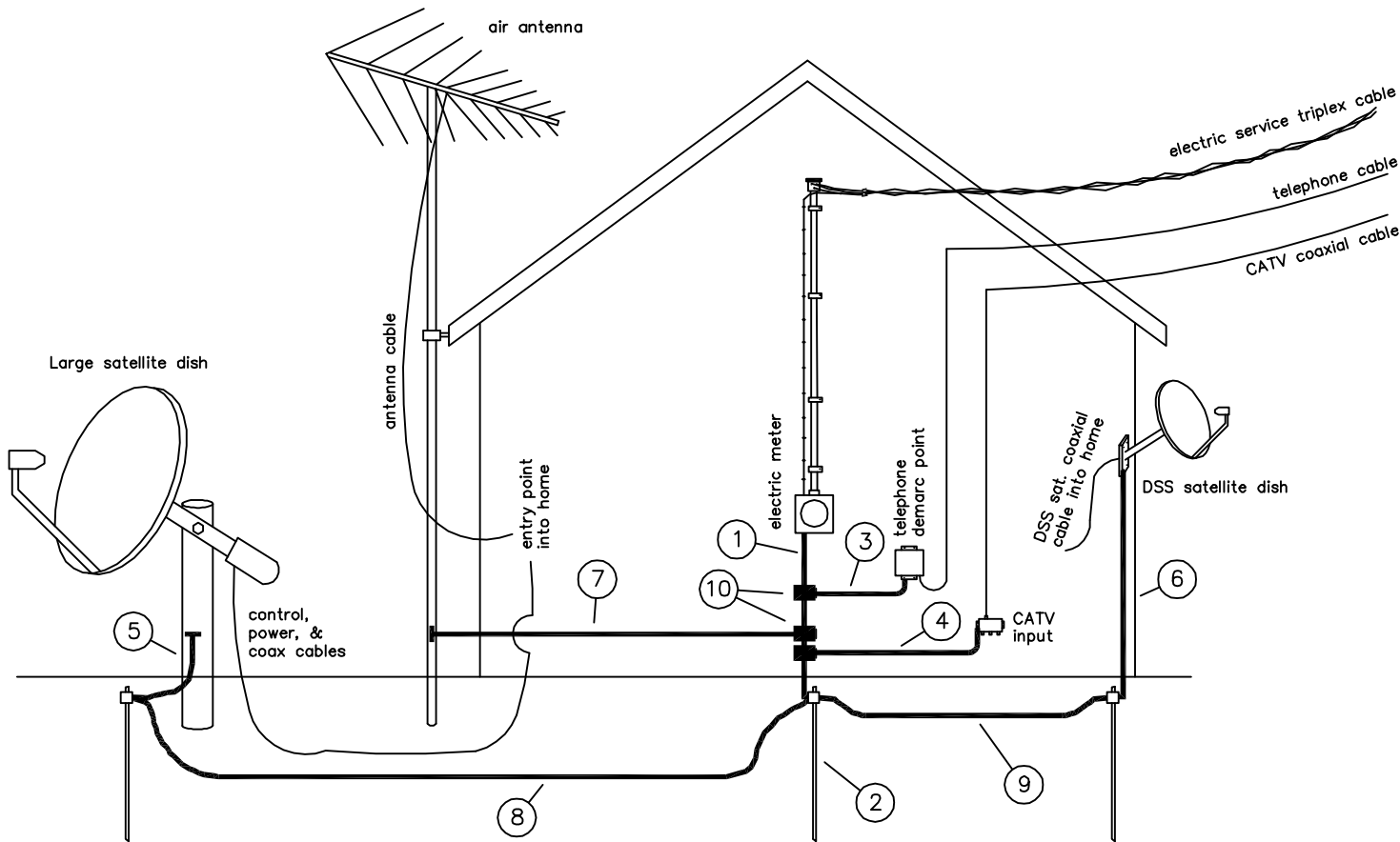


ALL GROUNDING CONDUCTORS ARE SHOWN IN BOLD LINES FOR EASY IDENTIFICATION. SERVICE ENTRANCE CABLES ARE DRAWN THIN.



LIGHTNING CAN ENTER YOUR HOME ANYWHERE THERE IS A METALLIC PATHWAY (WIRE) ENTERING YOUR HOME. THE FIRST LINE OF DEFENSE IS PROPER GROUNDING. THERE ARE SEVERAL ARTICLES IN THE 1996 NEC THAT DISCUSS GROUNDING REQUIREMENTS FOR ALL SYSTEMS THAT ARE CONNECTED TO A BUILDING. SOME OF THESE ARE INCLUDED WITH THIS DRAWING.

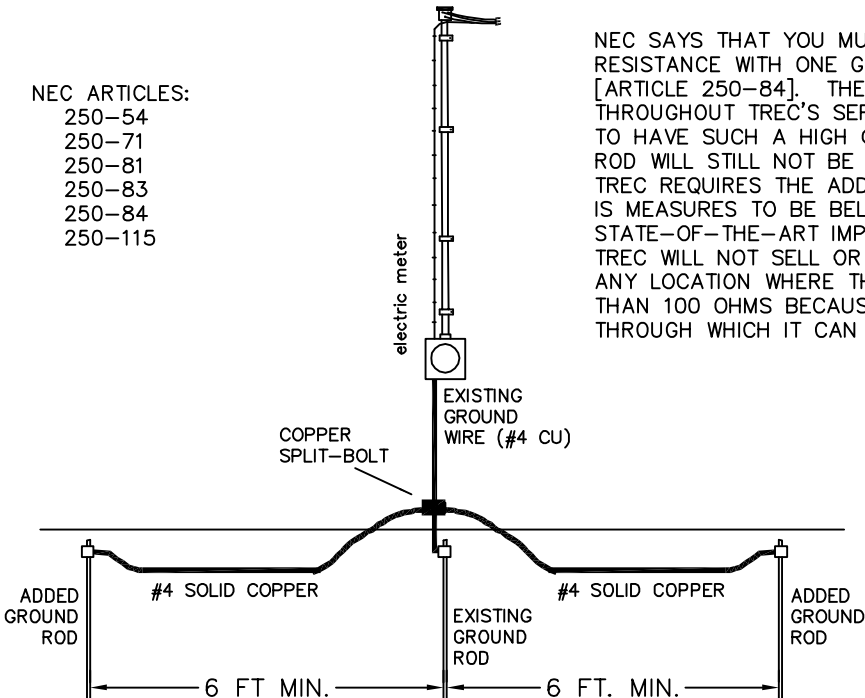
*NOTE: ONE OF THE MOST COMMON MISTAKES IS TO DRIVE A SEPARATE GROUND ROD AT A SATELLITE, WELL PUMP, TELEPHONE ENTRANCE, ETC. IF THIS IS DONE, THE SEPARATE GROUND ROD MUST BE PROPERLY BONDED TO THE ELECTRIC POWER GROUNDING ELECTRODE AS REQUIRED IN THE FOLLOWING NEC ARTICLES: 250-54, 250-71, 800-40(d), 810-21(j), 820-40(d).

1. #4 SOLID COPPER GROUNDING CONDUCTOR FROM ELECTRIC METER BASE TO GROUND ROD.
2. APPROVED GROUND ROD [NEC 250-83(c)2] WITH APPROVED GROUND ROD CLAMP [NEC 250-115].
3. #14 INSULATED COPPER GROUNDING CONDUCTOR FROM TELEPHONE SERVICE ENTRY TO ELECTRIC GROUND WIRE [NEC 800-40].
4. #14 INSULATED COPPER GROUNDING CONDUCTOR FROM CATV SERVICE ENTRY TO ELECTRIC GROUND WIRE [NEC 820-40].
- 5,6,7. #10 COPPER GROUNDING CONDUCTOR FROM TV RECEIVING EQUIPMENT METAL SUPPORTS TO GROUND SYSTEM [NEC 810-21].
- 8,9. #6 COPPER GROUNDING CONDUCTOR FROM SEPARATE GROUND RODS TO ELECTRIC POWER GROUND SYSTEM [NEC 810-21(j)].
10. USE APPROVED BONDING DEVICE SUCH AS COPPER SPLIT-BOLT TO BOND GROUNDING CONDUCTORS.

If your ground impedance (resistance) is too high, you can improve it by installing additional ground rods as shown below.

- NEC ARTICLES:
 250-54
 250-71
 250-81
 250-83
 250-84
 250-115

NEC SAYS THAT YOU MUST EITHER ACHIEVE A 25 OHM (OR LESS) GROUND RESISTANCE WITH ONE GROUND ROD OR YOU MUST ADD AN ADDITIONAL ROD [ARTICLE 250-84]. THE EARTH SOIL VARIES FROM ROCK TO SAND TO CLAY THROUGHOUT TREC'S SERVICE AREA. THIS CAUSES MOST OF OUR CUSTOMERS TO HAVE SUCH A HIGH GROUND RESISTANCE THAT THE ADDITION OF ONLY ONE ROD WILL STILL NOT BE SUFFICIENT TO HANDLE LIGHTNING SURGES. THEREFORE TREC REQUIRES THE ADDITION OF MORE GROUND RODS UNTIL THE RESISTANCE IS MEASURES TO BE BELOW 100 OHMS. THIS MEASUREMENT IS TAKEN WITH A STATE-OF-THE-ART IMPEDANCE METER BY A TREC ENGINEER. TREC WILL NOT SELL OR INSTALL A METER-SOCKET LIGHTNING PROTECTOR AT ANY LOCATION WHERE THE GROUND RESISTANCE IS MEASURED TO BE GREATER THAN 100 OHMS BECAUSE THE DEVICE DOES NOT HAVE A SUFFICIENT GROUND THROUGH WHICH IT CAN DISSIPATE LIGHTNING SURGES.



TALLAPOOSA RIVER ELECTRIC CO-OP, INC.	
LAFAYETTE, ALABAMA	
PHONE # 1-800-332-8732	
PROPER GROUNDING FOR LIGHTNING PROTECTION	
REFERENCE: 1996 NATIONAL ELECTRIC CODE (NEC)	
DRAWN BY: KEN HODGE	DATE: AUGUST 1998
SCALE: NONE	SHEET 1 OF 1