

**CMGT 235 – Electrical and Mechanical Systems****Homework #24 – Single-Family Dwelling Service Entrance Calculation**

Due: 12/4/2018

Points: 30

Name: \_\_\_\_\_

1. Complete the attached Single-Family Dwelling Service-Entrance Calculations (Standard) Form for the following:

**Single-Family Dwelling – Service Entrance Calculations (Standard)**

3000 ft <sup>2</sup> of Living Floor Area	1	Garbage Disposal: ½ hp, 115V
3 Small-Appliance Branch Circuits	1	Trash Compactor: 10 AMPS, 120V
2 Laundry Branch Circuits	2	Attic Fans: 1/4 HP, 120V
1 Electric Dryer: 4.2 kW, 240V	1	Sump Pump: 1/3 HP, 120V
1 Wall-mounted Oven: 5 kW, 240V	1	Garage Door Opener: ¾ hp, 120V
1 Electric Range: 15 kW, 240V	1	Level 2 EVSE: 24A, 240V
1 Under-Cabinet Microwave Oven: 12A, 120V	1	Central A/C Unit: 28A, 240V
1 Dishwasher: 12 AMPS, 120V	1	Electric Baseboard Heat: 6 kW, 240V

2. Show Calculation for:

**Step 7. Electric Range, Wall-Mounted Ovens, Counter-Mounted Cooking Units**

Wall-mounted oven and Electric Range are supplied from a single branch circuit and located in the same room.

**Step 21. Raceway Size**

QTY	GAUGE	TYPE	Cross-Section Area	EMT
			Total Cross-Section Area	