**CMGT 235 – Electrical and Mechanical Systems**

**Take Home Activity #5 – Electrical Plans and Specifications**

Points: 50 [2 points each properly formatted answer]

Due: 11/10/2022

WRITE NEATLY

Check One: Worked with a: 🞏 Partner 🞏 INDIVIDUAL

|  |  |
| --- | --- |
| Name | **Answers** |
| Name |  |
| Name |  |

To answer the following questions, you will need to access electronically the HomeGoods Distribution Center Electrical Plans and specifications. See: <https://lorisweb.com/cmgt235.html>

Do not just give the answer, you must also cite where you found the answer. No points will be given unless you cite where the answer came from. See examples below.

**Plan Answer Example**: 3 ½”, E-004, Schedule of Feeders & Services

**Specification Answer Example**: 260519-1 of 2, 2.1 A

**Plan Questions**

1. What size is the feeder (conductors and conduit) for RTU-A?

4#8, #10G, ¾“ conduit

E-003, Mechanical Equipment Connection Schedule

1. For the Site Photometric Plan how many feet above finished grade (AFG) are the luminaire values calculated at?

40 ft

E-101P, Note 2.

1. What type of device is does this symbol represent? 

Passive Infrared Switch

E-003, Occupancy Sensor Schedule

1. How many of the Type Fixture A in the ticket room are connected as night lights?

4

E-210, Detail 3 Partial Plan - Ticket Room Lighting

1. Complete the following for Panel EHB1 and indicate where you find the answers.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Panel** | **AMPS** | **VOLTAGE** | Ø **/ WIRES** | **MLO/MCB** | **CKTS** | **TRIP/POLES - QTY** | **FEEDERS - QTY** |
| PNL EHB1 | 100A | 480/277 | 3/4W | MLO | 42 | 20/2 - 2  20-1 - 1 | #8 - 1  #3 - 4 |

E-605 Electrical Panel Schedule, Panelboard Schedule - “EHB1”

E-004 Electrical Riser Diagram, Schedule for Feeders and Services

1. What height are the LED Bollards?

42”H

E-001, Lighting Fixture Schedule

1. How high are the exterior CCTV Camera mounted?

25’-0: ABV Finished Grade

E-003, Exterior CCTV Camera Pole Detail

1. How many exterior CCTV cameras are installed on the site?

14

E-101 Site Plan - Electrical

1. What Fixture Types are installed in the Men’s Restroom (A21)?

Type F1 and Type C

E-2.08

1. What type of raceway shall all exposed branch circuit wiring in the warehouse be in?

EMT

E-302 - E-307, General Notes. G-4

1. How many duplex receptacles are installed in the telecom Room (A02)?

7

E-308 Detail 2 Enlarged Telco Room - Power

1. What size conductor is connected to the building service ground from the master ground bar for conductive floor tiles?

#3/0

E-309 Detail 2 MDF Grounding Details

1. How is panel BC1 mounted?

Surface

E-601 Panelboard Schedule “BC1”

1. Why has the size feeders to panel EHA4 been increased significantly?

Due to Voltage Drop

E- 005, Key Note: 3

1. How high are the disconnect switches for the battery chargers to be mounted?

+54” AFF

E-311, Key Notes: 1

1. How are the conduits from the floor boxes for data cabling in the conference room (A25) to be terminated?

Nylon Bushings

E-308, Key Notes: 8

1. How high shall all receptacles mounted on columns in the warehouse be mounted?

+48” AFF U.N.O.

E-302 - E-307, General Notes: G-3

1. How is all warehouse lighting to be controlled?

Low Voltage Relays

E-202 - E-207, General Notes: G-5

1. How many duct detectors shall be provided for RTU’s 15,000 CFM and greater?

2

E-201, General Notes: G-1

1. What size are the ground rods for the service grounding?

¾” x 10’

E-005, Detail Service Grounding & Bonding

**Specification Questions**

1. What shall the conductor color coding be for 277/480 volt systems?

Phase A - Brown

Phase B - Orange

Phase C - Yellow

Neutral - Gray

Ground - Green

26 0519-1 of 4, 1.3 A.

1. What type of conduit fittings shall be used for EMT?

Fittings and couplings shall be set-screw type and/or compression type per 3.1 12. Steel set screw type for 2.5" conduit and larger shall have 2 screws for connectors and 4 screws for couplings. All connectors shall be insulated throat type.

26 0533-2 of 7, 2.2 B.

1. What type of outlet boxes shall be installed for exposed rigid conduit?

cast ferrous alloy, galvanized or cast aluminum

26 0534-2 of 5, 2.2 F.

1. What shall the transformer coils consist of?

Aluminum windings

26 2200-2 of 2, 2.2 G.

1. What shall the switchboards be mounted?

3” high concrete pad, horizontal dimensions of which shall exceed the base dimensions of the switchboard by 3” on all sides.

26 2413-5 of 6, 3.1 A.