



NOTES:

- ① MEDIUM VOLTAGE "THRU" BUS
- ② DISCONNECT SWITCH
- ③ BARRIERS TO COMPLETELY ISOLATE CABLE COMPARTMENT FROM MAIN BUS.
- ④ NON-METALLIC CABLE SUPPORT BRACKET
- ⑤ COMPRESSION LUGS FOR OVERHEAD OR BELOW GRADE CABLE CONNECTIONS (NEMA STANDARD 2 HOLE)
- ⑥ "BUS RUN BACK"
- ⑦ GROUND BUS, CONTINUOUS THROUGHOUT SUBSTATION.
- ⑧ KIRK KEY MAIN INTERLOCK
- ⑨ THE FIRE PUMP DISCONNECTING MEANS SHALL BE IN A DEDICATED FULLY-BARRIERED VERTICAL SECTION.
 - * PAINT THE ENCLOSURE RED
 - * THE BREAKER SHALL BE CAPABLE OF BEING LOCKED IN THE CLOSED (ON) POSITION
 - * CONCEAL CIRCUIT BREAKER TRIP BUTTONS BEHIND CUBICLE DOOR, OR PROVIDE COVERS OVER TRIP BUTTONS TO PREVENT INADVERTENT TRIPS
 - * EQUIP WITH A REDUCED ENERGY LET-THROUGH FEATURE, TO REDUCE ARC FLASH HAZARD DURING FIRE PUMP CONTROLLER MAINTENANCE
 - * EQUIP WITH AN AUXILIARY DRY CONTACT TO CHANGE STATE WHEN THE BREAKER HAS BEEN OPENED, FOR REMOTE SUPERVISORY MONITORING BY THE BUILDING MANAGEMENT SYSTEM (BMS)
 - * THE CELL POSITION SHALL BE MONITORED BY THE BMS, TO CHANGE STATE WHEN THE BREAKER HAS BEEN WITHDRAWN FROM THE CUBICLE
 - * THE BREAKER SHALL ALARM ONLY (NOT TRIP) UPON DETECTION OF A GROUND FAULT
 - * THE KEY FOR THE FIRE PUMP CIRCUIT BREAKER LOCK SHALL BE STORED IN A KEY BOX WITHIN THE SUBSTATION ROOM. UM UTILITIES WILL PROVIDE THE KEY BOX.
- ⑩ PHASING THROUGHOUT SHALL BE: X, Y, Z (A, B, C) LEFT TO RIGHT, TOP TO BOTTOM AND/OR FRONT TO BACK.
- ⑪ IF SECONDARY VOLTAGE IS GREATER THAN 208/120 VOLTS, PROVIDE CONTROL POWER TRANSFORMER (CPT) WITH PRIMARY AND SECONDARY FUSES.
- ⑫ IF SECONDARY VOLTAGE IS GREATER THAN 208/120 VOLTS, PROVIDE POTENTIAL TRANSFORMER FOR METERING WITH PRIMARY AND SECONDARY FUSES.
- ⑬ SEE SPECIFICATIONS FOR SPECIAL CT, AMMETER AND KWH METER REQUIREMENTS.

**SINGLE ENDED SUBSTATION
ELECTRICAL ONE-LINE DIAGRAM**

NO SCALE - REVERSE END-TO-END WHEN APPROPRIATE TO MATCH PLAN VIEW

26110001.dgn

**The University of Michigan
Standard Electrical Details**
One-Line Diagram
Single Ended
Substation
NO. 26110001

THE UNIVERSITY OF MICHIGAN
PLANT EXTENSION
ARCHITECTURE, ENGINEERING & CONSTRUCTION
ARCHITECTURAL AND
ENGINEERING SERVICES
326 EAST HOOVER STREET
ANN ARBOR, MI 48109-1002

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MARK	ISSUED FOR/ REVISION:	DATE

NOTE: _____

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