### ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Axis line</td>
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<tr>
<td>B</td>
<td>Boundary</td>
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<tr>
<td>C</td>
<td>Center line</td>
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<td>D</td>
<td>Dimension</td>
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<td>E</td>
<td>Edge</td>
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<td>F</td>
<td>Footnote</td>
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<tr>
<td>G</td>
<td>Grid line</td>
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<tr>
<td>H</td>
<td>Horizon</td>
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<td>I</td>
<td>Intersection</td>
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<td>J</td>
<td>Joint line</td>
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<td>K</td>
<td>Keynote</td>
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<td>L</td>
<td>Leader</td>
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<td>M</td>
<td>Surface</td>
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<td>N</td>
<td>Notch</td>
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<td>Outline</td>
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<td>P</td>
<td>Profile</td>
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<td>Q</td>
<td>Question mark</td>
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<td>R</td>
<td>Radius</td>
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<td>S</td>
<td>Section</td>
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<td>T</td>
<td>Centerline</td>
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<td>U</td>
<td>Universe</td>
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<td>V</td>
<td>View</td>
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<tr>
<td>W</td>
<td>Wall</td>
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<tr>
<td>X</td>
<td>X-Y axis</td>
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<tr>
<td>Y</td>
<td>Y-Z axis</td>
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<tr>
<td>Z</td>
<td>Zero line</td>
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### GENERAL NOTES AND DESIGN CRITERIA

**BASIC MATERIALS AND METHODS:**

1. Use high-quality, fire-retardant materials for all electrical installations.
2. Electrical conduits shall be sized according to the National Electrical Code.
3. All electrical systems shall be designed for 220/440 VAC, 3-phase, 60 Hz.
4. Install surge protection devices at all critical electrical equipment locations.
5. Ensure proper grounding and bonding of all electrical systems.
6. Use UL-listed equipment for all electrical installations.
7. All electrical panels shall be marked with approved labels.
8. Commissioning of electrical systems shall be performed by a licensed electrician.
9. Use non-conductive materials for electrical cable trays and conduits.
10. Ensure that all electrical systems are certified by the appropriate authorities.

**DESIGN BASIS FOR ELECTRICAL EQUIPMENT:**

As provided below:

- Type of equipment: Diesel generator
- Rating: 200 kVA
- Location: Electrical substation
- Connection: 120/208 VAC, 3-phase, 60 Hz
- Capacity: 100% standby

**ENGINEERING SEALS:**

2700 W. Argyle Street
Jackson, Michigan 49202
Office: (517) 788-3000
Fax: (517) 788-3003
NOTES:

1. SEE DRAWING G-1 FOR GENERAL NOTES AND LEGEND

2. SEE DRAWING E-103 FOR CHANGES TO EXISTING PANEL SCHEDULES

3. EXISTING RECEPTACLES DESIGNATED TO BE FOR THE UPS TO HAVE NEW CONDUIT AND WIRE INSTALLED FROM THE UPS BRANCH CIRCUIT PANEL TO THE NEW RECEPTACLE. RECEPTACLES NOT DESIGNATED FOR UPS BUT PRESENTLY SHARING THE EXISTING CIRCUIT AND TO BE DISCONNECTED FROM THE UPS RECEPTACLE, AND ADD TO MAINTAIN THEIR CONNECTION TO THE EXISTING PANEL, SHALL BE DISCONNECTED FROM THE UPS RECEPTACLE, AND ARE TO MAINTAIN THEIR CONNECTION TO THE EXISTING PANEL WHERE REQUIRED. CONTRACTOR TO INSTALL NEW CONDUIT AND WIRE WHERE REQUIRED AND REPAIR ACCESS POINTS PER SHEET G-1.

4. NEW CIRCUITS AS INDICATED IN THE CABLE/CONDUIT PANEL SCHEDULES (PACES FROM DESIGNATED PANELS TO THE DESIGNATED LOADS THROUGHOUT THE CHEMISTRY BUILDING. EACH CIRCUIT TO HAVE ITS OWN HOT AND NEUTRAL.

5. NOT USED

6. NOT USED

7. CORE DRILLING SHALL BE COORDINATED WITH WSU AND ADJACENT CORED HOLES TO BE NO CLOSER THAN 2 TIMES DIAMETER SPACING.

8. SEE CONDUIT RISER DIAGRAM (A/DWG, E-102, E-102.1 FOR DIAGNOSTIC VIEW OF CONDUIT ENTERING THIS ROOM.

9. PROVIDE FIRE STOPPING AROUND ALL CONDUITS AND AROUND ALL SLEEVES PASSING THROUGH FIRE RATED WALLS AND FLOORS.

10. INSTALL CONDUIT RISER IN A LOCATION AND MANNER THAT DOES NOT CAUSE INTERFERENCE WITH EXISTING ACCESS, EQUIPMENT, DEVICES, ETC. COORDINATE WITH OWNERS REP.
NOTES:
1. SEE DRAWING G-1 FOR GENERAL NOTES AND LEGEND
2. SEE DRAWING E-103 FOR CHANGES TO EXISTING PANEL SCHEDULES
3. NEW CIRCUITS AS INDICATED IN THE CABLE/CONDUIT PANEL SCHEDULES EXTEND FROM LISTED PANELS TO THE DESIGNATED LOADS THROUGHOUT THE CHEMISTRY BUILDING.
4. NOT USED
5. NOT USED
6. CORE DRILLING SHALL BE COORDINATED WITH WSU AND ADJACENT CORED HOLES TO BE NO CLOSER THAN 2 TIMES DIAMETER SPACING.
7. SEE CONDUIT RISER DIAGRAM ON DLG. E-102 FOR DIAGRAMATIC VIEW OF CONDUIT ENTERING THIS ROOM.
8. CONTRACTOR SHALL PROVIDE NEW MODULAR UPS FOR THIS LOAD AND CONNECT UPS TO EXISTING NON-UPS RECEPTACLE. UPS TO BE TOSHIBA 1500VA 1050W MODEL UT1A1A015C6. LOAD IS A HYDROGENERATOR CURRENTLY POWERED BY RECEPT. RP-2SL.
9. PROVIDE FIRE STOPPING AROUND ALL CONDUITS AND AROUND ALL SLEEVES PASSING THROUGH FIRE-RATED WALLS AND FLOORS.
10. INSTALL CONDUIT RISER IN A LOCATION AND MANNER THAT DOES NOT CAUSE INTERFERENCE WITH EXISTING ACCESS, EQUIPMENT, DEVICES, ETC. COORDINATE WITH OWNERS REP.
11. EXISTING RECEPTACLES DESIGNATED TO BE FOR THE UPS TO HAVE NEW, CONDUIT AND WIRE INSTALLED FROM THE UPS BRANCH CIRCUIT PANEL TO THE NEWLY INSTALLED RECEPTACLE. EXISTING RECEPTACLES DESIGNATED FOR UPS BUT PRESENTLY SHARING THE EXISTING CIRCUIT ARE TO BE DISCONNECTED FROM THE UPS RECEPTACLE AND MAINTAIN THEIR CONNECTION TO THE EXISTING PANEL WITH NEW CONDUIT AND WIRE WHERE REQUIRED. CONTRACTOR TO INSTALL NEW CONDUIT AND WIRE WHERE REQUIRED AND REPAIR ACCESS POINTS PER SHT. G-1.
CONTRACTOR SHALL PROVIDE NEW MODULAR UPS FOR THIS LOAD AND CONNECT UPS TO EXISTING NON-UPS RECEPTACLE. UPS TOSHIBA 1500VA 1050W MODEL UT1A1A015C6. LOAD IS A TISSUE LYSER II CURRENTLY POWERED BY RECEPT. RP-3SJ-20.

EXISTING 30A, 250 VOLT DISCONNECT SWITCH (TYP 4 PLACES IN LAB 380), DISCONNECT FROM EXIST CIRCUITS IN PANEL RP-3SH AND RECONNECT TO NEW CIRCUITS IN NEW PANEL UPS-RP-3SE. SEE, CIRCUIT SCHEDULE, THIS DRAWING, FOR CIRCUIT NUMBERS.

EXISTING RECEPTACLES DESIGNATED TO BE FOR THE UPS TO HAVE NEW CONDUIT AND WIRE INSTALLED FROM THE UPS BRANCH CIRCUIT PANEL TO THE NEW RECEPTACLE. RECEPTACLES NOT DESIGNATED FOR UPS BUT PRESENTLY SHARING THE EXISTING CIRCUIT ARE TO BE DISCONNECTED FROM THE UPS RECEPTACLE, AND ARE TO MAINTAIN THEIR CONNECTION TO THE EXISTING PANEL WITH NEW CONDUIT AND WIRE WHERE REQUIRED. CONTRACTOR TO INSTALL NEW CONDUIT AND WIRE WHERE REQUIRED AND REPAIR ACCESS POINTS PER SHT. G-1.

PROVIDE FIRE STOPPING AROUND ALL CONDUITS AND AROUND ALL SLEEVES PASSING THROUGH FIRE RATED WALLS AND FLOORS.

INSTALL CONDUIT RISER IN A LOCATION AND MANNER THAT DOES NOT CAUSE INTERFERENCE WITH EXISTING ACCESS, EQUIPMENT, DEVICES, ETC. COORDINATE WITH OWNERS REP.

THE EXISTING CABLES FOR RECEPTACLES CONNECTED TO PANEL UPS-RP-3SK (FORMERLY RP-3SK) TO BE REMOVED AND NEW TWO WIRE PLUS GROUND CIRCUITS FROM PANEL TO RECEPTACLES TO BE INSTALLED. EACH CIRCUIT TO HAVE ITS OWN HOT AND NEUTRAL. THE EXISTING RECEPTACLES TO BE REPLACED WITH NEW YELLOW COLORED RECEPTACLES OF MATCHING CONFIGURATION.
NOTES:

1. SEE DRAWING G-1 FOR GENERAL NOTES AND LEGEND.

2. SEE DRAWING E-103 FOR CHANGES TO EXISTING PANEL SCHEDULES.

3. PROVIDE FIRE STOPPING AROUND ALL CONDUITS AND AROUND ALL SLEEVES PASSING THROUGH FIRE-RATED WALLS AND FLOORS.

4. NEW CIRCUITS AS INDICATED IN THE CABLE/CONDUIT PANEL SCHEDULES EXTEND FROM LISTED PANELS TO THE DESIGNATED LOADS. EACH CIRCUIT TO HAVE ITS OWN HOT AND NEUTRAL.

5. CORE DRILLING SHALL BE COORDINATED WITH WSU AND ADJACENT CORED HOLES TO BE NO CLOSER THAN 2 TIMES DIAMETER SPACING.

6. FOR CONDUIT LOCATION SEE DWG. E-41 & E-42.

7. SEE CONDUIT RISER DIAGRAM ON DWG. E-102.1 FOR DIAGRAMMATIC VIEW OF CONDUIT ENTERING THE ROOM.

8. INSTALL CONDUIT RISER IN A LOCATION AND MANNER THAT DOES NOT CAUSE INTERFERENCE WITH EXISTING ACCESS, EQUIPMENT, DEVICES, ETC. COORDINATE WITH OWNERS REP.

9. CONTRACTOR SHALL PROVIDE NEW MODULAR UPS FOR THIS LOAD & CONNECT UPS TO EXISTING NON-UPS RECEPTACLE. UPS TOSHIBA 1500VA TOWER 1050W MODEL NO. UT1A1A015C6. LOAD IS A SPEED VAC SYSTEM CURRENTLY POWERED BY RECEPT. RP-4SD-24.

10. CONTRACTOR SHALL PROVIDE NEW MODULAR UPS FOR THIS LOAD & CONNECT UPS TO EXISTING NON-UPS RECEPTACLE. UPS TOSHIBA 1500VA TOWER 1050W MODEL NO. UT1A1A015C6. LOAD IS A HPLC CURRENTLY POWERED BY RECEPT. RP-4SH-7.
DISCONNECT CIRCUIT FOR RP-3S FROM PART 15 AND LABEL AS SPARE.

CONNECT RP-3S TO UPS AND RENAME AS UPS-RP-3S. SEE DWG. E-102
NEW UPS UNIT. INSTALL 150A FUSE.

NEW DISTRIBUTION PANEL XFMR FOR NEW UPS ROOM. INSTALL 60A FUSE.
**NEW WORK**

1. REMOVE EXISTING CABLE/CONDUIT FOR EXISTING DISCONNECT/RECEPTACLE IN ROOM 380. DISCONNECTS TO BE RE-DEFeD FROM NEW UPS-RP-3SE.
2. DISCONNECT AND REMOVE EXISTING SHUNT TRIP MODULE FROM MAIN BREAKER IN PANEL RP-3SK. TEST MAIN BREAKER TO ENSURE RELIABILITY OF USE.
GENERAL NOTES:
1. PROVIDE SEPARATE GROUND FAULT INTERCEPTOR FOR EACH ROOM. TYPICAL LOCATION OF GFI FOR ROOMS IS SHOWN IN PLAN. GFI MUST BE INSTALLED AT THE FIRST INLET TO THE ROOM CIRCUIT TO PREVENT CARRY OVER OF GROUND FAILURES.
2. SEPARATE SWITCHES FOR OPERATION OF EACH CIRCUIT OUGHT TO BE PROVIDED ON SEPARATE CIRCUIT-LAYERS.
3. MINIMUM, EACH ROOM FLOOR WILL BE REQUIRED TO 12-ACTOR OUTLET. INSTALLATION OF 24-OUTLET RACKS ARE NOT REQUIRED FOR ANY ROOM.
4. PROVIDE APPROPRIATELY LAMINATED PLANS FOR ROOMS. TYPICAL LOCATION OF GFI FOR ROOMS IS SHOWN IN PLAN. GFI MUST BE INSTALLED AT THE FIRST INLET TO THE ROOM CIRCUIT TO PREVENT CARRY OVER OF GROUND FAILURES.
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