

GENERAL PROJECT NOTES

- 1. ALL ELECTRICAL INSTALLATIONS TO CONFORM TO THE LATEST NEC AND LOCAL CODES.
2. THE ELECTRICAL CONTRACTOR SHALL HAVE A COORDINATION MEETING WITH THE MECHANICAL CONTRACTOR, CONSTRUCTION SUPERINTENDANT AND ANY OTHER TRADES AS REQUIRED WITHIN SEVEN DAYS OF THE START OF THE JOB TO REVIEW CODE CLEARANCE REQUIREMENTS FOR PANELS, SWITCHES, AND OTHER ELECTRICAL GEAR SPECIFICALLY FOR THIS JOB.
3. ELECTRICAL CONTRACTOR'S PROJECT MANAGER AND ON-SITE PROJECT FOREMAN SHALL REVIEW VENDOR SUBMITTALS FOR ACCURACY PRIOR TO SUBMITTING TO ENGINEER.
4. SUBMITTALS FOR EACH SYSTEM WILL BE REVIEWED BY ENGINEER UP TO TWO TIMES--ONE FULL SUBMITTAL FOR OVERALL COMPLIANCE AND ONE RESUBMITTAL.
5. SUBMITTALS TO ENGINEER SHALL INCLUDE ALL SPECIFIED SYSTEMS IN FIRST SUBMITTAL.
6. THE CLARITY OF RECORD DRAWING CHANGES MADE BY THE CONTRACTOR SHALL BE EQUAL TO THE ORIGINAL DRAWINGS AS JUDGED BY THE ARCHITECT OR THE RECORD SET WILL BE RETURNED TO THE CONTRACTOR FOR CLARIFICATION.
7. WHEN THE GENERAL CONTRACT CALLS FOR "RECORD" OR "AS-BUILT" DRAWINGS TO BE FURNISHED BY THE CONTRACTOR AT JOB COMPLETION, THE ELECTRICAL CONTRACTOR SHALL BE REQUIRED TO FURNISH A COMPLETE SET OF "BLUE-PRINT READY" AUTOCAD ELECTRICAL DRAWINGS FOR ALL CONTRACTOR GENERATED CHANGES FROM THE DRAWINGS OF A CLARITY EQUAL TO THE ORIGINAL DRAWINGS AS JUDGED BY THE ENGINEER.
8. DO NOT SCALE ELECTRICAL FLOOR PLANS. SEE ARCHITECTURAL DRAWINGS FOR ACCURATE DIMENSIONS AND FLOOR PLANS.
9. ELECTRICAL DEVICES CANNOT BE SHOWN TO SCALE AND SOMETIMES OVERLAP BUILDING ELEMENTS. REFER TO ARCHITECTURAL ELEVATIONS FOR ACCURATE MOUNTING LOCATIONS.
10. PANEL INDEXES SHALL INCLUDE ALL PERTINENT INFORMATION ON THE PANEL SCHEDULES INCLUDING INFORMATION ON LIGHTS AND OUTLETS. DO NOT SIMPLY COPY THE CIRCUIT DESCRIPTION COLUMN. INDEXES TO BE TYPEWRITTEN.
11. UPGRADE PANEL SCHEDULES TO REFLECT CHANGES MADE AS PART OF THIS PROJECT.
12. CONDUITS ENTERING MAIN PANEL FROM THE BOTTOM SHALL BE ARRANGED IN STRAIGHT ROWS FASTENED TO UNISTRUT. HOLES SHALL BE PUNCHED IN PANEL BOTTOM AND CONDUITS FASTENED BY TWO LOCKNUTS AND A CONDUIT BUSHING. CUTTING OUT THE BOTTOM OF THE PANEL IS NOT PERMITTED.
13. COORDINATE MOUNTING HEIGHT AND LOCATION OF ALL OUTLETS, SWITCHES, AUXILIARY EQUIPMENT, AND OTHER DEVICES WITH THE ARCHITECTURAL DRAWINGS. PRIOR TO INSTALLATION, REVIEW WITH THE GENERAL CONTRACTOR THE LOCATION OF MILLWORK AS A FINAL CHECK TO PREVENT COVERING OF ELECTRICAL ITEMS.
14. MOUNTING HEIGHT OF GENERAL PURPOSE OUTLETS AND SWITCHES SHALL BE 16" TO BOTTOM AND 48" TO TOP RESPECTIVELY UNLESS OTHERWISE NOTED.
15. ALL ELECTRICAL EQUIPMENT SHALL BE LOCATED SO AS NOT TO INTERFERE WITH WOOD TRIM AND MOLDINGS. THE ELECTRICAL CONTRACTOR SHALL REVIEW FINISH SCHEDULES AND ARCHITECTURAL DETAILS BEFORE ROUGH-IN OF OUTLET OR SWITCH BOXES TO PREVENT BOXES AND PLATES FROM BEING PLACED BEHIND OR IN TRIMS AND MOLDINGS. REFER SPECIAL CONDITIONS TO ARCHITECT PRIOR TO ROUGH-IN.
16. CIRCUIT WIRE SIZES MUST, AT MINIMUM, MATCH NEC REQUIRED CONDUCTOR SIZES FOR CORRESPONDING OVERCURRENT PROTECTIVE DEVICES. VERIFY WITH PANEL SCHEDULES BEFORE PULLING WIRE.
17. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR, PULLED INTO THE CONDUIT WITH THE PHASE CONDUCTOR, IN ALL SERVICE, FEEDER, AND BRANCH CIRCUITS.
18. PROVIDE A NEUTRAL CONDUCTOR FOR EACH BREAKER TRIP HANDLE. NEUTRALS SHALL NOT BE SHARED BETWEEN BRANCH CIRCUITS.
19. ALL CIRCUITS TO BE MINIMUM #12 CU IN MINIMUM 3/4" CONDUIT UNLESS OTHERWISE NOTED.
20. WHERE ALLOWED BY CODE, MC CABLE IS AN APPROVED ALTERNATE TO CONDUCTORS IN CONDUIT FOR CONCEALED BRANCH CIRCUIT WIRING BETWEEN DEVICES, BUT NOT FOR HOME-RUNS. HOME RUNS TO BE RAN IN CONDUIT COMPLETE FROM PANEL TO FIRST DEVICE OR FIXTURE ON CIRCUIT.
21. DO NOT INSTALL MORE THAN THREE PHASE CONDUCTORS IN ANY HOME-RUN CONDUITS UNLESS SPECIFICALLY INDICATED ON DRAWINGS.
22. IDENTIFY ALL OUTLET COVER PLATES WITH THE PANEL AND CIRCUIT NUMBER.
23. A GFI OUTLET SHALL BE INSTALLED AT EACH LOCATION DESIGNATED BY "GFI" ON THE DRAWINGS. DOWNSTREAM PROTECTION BY A GFI OUTLET UPSTREAM IS NOT ALLOWED.
24. OUTLETS, SWITCHES, AND COVER PLATES TO BE COLOR CODED (BROWN, WHITE, IVORY, OR GRAY) TO THE WALL THEY ARE MOUNTED ON AS DIRECTED BY THE ARCHITECT.
25. ALL CONVENIENCE OUTLETS MUST BE MOUNTED FLUSH WITH THE COVER PLATE AND SECURED FIRMLY TO THE OUTLET BOX.
26. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO MAKE SURE OUTLET BOXES ARE SET FLUSH WITH FINISH WALL SURFACES WHERE WALL PANELING OR ACOUSTICAL WALLS ARE INSTALLED OR WHERE OUTLETS ARE INSTALLED ON CARPETED RISERS.
27. REMOVE ALL OLD AND/OR UNUSED EXISTING CONDUIT AND ELECTRICAL APPARATUS FROM EXTERIOR OR INTERIOR EXPOSED SURFACES.
28. WHERE EXISTING ELECTRICAL EQUIPMENT IS TO REMAIN BUT THE SURFACE THAT IT IS MOUNTED ON IS TO BE REWORKED UNDER OTHER CONTRACTS, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND INSTALL OR MODIFY THE EXISTING EQUIPMENT AS REQUIRED TO MEET THE DESIGN INTENT. SEE ARCHITECTURAL DRAWINGS FOR ROOF, CEILINGS, WALLS, SOFFITS, FLOORS, ETC.
29. REMOVE ALL UNUSED CONDUITS AND CIRCUITS IN THE DEMOLITION AREA AS THEY ARE IDENTIFIED AS UNUSED OR ABANDONED.
30. REMOVE ALL EXISTING ELECTRICAL DEVICES, EQUIPMENT, AND APPARATUS AS THEY ARE IDENTIFIED AS UNUSED OR ABANDONED.
31. RELOCATE EXISTING CONDUITS AND CIRCUITS AS REQUIRED THAT ARE PRESENTLY SERVING EQUIPMENT THAT IS INTENDED TO REMAIN IN SERVICE BUT SAID CONDUITS ARE CURRENTLY RUNNING THROUGH AREAS TO BE DEMOLITIONED.
32. WHERE EXISTING CONDUIT RUNS ARE RE-USED BY SPECIAL PERMISSION FROM THE ARCHITECT, A SEPARATE GREEN, INSULATED GROUND WIRE SHALL BE PULLED IN THE CONDUIT AND BONDED AT EACH END AS REQUIRED.
33. ALL PATCH, REPAIR, REPAINT AND COVER UP REQUIRED AS A RESULT OF ELECTRICAL REMODEL IS TO BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR, BUT ACTUAL WORK IS TO BE PERFORMED BY QUALIFIED PERSONNEL.
34. RE-ROUTE EXISTING CIRCUIT CONDUITS AS REQUIRED AT ALL AREAS WHERE EXISTING WALLS ARE TO BE DEMOLITIONED OR HAVE DOORWAYS CUT IN THEM. PLAN ON AN AVERAGE OF ONE, 3/4" CONDUIT RELOCATION FOR EACH PENETRATION OR WALL REMOVAL.
35. FIELD VERIFY CONDITIONS FOR NEW WIRING. SURFACE RACEWAYS MUST RECEIVE PRIOR APPROVAL FROM THE ARCHITECT AND OWNER AND WILL BE REVIEWED ON A CASE BY CASE BASIS IN THE FIELD. CONTRACTOR SHALL PAINT APPROVED RACEWAYS TO MATCH THE SURFACE ON WHICH THEY ARE MOUNTED.
36. ALL RECESSED LIGHT FIXTURES MUST CONFORM TO NEC 410.
37. ALL RECESSED LIGHT FIXTURES THAT PENETRATE THE BUILDING THERMAL ENVELOPE SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND INTERIOR WALL OR CEILING COVERING.
38. COORDINATE LOCATION OF CEILING LIGHT FIXTURES WITH THE REFLECTED CEILING PLAN.
39. FIXTURE COUNTS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE TO VERIFY FIXTURE COUNTS AS PART OF BIDDING PROCESS.
40. ELECTRICAL CONTRACTOR SHALL VERIFY CEILING THICKNESSES AND USE CEILING TRIM EXTENDERS ON DOWNLIGHTS AS REQUIRED.
41. SUPPORT RECESSED 2-BAR MOUNT FIXTURES WITH FOUR EXTRA GALVANIZED WIRE SUPPORTS ON OPPOSITE CORNERS PER IBC. CONNECT WIRES TO BUILDING STRUCTURE.
42. CONNECT EMERGENCY CIRCUIT OF EMERGENCY LIGHT BATTERY PACK TO UNSWITCHED LIGHTING CIRCUIT SERVING FIXTURES IN AREA. INSTALL EXTRA CONDUCTORS AS REQUIRED. WIRE SO LAMPS IN NORMAL MODE ARE CONTROLLED AS NOTED ON LIGHTING PLANS. PROVIDE ADDITIONAL BALLASTS AS REQUIRED.
43. WHERE LIGHT FIXTURES AS SPECIFIED AS COLOR PER ARCHITECT, THIS SHALL BE INTERPRETED AS A NON-STANDARD COLOR.
44. THE CONTRACTOR SHALL PROVIDE A WIRE MESH COVER OVER ALL RECESSED LIGHTS TO KEEP BLOWN IN INSULATION AT LEAST THREE INCHES AWAY FROM THE FIXTURE HOUSING.
45. EMERGENCY LIGHT BATTERY PACKS SHALL BE CONNECTED SO AS TO BE ABLE TO OPERATE IN THE TEST MODE WHEN THE NORMAL SWITCH LEG IS TURNED ON, AND SHALL ILLUMINATE ONE FIXTURE LAMP UNLESS OTHERWISE NOTED.
46. OVER-MIRROR WALL LIGHTS ARE TO BE MOUNTED SO THE LENS FACES DOWNWARD.
47. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW ALL SWITCH LOCATIONS WITH THE GENERAL CONTRACTOR PRIOR TO ROUGH-IN TO PREVENT ANY SWITCHES FROM BEING LOCATED ON THE WRONG SIDE OF THE DOOR.
48. COORDINATE LOCATION OF EXIT LIGHTS WITH ARCHITECT.
49. COORDINATE LOCATION OF LIGHT FIXTURES IN MECHANICAL ROOMS WITH MECHANICAL EQUIPMENT. DETERMINE FINAL FIXTURE LOCATIONS AFTER DUCTWORK INSTALLATION HAS BEEN COMPLETED. CHAIN SUSPEND FIXTURES UNDER DUCTWORK AND CONDUIT RACKS AS REQUIRED.
50. FIELD VERIFY MOUNTINGS OF SURFACE FIXTURES SHOWN IN CONTINUOUS ROWS. MAKE ADJUSTMENTS SIDEWAYS OR UNDER OBSTRUCTIONS AS REQUIRED AND PROVIDE NECESSARY RACEWAY CONNECTIONS.
51. VERIFY FIXTURE COUNT WITH REFLECTED CEILING PLAN.
52. THERMOSTAT AND CONTROL WIRING FOR MECHANICAL EQUIPMENT BY MECHANICAL CONTRACTOR.
53. BEFORE RUNNING CONDUITS, PLACING OUTLETS OR ORDERING EQUIPMENT, THE CONTRACTOR SHALL REVIEW THE SPECIFICATIONS AND DESIGN AND SHOP DRAWINGS OF THE OTHER TRADES SERVED BY THE CONDUIT, OUTLETS, AND/OR EQUIPMENT.
54. FIELD VERIFY THE EXACT LOCATION OF THE MAIN FIRE ALARM PANEL WITH THE ARCHITECT PRIOR TO INSTALLATION.
55. BID TO RUN FIRE ALARM RACEWAYS CONCEALED. ANY SURFACE RACEWAYS (WIREMOLD #700 ONLY) MUST BE PRIOR APPROVED BY THE ARCHITECT/OWNER AND PAINTED TO MATCH THE SURFACE IT IS MOUNTED ON.
56. COORDINATE LOCATION OF ALL FIRE ALARM DEVICES WITH NFPA AND ADA REQUIREMENTS. COORDINATE LOCATIONS WITH MILLWORK AS REQUIRED.
57. WHERE THERE ARE CONFLICTS IN THE DRAWINGS AND/OR SPECIFICATIONS THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO BID. WHERE NO NOTIFICATION IS GIVEN THE MORE STRINGENT INTERPRETATION (GENERALLY INTERPRETED TO BE THE MORE COSTLY) WILL BE ENFORCED.

ELECTRICAL LEGEND

Table with columns for annotations, symbols, and descriptions. Includes sections for Power and Distribution, Lighting Fixtures, Lighting Control, Audio/Visual, Security, Branch Circuiting, and General Wall-mounted Box Height Detail.

SHEET INDEX

Table with columns for sheet number and sheet title. Lists sheets E001 through E603 including abbreviations, specifications, plans, and schedules.

ELECTRICAL ABBREVIATIONS

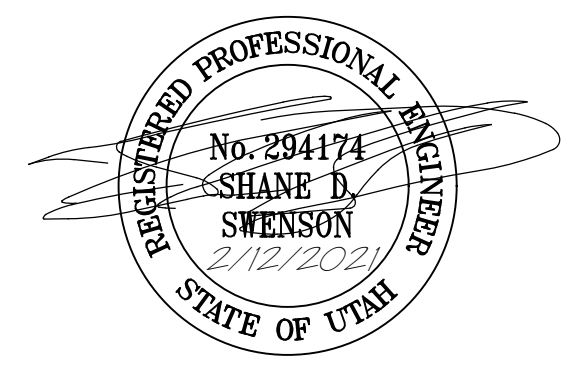
Table listing electrical abbreviations such as AMPERE, AMP FUSE, ABOVE FINISHED FLOOR, etc., with their corresponding symbols and full names.

PLEASE NOTE! THESE DRAWINGS ARE PRINTED 1:2 (HALF-SIZE) FROM THE ORIGINAL DRAWINGS, AT THE REQUEST OF THE CLIENT.

SINE SOURCE ENGINEERING logo and contact information: 95 West Golf Course Rd, Suite 102, Logan, UT 84321. Office: (435) 787-1445, Fax: 1-877-207-3199, www.sinesource.net

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CONSULTANTS



CLEARFIELD ARTS CENTER INTERIOR REMODEL 140 CENTER STREET CLEARFIELD, UTAH

Table with columns for MARK, DATE, and DESCRIPTION. Includes fields for ISSUE, PROJECT NUMBER (2020083), DATE (FEBRUARY 12, 2021), DESIGNED BY (SDS), and DRAWN BY (DJP).

ABBREVIATIONS, G.P.N., LEGEND & SHEET INDEX

E001

LAST SAVE: 2/12/2021 11:05:58 AM CLEARFIELD ARTS CENTER01 DRAWINGS05 ELECTRICALSINE SOURCE PROJECTSHEETSE001 ABBREVIATIONS, G.P.N., LEGEND & SHEET INDEX.DWG LAST SAVED: 12 Feb 21

ELECTRICAL SPECIFICATIONS

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL

- 1.1 PERFORMANCE REQUIREMENTS
A. Seismic Performance: Electrical equipment shall withstand the effects of earthquake motions determined according to SEI/ASCE 7.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.3 SLEEVES FOR RACEWAYS AND CABLES
A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
1.4 SLEEVE SEALS
A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
1.5 ELECTRICAL ENCLOSURES
A. Flush- and surface-mounted cabinets.
1.6 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION
A. Comply with NECA 1.
1.7 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS
A. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used.

- B. Rated Strength: Adequate in tension, shear, and pullout force to resist maximum loads calculated or imposed for this Project, with a minimum structural safety factor of five times the applied force.
1.8 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES
A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.
1.9 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES
A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
1.10 APPLICATION
A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except as required in this Section are stricter.
1.11 SUPPORT INSTALLATION
A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
1.12 NONMETALLIC CONDUITS, TUBING, AND FITTINGS
A. Listing and Labeling: Nonmetallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.13 METAL WIREWAYS AND AUXILIARY GUTTERS
A. Description: Sheet metal complying with UL 870 and NEMA 250, unless otherwise indicated, and sized according to NFPA 70.
1.14 BOXES, ENCLOSURES, AND CABINETS
A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
1.15 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING
A. General Requirements for Handholes and Boxes:
1. Boxes and handholes for use in underground systems shall be designed and identified as required in NFPA 70, for intended location and application.
2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.16 RACEWAY APPLICATION
A. Outlets: Apply raceway products as specified below unless otherwise indicated.

- F. Locate boxes so that cover or plate will not span different building finishes.
G. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
H. Fasten junction and pull boxes to and flush with building structure. Do not support boxes by conduits.
1.8 INSTALLATION OF UNDERGROUND CONDUIT
A. Direct-Buried Conduit:
1. Excavate trench bottom to provide firm and uniform support for conduit.
2. Install backfill.
3. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.
4. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."
1.9 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES
A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
1.10 APPLICATION
A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except as required in this Section are stricter.
1.11 SUPPORT INSTALLATION
A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.
1.12 NONMETALLIC CONDUITS, TUBING, AND FITTINGS
A. Listing and Labeling: Nonmetallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.13 METAL WIREWAYS AND AUXILIARY GUTTERS
A. Description: Sheet metal complying with UL 870 and NEMA 250, unless otherwise indicated, and sized according to NFPA 70.
1.14 BOXES, ENCLOSURES, AND CABINETS
A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
1.15 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING
A. General Requirements for Handholes and Boxes:
1. Boxes and handholes for use in underground systems shall be designed and identified as required in NFPA 70, for intended location and application.
2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.16 RACEWAY APPLICATION
A. Outlets: Apply raceway products as specified below unless otherwise indicated.

- qualified testing agency, and marked for intended location and application.
1.3 STRAIGHT-BLADE RECEPTACLES
A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
B. Isolated-Ground, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
1.4 GFCI RECEPTACLES
A. General Description:
1. Straight blade, feed-through type.
2. Comply with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596.
3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.
1.5 WALL-BOX DIMMERS
A. Dimmer Switches: Modular, analog interface, for operating one or more relays to work in conjunction with automatic controls and with dimmable drivers or ballasts.
B. Control: Continuously adjustable dimming control with single or two-button function.
C. LED Lamp Dimmer Switches: Modular, compatible with dimmer drivers; trim potentiometer to adjust low-end dimming; dimmer-driver combination capable of consistent dimming with low end not greater than 1 percent of full brightness.
1.6 WALL PLATES
A. Single and combination types shall match corresponding wiring devices.
1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: 0.035-inch thick, satin-finished, Type 302 stainless steel.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Lamp Locations: Thermoplastic or Cast aluminum with spring-loaded lift cover, and listed and labeled for use in wet and damp locations.
1.7 FINISHES
A. Device Color:
1. Wiring Devices Connected to Normal Power System: As selected by owner unless otherwise indicated or required by NFPA 70 or device listing.
2. Isolated Ground Devices: Orange.
B. Wall Plate Color: For plastic covers, match device color.
1.8 INSTALLATION
A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
B. Conductors:
1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 314, without exception.
4. Existing Conductors:
a. Cut back and pigtail, or replace all damaged conductors.
b. Straighten conductors that remain and remove corrosion and foreign matter.
c. Pigtail existing conductors is permitted, provided the outlet box is large enough.
C. Device Installation:
1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
2. Connect devices to branch circuits using pigtails that are not less than 12 inches in length.
3. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
D. Dimmers:
1. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

- A. Set field-adjustable switches and overload-relay pickup and trip ranges.
SECTION 265100 - INTERIOR LIGHTING
1.1 ACTION SUBMITTALS
A. Product Data: For each type of lighting fixture, arranged in order of fixture designation. Include data on features, accessories, and finishes.
1.2 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.3 GENERAL REQUIREMENTS FOR LIGHTING FIXTURES AND COMPONENTS
A. Recessed Fixtures: Comply with NEMA LE 4 for ceiling compatibility for recessed fixtures.
B. Metal Parts: Free of burrs and sharp corners and edges.
C. Diffusers and Glazes:
1. Acrylic Lighting Diffusers: 100 percent virgin acrylic plastic. High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
a. Lens Thickness: At least 0.125 inch minimum unless otherwise indicated.
b. UV stabilized.
1.4 LED LUMINAIRE
A. Solid State Drivers and LED: Comply with DOE LM 79
1. Total Harmonic Distortion Rating: Less than 10 percent
2. Transient Voltage protection
3. Power factor: 0.90 or higher
4. Temperature: Minus 40 deg F (minus 40 deg C) and higher
5. Heat sink to remove heat from circuits
6. L70 compliant to 70,000 hours minimum
7. Color Rendering Index: 80 CRI minimum
8. Dimmable
a. Dimming Range: 100 to 1 percent of rated lamp lumens
b. Input wats: Can be reduced to 20 percent of normal
1.5 EMERGENCY POWER UNIT
A. Internal Type: Self-contained, modular, battery-inverter unit, factory mounted within lighting fixture body and compatible with ballast or driver. Comply with UL 924.
1. Emergency Connection: Operate one lamp(s) continuously at an output of 1100 lumens each.
2. Connect unswitched circuit to battery-inverter unit and switched circuit to fixture ballast or driver.
3. Test Push Button and Operate Indicator Light.
4. Battery: Sealed, maintenance-free, nickel-cadmium type.
5. Charger:
a. Integral Self-Test:
1. Emergency Requirements for Exit Signs: Comply with UL 924; for sign colors, visibility, lumiance, and lettering size, comply with authorities having jurisdiction.
2. Internally Lighted Signs.
3. Temperature: Minus 40 deg F (minus 40 deg C) and higher
4. Self-Powered Exit Signs (Battery Type): Integral automatic charger in a self-contained power pack.
1.7 LIGHTING FIXTURE SUPPORT COMPONENTS
A. Wires: ASTM A 641/A 641M, Class 3, soft temper, zinc-coated steel, 12 gage.
B. Wires for Humid Spaces: ASTM A 580/A 580M, Composition 302 or 304, annealed stainless steel, 12 gage.
1.8 INSTALLATION
A. Lighting Fixtures: Set level, plumb, and square with ceilings and walls. Install lamps in each fixture.
B. Comply with NFPA 70 for minimum fixture supports.
1.9 FIELD QUALITY CONTROL
A. Test for Emergency Lighting: Interrupt power supply to demonstrate proper operation. Verify transfer from normal power to battery and retransfer to normal.

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

- 1.1 CONDUCTORS AND CABLES
A. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN-2-THWN-2 or Type XHHW-2.
B. Multiconductor Cable: Comply with NEMA WC 70/ICEA S-95-658 for metal-clad cable, Type MC and Type SOW with ground wire.
1.2 CONNECTORS AND SPLICES
A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and glass for application and service indicated.
1.3 CONDUCTOR MATERIAL APPLICATIONS
A. Feeders: Copper for feeders smaller than No. 4 AWG; copper or aluminum for feeders No. 4 AWG and larger.
B. Branch Circuits: Copper.
1.4 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS
A. Feeders: Type THHN-2-THWN-2 or Type XHHW-2, single conductors in raceway.
B. Exposed Branch Circuits, Including in Crawspaces: Type THHN-2-THWN-2, single conductors in raceway.
C. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN-2-THWN-2, single conductors in raceway or metal-clad cable, Type MC (for connections between devices on the same circuit, but not for home-runs).
D. Cord Drops and Portable Appliance Connections: Type SOW, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.
1.5 INSTALLATION OF CONDUCTORS AND CABLES
A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
C. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and avoid surface contours where possible.
D. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."
1.6 CONNECTIONS
A. Make splices, terminations, and taps that are compatible with conductor material.
1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
B. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches of slack.
1.7 IDENTIFICATION
A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

- 1.1 METAL CONDUITS, TUBING, AND FITTINGS
A. Listing and Labeling: Metallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
B. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
2. Fittings for EMT:
a. Material: Steel or die cast.
b. Type: Setscrew or compression.
1.2 NONMETALLIC CONDUITS, TUBING, AND FITTINGS
A. Listing and Labeling: Nonmetallic conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
1.3 METAL WIREWAYS AND AUXILIARY GUTTERS
A. Description: Sheet metal complying with UL 870 and NEMA 250, unless otherwise indicated, and sized according to NFPA 70.
B. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hand-draw straps, end caps, and other fittings to match and mate with wireways as required for complete system.
1.4 BOXES, ENCLOSURES, AND CABINETS
A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
B. Sheet Metal Outlet, Device, Pull, and Junction Boxes: Comply with NEMA OS 1 and UL 514A.
C. Cast-Metal Outlet, Device, Pull, and Junction Boxes: Comply with NEMA FB 1, ferrous alloy.
D. Metal Floor Boxes:
1. Material: sheet metal.
2. Type: Fully adjustable.
3. Shape: Rectangular.
4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
E. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, with continuous-hinge cover with flush latches unless otherwise indicated.
1.5 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING
A. General Requirements for Handholes and Boxes:
1. Boxes and handholes for use in underground systems shall be designed and identified as required in NFPA 70, for intended location and application.
2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
B. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.
1. Cover Legend: Molded lettering, "ELECTRIC."
1.6 RACEWAY APPLICATION
A. Outlets: Apply raceway products as specified below unless otherwise indicated.

- 1.3 APPLICATIONS
A. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits.
1.4 SEISMIC-RESTRAINT DEVICE INSTALLATION
A. Install bushing assemblies for mounting bolts for wall-mounted equipment, arranged to provide resilient fit where equipment or equipment-mounting channels are attached to wall.
B. Attachment to Structure: If specific attachment is not indicated, anchor bracing to structure at flanges of beams, at upper truss chords of bar joists, or at concrete members.
C. Drilled-in Anchors:
1. Identify position of reinforcing steel and other embedded items prior to drilling holes for anchors. Do not damage existing reinforcing or embedded items during curing or drilling. Notify the structural engineer if reinforcing steel or other embedded items are encountered during drilling. Locate and avoid prestressed tendons, electrical and telecommunications conduit, and gas lines.
2. Do not drill holes in concrete or masonry until concrete, mortar, or grout has achieved full design strength.
3. Wedge Anchors: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
4. Adhesive Anchors: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
5. Set anchors to manufacturer's recommended torque, using a torque wrench.
6. Install zinc-coated steel anchors for interior and stainless-steel anchors for exterior applications.
1.5 ADJUSTING
A. Adjust isolators after isolated equipment is at operating weight.
B. Adjust limit stops on restrained spring isolators to mount equipment at normal operating height. After equipment installation is complete, adjust limit stops so they are out of contact during normal operation.
C. Adjust active hinge of spring isolators.
D. Adjust restraints to permit free movement of electrical system within normal mode of operation.
SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS
1.1 INSTALLATION
A. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
B. Apply identification devices to surfaces that require finish after completing finish work.
C. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
D. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
1.2 IDENTIFICATION MEDIA
A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor type to identify the phase.
1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for underground service, feeder, and branch-circuit conductors.
a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
b. Colors for 120/240-V Circuits:
1) Phase A: Black.
2) Phase B: Red.
3) Neutral: White with colored stripe to match associated phase
4) Ground: Green
B. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source.
C. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
1.3 IDENTIFICATION
A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
B. Raceways Embedded in Slabs: Change from RNC to wrapped, GRC before rising above floor.
C. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways where required by NFPA 70.
D. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to top of box unless otherwise indicated.
E. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.

- SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS
1.1 QUALITY ASSURANCE
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
B. Comply with NFPA 70.
1.2 NONFUSIBLE SWITCHES
A. Type GD, General Duty, Single Throw, 600 A and Smaller, UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
B. Accessories:
1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductor.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
3. Wedge Anchors: Protect threads from damage during anchor installation. Heavy-duty sleeve anchors shall be installed with sleeve fully engaged in the structural element to which anchor is to be fastened.
4. Adhesive Anchors: Clean holes to remove loose material and drilling dust prior to installation of adhesive. Place adhesive in holes proceeding from the bottom of the hole and progressing toward the surface in such a manner as to avoid introduction of air pockets in the adhesive.
5. Set anchors to manufacturer's recommended torque, using a torque wrench.
6. Install zinc-coated steel anchors for interior and stainless-steel anchors for exterior applications.
1.3 FEATURES AND ACCESSORIES:
1. Standard frame sizes, trip ratings, and number of poles.
2. Lugs: Suitable for number, size, trip ratings, and conductor material.
3. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge lighting circuits.
1.4 INSTALLATION
A. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
B. Comply with NECA 1.
1.5 IDENTIFICATION
A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
SECTION 262913 - ENCLOSED CONTROLLERS
1.1 SUBMITTALS
A. Operation and maintenance data.
1.2 FULL-VOLTAGE CONTROLLERS
A. General Requirements for Full-Voltage Controllers: Comply with NEMA ICS 2, general purpose, Class 1.
1.3 IDENTIFICATION MEDIA
A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor type to identify the phase.
1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for underground service, feeder, and branch-circuit conductors.
a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
b. Colors for 120/240-V Circuits:
1) Phase A: Black.
2) Phase B: Red.
3) Neutral: White with colored stripe to match associated phase
4) Ground: Green
B. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source.
C. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
1.3 IDENTIFICATION
A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
SECTION 262726 - WIRING DEVICES
1.1 ADMINISTRATIVE REQUIREMENTS
A. Coordination:
1. Recapables for Owner-Furnished Equipment: Match plug configurations.
1.2 GENERAL WIRING-DEVICE REQUIREMENTS
A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a

- qualified testing agency, and marked for intended location and application.
1.3 STRAIGHT-BLADE RECEPTACLES
A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
B. Isolated-Ground, Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.
1.4 GFCI RECEPTACLES
A. General Description:
1. Straight blade, feed-through type.
2. Comply with NEMA WD 1, NEMA WD 6, UL 498, UL 943 Class A, and FS W-C-596.
3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.
1.5 WALL-BOX DIMMERS
A. Dimmer Switches: Modular, analog interface, for operating one or more relays to work in conjunction with automatic controls and with dimmable drivers or ballasts.
B. Control: Continuously adjustable dimming control with single or two-button function.
C. LED Lamp Dimmer Switches: Modular, compatible with dimmer drivers; trim potentiometer to adjust low-end dimming; dimmer-driver combination capable of consistent dimming with low end not greater than 1 percent of full brightness.
1.6 WALL PLATES
A. Single and combination types shall match corresponding wiring devices.
1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: 0.035-inch thick, satin-finished, Type 302 stainless steel.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Lamp Locations: Thermoplastic or Cast aluminum with spring-loaded lift cover, and listed and labeled for use in wet and damp locations.
1.7 FINISHES
A. Device Color:
1. Wiring Devices Connected to Normal Power System: As selected by owner unless otherwise indicated or required by NFPA 70 or device listing.
2. Isolated Ground Devices: Orange.
B. Wall Plate Color: For plastic covers, match device color.
1.8 INSTALLATION
A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
B. Conductors:
1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 314, without exception.
4. Existing Conductors:
a. Cut back and pigtail, or replace all damaged conductors.
b. Straighten conductors that remain and remove corrosion and foreign matter.
c. Pigtail existing conductors is permitted, provided the outlet box is large enough.
C. Device Installation:
1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
2. Connect devices to branch circuits using pigtails that are not less than 12 inches in length.
3. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
D. Dimmers:
1. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

- 1.1 CONDUCTORS
A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
B. Bare Copper Conductors:
1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
1.2 CONNECTORS
A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
B. Welded Connectors: Exothermic welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.
1.3 GROUNDING ELECTRODES
A. Ground Rods: Copper-clad Zinc-coated steel; 3/4 inch by 10 feet in diameter.
1.4 APPLICATIONS
A. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. On feeders with isolated ground, identify grounding conductor where visible to normal inspection, with alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.
B. Conductor Terminations and Connections:
1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Connections to Ground Rods: Bolted connectors.
3. Connections to Structural Steel: Welded connectors.
1.5 EQUIPMENT GROUNDING
A. Install insulated equipment grounding conductors with all service, feeder, and branch circuits, in addition to those required by NFPA 70.
1.6 INSTALLATION
A. Ground Rods: Drive rods until tops are 2 inches below finished floor or final grade unless otherwise indicated.
B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

- 1.1 PERFORMANCE REQUIREMENTS
A. Design equipment supports capable of supporting combined operating weight of supported equipment

SECTION 262726 - WIRING DEVICES

- 1.1 ADMINISTRATIVE REQUIREMENTS
A. Coordination:
1. Recapables for Owner-Furnished Equipment: Match plug configurations.
1.2 GENERAL WIRING-DEVICE REQUIREMENTS
A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a

SECTION 262913 - ENCLOSED CONTROLLERS

- 1.1 SUBMITTALS
A. Operation and maintenance data.
1.2 FULL-VOLTAGE CONTROLLERS
A. General Requirements for Full-Voltage Controllers: Comply with NEMA ICS 2, general purpose, Class 1.
1.3 IDENTIFICATION MEDIA
A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor type to identify the phase.
1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for underground service, feeder, and branch-circuit conductors.
a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
b. Colors for 120/240-V Circuits:
1) Phase A: Black.
2) Phase B: Red.
3) Neutral: White with colored stripe to match associated phase
4) Ground: Green
B. Conductors to Be Extended in the Future: Attach write-on tags to conductors and list source.
C. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
1.3 IDENTIFICATION
A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
SECTION 262726 - WIRING DEVICES
1.1 ADMINISTRATIVE REQUIREMENTS
A. Coordination:
1. Recapables for Owner-Furnished Equipment: Match plug configurations.
1.2 GENERAL WIRING-DEVICE REQUIREMENTS
A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a

SECTION 270528 - PATHWAYS FOR COMMUNICATIONS SYSTEMS

- 1.1 ACTION SUBMITTALS
A. Product Data: For each type of product.
B. Shop Drawings: For each type of cable tray.
C. Delegated-Design Submittal: For seismic restraints.
1.2 METAL CONDUITS AND FITTINGS
A. See Section 260533 "Raceways and boxes for Electrical Systems."
1.3 BOXES, ENCLOSURES, AND CABINETS
A. See section 260533 "Raceways and boxes for Electrical Systems" unless otherwise indicated below.
B. Device Box Dimensions: 4 inches square by 2-1/2 inches deep.
1.4 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND CABLEING
A. See section 260533 "Raceways and boxes for Electrical Systems."
1.5 WIRE-BASKET CABLE TRAYS
A. Description:
1. Configuration: Wires are formed into a standard 2-by-4-inch wire mesh pattern with intersecting wires welded together. Mesh sections must have at least one bottom longitudinal wire along entire length of section.
2. Materials: High-strength-steel longitudinal wires with no bends.
3. Safety Provisions: Wire ends along wire-basket sides (flanges) rounded during manufacturing to maintain integrity of cables and installer safety.
4. Sizes:
a. Straight sections shall be furnished in standard 118-inch lengths.
b. Wire-Basket Depth: 4-inch usable loading depth by 12 inches wide.
5. Connector Assemblies: Bolted to plate to shape to fit around adjoining tray wires and mating plate. Mechanically joins adjacent tray wires to splice sections together or to create horizontal fittings.
6. Connector Assembly Capacity: Splices located within support span shall not diminish rated loading capacity of cable tray.
7. Hardware and Fasteners: ASTM F 593 and ASTM F 594 stainless steel, Type 316.
1.6 PATHWAY APPLICATION
A. See section 260533 "Raceways and boxes for Electrical Systems" unless otherwise indicated below.
B. Indoors: Apply pathway products as specified below unless otherwise indicated.
C. Minimum Pathway Size: 1 inch.
1.7 INSTALLATION
A. See section 260533 "Raceways and boxes for Electrical Systems" unless otherwise indicated below.
B. Install no more than the equivalent of two 90-degree bends in any pathway run. Support within 12 inches of changes in direction. Utilize long radius elbows for all optical-fiber cables.
C. Stub-ups to Above Recessed Ceilings:
1. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
D. Coat field-cut threads on PVC-coated pathway with a corrosion-preventing conductive compound prior to assembly.
E. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install insulated bushings on conduits terminated with locknuts.
F. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
G. Spare Pathways: Install pull wires in empty pathways. Cap underground pathways designated as Spare Braiding. Comply with requirements specified in Section 260548 "Vibration and Seismic Controls for Electrical Systems."
H. Pathways for Communications Cable: Install pathways as follows:
1. 1-inch Trade Size and Larger: Install pathways in maximum lengths of 75 feet.
2. Install with a maximum of two 90-degree bends or equivalent for each length of pathway unless Drawings show stricter requirements.

SINE SOURCE ENGINEERING
95 West Golf Course Rd
Suite 102
Logan, UT 84321
office: (435) 787-1445
fax: 1-877-207-3199
www.sinesource.net

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CONSULTANTS

REGISTERED PROFESSIONAL ENGINEER
No. 294174
SHANE D. SWENSON
2/12/2021
STATE OF UTAH

CLEARFIELD ARTS CENTER INTERIOR REMODEL
140 CENTER STREET CLEARFIELD, UTAH

Table with 3 columns: MARK, DATE, DESCRIPTION. Includes rows for ISSUE, PROJECT NUMBER, DATE, DESIGNED BY, DRAWN BY.

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ELECTRICAL SPECIFICATIONS

E002

ELECTRICAL SPECIFICATIONS

1.8 INSTALLATION OF UNDERGROUND CONDUIT
A. See section 260533 "Raceways and boxes for Electrical Systems" unless otherwise indicated below.
1.9 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES
A. See section 260533 "Raceways and boxes for Electrical Systems" unless otherwise indicated below.

SECTION 283111 - DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM
1.1 SYSTEM DESCRIPTION
A. Noncoded, addressable system, with multiplexed signal transmission, dedicated to fire-alarm service only.
1.2 SUBMITTALS
A. Product Data: For each type of product indicated.

behind a grille. Comply with UL 464. Horns shall produce a sound-pressure level of 90 dBA, measured 10 feet from the horn, using the coded signal prescribed in UL 464 test protocol.
C. Visible Notification Appliances: Xenon strobe lights comply with UL 1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate.
1.8 ADDRESSABLE INTERFACE DEVICE
A. Description: Microelectronic monitor module, NRTL listed for use in providing a system address for alarm-initiating devices for wired applications with normally open contacts.

Chapter in NFPA 72 and the "Inspection and Testing Form" in the "Records" Section of the "Inspection, Testing and Maintenance" Chapter in NFPA 72.
C. Reacceptance Testing: Perform reacceptance testing to verify the proper operation of added or replaced devices and appliances.
D. Fire-alarm system will be considered defective if it does not pass tests and inspections.



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Logan, UT 84321
office: (435) 787-1445
fax: 1-877-207-3199
www.sinesource.net

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CONSULTANTS

REGISTERED PROFESSIONAL ENGINEER
No. 294174
SHANE D. SWENSON
2/18/2021
STATE OF UTAH

CLEARFIELD ARTS CENTER INTERIOR REMODEL
140 CENTER STREET
CLEARFIELD, UTAH

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ISSUE: REVIEW SET
PROJECT NUMBER: 2020083
DATE: FEBRUARY 12, 2021
DESIGNED BY: SDS
DRAWN BY: DJP

ELECTRICAL SPECIFICATIONS

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E003

**GENERAL SHEET NOTES**

- DEMOLITION PLAN IS ENGINEER'S ATTEMPT TO ASSIST BIDDERS IN ESTIMATING REMOVAL COSTS OF EXISTING EQUIPMENT. PLAN IS NOT INTENDED TO BE ALL-INCLUSIVE, AND IT IS THE BIDDERS RESPONSIBILITY TO VERIFY ALL EXISTING EQUIPMENT AND DEVICES TO BE REMOVED PRIOR TO BIDDING.
- EXISTING ITEMS TO BE REMOVED ARE INDICATED AS BOLD/DASHED. ITEMS TO REMAIN ARE SHOWN AS LIGHT/SOLID.
- MAINTAIN CIRCUIT CONTINUITY FOR DEVICES DOWNSTREAM OF ITEMS TO BE REMOVED.
- WHERE DEVICES ARE SHOWN TO BE REMOVED, COMPLETELY REMOVE ALL RACEWAYS, BOXES AND CONDUCTORS TO PANEL OR TO FIRST J-BOX TO REMAIN ACTIVE IN CIRCUIT PATH.

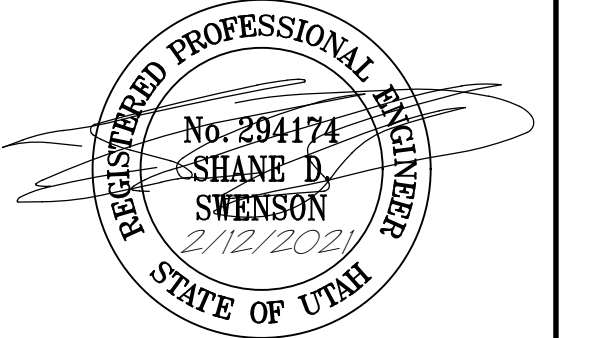
**SHEET KEYED NOTES**

- EXISTING PANELS TO REMAIN.
- REMOVE EXISTING FIXTURES AND/OR LIGHTING CONTROL AS INDICATED.
- REMOVE EXISTING OUTLETS AS INDICATED.
- REMOVE EXISTING COMMUNICATIONS DEVICES AS INDICATED.
- REMOVE EXISTING FIRE ALARM DEVICES AS INDICATED.
- REMOVE EXISTING ELECTRONIC SYSTEMS DEVICES AS INDICATED.
- DISCONNECT EXISTING EQUIPMENT FOR REMOVAL.
- UPGRADE FIXTURE IN SAME LOCATION.
- ADD ALTERNATE PRICING.

**SINE SOURCE ENGINEERING**  
 95 West Golf Course Rd  
 Suite 102  
 Logan, UT 84321  
 office: (435) 787-1445  
 fax: 1-877-207-3199  
 www.sinesource.net

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MARK	DATE	DESCRIPTION

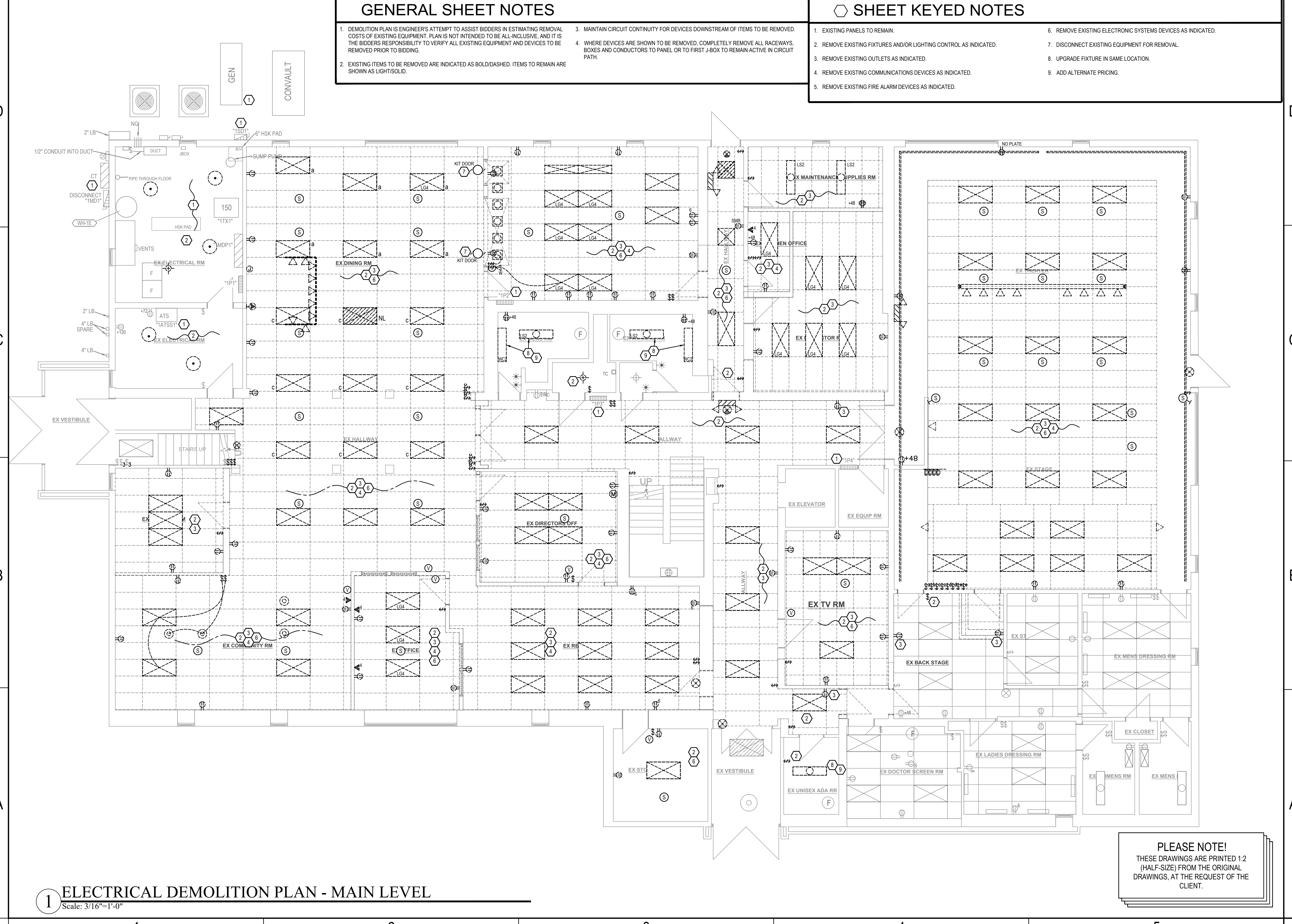
**ELECTRICAL DEMOLITION PLAN - MAIN LEVEL**

**ED101**

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 LAST SAVED: 12 Feb 21

**1 ELECTRICAL DEMOLITION PLAN - MAIN LEVEL**  
 Scale: 3/16"=1'-0"



D  
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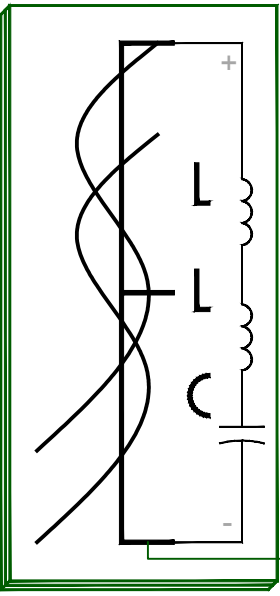
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- EXISTING ITEMS TO BE REMOVED ARE INDICATED AS BOLD/DASHED. ITEMS TO REMAIN ARE SHOWN AS LIGHT/SOLID.
- MAINTAIN CIRCUIT CONTINUITY FOR DEVICES DOWNSTREAM OF ITEMS TO BE REMOVED.
- WHERE DEVICES ARE SHOWN TO BE REMOVED, COMPLETELY REMOVE ALL RACEWAYS, BOXES AND CONDUCTORS TO PANEL OR TO FIRST J-BOX TO REMAIN ACTIVE IN CIRCUIT PATH.

**SHEET KEYED NOTES**

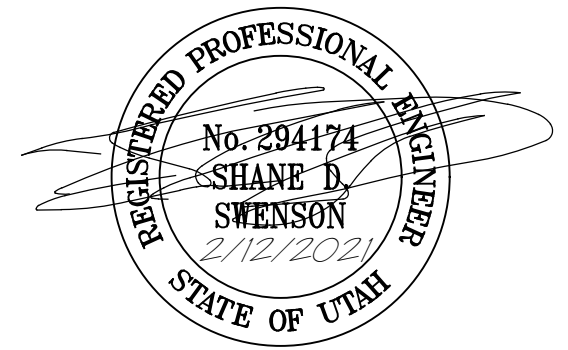
- EXISTING PANELS TO REMAIN.
- REMOVE EXISTING FIXTURES AND/OR LIGHTING CONTROL AS INDICATED.
- REMOVE EXISTING OUTLETS AS INDICATED.
- REMOVE EXISTING COMMUNICATIONS DEVICES AS INDICATED.
- REMOVE EXISTING FIRE ALARM DEVICES AS INDICATED.
- REMOVE EXISTING ELECTRONIC SYSTEMS DEVICES AS INDICATED.
- DISCONNECT EXISTING EQUIPMENT FOR REMOVAL.
- UPGRADE FIXTURE IN SAME LOCATION.
- ADD ALTERNATE PRICING.
- REPLACE EXISTING DEVICES/COVERS IN SAME LOCATION WITH NEW COMPLYING WITH THIS PROJECT'S SPECIFICATIONS. SEE E302 - POWER PLAN - UPPER LEVEL FOR ADDITIONAL INFORMATION.
- ROOM NOT ACCESSIBLE FOR EXISTING CONDITION DOCUMENTATION. REMOVE ALL EXISTING ELECTRICAL INSTALLATIONS AS REQUIRED.



**SINE SOURCE ENGINEERING**  
 95 West Golf Course Rd  
 Suite 102  
 Logan, UT 84321  
 office: (435) 787-1445  
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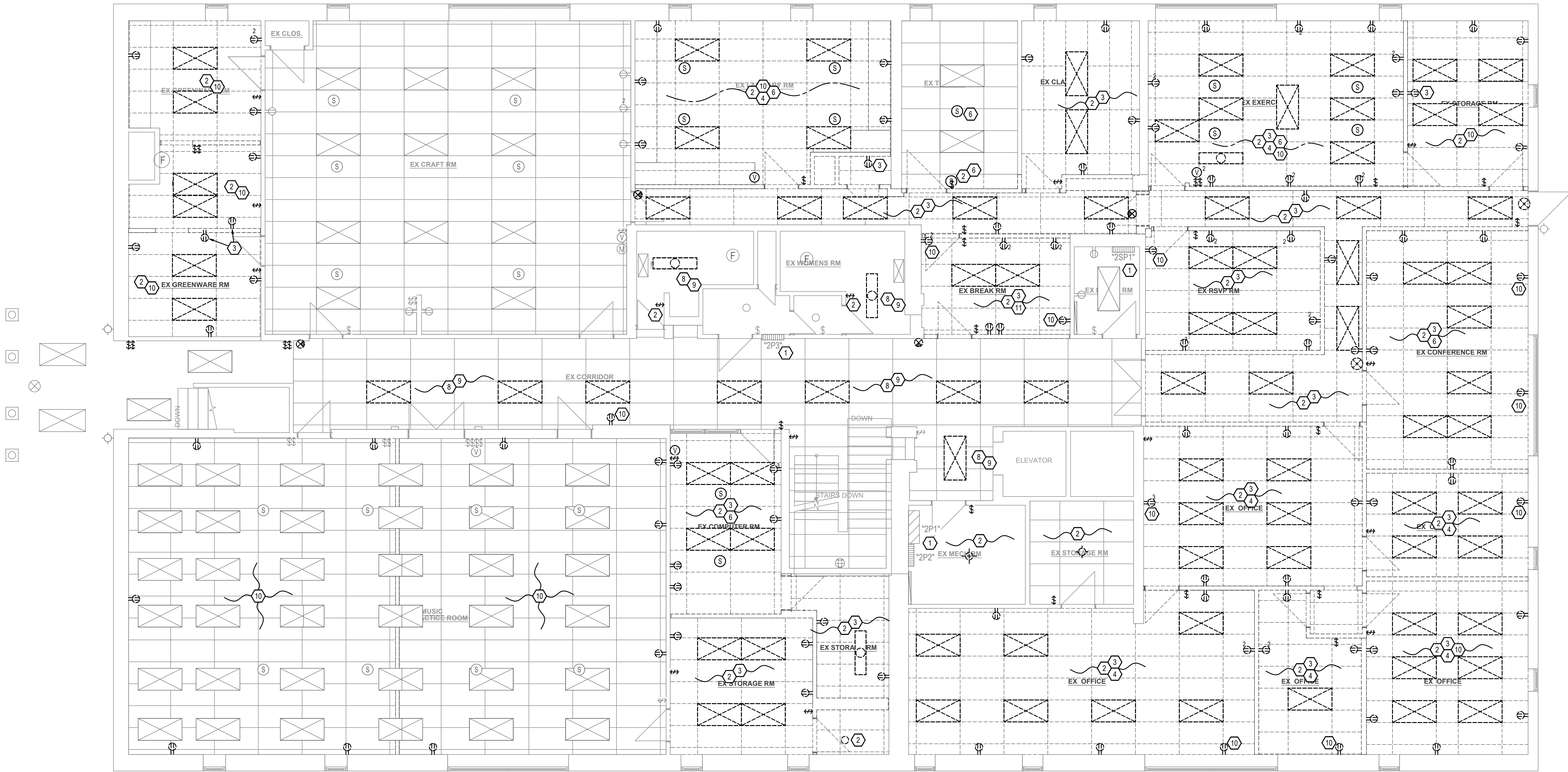


**CLEARFIELD ARTS CENTER INTERIOR REMODEL**  
 140 CENTER STREET  
 CLEARFIELD, UTAH

MARK	DATE	DESCRIPTION

**ELECTRICAL DEMOLITION PLAN - UPPER LEVEL**

**ED 102**



**PLEASE NOTE!**  
 THESE DRAWINGS ARE PRINTED 1:2 (HALF-SIZE) FROM THE ORIGINAL DRAWINGS, AT THE REQUEST OF THE CLIENT.

**1 ELECTRICAL DEMOLITION PLAN - UPPER LEVEL**  
 Scale: 3/16"=1'-0"

LAST SAVE: 14/02/21 14:05:52 2020088 CLEARFIELD ARTS CENTER 01 DRAWINGS 05 ELECTRICAL SINE SOURCE PROJECT SHEETS 02 ELECTRICAL DEMOLITION PLAN - UPPER LEVEL DWG  
 LAST SAVED: 04 Jan 21



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GENERAL SHEET NOTES

- 1. ARCHITECTURAL CEILINGS SHOWN FOR CONTRACTOR CONVENIENCE IN BIDDING INSTALLATION REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- 2. CONTRACTOR TO FURNISH OCCUPANCY SENSORS WITH COVERAGE PATTERNS APPROPRIATE FOR THEIR INSTALLED LOCATIONS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO BID.
- 3. CONNECT OCCUPANCY SENSORS TO ENABLE ALL SWITCHES IN CONTROLLED SPACE.
- 4. CONNECT OCCUPANCY SENSORS, BATTERY BALLASTS, EXIT SIGNS, ETC. TO UNSWITCHED SOURCE CONDUCTOR.
- 5. SEE POWER PLAN FOR ELECTRICAL DISTRIBUTION, EQUIPMENT AND LIGHTING RELAY PANEL LOCATIONS.
- 6. EXISTING LIGHTING, ELECTRICAL AND ELECTRONIC DEVICES SHOWN LIGHT. NEW DEVICES SHOWN DARK.
- 7. CLEAN, RE-LAMP AND REPAIR FIXTURES PRIOR TO REINSTALLATION.
- 8. NEW DEVICES SHOWN ON EXISTING WALLS SHALL FINISH FLUSH WITH WALL UNLESS OTHERWISE NOTED. CUT, PATCH AND REPAIR SURFACES AS REQUIRED.
- 9. ALL NEW LIGHTING CONTROLS (SWITCH, OCCUPANCY SENSORS, DIMMERS, ETC.) SHALL BE LITHONIA N-LIGHT, WATTSTOPPER DLM, DOUGLASS DIALOG OR OTHER SIMILAR SYSTEM THAT ALLOWS SWITCHES AND SENSORS TO COMMUNICATE TO MEET MANUAL ON, AUTO OFF REQUIREMENTS OF ENERGY CODE.

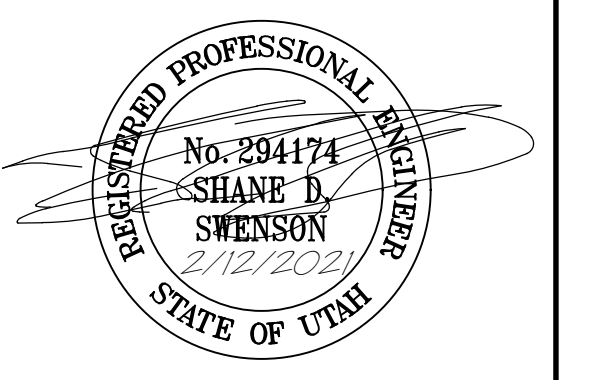
SHEET KEYED NOTES

- 1. PROVIDE EM BATTERY BALLAST IN FIXTURES NOTED. CONNECT BATTERY TO UNSWITCHED CIRCUIT CONDUCTOR OF CIRCUIT SERVING FIXTURE. CONNECT LAMPS TO OPERATE WITH SWITCH(S) IN NORMAL MODE.
- 2. INCORPORATE NEW SWITCH OR SENSOR INTO EXISTING LIGHTING CONTROL.
- 3. CONNECT TO EXISTING CIRCUIT PREVIOUSLY SERVING AREA.
- 4. RELOCATE SWITCH REMOVED DURING DEMOLITION.
- 5. PROVIDER ALTERNATE PRICING FOR FIXTURE UPGRADING INDICATED.
- 6. CONTRACTOR TO INCLUDE \$1500(PER FLOOR) TO INVESTIGATE AND CONSOLIDATED EXISTING LIGHTING CIRCUITS TO REDUCE LED LOADING.

SINE SOURCE ENGINEERING  
 95 West Golf Course Rd  
 Suite 102  
 Logan, UT 84321  
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 fax: 1-877-207-3199  
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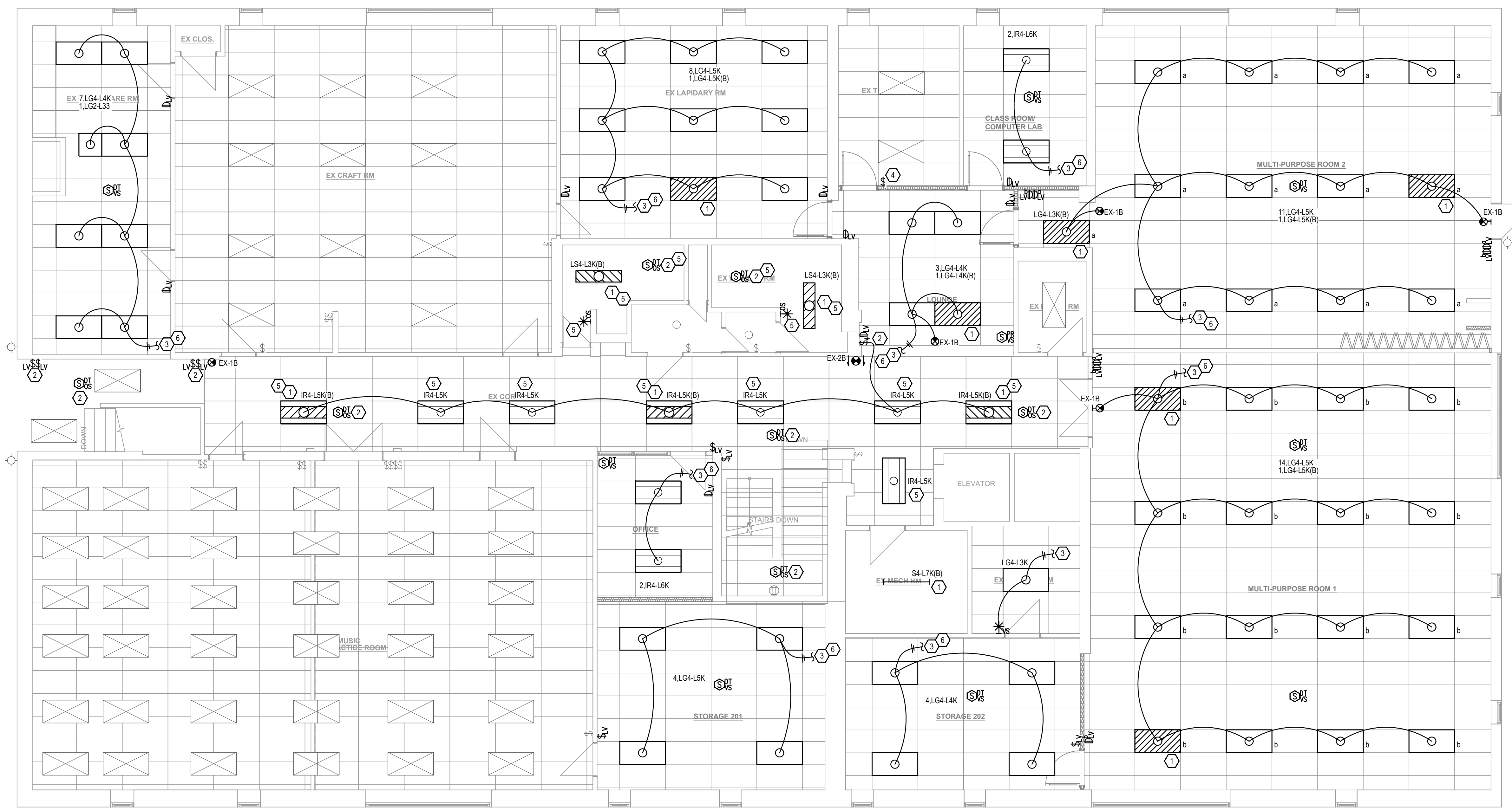


CLEARFIELD  
 ARTS CENTER  
 INTERIOR REMODEL  
 140 CENTER STREET  
 CLEARFIELD, UTAH

MARK	DATE	DESCRIPTION
ISSUE:		REVIEW SET
PROJECT NUMBER:		2020083
DATE:		FEBRUARY 12, 2021
DESIGNED BY:		SDS
DRAWN BY:		DJP

LIGHTING PLAN - UPPER LEVEL

E202



**PLEASE NOTE!**  
 THESE DRAWINGS ARE PRINTED 1:2  
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 CLIENT.

**1 LIGHTING PLAN - UPPER LEVEL**  
 Scale: 3/16"=1'-0"

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LAST SAVE: 1/5/2021 11:05:50 AM CLEARFIELD ARTS CENTER01 DRAWINGS05 ELECTRICALSINE SOURCE PROJECTSHEETS2021 LIGHTING PLAN - UPPER LEVEL.DWG  
 LAST SAVED: 06 Jan 21

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**GENERAL SHEET NOTES**

- 1. COORDINATE ALL SWITCH, OUTLET, LIGHT AND OTHER DEVICE LOCATIONS WITH ARCHITECTURAL ELEMENTS (CABINETS, WINDOWS ETC.) PRIOR TO ROUGH-IN. REVIEW ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN OF EACH AREA FOR ADDITIONAL INFORMATION.
- 2. PROVIDE 4SD J-BOX WITH 1 GANG MUD RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE FOR ALL VOICE/DATA/COMBO OUTLETS SHOWN ON FLOOR PLANS. PROVIDE INSULATED THROAT CONNECTORS ON BOTH ENDS OF CONDUIT. COMMUNICATIONS CABLING PROVIDED BY OWNER.
- 3. ALL CONDUIT SHALL BE RAN OVERHEAD UNLESS OTHERWISE NOTED.
- 4. EXISTING LIGHTING, ELECTRICAL AND ELECTRONIC DEVICES SHOWN LIGHT. NEW DEVICES SHOWN DARK.
- 5. NEW DEVICES SHOWN ON EXISTING WALLS SHALL FINISH FLUSH WITH WALL UNLESS OTHERWISE NOTED. CUT, PATCH AND REPAIR SURFACES AS REQUIRED.
- 6. SURFACE MOUNTED CONDUITS MUST RECEIVE PRIOR APPROVAL FROM OWNER AND ARCHITECT AND MUST BE PAINTED TO MATCH ADJACENT SURFACE. EACH LOCATION WILL BE EVALUATED IN THE FIELD ON A CASE BY CASE BASIS.
- 7. ALL NEW DEVICES TO BE TAMPER RESISTANT.

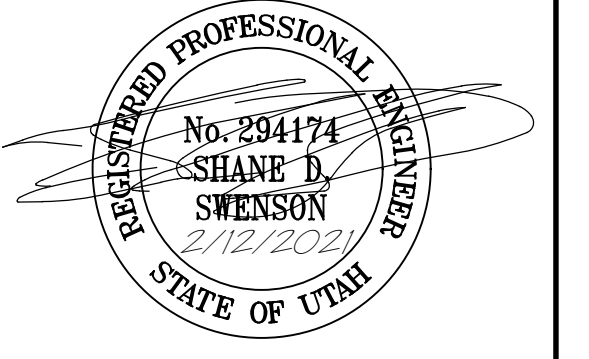
**SHEET KEYED NOTES**

- 1. UPGRADE DEVICE IN SAME LOCATION WITH NEW COMPLYING WITH THIS PROJECTS SPECIFICATIONS.
- 2. CONNECT TO EXISTING CIRCUIT PREVIOUSLY SERVING AREA.
- 3. RE-CIRCUIT EXISTING DEVICE AS INDICATED.
- 4. CONNECT TO EXISTING CIRCUIT INDICATED.
- 5. PROVIDE BLACK DEVICES/COVER PLATES FOR DEVICES IN THEATER AND STAGE.

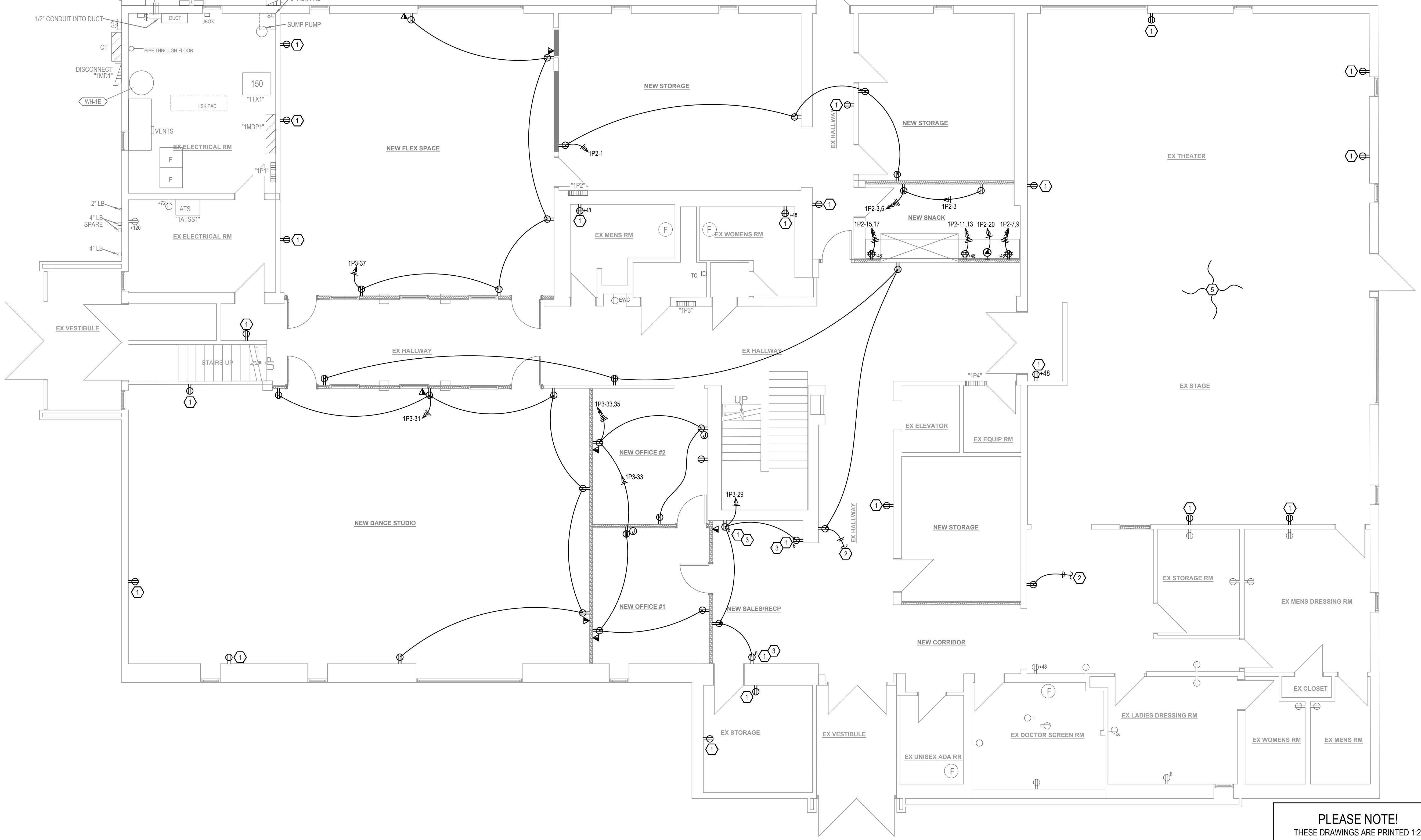
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 Suite 102  
 Logan, UT 84321  
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**CLEARFIELD ARTS CENTER INTERIOR REMODEL**  
 140 CENTER STREET  
 CLEARFIELD, UTAH



**PLEASE NOTE!**  
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**1 POWER PLAN - MAIN LEVEL**  
 Scale: 3/16"=1'-0"

MARK	DATE	DESCRIPTION
ISSUE:		REVIEW SET
PROJECT NUMBER:		2020083
DATE:	FEBRUARY 12, 2021	
DESIGNED BY:		SDS
DRAWN BY:		DJP

**POWER PLAN - MAIN LEVEL**

**E301**

LAST SAVE: 2/12/2021 11:05:50 AM DRAWING: 005 ELECTRICAL/SINE SOURCE PROJECTS/SHEETS/E301 POWER PLAN - MAIN LEVEL.DWG LAST SAVED: 12 Feb 21



### GENERAL SHEET NOTES

- COORDINATE ALL SWITCH, OUTLET, LIGHT AND OTHER DEVICE LOCATIONS WITH ARCHITECTURAL ELEMENTS (CABINETS, WINDOWS ETC.) PRIOR TO ROUGH-IN. REVIEW ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN OF EACH AREA FOR ADDITIONAL INFORMATION.
- PROVIDE 4SD J-BOX WITH 1 GANG MUD RING AND 1" CONDUIT TO ACCESSIBLE CEILING SPACE FOR ALL VOICE/DATA/COMBO OUTLETS SHOWN ON FLOOR PLANS. PROVIDE INSULATED THROAT CONNECTORS ON BOTH ENDS OF CONDUIT. COMMUNICATIONS CABLING PROVIDED BY OWNER.
- ALL CONDUIT SHALL BE RAN OVERHEAD UNLESS OTHERWISE NOTED.
- EXISTING LIGHTING, ELECTRICAL AND ELECTRONIC DEVICES SHOWN LIGHT. NEW DEVICES SHOWN DARK.
- NEW DEVICES SHOWN ON EXISTING WALLS SHALL FINISH FLUSH WITH WALL UNLESS OTHERWISE NOTED. CUT, PATCH AND REPAIR SURFACES AS REQUIRED.
- SURFACE MOUNTED CONDUITS MUST RECEIVE PRIOR APPROVAL FROM OWNER AND ARCHITECT AND MUST BE PAINTED TO MATCH ADJACENT SURFACE. EACH LOCATION WILL BE EVALUATED IN THE FIELD ON A CASE BY CASE BASIS.
- ALL NEW DEVICES TO BE TAMPER RESISTANT.

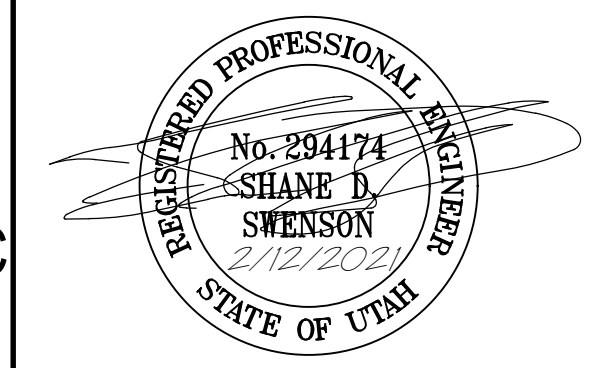
### SHEET KEYED NOTES

- UPGRADE DEVICE IN SAME LOCATION WITH NEW COMPLYING WITH THIS PROJECTS SPECIFICATIONS.
- CONNECT TO EXISTING CIRCUIT PREVIOUSLY SERVING AREA.
- RE-CIRCUIT EXISTING DEVICE AS INDICATED.
- CONNECT TO EXISTING CIRCUIT INDICATED.
- PROVIDE BOX FOR FUTURE FLAT PANEL TV. VERIFY HEIGHT/LOCATION WITH OWNER PRIOR TO ROUGH-IN.

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 95 West Golf Course Rd  
 Suite 102  
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# CLEARFIELD ARTS CENTER INTERIOR REMODEL

140 CENTER STREET  
CLEARFIELD, UTAH

MARK	DATE	DESCRIPTION
ISSUE:		REVIEW SET
PROJECT NUMBER:		2020083
DATE:		FEBRUARY 12, 2021
DESIGNED BY:		SDS
DRAWN BY:		DJP

POWER PLAN - UPPER LEVEL

# E302



**PLEASE NOTE!**  
 THESE DRAWINGS ARE PRINTED 1:2 (HALF-SIZE) FROM THE ORIGINAL DRAWINGS, AT THE REQUEST OF THE CLIENT.

**1 POWER PLAN - UPPER LEVEL**  
 Scale: 3/16"=1'-0"

LAST SAVE: 1/5/2021 11:05:52 AM CLEARFIELD ARTS CENTER01 DRAWINGS05 ELECTRICALSINE SOURCE PROJECTSHEETS0302 POWER PLAN - UPPER LEVEL.DWG  
 LAST SAVED: 06 Jan 21

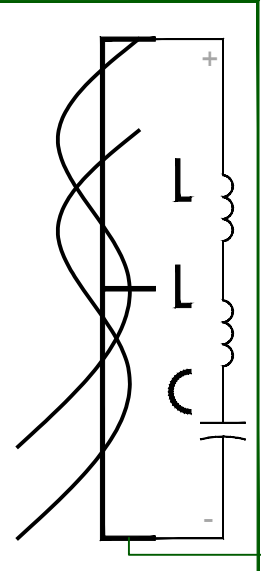
COMMUNICATIONS RACEWAY SCHEDULE				
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL	ACCESSORIES
xcdy	CONDUIT, QUANTITY "X", DIAMETER "Y" AS INDICATED ON SYMBOL SCHEDULE			INSULATED THROAT CONNECTORS ON ALL ENDS; PULL STRING
CMJ	CABLE HOOKS, 4"; RETAINING CLIP QUANTITY AS REQUIRED FOR CURRENT CABLING PLUS 50% SPARE CAPACITY	COOPER B-LINE	BCH64 SERIES (OR EQUIVALENT)	RETAINER (BCHR64) OTHER ACCESSORIES AS REQUIRED
OUTLET BOX	6" SQUARE X 2 7/8" DEEP 3/4" MUD RING (1 OR 2-GANG AS NOTED)	STEEL CITY	82181T-1 SERIES 82C-G-3/4 (OR EQUIVALENT)	

### GENERAL SHEET NOTES

- ARCHITECTURAL CEILINGS SHOWN FOR CONTRACTOR CONVENIENCE IN BIDDING INSTALLATION REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- EXISTING ITEMS TO BE REMOVED ARE INDICATED AS BOLD/DASHED. ITEMS TO REMAIN ARE SHOWN AS LIGHT/SOLID.
- NEW DEVICES SHOWN ON EXISTING WALLS SHALL FINISH FLUSH WITH WALL UNLESS OTHERWISE NOTED. CUT, PATCH AND REPAIR SURFACES AS REQUIRED.
- REFER TO SYMBOL SCHEDULE FOR COMMUNICATIONS ROUGH-IN AND CABLING REQUIREMENTS.
- SURFACE MOUNTED CONDUITS MUST RECEIVE PRIOR APPROVAL FROM OWNER AND ARCHITECT AND MUST BE PAINTED TO MATCH ADJACENT SURFACE. EACH LOCATION WILL BE EVALUATED IN THE FIELD ON A CASE BY CASE BASIS.

### SHEET KEYED NOTES

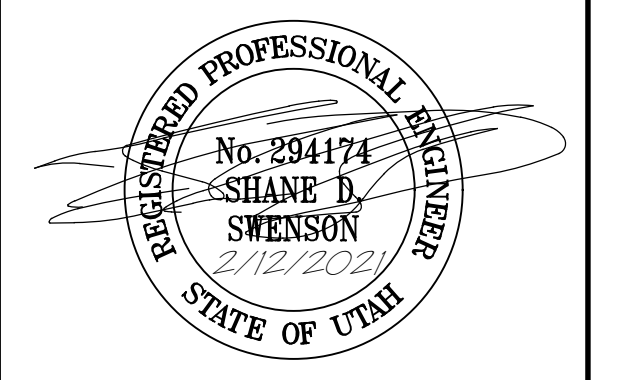
- APPROXIMATE LOCATION OF TELECOM ROOM ABOVE. ROUTE NEW CABLES TO EXISTING RACKS/PATCH PANELS. TERMINATE AS REQUIRED.
- ROUGH-IN FOR FUTURE COMM OUTLET. PROVIDE BLANK COVER AND PULL STRING.
- PROPOSED PATHWAYS FOR STRUCTURED CHANNEL CABLING RACEWAY.
- RE-INSTALL DEVICE REMOVED DURING DEMOLITION.
- CONTRACTOR INCLUDE \$5,000 PER LEVEL ALLOWANCE FOR SOUND SYSTEM UPGRADES TO BE PERFORMED DESIGN-BUILD WITH OWNER.



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 Logan, UT 84321  
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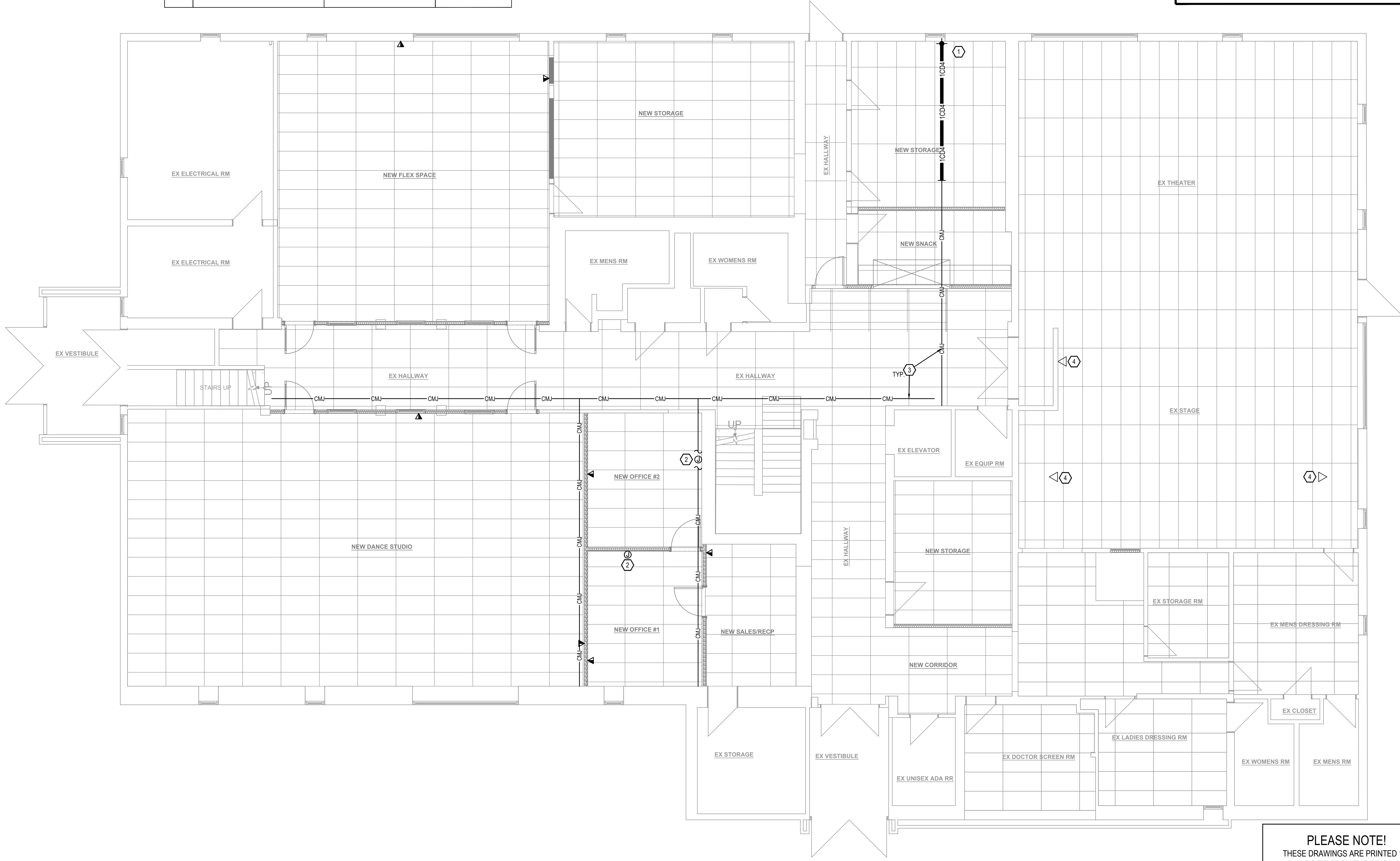
# CLEARFIELD ARTS CENTER INTERIOR REMODEL

140 CENTER STREET  
CLEARFIELD, UTAH

MARK	DATE	DESCRIPTION
ISSUE:		REVIEW SET
PROJECT NUMBER:		2020083
DATE:		FEBRUARY 12, 2021
DESIGNED BY:		SDS
DRAWN BY:		DJP

### ELECTRONIC SYSTEMS PLAN - MAIN LEVEL

# E401



**PLEASE NOTE!**  
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**1 ELECTRONIC SYSTEMS PLAN - MAIN LEVEL**  
 Scale: 3/16"=1'-0"

LAST SAVE: 1/5/2021 11:05:52 2020083 CLEARFIELD ARTS CENTER01 DRAWINGS05 ELECTRICALSINE SOURCE PROJECTSHEETS6401 ELECTRONIC SYSTEMS PLAN - MAIN LEVEL.DWG  
 LAST SAVED: 06 Jan 21

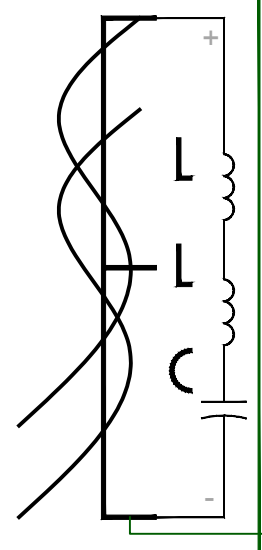
COMMUNICATIONS RACEWAY SCHEDULE				
SYMBOL	DESCRIPTION	MANUFACTURER	MODEL	ACCESSORIES
xCDy	CONDUIT, QUANTITY "X", DIAMETER "Y" AS INDICATED ON SYMBOL SCHEDULE	AS SPECIFIED		INSULATED THROAT CONNECTORS ON ALL ENDS; PULL STRING
CMJ	CABLE HOOKS, 4"; RETAINING CLIP QUANTITY AS REQUIRED FOR CURRENT CABLING PLUS 50% SPARE CAPACITY	COOPER B-LINE	BCH64 SERIES (OR EQUIVALENT)	RETAINER (BCHR64) OTHER ACCESSORIES AS REQUIRED
OUTLET BOX	5" SQUARE X 2 7/8" DEEP 3/4" MUD RING (1 OR 2-GANG AS NOTED)	STEEL CITY STEEL CITY	82181T-1 SERIES 82C-G-3/4 (OR EQUIVALENT)	

### GENERAL SHEET NOTES

- ARCHITECTURAL CEILINGS SHOWN FOR CONTRACTOR CONVENIENCE IN BIDDING INSTALLATION REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- EXISTING ITEMS TO BE REMOVED ARE INDICATED AS BOLD/DASHED. ITEMS TO REMAIN ARE SHOWN AS LIGHT/SOLID.
- NEW DEVICES SHOWN ON EXISTING WALLS SHALL FINISH FLUSH WITH WALL UNLESS OTHERWISE NOTED. CUT, PATCH AND REPAIR SURFACES AS REQUIRED.
- SEE FLOOR BOX SCHEDULE FOR FLOOR BOX CONDUIT REQUIREMENTS.
- REFER TO SYMBOL SCHEDULE FOR COMMUNICATIONS ROUGH-IN AND CABLING REQUIREMENTS.
- SURFACE MOUNTED CONDUITS MUST RECEIVE PRIOR APPROVAL FROM OWNER AND ARCHITECT AND MUST BE PAINTED TO MATCH ADJACENT SURFACE. EACH LOCATION WILL BE EVALUATED IN THE FIELD ON A CASE BY CASE BASIS.

### SHEET KEYED NOTES

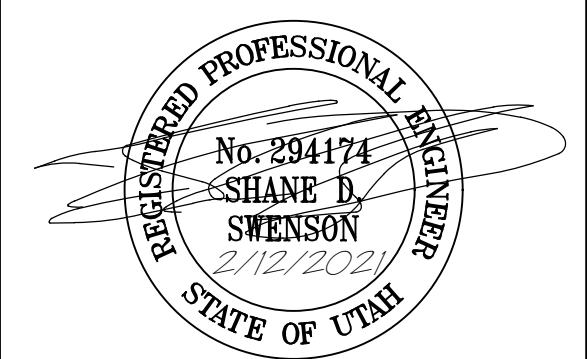
- EXISTING TELECOM ROOM.
- ROUGH-IN FOR FUTURE COMM OUTLET. PROVIDE BLANK COVER AND PULL STRING.
- PROPOSED PATHWAYS FOR STRUCTURED CABLING RACEWAY.
- CONTRACTOR INCLUDE \$5,000 PER LEVEL ALLOWANCE FOR SOUND SYSTEM UPGRADES TO BE PERFORMED DESIGN-BUILD WITH OWNER.
- PROVIDE EMPTY CONDUIT BETWEEN BOXES INDICATED FOR OWNER AV CABLING.



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 Suite 102  
 Logan, UT 84321  
 office: (435) 787-1445  
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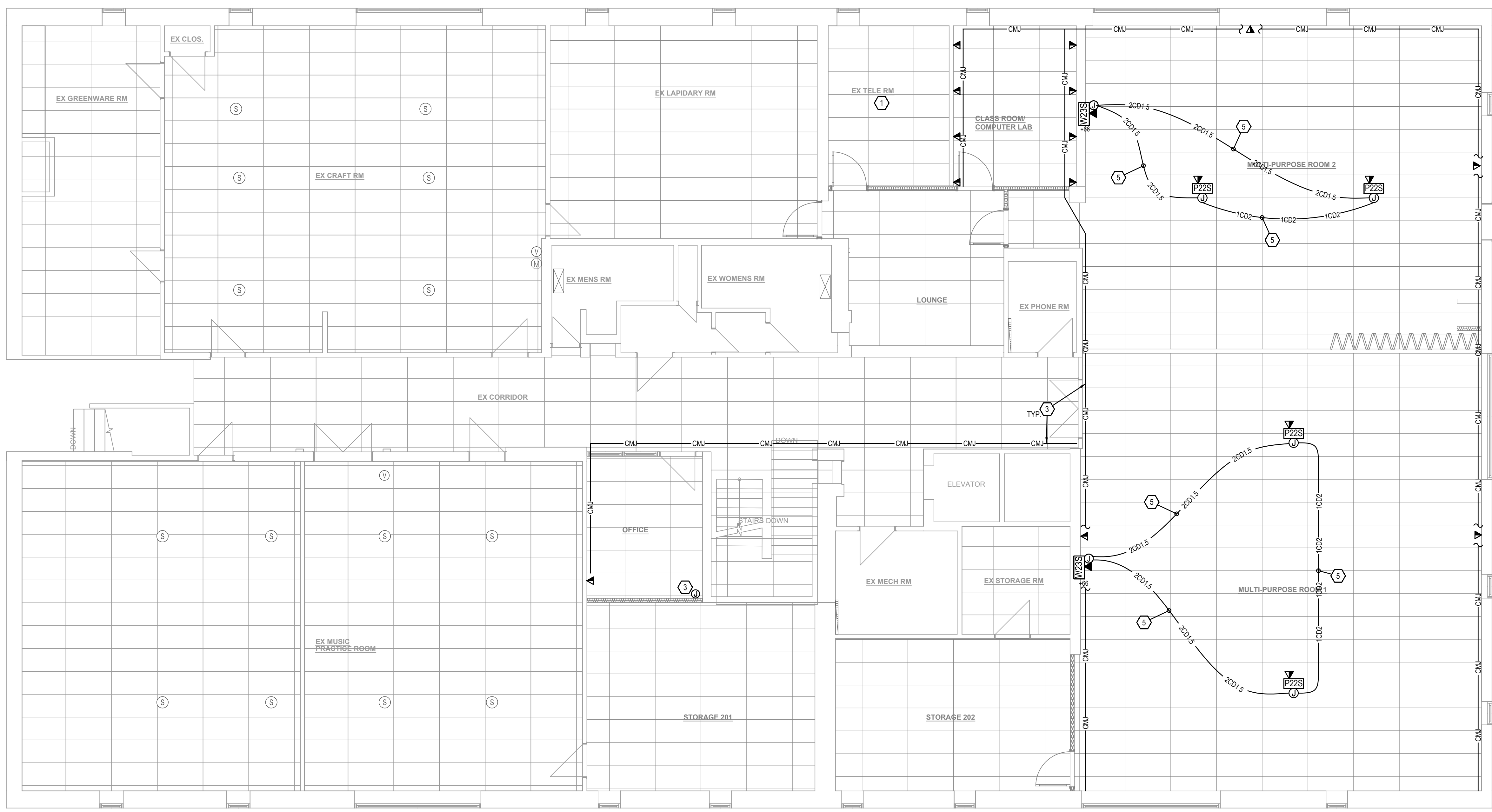


**CLEARFIELD ARTS CENTER INTERIOR REMODEL**  
 140 CENTER STREET  
 CLEARFIELD, UTAH

MARK	DATE	DESCRIPTION
ISSUE:		REVIEW SET
PROJECT NUMBER:		2020083
DATE:		FEBRUARY 12, 2021
DESIGNED BY:		SDS
DRAWN BY:		DJP

ELECTRONIC SYSTEMS PLAN - UPPER LEVEL

**E402**



**PLEASE NOTE!**  
 THESE DRAWINGS ARE PRINTED 1:2 (HALF-SIZE) FROM THE ORIGINAL DRAWINGS, AT THE REQUEST OF THE CLIENT.

**1 ELECTRONIC SYSTEMS PLAN - UPPER LEVEL**  
 Scale: 3/16"=1'-0"

LAST SAVE: 1/5/2021 11:05:52 AM CLEARFIELD ARTS CENTER 01 DRAWINGS SOURCE PROJECTS/SHEETS/E402/ELECTRONIC SYSTEMS PLAN - UPPER LEVEL.DWG  
 LAST SAVED: 06 Jan 21

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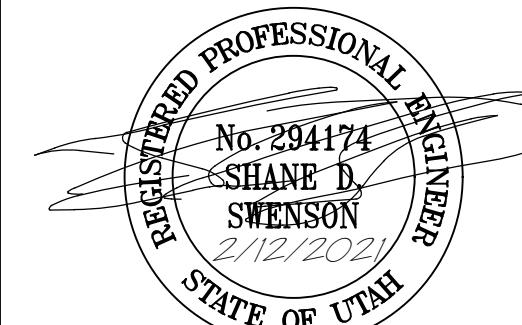
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 Suite 102  
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**CONSULTANTS**



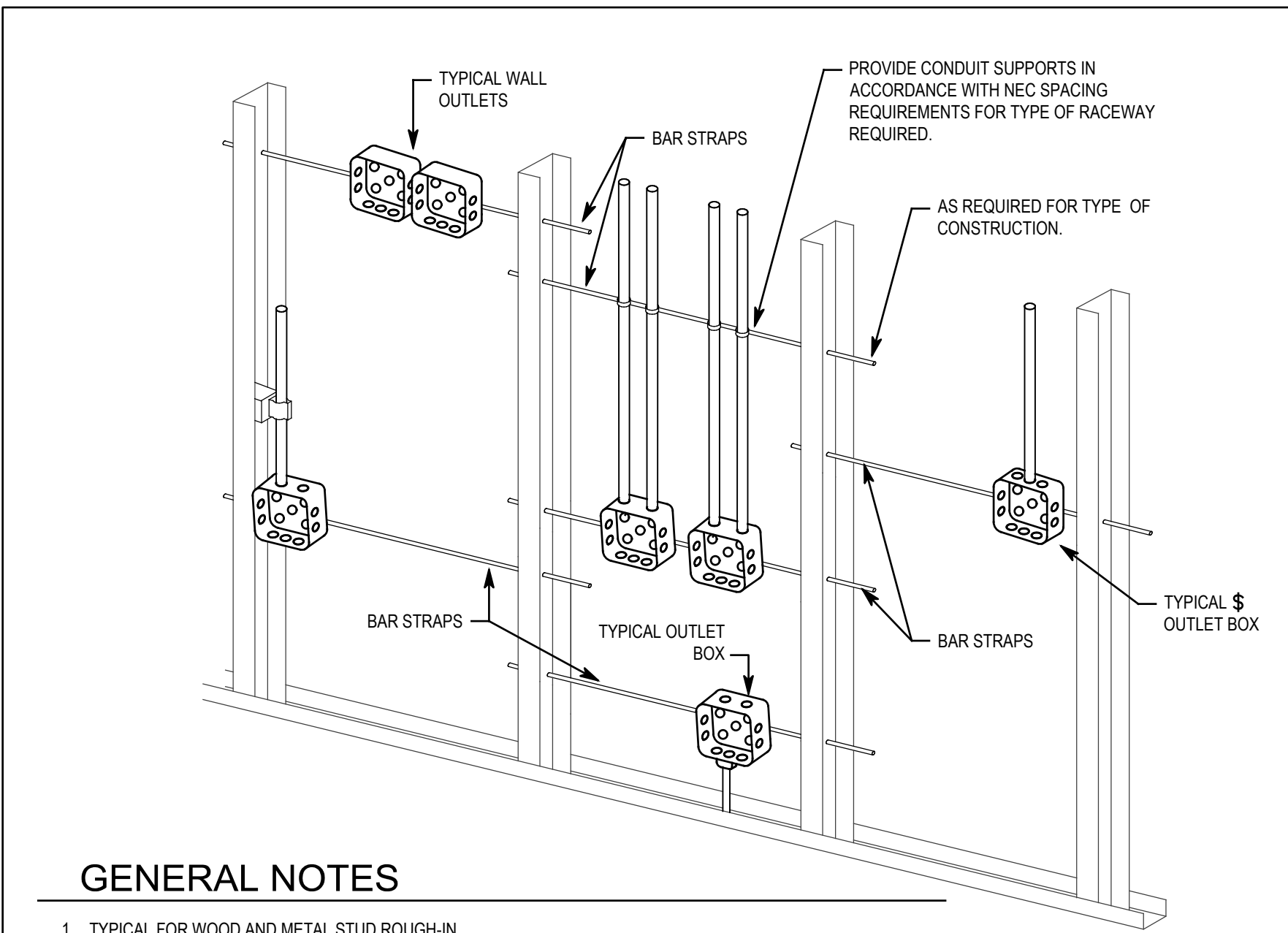
**CLEARFIELD ARTS CENTER INTERIOR REMODEL**  
 140 CENTER STREET  
 CLEARFIELD, UTAH

MARK	DATE	DESCRIPTION

ISSUE: REVIEW SET  
 PROJECT NUMBER: 2020083  
 DATE: FEBRUARY 12, 2021  
 DESIGNED BY: SDS  
 DRAWN BY: DJP

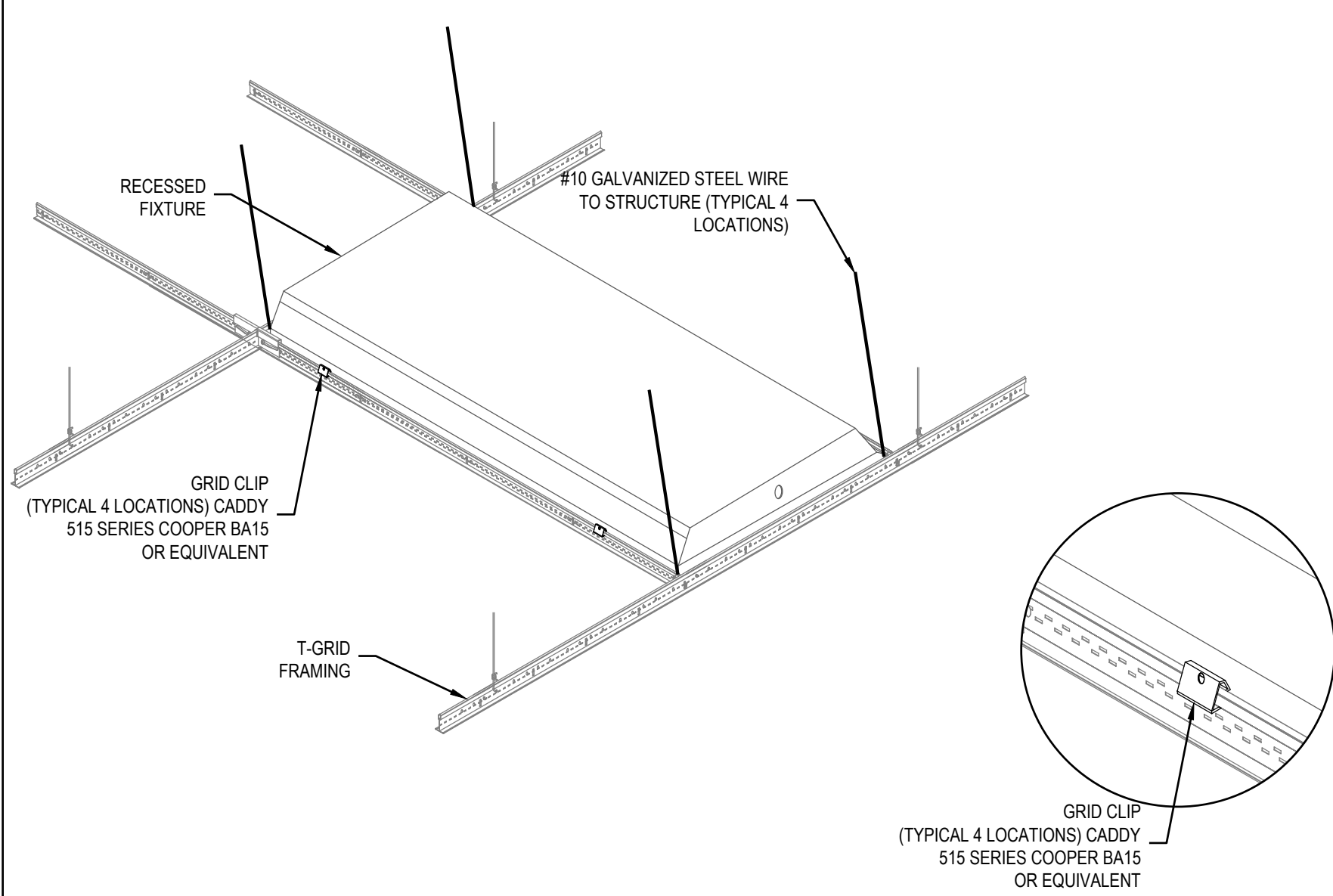
**ELECTRICAL DETAILS**

**E501**



- GENERAL NOTES**
1. TYPICAL FOR WOOD AND METAL STUD ROUGH-IN.
  2. PLASTER RINGS NOT SHOWN.
  3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
  4. OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE.
  5. IN NON-RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

**2 TYPICAL ROUGH-IN DETAIL**  
 SCALE: NO SCALE



**1 SEISMIC SUPPORT DETAIL**  
 SCALE: NO SCALE

**PLEASE NOTE!**  
 THESE DRAWINGS ARE PRINTED 1:2 (HALF-SIZE) FROM THE ORIGINAL DRAWINGS, AT THE REQUEST OF THE CLIENT.

LAST SAVE: 1/5/2021 11:08:52 2020083 CLEARFIELD ARTS CENTER ELECTRICAL SINE SOURCE PROJECT SHEETS 001 ELECTRICAL DETAILS.DWG  
 LAST SAVED: 06 Jan '21

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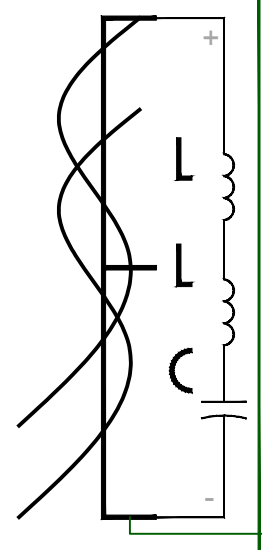
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LIGHT FIXTURE SCHEDULE											
TYPE	MANUFACTURER/CATALOG NO.	DESCRIPTION	MOUNTING	POWER	LAMPS	TYPE	MANUFACTURER/CATALOG NO.	DESCRIPTION	MOUNTING	POWER	LAMPS
EX- 1B	DUAL LITE NV3-G-EN-W-CVS SURE-LITES CCX7-0-70-G-WH-SD LIGHTOLIER LT-N-U-G-W-SD LITHONIA LQM S W 3 G 120/277 EL N SD EELP XE-2-GW-EM-SD EXTRONIX MCPHILBEN CXXL-3-G-W	EXIT SIGN; SINGLE FACE; UNIVERSAL MOUNTING; WHITE; THERMOPLASTIC HOUSING; SELF DIAGNOSTICS; WIRE GUARD WHERE NOTED ON DRAWINGS	WALL OR CEILING 1-FACE	3W	LED	LG4- L5K LG4- L5K(B)	LITHONIA EPANL-2X4-4800LM-80-35K-MIN10-ZT-MVOLT-(E10WCP)	LED FLAT PANEL; LOW PROFILE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; EM BATTERY WHERE (B) OPTION INDICATED ON LIGHTING PLAN	GRID	45 W	5000 LUMEN NOMINAL LED 3500 K
EX- 2B	DUAL LITE NV3-G-EN-W-CVS SURE-LITES CCX7-0-70-G-WH-SD LIGHTOLIER LT-N-U-G-W-SD LITHONIA LQM S W 3 G 120/277 EL N SD EELP XE-2-GW-EM-SD EXTRONIX MCPHILBEN CXXL-3-G-W	EXIT SIGN; DOUBLE FACE; UNIVERSAL MOUNTING; WHITE; THERMOPLASTIC HOUSING; SELF DIAGNOSTICS; WIRE GUARD WHERE NOTED ON DRAWINGS	WALL OR CEILING 1-FACE	3W	LED	LS4- L2K LS4- L2K(B)	LITHONIA EPANL-1X4-1500LM-80-35K-MIN10-ZT-MVOLT-(E10WCP)-1X4SMKSH	LED FLAT PANEL; LOW PROFILE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; EM BATTERY WHERE (B) OPTION INDICATED ON LIGHTING PLAN; SURFACE MOUNT KIT	SURFACE	14 W	2000 LUMEN NOMINAL LED 3500 K
IR2- L4K IR2- L4K(B)	LITHONIA 2BLT2-40L-ADP-GZ10-LP835-(EL 14L) OR EQUIVALENT	RECESSED, VOLUMETRIC TROFFER; LED LAMPING; MULTI-VOLT, DIMMING; DRIVER; EM BATTERY PACK WHERE NOTED ON DRAWINGS; OUTPUT WHERE NOTED ON DRAWINGS; 1% DIMMING WHERE (D) APPEND INCLUDED	RECESSED	32W	4000 LUMEN NOMINAL LED 3500K	LS4- L3K LS4- L3K(B)	LITHONIA EPANL-1X4-3000LM-80-35K-MIN10-ZT-MVOLT-(E10WCP)-1X4SMKSH	LED FLAT PANEL; LOW PROFILE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; EM BATTERY WHERE (B) OPTION INDICATED ON LIGHTING PLAN; SURFACE MOUNT KIT	SURFACE	27 W	3000 LUMEN NOMINAL LED 3500 K
IR4- L3K IR4- L3K(B)	LITHONIA 2BLT4-30L-ADP-GZ10-LP835-(EL 14L) OR EQUIVALENT	RECESSED, VOLUMETRIC TROFFER; LED LAMPING; MULTI-VOLT, DIMMING; DRIVER; EM BATTERY PACK WHERE NOTED ON DRAWINGS; OUTPUT WHERE NOTED ON DRAWINGS; 1% DIMMING WHERE (D) APPEND INCLUDED	RECESSED	24 W	3000 LUMEN NOMINAL LED 3500K	RL- L1K RL- L1K(B)	GOTHAM EVO-35-10-6AR-WD-LSS-MVOLT-EZ*(EL)(CTA48YK) OR EQUIVALENT	RECESSED CAN; LED LAMPING; CLEAR, OPEN, SEMI-SPECULAR CONE; 6" NOMINAL OPENING; SELF-FLANGED CONE; DIMMABLE; EM BATTERY WHERE NOTED ON DRAWINGS; TRIM EXTENDER WHERE REQUIRED	RECESS	10 W	1000 LUMEN NOMINAL LED 3500K
IR4- L4K IR4- L4K(B)	LITHONIA 2BLT4-40L-ADP-GZ10-LP835-(EL 14L) OR EQUIVALENT	RECESSED, VOLUMETRIC TROFFER; LED LAMPING; MULTI-VOLT, DIMMING; DRIVER; EM BATTERY PACK WHERE NOTED ON DRAWINGS; OUTPUT WHERE NOTED ON DRAWINGS; 1% DIMMING WHERE (D) APPEND INCLUDED	RECESSED	32 W	4000 LUMEN NOMINAL LED 3500K	R9- L6K R9- L6K(B)	GOTHAM EVO6-35-60-AR-MWD-LD-MVOLT-EZ1-(EL)-90CRI-(CTA48YK) OR EQUIVALENT	RECESSED CAN; LED LAMPING; CLEAR, OPEN, SEMI-DIFFUSE CONE; SELF-FLANGED CONE; 6" NOMINAL OPENING; 1% DIMMABLE; 90 CRI; EM BATTERY WHERE NOTED ON DRAWINGS; TRIM EXTENDER WHERE REQUIRED	RECESS	58 W	6000 LUMEN NOMINAL LED 3500K
IR4- L5K IR4- L5K(B)	LITHONIA 2BLT4-48L-ADP-GZ10-LP835-(EL 14L) OR EQUIVALENT	RECESSED, VOLUMETRIC TROFFER; LED LAMPING; MULTI-VOLT, DIMMING; DRIVER; EM BATTERY PACK WHERE NOTED ON DRAWINGS; OUTPUT WHERE NOTED ON DRAWINGS; 1% DIMMING WHERE (D) APPEND INCLUDED	RECESSED	38 W	4800 LUMEN NOMINAL LED 3500K	S4- L5K S4- L5K(B)	LITHONIA CLX-L48-5000LM-SEF-FDL-MVOLT-GZ10-35K-80CRI-(PS1050)-SCBA HE WILLIAMS 75-4-L50-840-DIM-UNV OR EQUIVALENT	LED STRIP FIXTURE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; DIFFUSE LENS; EM BATTERY WHERE NOTED ON DRAWINGS	SURFACE OR CABLE SUSPENDED WHERE NOTED	35 W	5000 LUMEN NOMINAL LED 3500K
IR4- L6K	LITHONIA 2BLT4-60L-ADP-GZ10-LP835-(EL 14L) OR EQUIVALENT	RECESSED, VOLUMETRIC TROFFER; LED LAMPING; MULTI-VOLT, DIMMING; DRIVER; EM BATTERY PACK WHERE NOTED ON DRAWINGS; OUTPUT WHERE NOTED ON DRAWINGS; 1% DIMMING WHERE (D) APPEND INCLUDED	RECESSED	48 W	6000 LUMEN NOMINAL LED 3500K	S4- L7K S4- L7K(B)	LITHONIA CLX-L48-7000LM-SEF-FDL-MVOLT-GZ10-40K-80CRI-(PS1050)-SCBA OR EQUIVALENT	LED STRIP FIXTURE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; DIFFUSE LENS	SURFACE OR CABLE SUSPENDED WHERE NOTED	50 W	7000 LUMEN NOMINAL LED 4000K
LG2- L33 LG2- L33(B)	LITHONIA EPANL-2X2-3300LM-80-35K-MIN10-ZT-MVOLT-(E10WCP) METALUX LIGHTOLIER LITHONIA LSI DAY-BRITE HE WILLIAMS	LED FLAT PANEL; LOW PROFILE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; EM BATTERY WHERE (B) OPTION INDICATED ON LIGHTING PLAN	GRID	31 W	3300 LUMEN NOMINAL LED 3500 K	S8- L10 S8- L10(B)	LITHONIA CLX-L96-10000LM-SEF-FDL-MVOLT-GZ10-35K-80CRI-(PS1050)-SCBA HE WILLIAMS 75-8-L50-840-DIM-UNV OR EQUIVALENT	LED STRIP FIXTURE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; DIFFUSE LENS; EM BATTERY WHERE NOTED ON DRAWINGS	SURFACE OR CABLE SUSPENDED WHERE NOTED	70 W	10000 LUMEN NOMINAL LED 3500K
LG4- L3K LG4- L3K(B)	LITHONIA EPANL-2X4-3000LM-80-35K-MIN10-ZT-MVOLT-(E10WCP) METALUX LIGHTOLIER LITHONIA LSI DAY-BRITE HE WILLIAMS	LED FLAT PANEL; LOW PROFILE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; EM BATTERY WHERE (B) OPTION INDICATED ON LIGHTING PLAN	GRID	29 W	3000 LUMEN NOMINAL LED 3500 K	WB2- L2K	TERON VCY24-L18-ZE500-120-277-SCBA-35K-JBC7 OR EQUIVALENT WITH PRIOR APPROVAL	DECORATIVE WALL BRACKET; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; EM BATTERY WHERE (B) OPTION INDICATED ON DRAWINGS	WALL	24 W	2000 LUMEN NOMINAL LED 3500K
LG4- L4K LG4- L4K(B)	LITHONIA EPANL-2X4-4000LM-80-35K-MIN10-ZT-MVOLT-(E10WCP) METALUX LIGHTOLIER LITHONIA LSI DAY-BRITE HE WILLIAMS	LED FLAT PANEL; LOW PROFILE; MULTI-VOLT, ELECTRONIC, DIMMABLE DRIVER; EM BATTERY WHERE (B) OPTION INDICATED ON LIGHTING PLAN	GRID	38 W	4000 LUMEN NOMINAL LED 3500 K						

NOTES

LIGHT FIXTURE ACCESSORY APPEND											
B	AS SPECIFIED	APPENDED TO FIXTURE TYPE: 1100 LUMEN EM BATTERY SUPPLY	AS SPECIFIED	PER FIXTURE TYPE							

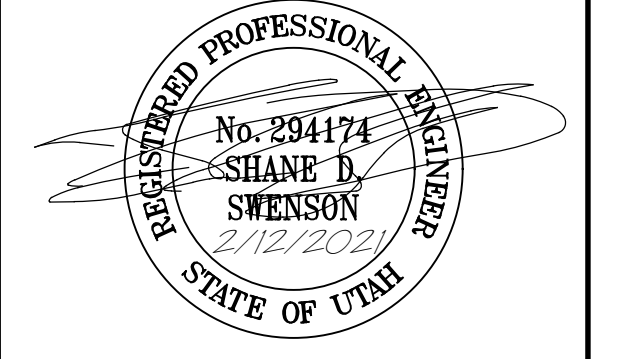
NOTES -FIXTURE APPENDS ARE ADDED TO STANDARD FIXTURE TYPES. APPENDS ARE INTENDED TO MODIFY FIXTURE CATALOG NUMBERS GIVEN ABOVE AS NOTED IN APPEND DESCRIPTION



**SINE SOURCE ENGINEERING**  
95 West Golf Course Rd  
Suite 102  
Logan, UT 84321  
office: (435) 787-1445  
fax: 1-877-207-3199  
www.sinesource.net

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**CONSULTANTS**



**CLEARFIELD ARTS CENTER INTERIOR REMODEL**  
140 CENTER STREET  
CLEARFIELD, UTAH

MARK	DATE	DESCRIPTION
ISSUE:		REVIEW SET
PROJECT NUMBER:		2020083
DATE:		FEBRUARY 12, 2021
DESIGNED BY:		SDS
DRAWN BY:		DJP

**PLEASE NOTE!**  
THESE DRAWINGS ARE PRINTED 1:2 (HALF-SIZE) FROM THE ORIGINAL DRAWINGS, AT THE REQUEST OF THE CLIENT.

**LIGHTING SCHEDULE**  
**E602**

PANEL		TYPE		LOCATION										MOUNTING					
2P3		GE AQ		L2 HALL										L2 HALL					
		3 0 4 WIRE 120/208 VOLTS												FLUSH SURFACE					
REMARKS -ALL LOADS CONSIDERED EXISTING UNLESS OTHERWISE INDICATED IN THESE DRAWINGS														225 AMP MAIN					
<input type="checkbox"/> NEW <input checked="" type="checkbox"/> EXISTING 1 NEMA RATING <input type="checkbox"/> BOLT ON BREAKERS <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> SURGE PROTECT (SPD)														<input checked="" type="checkbox"/> LUGS <input checked="" type="checkbox"/> BREAKER					
No.	BRKR	CIRCUIT DESCRIPTION	L	O	M	WIRE/CND	CIRC. LOAD	A	B	C	CIRC. LOAD	WIRE/CND	L	O	M	CIRCUIT DESCRIPTION	BRKR	No.	
1	20 1	LTG: LIBRARY				EX EX EX EX		0				EX EX EX EX				HEAT OUTLET	20	1	
3	20 1	LTG: LIBRARY				EX EX EX EX		0				EX EX EX EX				HEAT OUTLET	20	1	
5	20 1	LTG: LIBRARY				EX EX EX EX		0				EX EX EX EX				HEAT OUTLET	20	1	
7	20 1	LTG: LIBRARY				EX EX EX EX		0				EX EX EX EX				HEAT OUTLET	20	1	
9	20 1	LTG: LIBRARY				EX EX EX EX		0				EX EX EX EX				OFFICE FREEZER	20	1	
11	20 1	LTG: LIBRARY				EX EX EX EX		0				EX EX EX EX				OFFICE FREEZER	20	1	
13	20 1	EX: ??				EX EX EX EX		0				EX EX EX EX				PLUGS	20	1	
15	20 1	LTG: RR				EX EX EX EX		0				EX EX EX EX				PLUGS	20	1	
17	20 1	PLUGS				EX EX EX EX		0				EX EX EX EX				PLUGS: OFFICE	20	1	
19	20 1	LTG: ENTRY				EX EX EX EX		0				EX EX EX EX				PLUGS: RADIO CONSUL WALL	20	1	
21	20 1	PLUGS: LIBRARY				EX EX EX EX		0				EX EX EX EX				PLUGS: OFFICE	20	1	
23	20 1	PLUGS: KITCHEN				EX EX EX EX		0				EX EX EX EX				PLUGS: OFFICE	20	1	
25	20 1	LTG: HALL				EX EX EX EX		0				EX EX EX EX				EX: ??	20	1	
27	20 1	LTG: POLICE DEPARTMENT				EX EX EX EX		0				EX EX EX EX				BLOWER FANS	20	1	
29	20 1	LTG: ALL PURPOSE RM				EX EX EX EX		0				EX EX EX EX				BLOWER FANS	20	1	
31	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				LTG: POLICE	20	1	
33	40 2	EX: ?				EX EX EX EX		0				EX EX EX EX				EX: ??	20	1	
35	-	-				EX		0				EX EX EX EX				EX: ??	20	1	
37	20 1	PLUGS: CLASS/COMP GNRL	2			12S 12S 12S 3/4S	360	360				EX EX EX EX				EX: ??	20	1	
39	20 1	PLUGS: CLASS/COMP S	4			12S 12S 12S 3/4S	720		1260		540	12S 12S 12S 3/4S	3			PLUGS: OFF BY STAIR	20	1	
41	20 1	PLUGS: CLASS/COMP N	4			12S 12S 12S 3/4S	720			1440	720	12S 12S 12S 3/4S	4			PLUGS: LAPIDARY CENTER	20	1	
TOTALS							360	1260	1440										
FEEDER							SEE ONE-LINE		AMPS/PHASE		3	11	12	PARALLEL RUNS		SEE ONE-LINE			
BREAKER CODES A=ARC-FAULT; G=GROUND FAULT; H=HACR; L=LOCKING HANDLE; S=SHUNT TRIP; R=RED PAINTED HANDLE WIRE CODES I=ADDL ISO GROUND TO MATCH SAFETY GROUND; S=UNLESS OTHERWISE SPECIFIED																			

PANEL		TYPE		LOCATION										MOUNTING					
2P2		GE AQ		L2 MECH ROOM										L2 MECH ROOM					
		3 0 4 WIRE 120/208 VOLTS												FLUSH SURFACE					
REMARKS -ALL LOADS CONSIDERED EXISTING UNLESS OTHERWISE INDICATED IN THESE DRAWINGS														225 AMP MAIN					
<input type="checkbox"/> NEW <input checked="" type="checkbox"/> EXISTING 1 NEMA RATING <input type="checkbox"/> BOLT ON BREAKERS <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> SURGE PROTECT (SPD)														<input checked="" type="checkbox"/> LUGS <input checked="" type="checkbox"/> BREAKER					
No.	BRKR	CIRCUIT DESCRIPTION	L	O	M	WIRE/CND	CIRC. LOAD	A	B	C	CIRC. LOAD	WIRE/CND	L	O	M	CIRCUIT DESCRIPTION	BRKR	No.	
1	20 1	RM 204 EQUIPMENT				EX EX EX EX		0				EX EX EX EX				A/C	EX	2	
3	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				OFFICE #201	20	1	
5	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				OFFICE #201	20	1	
7	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
9	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
11	20 1	COMPUTER ONE PLUG WALL OFF				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
13	20 1	CORRIDOR #200				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
15	20 1	COMPUTER ROOM #202				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
17	20 1	TELE TERM BOARD				EX EX EX EX		0				EX EX EX EX				COMPUTER RM #202	20	1	
19	20 1	CENTRAL ATO PANEL				EX EX EX EX		0				EX EX EX EX				CIRC PUMP	20	1	
21	20 1	UNFINISHED SPACE #203				EX EX EX EX		0				EX EX EX EX				BOILER CNTRL CKT	20	1	
23	20 1	UNFINISHED SPACE #203				EX EX EX EX		0				EX EX EX EX				EQUIP RM #204	20	1	
25	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
27	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				PLUGS IN OLD PW AREA	20	1	
29	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
31	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
33	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				SPARE?	20	1	
35	20 1	SPARE				EX EX EX EX		1080			1080	12S 12S 12S 3/4S	3			FLOOR/TV: MULTI #1	20	1	
37	20 1	SPARE				EX EX EX EX		1080			1080	12S 12S 12S 3/4S	3			FLOOR/TV: MULTI #2	20	1	
39	20 1	SPARE				EX EX EX EX		0				EX EX EX EX				SPARE	20	1	
41	20 1	SPARE				EX EX EX EX		0				EX EX EX EX				SPARE	20	1	
TOTALS							1080	1080	0										
FEEDER							SEE ONE-LINE		AMPS/PHASE		9	9	0	PARALLEL RUNS		SEE ONE-LINE			
BREAKER CODES A=ARC-FAULT; G=GROUND FAULT; H=HACR; L=LOCKING HANDLE; S=SHUNT TRIP; R=RED PAINTED HANDLE WIRE CODES I=ADDL ISO GROUND TO MATCH SAFETY GROUND; S=UNLESS OTHERWISE SPECIFIED																			

FLOOR, TABLE, AND WALL BOX SCHEDULE			
SYMBOL	DESCRIPTION	MANUFACTURER MODEL	COLOR
P22S	MULTI-SERVICE, X-LARGE CAPACITY POKE-THRU BOX; FLUSH-IN-USE; SOLID COVER; COLOR PER OWNER/ARCHITECT	HUBBELL SYSTEM 1 10" WITH S1R10CVRX OR EQUIVALENT	PER ARCHITECT
W23S	MULTI-SERVICE, X-LARGE CAPACITY WALL BOX; STEEL, FLUSH-IN-USE; RECESS MOUNT IN WALL; COVER FIELD PAINTED CUSTOM COLOR AS SELECTED BY OWNER/ARCHITECT	WIREMOLD OR EQUIVALENT EFSB4	PER ARCHITECT

PANEL		TYPE		LOCATION										MOUNTING					
1P2		GE AQ		KITCHEN										KITCHEN					
		3 0 4 WIRE 120/208 VOLTS												FLUSH SURFACE					
REMARKS -ALL LOADS CONSIDERED EXISTING UNLESS OTHERWISE INDICATED IN THESE DRAWINGS														225 AMP MAIN					
<input type="checkbox"/> NEW <input checked="" type="checkbox"/> EXISTING 1 NEMA RATING <input type="checkbox"/> BOLT ON BREAKERS <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> SURGE PROTECT (SPD)														<input checked="" type="checkbox"/> LUGS <input checked="" type="checkbox"/> BREAKER					
No.	BRKR	CIRCUIT DESCRIPTION	L	O	M	WIRE/CND	CIRC. LOAD	A	B	C	CIRC. LOAD	WIRE/CND	L	O	M	CIRCUIT DESCRIPTION	BRKR	No.	
1	20 1	PLUGS: NEW STORAGE EAST				EX EX EX EX	720	720				EX EX EX EX				SPARE--	50	3	
3	20 1	PLUGS: SNACK SE				EX EX EX EX		0				EX EX EX EX				-	-		
5	20 1	PLUGS: SNACK NE				EX EX EX EX		0				EX EX EX EX				-	-		
7	20 1	PLUGS: SNACK CNTR N1				EX EX EX EX		0				EX EX EX EX				SPARE--	20-		
9	20 1	PLUGS: SNACK CNTR N2				EX EX EX EX		0				EX EX EX EX				-	-		
11	20 1	PLUGS: SNACK CNTR CNTR 1				EX EX EX EX		0				EX EX EX EX				-	-		
13	20 1	PLUGS: SNACK CNTR CNTR 2				EX EX EX EX		0				EX EX EX EX				SPARE--	20-		
15	20 1	PLUGS: SNACK CNTR S1				EX EX EX EX		0				EX EX EX EX				-	-		
17	20 1	PLUGS: SNACK CNTR S2				EX EX EX EX		0				EX EX EX EX				-	-		
19	20 1	SPARE					3000		3000		6	6	10	1.25	1	SNACK COUNTER	+50		
21	20 1	SPARE					3000		3000		6	6	10	1.25	1	-	-		
23	20 1	SPARE					0									SPARE	20		
25	20 1	SPARE					0									SPARE	20		
27	20 1	SPARE					0									SPARE	20		
29	20 1	SPARE					0									SPARE	20		
31	20 1	SPARE					0									SPARE--	20-		
33	20 1	SPARE					0									-	-		
35	20 1	SPARE					0									SPARE--	30-		
37	20 1	SPARE					0									-	-		
39	20 1	SPARE					0									SPARE--	50-		
41	20 1	SPARE					0									-	-		
TOTALS							3720	3000	0										
FEEDER							SEE ONE-LINE		AMPS/PHASE		31	25	0	PARALLEL RUNS		SEE ONE-LINE			
BREAKER CODES A=ARC-FAULT; G=GROUND FAULT; H=HACR; L=LOCKING HANDLE; S=SHUNT TRIP; R=RED PAINTED HANDLE WIRE CODES I=ADDL ISO GROUND TO MATCH SAFETY GROUND; S=UNLESS OTHERWISE SPECIFIED																			

PANEL		TYPE		LOCATION										MOUNTING				
1P3		GE AQ		L1 HALL										L1 HALL				
		3 0 4 WIRE 120/208 VOLTS												FLUSH SURFACE				
REMARKS -ALL LOADS CONSIDERED EXISTING UNLESS OTHERWISE INDICATED IN THESE DRAWINGS														225 AMP MAIN				
<input type="checkbox"/> NEW <input checked="" type="checkbox"/> EXISTING 1 NEMA RATING <input type="checkbox"/> BOLT ON BREAKERS <input type="checkbox"/> ISOLATED GROUND BUS <input type="checkbox"/> SURGE PROTECT (SPD)														<input checked="" type="checkbox"/> LUGS <input checked="" type="checkbox"/> BREAKER				
No.	BRKR	CIRCUIT DESCRIPTION	L	O	M	WIRE/CND	CIRC. LOAD	A	B	C	CIRC. LOAD	WIRE/CND	L	O	M	CIRCUIT DESCRIPTION	BRKR	No.
1	20 1	SPARE?				EX EX EX EX		0				EX EX EX EX				KILN	50	
3	20 1	LTG: EM				EX EX EX EX		0				EX EX EX EX				-	-	
5	20 1	PLUGS				EX EX EX EX		0				EX EX EX EX				KILN	50	
7																		