

ADDENDUM

Project: Davis 2, 3, Ashley Creek Doors

Project No.: 527462118030101

Addendum No.: 1

Project Address: 4080 South 2500 East, Vernal, UT 84078

Date: June 12, 2018

Owner: Corporation of the Presiding Bishop of The Church of Jesus Christ
of Latter-day Saints, a Utah corporation sole

From: KNELL, ARCHITECTS

45 East 300 North, Provo, Utah 84606

Instructions to Prospective Bidders:

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents and/or prior Addenda as noted below. All conditions, requirements, materials and workmanship are to be as described in the Contract Documents unless specifically stated otherwise. This Addendum consists of 1 page and Specification Sections 26 0501 COMMON ELECTRICAL REQUIREMENTS, 26 0519 LINE-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES, 26 0526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS, 26 0533 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS, 26 0613 ELECTRICAL EQUIPMENT MOUNTING HEIGHT SCHEDULE, 26 2726 WIRING DEVICES, 26 5200 EMERGENCY LIGHTING and Addendum Drawing No. 1 and Electrical Sheets EE100 Symbol List General Notes, ED101 Demo Plan – Electrical, EL 101 New Lighting Plan Electrical.

1. Changes to prior Addenda: None
2. Changes to Bidding Requirements:
 - a. Refer to Invitation To Bid and make the following changes:
 1. Delete Article 9 and replace with the following Article 9:
 9. Sealed bids will be received prior to 2:00 pm on June 14, 2018 in the American Fork Project Management Office located in the Stake Center at 850 North 900 East, American Fork, Utah. (Meet in East Foyer). Bids will be publicly opened at 2:00 pm on June 14, 2018 in the American Fork Project Management Office located in the Stake Center at 850 North 900 East, American Fork, Utah.
3. Changes to Conditions of the Contract:
 - a. Refer to Supplementary Conditions and add the following Item 4:
Item 4: The Owner will pay for all permits and fees charged by various entities including but not limited to: Uintah County.
 - b. Refer to Supplementary Conditions and add the following Item 5:
Item 5: Include in the bid the sum of **\$3,000.00** to be used as the amount to relocate mechanical ductwork in the attic to install the new truss modifications. Once the exact amount to relocate mechanical ductwork is known the amount will be adjusted up or down by change order. The Owner will then receive a credit back or the Contractor will receive an extra. This is independent of items shown in the contract documents.
4. Changes to Specifications:
 - a. Delete Division 26 Electrical Sections and replace with the attached Division 26 Electrical Sections: 26 0501 COMMON ELECTRICAL REQUIREMENTS, 26 0519 LINE-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES, 26 0526 GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS, 26 0533 RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS, 26 0613 ELECTRICAL EQUIPMENT MOUNTING HEIGHT SCHEDULE, 26 2726 WIRING DEVICES, 26 5200 EMERGENCY LIGHTING
5. Changes to Drawings:
 - a. Refer to Sheet **A1.1**.
 - 1) Provide a minimum width of 12-inch-wide hardwood trim from metal angle base up to bottom of existing wood trim approximately 10 feet long with associated backing to cover holes left by installing new electrical switches shown on Sheet EL101 and sound control box shown on Sheet TA601.
 - b. Refer to Sheet **A1.2**.
 - 1) Refer to detail B and replace with the Attached Detail B on Addendum Drawing No. 1.
 - c. Add the following attached Electrical Sheets: EE100 Symbol List General Notes, ED101 Demo Plan – Electrical, EL 101 New Lighting Plan Electrical. Note the deductive alternate on Reference note 2 on Sheet EL 101. Include this amount somewhere on the Bid Form.

End of Addendum

SECTION 26 0501**COMMON ELECTRICAL REQUIREMENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. General electrical system requirements and procedures.
 - 2. Perform excavating and backfilling work required by work of this Division as described in Contract Documents.
 - 3. Make electrical connections to equipment provided under other Sections.
- B. Products Furnished But Not Installed Under This Section:
 - 1. Anchor bolts and templates for exterior lighting equipment bases.
- C. Related Requirements:
 - 1. Section 07 8400: 'Firestopping' for quality of Penetration Firestop Systems to be used on Project and submittal requirements.
 - 2. Section 31 2316: 'Excavation' for criteria for performance of excavating.
 - 3. Section 31 2323: 'Fill' for criteria for performance of backfilling.

1.2 REFERENCES

- A. Reference Standards:
 - 1. National Fire Protection Association / American National Standards Institute:
 - a. NFPA 70, National Electric Code (NEC).
 - 2. National Electrical Manufacturing Association Standards (NEMA):
 - a. NEMA 250, 'Enclosure for Electrical Equipment (1000 Volts Maximum)'.

1.3 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data:
 - a. Provide following information for each item of equipment:
 - 1) Catalog Sheets.
 - 2) Assembly details or dimension drawings.
 - 3) Installation instructions.
 - 4) Manufacturer's name and catalog number.
 - 5) Name of local supplier.
 - b. Furnish such information for following equipment:
 - 1) Section 26 2726: 'Wiring Devices' for lighting control and dimmer equipment.
 - c. Do not purchase equipment before approval of product data.
- B. Informational Submittals:
 - 1. Test And Evaluation Reports:
 - a. Report of site tests, before Substantial Completion.
 - 2. Qualification Statement:
 - a. Electrical Subcontractor:
 - 1) Provide Qualification documentation if requested by Architect or Owner.
 - b. Installer:
 - 1) Provide Qualification documentation if requested by Architect or Owner.

- C. Closeout Submittals:

1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
 - a. Operations and Maintenance Data:
 - 1) Provide operating and maintenance instructions for each item of equipment submitted under Product Data.
 - b. Record Documentation:
 - 1) Manufacturers documentation:
 - a) Manufacturer's literature.
 - b) Include copy of approved shop drawings.

1.4 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
 1. NEC and local ordinances and regulations shall govern unless more stringent requirements are specified.
 2. Material and equipment provided shall meet standards of NEMA or UL and bear their label wherever standards have been established and label service is available.
- B. Qualifications: Requirements of Section 01 4301 applies, but not limited to following:
 1. Electrical Subcontractor:
 - a. Company specializing in performing work of this section.
 - 1) Minimum five (5) years experience in electrical installations.
 - 2) Minimum five (5) satisfactorily completed installations in past three (3) years of projects similar in size, scope, and complexity required for this project before bidding.
 - b. Upon request, submit documentation.
 2. Installer:
 - a. Licensed for area of Project.
 - b. Designate one (1) individual as project foremen who shall be on site at all times during installation and experienced with installation procedures required for this project.
 - c. Upon request, submit documentation.

PART 2 - PRODUCTS

2.1 SYSTEMS

- A. Performance:
 1. Design Criteria:
 - a. Materials and equipment provided under following Sections shall be by same Manufacturer:
 - 1) Section 26 2417: Panelboards.

PART 3 - EXECUTION

3.1 INSTALLERS

- A. Acceptable Installers:
 1. Meet Quality Assurance Installer Qualifications as specified in Part 1 of this specification.

3.2 EXAMINATION

- A. Verification Of Conditions:
 1. Confirm dimensions, ratings, and specifications of equipment to be installed and coordinate these with site dimensions and with other Sections.

3.3 INSTALLATION

- A. General:
 - 1. Locations of electrical equipment shown on Drawings are approximate only. Field verify actual locations for proper installation.
 - 2. Coordinate electrical equipment locations and conduit runs with those providing equipment to be served before installation or rough in.
 - a. Notify Architect of conflicts before beginning work.
 - b. Coordinate locations of power and lighting outlets in mechanical rooms and other areas with mechanical equipment, piping, ductwork, cabinets, etc, so they will be readily accessible and functional.
 - 3. Work related to other trades which is required under this Division, such as cutting and patching, trenching, and backfilling, shall be performed according to standards specified in applicable Sections.

- B. Install Penetration Firestop System appropriate for penetration at electrical system penetrations through walls, ceilings, and top plates of walls.

3.4 FIELD QUALITY CONTROL

- A. Field Tests:
 - 1. Test systems and demonstrate equipment as working and operating properly. Notify Architect before test. Rectify defects at no additional cost to Owner.
 - 2. Measure current for each phase of each motor under actual final load operation, i.e. after air balance is completed for fan units, etc. Record this information along with full-load nameplate current rating and size of thermal overload unit installed for each motor.

3.5 CLOSEOUT ACTIVITIES

- A. Training:
 - 1. Provide competent instructor for three (3) days to train Owner's maintenance personnel in operation and maintenance of electrical equipment and systems. Factory representatives shall assist this instruction as necessary. Schedule instruction period at time of final inspection.

END OF SECTION

SECTION 26 0519**LINE-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Quality of conductors used on Project except as excluded below.
- B. Related Requirements:
 - 1. Section 23 0933: 'Electric and Electronic Control System for HVAC' for conductors and cables for temperature control system.
 - 2. Section 26 0501: 'Common Electrical Requirements'.

1.2 REFERENCES

- A. Definitions:
 - 1. Line Voltage: Over 70 Volts.
- B. Reference Standards:
 - 1. National Fire Protection Association:
 - a. NFPA (Fire) 70, 'National Electric Code (NEC)' (2014 Edition or most recent edition adopted by AHJ including all applicable amendments and supplements).
 - 1) Article 334, "Nonmetallic-Sheathed Cable, Types NM, NMC And NMS".

PART 2 - PRODUCTS**2.1 SYSTEMS**

- A. Line Voltage Conductors:
 - 1. Copper with AWG sizes as shown:
 - a. Minimum size shall be No. 12 except where specified otherwise.
 - b. Conductor size No. 8 and larger shall be stranded.
 - 2. Insulation:
 - a. Standard Conductor Size No. 10 And Smaller: 600V type THWN or XHHW (75 deg F (24 deg C)).
 - b. Standard Conductor Size No. 8 And Larger: 600V Type THW, THWN, or XHHW (75 deg F (24 deg C)).
 - c. Higher temperature insulation as required by NFPA 70 or local codes.
 - 3. Colors:
 - a. 208Y / 120 V System:
 - 1) Black: Phase A.
 - 2) Red: Phase B.
 - 3) Blue: Phase C.
 - 4) Green: Ground.
 - 5) White: Neutral.
 - b. 480Y / 277 Volt System:
 - 1) Brown: Phase A.
 - 2) Orange: Phase B.
 - 3) Yellow: Phase C.
 - 4) Gray: Neutral.
 - 5) Green: Ground.

- c. Conductors size No. 10 and smaller shall be colored full length. Tagging or other methods for coding of conductors size No. 10 and smaller not allowed.
 - d. For feeder conductors larger than No. 10 at pull boxes, gutters, and panels, use painted or taped band or color tag color-coded as specified above.
- B. Line Voltage Cables:
1. Metal Clad Cable (MC) may be used as restricted below:
 - a. Copper conductors.
 - b. Sizes #12 through #8.
 - c. Use only in indoor dry locations where:
 - 1) Not subject to damage.
 - 2) Not in contact with earth.
 - 3) Not in concrete.
- C. Cord Sets For Ranges: Three pole, 4 wire grounding, 125/250V, NEMA 14-50P plug, 48 inch (1 200 mm) cord length minimum.
- D. Standard Connectors:
1. Conductors No. 8 And Smaller: Steel spring wire connectors.
 2. Conductors Larger Than No. 8: Pressure type terminal lugs.
 3. Connections Outside Building: Watertight steel spring wire connections with waterproof, non-hardening sealant.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:
1. Conductors and cables shall be continuous from outlet to outlet.
 2. Do not use direct burial cable.
- B. Line Voltage Conductors:
1. Install conductors in raceway where indicated on Contract Drawings. Run conductors of different voltage systems in separate conduits.
 2. Route circuits at own discretion, however, circuiting shall be as shown in Panel Schedules. Group circuit homeruns to panels as shown on Contract Drawings.
 3. Neutrals:
 - a. On three-phase, 4-wire systems, do not use common neutral for more than three circuits.
 - b. On single-phase, 3-wire systems, do not use common neutral for more than two circuits.
 - c. Run separate neutrals for each circuit where specifically noted on Contract Drawings.
 - d. Where common neutral is run for two or three home run circuits, connect phase conductors to breakers in panel which are attached to separate phase legs:
 - 1) Provide breaker tie so that all circuits that share common neutral are simultaneously disconnected.
 - 2) Neutral conductors shall be of same size as phase conductors unless specifically noted otherwise.
 4. Pulling Conductors:
 - a. Do not pull conductors into conduit until raceway system is complete and cabinets and outlet boxes are free of foreign matter and moisture.
 - b. Do not use heavy mechanical means for pulling conductors.
 - c. Use only listed wire pulling lubricants.
- C. Line Voltage Cables:
1. Route circuits at own discretion, however, circuiting and numbering shall be as shown in Panel Schedules.
 2. Support cables using approved staples, cable ties, straps, hangers, or similar fittings, spaced as required.

3. Where installing in framing, do not bore holes in joists or beams outside center 1/3 of member depth or within **24 inches (600 mm)** of bearing points. Do not bore holes in vertical framing members outside center 1/3 of member width. Holes shall be one inch diameter maximum.
4. Conceal cables within ceilings and walls of finished areas. Cables may be exposed in unfinished areas but not run on floors of mechanical equipment spaces or in such a way that they obstruct access to, operation of, or servicing of equipment.
5. Install exposed cables parallel to or at right angles to building structure lines.
6. Keep cables **6 inches (150 mm)** minimum from hot water pipes.
7. Do not support cables from mechanical ducts or duct supports without Architect's written approval.
8. Prohibited procedures:
 - a. Boring holes for installation of cables in vertical truss members.
 - b. Notching of structural members for installation of cables.

END OF SECTION

SECTION 26 0526**GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and install grounding for electrical installation as described in Contract Documents except as excluded below.
- B. Related Requirements:
 - 1. Section 03 3111: 'Cast-In-Place Structural Concrete'.
 - a. Pre-installation conference held jointly with other concrete related sections.
 - 2. Section 26 0501: 'Common Electrical Requirements'.
 - 3. Section 26 4301: 'Surge Protection Devices'.

1.2 REFERENCES

- A. Reference Standards:
 - 1. Institute of Electrical and. Electronics Engineers (IEEE):
 - a. IEEE 837-2014, 'Standard for Qualifying Permanent Connections Used in Substation Grounding'.
 - 2. National Fire Protection Association:
 - a. NFPA (Fire) 70, 'National Electric Code (NEC)' (2014 Edition or most recent edition adopted by AHJ including all applicable amendments and supplements).

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference:
 - 1. Participate in pre-installation conference as specified in Section 03 3111.
 - 2. In addition to agenda items specified in Section 01 3100 and 31 3111, review following:
 - a. Review Architect's inspection of grounding conductor installation before placement of concrete.

1.4 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
 - 1. Requirements of Section 27 1501 applies, but is not limited to following:
 - a. Cable assemblies shall be UL / CE Listed and CSA Certified. Cables shall be a distinctive green or green/yellow in color, and all jackets shall be UL, VW-1 flame rated.
 - b. Grounding shall conform to all required Commercial Building Grounding and Bonding Requirements for Telecommunications, Electrical Codes, and Manufacturer's grounding requirements.
 - 2. Systems shall be installed per NFPA 780 and NFPA 70.
 - 3. All Bonds shall comply with most current version of IEEE 837 Standard.
- B. Qualifications: Requirements of Section 01 4301 applies, but is not limited to following:
 - 1. Installers Qualifications:
 - a. Grounding and Bonding:
 - 1) Licensed electrical contractor shall perform installation and termination of main bonding conductor to building service entrance ground.
 - 2) Licensed in State that Work is to be performed.

PART 2 - PRODUCTS

2.1 SYSTEM

- A. Manufacturers:
 - 1. Type One Acceptable Products:
 - a. 'Cadweld' by Erico International, Solon, OH www.erico.com.
 - b. 'ThermOweld' by Continental Industries, Tulsa, NE www.conind.com.
 - c. Equal as approved by Architect before bidding. See Section 01 6200.
- B. Performance:
 - 1. Design Criteria:
 - a. Size materials as shown on Drawings and in accordance with applicable codes.
 - b. Bonding System Workmanship:
 - 1) The ground/earthing system shall be designed for high reliability and shall meet following criteria:
 - a) Local electrical codes shall be adhered to.
 - b) All grounding/earthing conductors shall be copper.
 - c) Regulatory Agency Sustainability Approvals requirements are required.
- C. Materials:
 - 1. Grounding And Bonding Jumper Conductors: Bare copper or with green insulation.
 - 2. Make grounding conductor connections to ground rods and foundation ground loop using approved bolted clamps listed for such use.
 - a. Copper Lug Mechanical Connector:
 - 1) Provide copper connectors to bond to metallic element fastener.
 - 2) Type One Acceptable Products:
 - a) Pentair EL4 by Erico International, Solon, OH www.erico.com.
 - b) Equal as approved by Architect before bidding. See Section 01 6200.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Interface With Other Work: Coordinate with Section 03 3111 in installing grounding conductor and placing concrete. Do not allow placement of concrete before Architect's inspection of grounding conductor installation.
- B. Grounding conductors and bonding jumper conductors shall be continuous from terminal to terminal without splice. Provide grounding for following.
 - 1. Conduits and other conductor enclosures.
 - 2. Neutral or identified conductor of interior wiring system.
 - 3. Non-current-carrying metal parts of fixed equipment such as motors, starter and controller cabinets, instrument cases, and lighting fixtures.
- C. Bond conduit grounding bushings to enclosures with minimum #10 AWG conductor.
- D. Connect equipment grounds to building system ground.
 - 1. Use same size equipment grounding conductors as Phased conductors up through #10 AWG.
 - 2. Use NEC Table 250-95 for others unless noted otherwise in Drawings.
 - 1) Connect all metallic elements of baptismal font as shown in Contract Drawings.
 - b. Grounding Clamps and Connectors:
 - 1) Connect to structural reinforcing bars as per NFPA 70 Article 680 and as shown in Contract Drawings.

3.2 FIELD QUALITY CONTROL

- A. Field Inspections:
1. Notify Architect for inspection two (2) days minimum before placing concrete over grounding conductor.
 2. Grounding Well integrity shall be tested separately and together with Lightning Protection System integrity.

END OF SECTION

SECTION 26 0533**RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
1. Quality of material and installation procedures for raceway, boxes, and fittings used on Project but furnished under other Divisions.
 2. Furnish and install raceway, conduit, and boxes used on Project not specified to be installed under other Divisions.
 3. Furnish and install air-vapor barrier boxes as described in Contract Documents.
 4. Furnish and install main electrical service raceway as described in Contract Documents and comply with electrical utility company requirements.
 5. Furnish and install main telephone service raceway as described in Contract Documents and comply with telephone company requirements.
 6. Furnish and install internet service raceway as described in Contract Documents and comply with internet service company requirements.
- B. Related Requirements:
1. See Section 07 8400: 'Firestopping' for raceways penetrating fire rated walls, ceilings, and barriers'.
 2. Section 23 0933: 'Electric and Electronic Control System for HVAC' for concealed raceway and extensions for temperature control system.
 3. Section 26 0501: 'Common Electrical Requirements' for general electrical requirements'.
 4. Section 26 0503: 'Electrical Utility Services' for electrical primary underground service requirements.
 5. Section 27 1501: 'Communications Horizontal Cabling' for raceway for telephone and data systems.
 6. Section 27 4117: 'Video Systems' for system wiring.
 7. Section 27 5117: 'Audio Systems' for sound system wiring.
 8. Section 28 3101: 'Fire Detection And Alarm System' for clarification of raceway and conduit requirements for detection and alarm system.

1.2 REFERENCES

- A. Reference Standards:
1. National Fire Protection Association:
 - a. NFPA (Fire) 70, 'National Electric Code (NEC)' (2014 Edition or most recent edition adopted by AHJ including all applicable amendments and supplements).

PART 2 - PRODUCTS**2.1 SYSTEM**

- A. Manufacturers:
1. Manufacturer Contact List:
 - a. Cooper B-Line, Highland, IL www.b-line.com.
 - b. Hubbell Incorporated, Milford, CT www.hubbell-wiring.com or Hubbell Canada Inc, Pickering, ON (905) 839-4332.
 - c. Square D, Palatine, IL www.squared.com.

- d. Thomas & Betts, Memphis, TN www.tnb.com or Thomas & Betts Ltd, Iberville, PQ (450) 347-5318.
- e. Walker Systems Inc, Williamstown, WV (800) 240-2601 or Walker Systems Inc / Wiremold Canada Inc, Fergus, ON (519) 843-4332.
- f. Wiremold Co, West Hartford, CT www.wiremold.com.

B. Materials:

1. Raceway And Conduit:

a. Sizes:

- 1) **3/4 inch (19 mm)** for exterior use, unless indicated otherwise.
- 2) **1/2 inch (13 mm)** for interior use, unless indicated otherwise.

b. Types: Usage of each type is restricted as specified below by product.

- 1) Galvanized rigid steel or galvanized intermediate metal conduit (IMC) is allowed for use in all areas. Where in contact with earth or concrete, wrap buried galvanized rigid steel and galvanized IMC conduit and fittings completely with vinyl tape.
- 2) Galvanized Electrical Metallic Tubing (EMT) and Flexible Steel Conduit:
 - a) Allowed for use only in indoor dry locations where it is:
 - (1) Not subject to damage.
 - (2) Not in contact with earth.
 - (3) Not in concrete.
 - b) For metal conduit systems, flexible steel conduit is required for final connections to indoor mechanical equipment.
- 3) Schedule 40 Polyvinyl Chloride (PVC) Conduit:
 - a) Allowed for use only underground or below concrete with galvanized rigid steel or IMC elbows and risers.
- 4) Listed, Liquid-Tight Flexible Metal Conduit:
 - a) Use in outdoor final connections to mechanical equipment, length not to exceed **36 inches (900 mm)**.
- 5) Pre-wired **3/8 Inch (9.5 mm)** Flexible Fixture Whips: Allowed only for connection to recessed lighting fixtures, lengths not to exceed **72 inches (1 800 mm)**.

c. Prohibited Raceway Materials:

- 1) Aluminum conduit.
- 2) Armored cable type AC (BX) cable.

2. Raceway And Conduit Fittings:

a. Rigid Steel Conduit And IMC: Threaded and designed for conduit use.

b. EMT:

- 1) Compression type.
- 2) Steel set screw housing type.

c. PVC Conduit:

- 1) PVC type. Use PVC adapters at all boxes.
- 2) PVC components, (conduit, fittings, cement) shall be from same Manufacturer.

d. Flexible Steel Conduit: Screw-in type.

e. Liquid-tight Flexible Metal Conduit: Sealtite type.

f. Expansion fittings shall be equal to OZ Type AX sized to raceway and including bonding jumper.

g. Prohibited Fitting Materials:

- 1) Crimp-on, tap-on, indenter type fittings.
- 2) Cast set-screw fittings for EMT.
- 3) Spray (aerosol) PVC cement.

3. Outlet Boxes:

a. Galvanized steel of proper size and shape are acceptable for all systems. Where metal boxes are used, provide following:

- 1) Provide metal supports and other accessories for installation of each box.
- 2) Equip ceiling and bracket fixture boxes with fixture studs where required.
- 3) Equip outlets in plastered, paneled, and furred finishes with plaster rings and extensions to bring box flush with finish surface.

b. Type Two Acceptable Products:

- 1) 887 cast iron box 885 brass duplex cover plate for carpet by Walker Systems.
- 2) B-2537 cast iron box with SF3925 brass duplex cover plate for carpet by Hubbell.
- 3) Equal as approved by Architect before installation. See Section 01 6200.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification Of Conditions:

1. Confirm dimensions, ratings, and specifications of materials to be installed and coordinate these with site dimensions and with other Sections.

3.2 INSTALLATION

A. Interface With Other Work:

1. Coordinate with Divisions 22 and 23 for installation of raceway for control of plumbing and HVAC equipment.
2. Coordinate with Division 27 for installation of raceway for sound system.
3. Before rough-in, verify locations of boxes with work of other trades to insure that they are properly located for purpose intended.
 - a. Coordinate location of outlet for water coolers with Division 22.
 - b. Coordinate location of outlets adjacent to or in millwork with Division 06 before rough-in. Refer conflicts to Architect and locate outlets under his direction.
4. Install pull wires in raceways installed under this Section where conductors or cables are to be installed under other Divisions.

B. General:

1. Sound system electrical components furnished by Division 27 and installed under this Section include following items:
 - a. Speaker mounting rings.
 - b. Speaker enclosures.

C. Conduit And Raceway:

1. Conceal raceways within ceilings, walls, and floors, except at Contractor's option, conduit may be exposed on walls or ceilings of mechanical equipment areas and above acoustical panel suspension ceiling systems. Install exposed raceway runs parallel to or at right angles to building structure lines.
2. Seal all raceways penetrating fire rated walls, ceilings and barriers. See Section 07 8400.
3. Keep raceway runs **6 inches (150 mm)** minimum from hot water pipes.
4. Make no more than four quarter bends, 360 degrees total, in any conduit run between outlet and outlet, fitting and fitting, or outlet and fitting.
 - a. Make bends and offsets so conduit is not injured and internal diameter of conduit is not effectively reduced.
 - b. Radius of curve shall be at least minimum indicated by NFPA 70.
5. Cut conduit smooth and square with run and ream to remove rough edges. Cap raceway ends during construction. Clean or replace raceway in which water or foreign matter have accumulated.
6. Run two spare conduits from each new panelboard to ceiling access area or other acceptable accessible area and cap for future use.
7. Bend PVC conduit by hot box bender and, for PVC **2 inches (50 mm)** in diameter and larger, expanding plugs. Apply PVC adhesive only by brush.
8. Installation In Framing:
 - a. Do not bore holes in joists or beams outside center 1/3 of member depth or within **24 inches (600 mm)** of bearing points. Do not bore holes in vertical framing members outside center 1/3 of member width.
 - b. Holes shall be **one inch (25 mm)** diameter maximum.
9. Underground Raceway And Conduit:
 - a. Bury underground raceway installed outside building **24 inches (600 mm)** deep minimum.
 - b. Bury underground conduit in planting areas **24 inches (600 mm)** deep minimum. It is permissible to install conduit **6 inch (150 mm)** below concrete sidewalks, however, conduit must be buried **24 inches (600 mm)** deep at point of exit from planting areas.

10. Conduit And Raceway Support:
 - a. Securely support raceway with approved straps, clamps, or hangers, spaced as required.
 - b. Do not support from mechanical ducts or duct supports without Architect's written approval. Securely mount raceway supports, boxes, and cabinets in an approved manner by:
 - 1) Expansion shields in concrete or solid masonry.
 - 2) Toggle bolts on hollow masonry units.
 - 3) Wood screws on wood.
 - 4) Metal screws on metal.
 11. Prohibited Procedures:
 - a. Use of wooden plugs inserted in concrete or masonry units for mounting raceway, supports, boxes, cabinets, or other equipment.
 - b. Installation of raceway that has been crushed or deformed.
 - c. Use of torches for bending PVC.
 - d. Spray applied PVC cement.
 - e. Boring holes in truss members.
 - f. Notching of structural members.
 - g. Supporting raceway from ceiling system support wires.
 - h. Nail drive straps or tie wire for supporting raceway.
- D. Boxes:
1. Boxes shall be accessible and installed with approved cover.
 2. Do not locate device boxes that are on opposite sides of framed walls in the same stud space. In other wall construction, do not install boxes back to back.
 3. Locate boxes so pipes, ducts, or other items do not obstruct outlets.
 4. Install outlets flush with finished surface and level and plumb.
 5. Support switch boxes larger than two-gang with side brackets and steel bar hangers in framed walls.
 6. At time of substantial completion, install blank plates on uncovered outlet boxes that are for future use.
 7. Install air-vapor barrier boxes.
 - a. Follow Manufacturer's installation instructions.
 8. Location:
 - a. Install boxes at door locations on latch side of door, unless explicitly shown otherwise on Contract Drawings. Verify door swings shown on electrical drawings with architectural drawings, and report discrepancies to Architect before rough-in. Distance of box from jamb shall be **6 inches (150 mm)** from door jamb.
 - b. Properly center boxes located in walls with respect to doors, panels, furring, trim and consistent with architectural details. Where two or more outlets occur, space them uniformly and in straight lines with each other, if possible.
 - c. Center ceramic tile boxes in tile.
- E. Support speaker enclosures and mounting rings from structure or ceiling suspension system.

END OF SECTION

SECTION 26 0613**ELECTRICAL EQUIPMENT MOUNTING HEIGHT SCHEDULE**

PART 1 - GENERAL: Not Used

PART 2 - PRODUCTS: Not Used

PART 3 - EXECUTION

3.1 INSTALLATION

A. Unless otherwise indicated, mount center of outlets or boxes at following heights above finish floor. Refer special conditions to Architect before rough-in and locate outlet under his direction.

B. Mounting Heights:

1. Electrical:

a. Wall Switches:

84 inches (2 100 mm).
42 inches (1 065 mm).

END OF SECTION

SECTION 26 2726**WIRING DEVICES****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and install wiring devices complete with plates as described in Contract Documents.
- B. Related Requirements:
 - 1. Section 26 0501: 'Common Electrical Requirements'.

PART 2 - PRODUCTS**2.1 COMPONENTS**

- A. Manufacturers:
 - 1. Manufacturer Contact List:
 - a. Cooper Wiring Devices, Peachtree City, GA www.cooperwiringdevices.com.
 - b. General Electric Industrial Systems, Charlotte, NC www.geindustrial.com.
 - c. Hubbell Building Automation, Austin, TX www.hubbell-automation.com.
 - d. Hubbell Inc, Milford, CT www.hubbell-wiring.com or Hubbell Canada Inc, Pickering, ON (800) 263-4622 or (905) 839-4332.
 - e. Hunt Control Systems Inc, Fort Collins, CO www.huntdimming.com.
 - f. Intermatic Inc, Spring Grove, IL www.intermatic.com.
 - g. IR-TEC America, Inc., Brea, CA www.irtec.com/en-ira/.
 - h. Leviton Manufacturing Co, Little Neck, NY www.leviton.com or Leviton Manufacturing of Canada Ltd, Pointe-Claire, QB (800) 461-2002 or (514) 954-1840.
 - i. Legrand, West Hartford, CT www.legrand.us.com or Vaughan, ON www.legrand.ca.com.
 - j. Lutron Electronics Co Inc, Coopersburg, PA www.lutron.com.
 - k. Ortronics, New London, CT www.ortronics.com.
 - l. Paragon Electric Co Inc, Carol Stream, IL www.icca.invensys.com/paragon or Paragon Electric, Mississauga, ON (800) 951-5526 or (905) 890-5956.
 - m. Pass & Seymour, Syracuse, NY www.passandseymour.com or Pass & Seymour Canada Inc, Concord, ON (905) 738-9195.
 - n. Philips Lighting Co, Somerset, NJ www.lighting.philips.com/nam or Philips Lighting Canada, Scarborough, ON (416) 292-3000.
 - o. Red Dot div of Thomas & Betts, Memphis, TN www.tnbcom.
 - p. Schneider Electric North America, Palatine, IL www.schneider-electric.com (847) 397-2600.
 - q. Sensorswitch, Wallingford, CT www.sensorswitch.com.
 - r. Siemon Company, Watertown, CT www.siemon.com.
 - s. Square D Co, Palatine, IL www.squared.com.
 - t. Suttle, Hector, MN www.suttleonline.com.
 - u. Tork Inc, Mount Vernon, NY www.tork.com.
 - v. Watt Stopper Inc, Santa Clara, CA www.wattstopper.com.
 - 2. Product Options:
 - a. Faces shall be nylon where available.
 - b. Devices of single type shall be from same Manufacturer.
 - c. Devices are listed as white. Use white devices on light colored walls, brown on dark colored walls, and black on black walls.
- B. Switches:
 - a. Standard Style:

- 1) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
 - a) 20 AMP, single pole:
 - b) Cooper: 2221V.
 - c) Hubbell: HBL1221-I.
 - d) Pass & Seymour: 20AC1-I.
 - e) Leviton: 1221-2I.
- 2) Two Pole:
 - a) Cooper: 2222V.
 - b) Hubbell: HBL1222-I.
 - c) Pass & Seymour: 20AC2-I.
 - d) Leviton: 1222-2I.
- 3) Three Way:
 - a) Cooper: 2223V.
 - b) Hubbell: HBL1223-I.
 - c) Pass & Seymour: 20AC3-I.
 - d) Leviton: 1223-2I.
- 4) Four Way:
 - a) Cooper: 2224V.
 - b) Hubbell: HBL1224-I.
 - c) Pass & Seymour: 20AC4-I.
 - d) Leviton: 1224-2I.
- 5) Pilot Switch:
 - a) Hubbell: HBL1221-PL.
 - b) Pass & Seymour: 20AC1-RPL.
- 6) Leviton: 1221-PLR.

C. Plates:

1. Standard Cover Plates:
 - a. Office / Occupied Areas:
 - 1) Nylon or high impact resistant thermoplastic.
 - 2) Color shall match wiring device.
 - b. All Other: Steel.
 - c. Ganged switches shall have gang plates.
 - d. Category Four Approved Manufacturers. See Section 01 6200 for definitions of Categories:
 - 1) Cooper.
 - 2) Hubbell.
 - 3) Leviton.
 - 4) Pass & Seymour.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install devices flush with walls, straight, and solid to box.

END OF SECTION

SECTION 26 5200**EMERGENCY LIGHTING****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and install emergency battery units as described in Contract Documents.
- B. Related Requirements:
 - 1. Section 26 0501: 'Common Electrical Requirements'.

PART 2 - PRODUCTS**2.1 SYSTEMS**

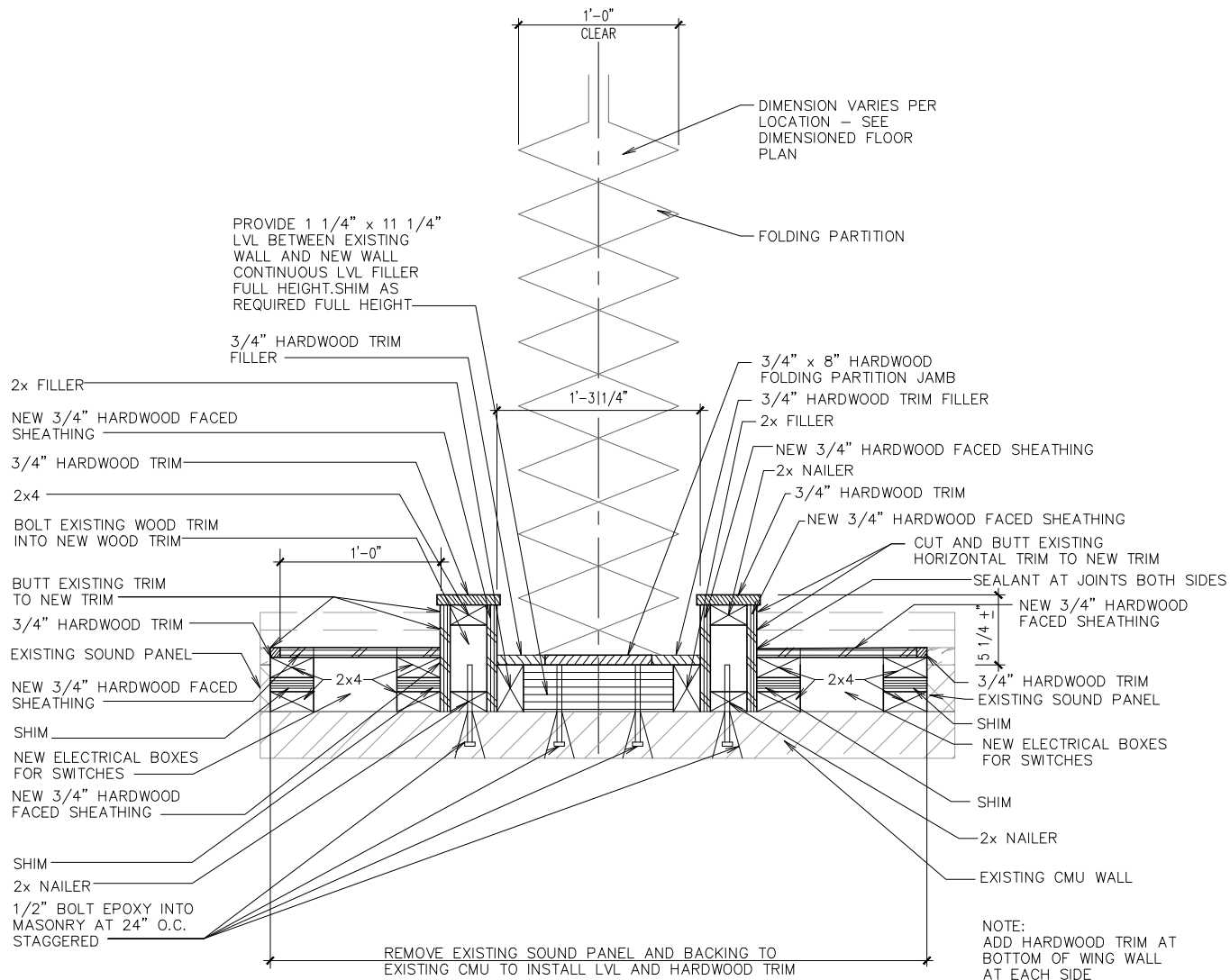
- A. Manufacturers:
 - 1. Manufacturer Contact List:
 - a. Beghelli, Miramar, FL www.beghelliusa.com.
 - b. Bodine Emergency Lighting, Collierville, TN www.bodine.com
 - c. Dual-Lite, Cheshire, CT www.dual-lite.com.
 - d. Iota Engineering Co, Tucson, AZ www.iotaengineering.com
 - e. Lightolier, Fall River, MA www.lightolier.com.
 - f. Lithonia Lighting, Conyers, GA www.lithonia.com.
 - g. McPhilben / Day-Brite Lighting, Tupelo, MS www.mcphilben.com.
 - h. Sure-Lites / Cooper Lighting, Elk Grove, IL www.cooperlighting.com.
- B. Materials:
 - 1. Fluorescent Battery Packs:
 - a. Design Criteria:
 - 1) Batteries shall be long life nickel cadmium type.
 - 2) Complete with charging indicator light and test switch.
 - 3) Components shall be fully concealed and easily accessible for maintenance or replacement.
 - 4) Factory installed in lighting fixture, or field installed to same standards.
 - b. Linear Fluorescent Lighting Fixtures:
 - 1) Battery pack shall operate one (1) lamp at approximately 600 lumens initially and 60 percent minimum of initial lumens after ninety (90) minutes.
 - 2) Charger shall be capable of full recharge in twenty four (24) hours.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Battery Packs:
 - 1. General:
 - a. Wire so unit can be tested with lights on.
 - b. Wire so lamps in normal mode are switched off with other lighting in area. Connect unit to unswitched conductor of normal lighting circuit.
 - 2. Linear Fluorescent Lighting Fixtures:

- a. Install in ballast channel of fixture with charging indicator light and test switch mounted on fixture end, or visible and accessible through lens.

END OF SECTION

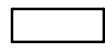























(B) JAMB DETAIL
1 1/2" = 1'-0"

ADDENDUM DRAWING NO. 1
DAVIS 2,3 ASHLEY CREEK DOORS 12 JUNE 2018

ELECTRICAL SYMBOLS

NOTE: ALL SYMBOLS MAY NOT BE USED

-  FLUORESCENT FIXTURE (TYP.)
-  FLUORESCENT FIXT. WITH EMERGENCY LIGHTING UNIT
-  CEILING MOUNTED EXIT SIGN
-  WALL MOUNTED EXIT SIGN (SINGLE FACE)
-  WALL MOUNTED EXIT SIGN (DOUBLE FACE)
-  FIXTURE SYMBOL
-  SINGLE POLE SWITCH
-  3-WAY SWITCH
-  4-WAY SWITCH
-  DIMMER SWITCH
-  SIGNAL CHIME TIME CLOCK/PROGRAMMER
-  JUNCTION BOX
-  DUPLEX RECEPTACLE OUTLET
-  CHIME
-  DATA OUTLET
-  TELEPHONE OUTLET
-  TELEPHONE AND DATA OUTLET IN THE SAME BOX
-  OCCUPANCY SENSOR--WALL MOUNT DUAL TECHNOLOGY
-  ROOM NUMBER
-  BRANCH CIRCUIT CONCEALED IN CEILING, WALL OR FLOOR
-  BRANCH CIRCUIT HOMERUN TO PANEL
-  CROSS LINES INDICATE NUMBER OF CONDUCTORS IF MORE THAN TWO

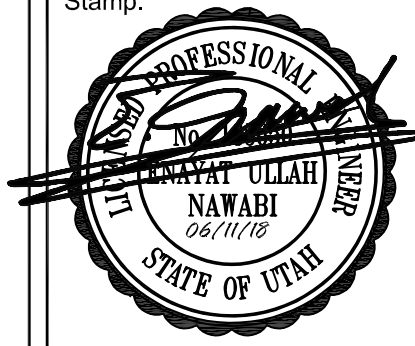
GENERAL NOTES:

1. ALL MATERIALS TO BE REMOVED AND RETURNED TO THE OWNER. MATERIALS WHICH THE OWNER DECIDES NOT TO KEEP SHALL BE SALVAGED AND REMOVED FROM THE SITE BY THE CONTRACTOR.
2. ALL CONCEALED CONDUIT THAT CANNOT BE REMOVED SHALL BE CUT FLUSH WITH THE FINISH SURFACES AND CAPPED OFF AFTER THE WIRING HAS BEEN DISCONNECTED AT THE PANEL AND REMOVED FROM THE CONDUIT.
3. IN AREAS WHERE CIRCUIT CONTINUITY IS INTERRUPTED, BUT MUST BE MAINTAINED TO THE DEVICES WHICH ARE TO REMAIN, MAKE ALL THE NECESSARY MODIFICATIONS TO THE CIRCUITS IN ORDER TO MAINTAIN THE CIRCUIT INTEGRITY.
4. THE CONTRACTOR SHALL PATCH THE WALLS AND CEILINGS WHERE THE DEVICES ARE REMOVED TO MATCH THE EXISTING WALLS AND CEILINGS. COORDINATE WITH GENERAL CONTRACTOR.
5. THE COLOR OF ALL THE NEW DEVICES AND COVERPLATES SHALL MATCH THE COLOR OF THE EXISTING DEVICES AND COVERPLATES.
6. PRIOR TO SUBMITTING A BID THE ELECTRICAL CONTRACTOR SHALL INSPECT THE SITE AND INCLUDE IN HIS BID PACKAGE ALL CHARGES DUE TO EXISTING CONDITIONS. SHOP DRAWINGS ARE REQUIRED. ALL LABOR, MATERIAL AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF 1 YEAR FROM THE DATE OF ACCEPTANCE BY THE TENANT. REPLACE OR REPAIR ALL DEFECTS DURING THE GUARANTEED PERIOD.
7. THE CONTRACTOR SHALL INFORM THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES FOUND BETWEEN THE INTENDED FUNCTION OF EQUIPMENT AND EQUIPMENT SPECIFIED IN THE CONTRACT DOCUMENTS A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ISSUANCE OF THE FINAL BID. FAILURE TO REPORT ANY DISCREPANCY (CATALOG NUMBERS, DISCONTINUED ITEMS, ETC.) DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING EQUIPMENT WHICH SHALL CONFORM TO AND FULFILL THE INTENT OF THE CONTRACT DOCUMENTS. NOR SHALL IT BE USED AS A CONDITION TO OBTAIN ADDITIONAL FUNDS FROM THE OWNER AFTER THE CONTRACT IS AWARDED. THE CONTRACTOR SHALL REQUEST ALL CLARIFICATIONS OF CONTRACT DOCUMENT REQUIREMENTS IN WRITING TO THE ARCHITECT/ENGINEER A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ISSUANCE OF THE FINAL ADDENDUM.
8. MINIMUM SIZE OF CONDUIT TO BE 1/2". ALUMINUM CONDUITS SHALL NOT BE USED.
9. USE RIGID STEEL SET SCREW TYPE FITTINGS ONLY. DIE CAST FITTINGS SHALL NOT BE USED.
10. RUN A NEUTRAL CONDUCTOR FOR EACH PHASE CONDUCTOR (EACH CIRCUIT) IN A CONDUIT. NOT MORE THAN THREE (3) CIRCUITS IN A CONDUIT. THREE (3) PHASE CONDUCTORS, THREE (3) NEUTRAL CONDUCTORS (ONE FOR EACH PHASE) AND ONE (1) GROUND CONDUCTOR FOR A TOTAL OF SEVEN (7) CONDUCTORS.
11. THE MINIMUM SIZE OF THE CONDUCTORS ARE TO BE #12 AWG THIN COPPER, UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
12. AT THE END OF THE JOB, PROVIDE BLANK COVER PLATES TO MATCH THE OTHER COVER PLATES FOR ALL J-BOXES WHERE DEVICES HAVE NOT YET BEEN INSTALLED.
13. SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND CEILINGS WITH FIRE RATED MATERIAL. 3M IS AN APPROVED MANUFACTURER.
14. ALL ELECTRICAL WIRING MUST BE IN CONDUIT (ROMEX AND MC CABLE NOT PERMITTED).
15. FLEXIBLE CONDUITS CAN ONLY BE USED FOR SHORT RUNS (6' MAXIMUM).
16. NO CONDUITS SHALL RUN IN DUCT WORK.
17. LIGHT SWITCHES INSTALLED ADJACENT TO EACH OTHER, SHALL BE GANGED TOGETHER WITH ONE PIECE COVERPLATE.
18. INSTALL LIGHT SWITCHES AS CLOSE AS POSSIBLE TO THE DOOR. COORDINATE EXACT LOCATION OF LIGHT SWITCHES WITH ARCHITECT.
19. USE EPOXY ANCHORS TO SUPPORT THE ELECTRICAL EQUIPMENT. EXPANSION ANCHOR BOLTS ARE NOT ACCEPTED.
20. PROVIDE UPDATED, TYPED WRITTEN, PANEL SCHEDULES FOR NEW AND EXISTING PANELBOARDS SHOWING CIRCUIT CHANGES MADE DURING THIS PROJECT.
21. ALL NEW WORK MUST MEET THE CURRENT ADOPTED NATIONAL ELECTRICAL CODE.
22. ALL MATERIALS USED IN THIS INSTALLATION SHALL BE U.L. APPROVED AND NEW.
23. TEMPORARY ELECTRICAL SERVICE IS TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND REMOVED BY THE ELECTRICAL CONTRACTOR.
24. DETAILS ARE SHOWN ON DIFFERENT SHEETS. THE CONTRACTOR SHALL REFER TO THOSE DETAILS WHETHER OR NOT CALLED IN REFERENCE NOTES.
25. CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE OVER SHOP DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE.
26. ALL J-BOX FEEDING RECESSED LIGHT FIXTURE IN GYP. BOARD CEILING SHALL BE LOCATED WITHIN 8" FROM LIGHT FIXTURE OPENING.

Architect / Engineer:

KNELL ARCHITECTS, P.C.
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PHONE: (800) 372-6624 FAX: (800) 377-1061

Stamp:



DAVIS 2, 3,
ASHLEY CREEK DOORS
4080 SOUTH 2500 EAST
VERNAL, UTAH

Project for:
THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

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Project Number:
527462118030101
Plan Series:
R & I CULTURAL HALL
FOLDING DOOR
Property Number:
527462118030101

Sheet Title:
SYMBOL LIST
GENERAL
NOTES

Sheet:
EE100

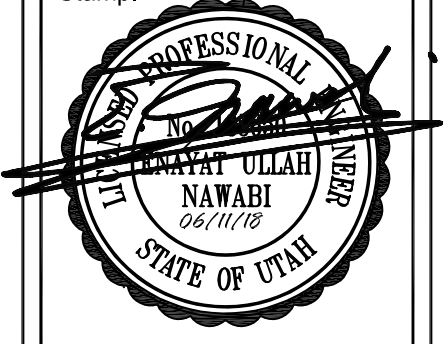
REFERENCE NOTES:

- ① EXISTING LIGHT SWITCHES SHALL REMAIN, MODIFY LIGHTING CIRCUITS AND SWITCHING PER NEW PLANS.
- ② EACH 2X4 LIGHT THAT IN EACH LOCATION, ARE EQUIPPED WITH FOUR FLUORESCENT LAMPS (EACH CLUSTER CONTAINS TWO (2) 2X4 LIGHT FIXTURES), EACH 2X4 IN THE CLUSTER ARE SWITCHED SEPARATELY AS SHOWN AND TIED TO THE ASSIGNED SINGLE POLES, 3-WAYS AND 4-WAYS LIGHT SWITCHES AS SHOWN. CONTRACTOR SHALL FIELD VERIFY EXACT SWITCH LOCATIONS DURING THIS RENOVATION THAT WHICH SWITCHES ARE 3-WAYS AND 4-WAYS. DURING THIS RENOVATION IT IS REQUIRE TO SEPARATE LIGHTING CONTROL OF EACH SIDE OF THE NEW PARTITION TO BE OPERATED INDEPENDENT OF THE OTHER SIDE.

Architect / Engineer:

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Stamp:



**DAVIS 2, 3,
 ASHLEY CREEK DOORS**

4080 SOUTH 2500 EAST
 VERNAL, UTAH

Project for:

**THE CHURCH OF
 JESUS CHRIST
 OF LATTER-DAY SAINTS**

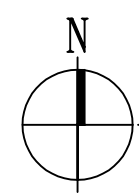
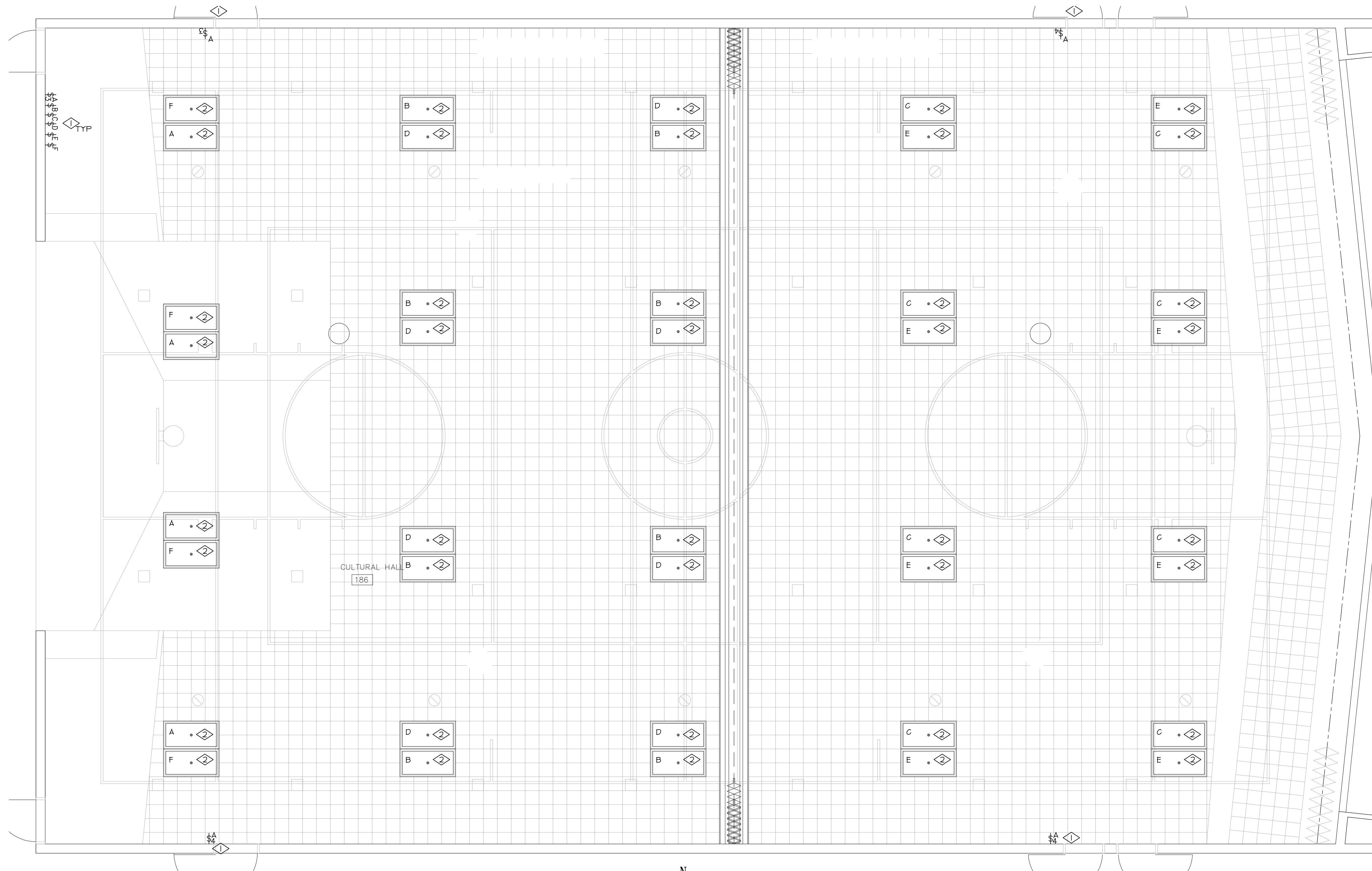
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 527462118030101
 Plan Series:
 R & I CULTURAL HALL
 FOLDING DOOR
 Property Number:
 527462118030101

Sheet Title:
**DEMO PLAN -
 ELECTRICAL**

Sheet:

ED101

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DEMOLITION LIGHTING PLAN
 SCALE: 1/4" = 1'-0"

