



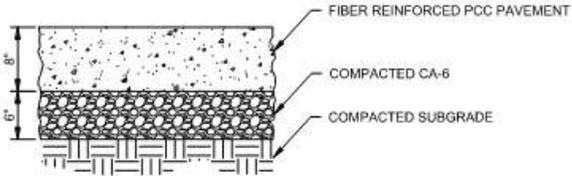
# ADDENDUM NO. 1

<b>Agency Name:</b>	Champaign County
<b>Project Name:</b>	<b>Champaign County Courthouse Parking Access</b>
<b>Project Location:</b>	101 E. Main Street, Urbana, IL 61801
<b>Project Number:</b>	ITB: 2023-04      BE: 23020
<b>To:</b>	All Plan Holders
<b>From:</b>	Bailey Edward Design
<b>Issue Date:</b>	08.24.2023

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated July 11, 2023 and any subsequent addenda. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

**Project Manual:**

1. **Change**, refer to Specification Section 00 41 13 - Bid Form. The following alternates are being considered for the project. A modified Bid Form is attached.
  - a. Alternate #1: Provide all labor, materials, and equipment to install a seal coat on the existing asphalt parking lot prior to the installation of the striping.
  - b. Alternate #2: Provide all labor, materials, and equipment to install concrete apron at the south entry in lieu of the asphalt mill and replacement identified in base bid. The concrete section shall be as shown below.



- NOTES:**
1. CONCRETE SHALL BE A SIX (6) BAG MIX, WITH 5-7% AIR ENTRAINMENT, PER I.D.O.T. STANDARDS
  2. SEE SPECIFICATIONS FOR MORE INFORMATION
  3. FIBER REINFORCEMENT DOSAGE RATES:
    - MACRO = 4LB/CY
    - AND
    - MICRO = 1LB/CY

**CONCRETE PAVEMENT**  
SCALE: 1" = 1'

**Drawings:**

2. **Add**, refer to Sheet G100. Please add the Electrical Sheets E100 Specifications and E101 Overall Electrical Plan to the Sheet Index. Drawings are attached.

**End of Addendum 1**

SECTION 00 41 13 – BID FORM – STIPULATED SUM (SINGE-PRIME CONTRACT)

1.1 BID INFORMATION

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Champaign County Courthouse Parking Access Control
- C. Project Location: 102 E. Main Street, Urbana, Illinois 61801
- D. Owner: Champaign County

1.2 CERTIFICATIONS AND BID

A. **Base Bid, Single-Prime (All Trades) Contract:** The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Bailey Edward Design, Inc., 1103 S. Mattis Avenue, Champaign, IL 61821, and their consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

\_\_\_\_\_ Dollars  
 (\$ \_\_\_\_\_)

B. Alternates

1. **Alternate No. 1: Seal Coat at Entire East Parking.** Provide all labor, materials, and equipment to install a seal coat on the existing asphalt parking lot prior to the installation of the striping. Bidder agrees to furnish for the sum of:

\_\_\_\_\_ Dollars  
 (\$ \_\_\_\_\_)    \_\_\_ Addition    \_\_\_ Deduction

2. **Alternate No. 2: Concrete apron at South Entry.** Provide all labor, materials, and equipment to install concrete apron at the south entry in lieu of the asphalt mill and replacement identified in base bid. Bidder agrees to furnish for the sum of:

\_\_\_\_\_ Dollars  
 (\$ \_\_\_\_\_)    \_\_\_ Addition    \_\_\_ Deduction

1.3 TIME OF COMPLETION

A. Provided the contractor receives Notice to Proceed on or prior to September 22, 2023 the bidder agrees to be substantially complete with the Base Bid work on or before December 26, 2023.

1.4 ACKNOWLEDGEMENT OF ADDENDA

A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

- 1. Addendum No. 1, dated \_\_\_\_\_.
- 2. Addendum No. 2, dated \_\_\_\_\_.

1.5 SUBMISSION OF BID

A. In submitting the Bid, the undersigned agree that this Proposal will not be withdrawn for a period of thirty (30) calendar days from the date of submission. It is understood the Owner reserves the right to reject any and all Bids and to waive informalities and irregularities.

- 1. Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 2023.
- 2. Submitted By : \_\_\_\_\_  
(Name of bidding firm or corporation).
- 3. Authorized Signature : \_\_\_\_\_  
(Handwritten signature).
- 4. Signed By : \_\_\_\_\_  
(Type or print name).
- 5. Title : \_\_\_\_\_  
(Owner/Partner/President/Vice President).
- 6. Witness By : \_\_\_\_\_  
(Handwritten signature).
- 7. Attest : \_\_\_\_\_  
(Handwritten signature).
- 8. By : \_\_\_\_\_  
(Type or print name).
- 9. Title : \_\_\_\_\_  
(Corporate Secretary or Assistant Secretary).
- 10. Street Address: \_\_\_\_\_.
- 11. City, State, Zip: \_\_\_\_\_.
- 12. Phone: \_\_\_\_\_.
- 13. License No.: \_\_\_\_\_.
- 14. Federal ID No. : \_\_\_\_\_.

(Affix Corporate Seal Here).

COMMON WORK RESULTS FOR ELECTRICAL

INSPECTION OF BID DOCUMENTS AND PREMISES

- A. VISIT THE PREMISES, TAKE MEASUREMENTS AND VERIFY ALL ELEVATIONS SHOWN ON THE DRAWINGS, INSPECT EXISTING CONDITIONS AND LIMITATIONS, OBTAIN FIRSTHAND INFORMATION NECESSARY TO SUBMIT A COMPLETE BID.
B. THOROUGHLY EXAMINE THE COMPLETE SET OF CONTRACT DOCUMENTS INCLUDING WORK REQUIRED BY OTHER TRADES. BIDDERS ARE CAUTIONED TO ACQUAINT THEMSELVES WITH REQUIREMENTS NECESSITATING INSTALLATION WORK OF MATERIAL OR EQUIPMENT FURNISHED BY OTHER CONTRACTORS OR THE OWNER.

COORDINATION

- A. COORDINATE ARRANGEMENT, MOUNTING, AND SUPPORT OF ELECTRICAL EQUIPMENT:
1. TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS THAT REDUCE HEADROOM ARE INDICATED.
2. TO PROVIDE FOR EASE OF DISCONNECTING THE EQUIPMENT WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS.
3. TO ALLOW RIGHT OF WAY FOR PIPING AND CONDUIT INSTALLED AT REQUIRED SLOPE.
4. SO CONNECTING RACEWAYS, CABLES, WIRERAYS, CABLE TRAYS, AND BUSWAYS WILL BE CLEAR OF OBSTRUCTIONS AND OF THE WORKING AND ACCESS SPACE OF OTHER EQUIPMENT.
B. COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN CAST-IN-PLACE CONCRETE, MASONRY WALLS, AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED.

INTERFERENCE OF ELECTRICAL SYSTEMS AND SERVICES

- A. DO NOT INTERRUPT ELECTRIC SYSTEMS OR SERVICE TO FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN ONLY AFTER ARRANGING TO PROVIDE TEMPORARY ELECTRIC SERVICE ACCORDING TO REQUIREMENTS INDICATED:

COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. MEASURE INDICATED MOUNTING HEIGHTS TO BOTTOM OF UNIT FOR SUSPENDED ITEMS AND TO CENTER OF UNIT FOR WALL-MOUNTING ITEMS.
B. HEADROOM MAINTENANCE: IF MOUNTING HEIGHTS OR OTHER LOCATION CRITERIA ARE NOT INDICATED, ARRANGE AND INSTALL COMPONENTS AND EQUIPMENT TO PROVIDE MAXIMUM POSSIBLE HEADROOM CONSISTENT WITH THESE REQUIREMENTS.
C. EQUIPMENT: INSTALL TO FACILITATE SERVICE, MAINTENANCE AND REPAIR OR REPLACEMENT OF COMPONENTS OF BOTH ELECTRICAL EQUIPMENT AND OTHER NEARBY INSTALLATIONS. CONNECT IN SUCH A WAY AS TO FACILITATE FUTURE DISCONNECTING WITH MINIMUM INTERFERENCE WITH OTHER ITEMS IN THE VICINITY.
D. SPACE PREFERENCE:
1. CAREFULLY VERIFY AND COORDINATE THE LOCATION AND LEVEL OF ALL LINES. RUN PRELIMINARY LEVELS AND CHECK WITH ALL OTHER CONTRACTORS SO THAT CONFLICT IN LOCATION MAY BE AVOIDED.
2. IF CONFLICTS OCCUR, THE FOLLOWING PREFERENCE SCHEDULE SHALL BE FOLLOWED:
a. RECESSED ELECTRIC FIXTURES
b. HIGH PRESSURE DUCTWORK
c. SANITARY DRAINAGE
d. STEAM CONDENSATE, HOT AND CHILLED WATER
e. LOW PRESSURE DUCTWORK
f. DOMESTIC WATER SYSTEM AND VENT LINES
g. AND ELECTRIC CONDUITS
3. NO OTHER WORK SHALL HAVE PREFERENCE OVER PLUMBING LINES BELOW FIXTURES.
4. NO OTHER WORK SHALL HAVE PREFERENCE OVER CONDUIT ABOVE OR BELOW ELECTRIC SWITCHGEAR AND ABOVE OR BELOW PANELS.
5. NO PIPING CONVEYING FLUIDS SHALL BE PROVIDED DIRECTLY OVER ELECTRICAL OR ELEVATOR EQUIPMENT.
E. LINES AND LEVELS: DETERMINE ALL GRADES, MAINTAIN NECESSARY LINES AND LEVELS THROUGHOUT THE PROGRESS OF THE WORK AND ASSUME FULL RESPONSIBILITY FOR THEIR CORRECTNESS. WHERE LEVELS ARE INDICATED ON THE DRAWINGS, WORK SHALL BE INSTALLED AT THOSE LEVELS UNLESS PRIOR WRITTEN APPROVAL TO CHANGE IS OBTAINED FROM THE ARCHITECT / ENGINEER.
F. LOCATION OF EQUIPMENT: THE APPROXIMATE LOCATION OF ALL EQUIPMENT IS SHOWN ON THE DRAWINGS. THE ARCHITECT / ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION OF ALL EQUIPMENT IN ANY DIRECTION WITHOUT THESE CHANGES BEING MADE THE SUBJECT OF AN EXTRA CHARGE PROVIDED SUCH CHANGES ARE MADE BEFORE FINAL INSTALLATION.

CUTTING AND PATCHING

- A. EXAMINE ARCHITECTURAL AND STRUCTURAL DRAWINGS TO DETERMINE THE GENERAL NATURE OF THE TYPES OF CONSTRUCTION TO BE ENCOUNTERED DURING PERFORMANCE OF ELECTRICAL WORK.
B. ALL CUTTING AND PATCHING OF MASONRY, CARPENTRY, STEEL, IRON WORK, CONCRETE STRUCTURAL WORK, AND FINISHED SURFACES BELONGING TO THE BUILDING SHALL BE DONE IN ORDER THAT WORK MAY BE PROPERLY INSTALLED. REPLACE OR REPAIR ALL DISTURBED CONSTRUCTIONS OR FINISHES TO ITS ORIGINAL CONDITION AND UNDER NO CONDITION CUT STRUCTURAL WORK EXCEPT UPON APPROVAL OF THE ARCHITECT / ENGINEER.
C. CUT THROUGH CEILINGS, FLOORS, WALLS AND PARTITIONS IN A CAREFUL MANNER AND FILL THE OPENINGS AROUND THE PIPES AND SLEEVES.
D. CAREFULLY COORDINATE LOCATIONS OF OPENINGS AND SLEEVES TO AVOID CONFLICT WITH OTHER TRADES. FURNISH COMPLETE INFORMATION CONCERNING LOCATIONS AND SIZES OF OPENINGS TO OTHER TRADES IN SUFFICIENT TIME FOR INCLUSION ON THEIR SHOP DRAWINGS. EMPLOY CRAFTSMEN AND MECHANICS WHO ARE SKILLED AND EXPERIENCED IN THEIR RESPECTIVE TRADES TO PERFORM ALL CUTTING, FITTING, MATCHING, PATCH REPAIRING, AND FINISHING WORK REQUIRED FOR INSTALLATION OF ELECTRICAL WORK.
F. PERFORM CUTTING TO NEAT LINE, IN A MANNER THAT WILL NOT WEAKEN THE WALL, PARTITION, OR FLOOR BEING CUT. CUT HOLES IN FLOORS TO NEAT LINE. PERFORM DRILLING IN A MANNER THAT WILL NOT CAUSE BREAKING OF FLOOR AROUND THE DRILLED HOLE.
G. GENERAL CONTRACTOR SHALL PATCH, REPAIR AND UNIFY ALL WORK AND MATERIAL THAT IS CUT.

OPENINGS IN EXISTING CONSTRUCTION

- A. IN EXISTING CONSTRUCTION, PERFORM ALL CUTTING AND PATCHING WHERE REQUIRED IN CONNECTION WITH THE WORK. MATCH PATCHING TO EXISTING ADJACENT SURFACES.
B. ALL CUTTING IN EXISTING STRUCTURAL ELEMENTS OF BUILDING SHALL BE ACCOMPLISHED WITH HOLE SAWS. AIR HAMMERS AND CUTTING TORCHES ARE NOT PERMITTED.
C. REINFORCED CONCRETE SLABS, STEEL JOISTS, CONCRETE FLOORS AND FOOTINGS, OR OTHER STRUCTURAL WORK SHALL NOT BE CUT OR DISTURBED IN ANY WAY, UNLESS AS APPROVED BY THE ARCHITECT / ENGINEER. THE ELECTRICAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR AND CORRECT ALL DAMAGE THAT HE MAY CAUSE.
D. OPENINGS BETWEEN CONDUIT AND FLOORS OR WALLS THROUGH FIRE OR SMOKE BARRIERS SHALL BE CLOSED WITH FIRE STOP MATERIAL TO MAINTAIN FIRE OR SMOKE BARRIER RATING.

FIELD CORRECTIONS AND CHANGES

- A. CAREFULLY AND ACCURATELY RECORD ON FIELD SET OF DRAWINGS, ANY DEVIATIONS OR CHANGES IN LOCATIONS OF CONDUIT, WIRING AND/OR EQUIPMENT MADE IN THE FIELD AND SHALL KEEP THE ARCHITECT / ENGINEER INFORMED ON ALL DEVIATIONS AND CHANGES.
B. AT THE COMPLETION OF THE JOB, FURNISH THE ARCHITECT / ENGINEER THREE (3) COMPLETE SETS (NOT THE FIELD SET) OF DRAWINGS INDICATING THESE DEVIATIONS OR CHANGES. EXTRA SETS OF DRAWINGS WILL BE PROVIDED TO THE CONTRACTOR FOR THIS PURPOSE. ANY CHANGES IN THE EXTERIOR WORK SHALL BE RECORDED BY DIMENSION.

OPERATION AND MAINTENANCE INSTRUCTIONS

- A. BEFORE FINAL ACCEPTANCE OF THE ELECTRICAL INSTALLATION, PROVIDE TO THE ARCHITECT / ENGINEER THREE (3) BOUND COPIES OF A COMPLETE SET OF OPERATING AND MAINTENANCE INSTRUCTIONS AND PROCEDURES FOR ALL ELECTRICAL SYSTEMS AND EQUIPMENT FURNISHED UNDER THIS CONTRACT.
B. PREPARE A COMPLETE FILE OF MAINTENANCE AND OPERATING INSTRUCTIONS WHICH COVERS ALL ELECTRICAL SYSTEMS AND EQUIPMENT LISTED IN THE SECTION ENTITLED "SUBMITTALS". DATA SHALL BE PLACED IN AN 8-1/2" X 11" SLIDE HINGE, HEAVY DUTY, THREE-POST TYPE, STIFF COVER BINDER. EACH COMPLETED BINDER SHALL NOT EXCEED 3-1/2" IN THICKNESS. DATA SHALL INCLUDE A COMPLETE TABLE OF CONTENTS, TABS, FINAL APPROVED SHOP DRAWINGS, WIRING DIAGRAMS, MANUFACTURER'S OPERATING AND MAINTENANCE INSTRUCTIONS, CATALOG BROCHURE INFORMATION, REPLACEMENT PARTS LISTS, NAME, ADDRESS, AND TELEPHONE NUMBER OF NEAREST STOCKING SUPPLY HOUSE.
E. DRAWINGS SHALL BE NEATLY FOLDED TO APPROXIMATELY 8-1/2" X 11" SIZE AND INSERTED INDIVIDUALLY INTO 8-1/2" X 11" SHEET PROTECTORS WHICH SHALL BE PROPERLY PUNCHED AND INSERTED INTO THE BINDER.
F. ALL MATERIAL RELATIVE TO THE EQUIPMENT FOR ONE SYSTEM (LIGHTING FIXTURES, PANELBOARDS, MOTOR STARTING EQUIPMENT, ETC.) SHALL BE FILED BEHIND A CLEARLY LABELED FILING TAB. THE FOLLOWING INFORMATION SHALL BE TYPED ON THE FILING TAB PAGE: ITEM, MANUFACTURER, CONTRACTOR'S ORDER NUMBER, SUPPLIER'S ORDER NUMBER, MANUFACTURER'S ORDER NUMBER.
G. THREE COMPLETED FILES SHALL BE SUBMITTED FOR REVIEW PRIOR TO JOB COMPLETION. FINAL PAYMENTS WILL NOT BE CERTIFIED UNTIL THE MAINTENANCE MANUALS HAVE BEEN RECEIVED AND REVIEWED.
H. AUTHORIZED MANUFACTURER'S PERSONNEL SHALL INSTRUCT (TO THE OWNER'S SATISFACTION) ALL PERSONNEL DESIGNATED BY THE OWNER IN THE USE OF EQUIPMENT AND SYSTEMS AS LISTED IN THE SECTION ENTITLED "SUBMITTALS".
I. PROVIDE A MINIMUM OF TWO-MAN DAYS IN TWO TRIPS TO THE JOB BEFORE THE JOB IS ACCEPTED FOR THE INSTRUCTION AND TRAINING OF THE OWNER'S REPRESENTATIVE IN THE OPERATION AND MAINTENANCE OF THE COMPLETE ELECTRICAL SYSTEM.
J. THE ABOVE DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY OF MAKING SERVICE CALLS DUE TO ANY DEFECT WHICH MAY DEVELOP WITH SYSTEMS OR EQUIPMENT DURING THE GUARANTEE PERIOD, NOR SHALL THESE SERVICE CALLS BE INCLUDED AS PART OF INSTRUCTION TIME. SPECIFIC REQUIREMENTS IN SPECIFICATIONS FOR FACTOR SERVICE REPRESENTATIVES IS ALSO IN ADDITION TO ABOVE REQUIREMENTS.

CLEANING UP

- A. BEFORE WORK CAN BE CONSIDERED COMPLETE, CLEAN ALL SURFACES OF ALL PAINT, PLASTER, MORTAR, LABELS AND OTHER STAINS AND REMOVE ALL LUMPS OF CEMENT. TAKE CARE NOT TO SCRATCH, MAR, OR DAMAGED SURFACES IN CLEANING.
B. IN CASE OF DISPUTE, THE OWNER / USER MAY REMOVE THE RUBBISH AND CHARGE THE COST TO THE ONE OR MORE CONTRACTORS AS THE ARCHITECT / ENGINEER MAY DETERMINE TO BE JUST.

TOUCH-UP PAINTING

- A. ALL FACTORY APPLIED PAINT FINISHES ON ALL ELECTRICAL ITEMS, EQUIPMENT, PANELBOARDS, SWITCHBOARDS, FIRE ALARM DEVICES, ETC., THAT IS SCRATCHED OR DAMAGED SHALL BE TOUCHED UP WITH RUST INHIBITIVE PAINT TO MATCH FACTORY APPLIED PAINT.

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

CONDUCTORS AND CABLES

- A. MANUFACTURERS:
1. GENERAL CABLE
2. SENATOR WIRE & CABLE COMPANY
3. SOUTHWIRE COMPANY
4. NEXANS.
B. COPPER CONDUCTORS: COMPLY WITH NEMA WC 70/CEA 5-95-658.
C. CONDUCTOR INSULATION: COMPLY WITH NEMA WC 70/CEA 5-95-658 FOR TYPE THN/THHN-2.

CONNECTOR AND SPLICES

- A. MANUFACTURERS
a. 3M
b. HUBBELL POWER SYSTEMS, INC.
c. ILSCO
d. OR TYCO ELECTRONICS CORP.
B. DESCRIPTION: FACTORY-FABRICATED CONNECTORS AND SPLICES OF SIZE, AMPACITY RATING, MATERIAL, TYPE, AND CLASS FOR APPLICATION AND SERVICE INDICATED.
a. EXPANDABLE STEEL SPRING AND POLYPROPYLENE BODY TYPE CONNECTORS AND WIRE NUTS FOR WIRE SIZES UP TO AN INCLUDING NO. 10 AWG.
b. BOLT TYPE CONNECTORS OR MECHANICAL COMPRESSION CRIMP TYPE FOR WIRE SIZES NO. 8 AWG AND LARGER. COVER CONNECTORS WITH THREE LAYERS OF 600 VOLT TAPE OR HEAT SHRINKABLE INSULATION EQUIVALENT TO 150% CONDUCTOR INSULATION.

CONDUCTOR MATERIAL APPLICATIONS

- A. BRANCH CIRCUITS: COPPER, SOLID FOR NO. 10 AWG AND SMALLER; STRANDED FOR NO. 8 AWG AND LARGER, EXCEPT VFC CABLE, WHICH SHALL BE EXTRA FLEXIBLE STRANDED.

CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. BRANCH CIRCUITS CONCEALED IN CEILINGS, WALLS, AND PARTITIONS: TYPE THN/THHN-2, SINGLE CONDUCTORS IN RACEWAY.
B. MINIMUM WIRE SIZE SHALL BE NO. 12 EXCEPT FOR INTERNAL FIXTURE WIRE WHICH SHALL BE MINIMUM SIZE OF NO. 14 TYPE SF, SFF, PF, PFF OR TN, 600 VOLT.
C. ALL BRANCH CIRCUIT WIRING AND FEEDER CABLES FOR CIRCUITS OVER 20 AMPS SHALL BE SIZED AS NOTED ON THE DRAWINGS. IF SIZE IS NOT SPECIFICALLY NOTED, SIZE ALL BRANCH CIRCUIT WIRING AND FEEDER CABLES IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

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 DEGRADATE CONDUCTOR OR INSULATION. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM PULLING TENSIONS AND SIDEWALL PRESSURE VALUES.
C. USE PULLING MEANS, INCLUDING FISH TAPE, CABLE, ROPE, AND BASKET-WEAVE WIRE/CABLE GRIPS, THAT WILL NOT DAMAGE CABLES OR RACEWAY.

INSTALLATION OF CONNECTIONS

- A. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A-486B.
B. MAKE SPLICES, TERMINATIONS, AND TAPS THAT ARE COMPATIBLE WITH CONDUCTOR MATERIAL AND THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN UNSPLICED CONDUCTORS.
C. SPLICES AND TAPS IN CONDUCTORS SHALL BE AS FEW IN NUMBER AS PRACTICABLE.
D. SPLICES AND TAPS SHALL BE SO MADE THAT THEY HAVE AN ELECTRICAL RESISTANCE NOT IN EXCESS OF THAT OF 2' OF THE CONDUCTOR.
1. USE OXIDE INHIBITOR IN EACH SPLICE, TERMINATION, AND TAP FOR ALUMINUM CONDUCTORS.
E. WIRING AT OUTLETS: INSTALL CONDUCTOR AT EACH OUTLET, WITH AT LEAST 6 INCHES OF SLACK.
F. NEUTRAL CONDUCTORS IN OUTLET BOXES AT RECEPTACLES SHALL BE JOINTED AND PIGTAILED TO THE OUTLET. THE REMOVAL OF A RECEPTACLE FROM THE CIRCUIT SHALL NOT AFFECT THE CONTINUITY OF THE NEUTRAL CONDUCTOR.

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

METAL CONDUITS, TUBING, AND FITTINGS

- A. MANUFACTURERS:
1. ALLIED TUBE & CONDUIT: A PART OF ATKORE INTERNATIONAL.
2. REPUBLIC CONDUIT.
3. WESTERN TUBE AND CONDUIT CORPORATION.
B. LISTING AND LABELING: METAL 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.
C. 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.
b. TYPE: COMPRESSION.
3. EXPANSION FITTINGS: STEEL TO MATCH CONDUIT TYPE, COMPLYING WITH UL 651, RATED FOR ENVIRONMENTAL CONDITIONS WHERE INSTALLED, AND INCLUDING FLEXIBLE EXTERNAL BONDING JUMPER.

BOXES, ENCLOSURES, AND CABINETS

- A. MANUFACTURERS:
1. COOPER TECHNOLOGIES COMPANY
2. HUBBELL INCORPORATED.
3. MONOSYSTEMS, INC.
4. RACO, HUBBELL.
B. GENERAL REQUIREMENTS FOR BOXES, ENCLOSURES, AND CABINETS: BOXES, ENCLOSURES, AND CABINETS INSTALLED IN WET LOCATIONS SHALL BE LISTED FOR USE IN WET LOCATIONS.
C. SHEET METAL OUTLET AND DEVICE BOXES: COMPLY WITH NEMA OS 1 AND UL 514A.
D. SMALL SHEET METAL PULL AND JUNCTION BOXES: NEMA OS 1.
E. DEVICE BOX DIMENSIONS: 4 INCHES SQUARE BY 2-1/8 INCHES DEEP.
F. GANGABLE BOXES ARE PROHIBITED.

RACEWAY APPLICATION

- A. OUTDOORS: APPLY RACEWAY PRODUCTS AS SPECIFIED BELOW UNLESS OTHERWISE INDICATED:
1. EXPOSED CONDUIT: GRC.
2. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFMC.
3. UNDERGROUND: SCHEDULE 40 PVC.
4. BOXES AND ENCLOSURES, ABOVEGROUND: NEMA 250, TYPE 3R.
B. INDOORS: APPLY RACEWAY PRODUCTS AS SPECIFIED BELOW UNLESS OTHERWISE INDICATED:
1. EXPOSED, MECHANICAL SPACES: EMT.
2. EXPOSED, NOT SUBJECT TO SEVERE PHYSICAL DAMAGE: EMT.
3. CONCEALED IN CEILINGS AND INTERIOR WALLS AND PARTITIONS: EMT.
4. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFMC.
5. DAMP OR WET LOCATIONS: GRC.
6. BOXES AND ENCLOSURES: NEMA 250, TYPE 1.
a. ALL BOXES INSTALLED IN POURED CONCRETE, BLOCK, BRICK OR TILE SHALL BE MASONRY TYPE.
b. ALL MULTIPLE GANG SWITCH BOXES SHALL BE SOLID GANG BOX.
c. THE MINIMUM SIZE OF BOXES SHALL BE 4" X 4" X 2-1/8" MINIMUM DEPTH. FOR SINGLE DEVICE INSTALLATION, INSTALL SQUARE CUT SINGLE DEVICE COVER.
d. INSTALL ALL DEVICE BOXES WITH SQUARE CUT DEVICE COVERS FOR NUMBER OF DEVICES REQUIRED.
e. FOR MULTIPLE GANG BOXES INSTALLED FOR MORE THAN ONE 277-VOLT SWITCH, A BARRIER SHALL BE INSTALLED BETWEEN EACH BOX GANG.
C. MINIMUM RACEWAY SIZE: 3/4-INCH TRADE SIZE.
D. RACEWAY FITTINGS: COMPATIBLE WITH RACEWAYS AND SUITABLE FOR USE AND LOCATION.
1. EMT: USE COMPRESSION, STEEL FITTINGS. COMPLY WITH NEMA FB 2.10.
2. FLEXIBLE CONDUIT: USE ONLY FITTINGS LISTED FOR USE WITH FLEXIBLE CONDUIT. COMPLY WITH NEMA FB 2.20.
E. INSTALL SURFACE RACEWAYS ONLY WHERE INDICATED ON DRAWINGS.

INSTALLATION

- A. KEEP RACEWAYS AT LEAST 6 INCHES AWAY FROM PARALLEL RUNS OF FLUES AND STEAM OR HOT-WATER PIPES. INSTALL HORIZONTAL RACEWAY RUNS ABOVE WATER AND STEAM PIPING.
B. COMPLETE RACEWAY INSTALLATION BEFORE STARTING CONDUCTOR INSTALLATION.
C. CONDUITS AND RACEWAYS SHALL NOT BE SUPPORTED FROM PLUMBING LINES, DUCTWORK OR SUPPORTS FOR EQUIPMENT PROVIDED BY OTHER TRADES.
D. ARRANGE STUB-UPS SO CURVED PORTIONS OF BENDS ARE NOT VISIBLE ABOVE FINISHED SLAB. NO NON-METALLIC CONDUIT SHALL BE PERMITTED ABOVE GRADE.
E. INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90-DEGREE BENDS IN ANY CONDUIT RUN EXCEPT FOR CONTROL WIRING CONDUITS, FOR WHICH FEWER BENDS ARE ALLOWED. SUPPORT WITHIN 12 INCHES OF CHANGES IN DIRECTION.
F. CONCEAL CONDUIT AND EMT WITHIN FINISHED WALLS, CEILINGS, AND FLOORS UNLESS OTHERWISE INDICATED. INSTALL CONDUITS PARALLEL OR PERPENDICULAR TO BUILDING LINES. IN MECHANICAL EQUIPMENT ROOMS CONDUIT AND EMT MAY BE EXPOSED AT THE CEILING OR ON THE WALLS.
G. SUPPORT CONDUIT WITHIN 12 INCHES OF ENCLOSURES TO WHICH ATTACHED.
H. STUB-UPS TO ABOVE RECESSED CEILINGS:
1. USE EMT FOR RACEWAYS.
2. USE A CONDUIT BUSHING OR INSULATED FITTING TO TERMINATE STUB-UPS NOT TERMINATED IN HUBS OR IN AN ENCLOSURE.
I. COAT FIELD-CUT THREADS ON PVC-COATED RACEWAY WITH A CORROSION-PREVENTING CONDUCTIVE COMPOUND PRIOR TO ASSEMBLY.
J. RACEWAY TERMINATIONS AT LOCATIONS SUBJECT TO MOISTURE OR VIBRATION: USE INSULATING BUSHINGS TO PROTECT CONDUCTORS INCLUDING CONDUCTORS SMALLER THAN NO. 4 AWG.
K. INSTALL RACEWAYS SQUARE TO THE ENCLOSURE AND TERMINATE AT ENCLOSURES WITH LOCKNUTS. INSTALL LOCKNUTS HAND TIGHT PLUS 1/4 TURN MORE. 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.
M. CUT CONDUIT PERPENDICULAR TO THE LENGTH; FOR CONDUITS 2-INCH TRADE SIZE AND LARGER, USE ROLL CUTTER OR A GUIDE TO MAKE CUT STRAIGHT AND PERPENDICULAR TO THE LENGTH.
N. INSTALL PULL WIRES IN EMPTY RACEWAYS. USE POLYPROPYLENE OR MONOFILAMENT PLASTIC LINE WITH NOT LESS THAN 200-LB TENSILE STRENGTH. LEAVE AT LEAST 12 INCHES OF SLACK AT EACH END OF PULL WIRE. CAP UNDERGROUND RACEWAYS DESIGNATED AS SPARE ABOVE GRADE ALONGSIDE RACEWAYS IN USE.
O. FLEXIBLE CONDUIT CONNECTIONS: COMPLY WITH NEMA RV 3. USE A MAXIMUM OF 72 INCHES OF FLEXIBLE CONDUIT FOR RECESSED AND SEMI RECESSED LUMINAIRES, EQUIPMENT SUBJECT TO VIBRATION, NOISE TRANSMISSION, OR MOVEMENT; AND FOR TRANSFORMERS AND MOTORS.
1. USE LFMC IN DAMP OR WET LOCATIONS SUBJECT TO SEVERE PHYSICAL DAMAGE.
2. USE LFMC OR LFNC IN DAMP OR WET LOCATIONS NOT SUBJECT TO SEVERE PHYSICAL DAMAGE.
P. FASTEN JUNCTION AND PULL BOXES TO OR SUPPORT FROM BUILDING STRUCTURE. DO NOT SUPPORT BOXES BY CONDUITS.



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COURTHOUSE PARKING
ACCESS

Drawing Title

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