



Telecommunications
Structured Cabling
RFB# 26-015

Wake County Sheriff's Office Operations Center

January 28, 2026

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Electronic copy of the listed drawings are available upon written request by a bonafide bidder. Send email to Patrick McHugh at patrick.mchugh@wake.gov. Call 919-856-6357 if having issues with the request.

| | |
|-------|---|
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| County of Wake Finance / Procurement Services – Room 2902 Wake County Justice Center – 2 nd Floor 301 S. McDowell Street Raleigh, NC 27601 | INVITATION FOR BID NUMBER: 26-015 |
| | Bids will be publicly opened: Tuesday, February 10, 2026 at 3:00 pm |
| Refer ALL Inquiries to: Telephone No. 919-856-6357 E-Mail: patrick.mchugh@wake.gov (See page 2 for mailing instructions.) | Contract Type: Purchase Order Commodity: Communication/Data Equipment & Wiring Using Agency Name: Wake County Facilities Design & Const. Agency Requisition No. None |

NOTICE TO BIDDERS

The last day for question is Monday, February 2, 2026.

Any last addendum will be issued by Thursday, February 5, 2026.

**SPECIAL NOTE: Procurement Services is located in the Wake County Justice Center. Access is best by using
301 S.McDowell Street, Raleigh, NC 27601**

YOU WILL BE REQUIRED TO GO THROUGH SECURITY AND METAL DETECTION IF YOU HAND DELIVER YOUR BID.

PLEASE FACTOR THIS INTO YOU BID DELIVERY PLANS AS NO EXCEPTIONS WILL BE ALLOWED AND LATE BIDS WILL NOT BE ACCEPTED.

Sealed bids, subject to the conditions made a part hereof, will be received at this office for furnishing and delivering the commodity as described herein. Refer to page 2 for proper mailing instructions.

Bids submitted via facsimile (FAX) machine, or email, in response to this Invitation for Bids will not be accepted. Bids are subject to rejection unless submitted on this form. **Late bids, regardless of delivery means, will not be accepted. Bid/proposal delivery by any courier service may be subject to some access limitations should the delivery person be using hand trucks or carts. This should be factored into your delivery decisions.**

The anticipated installation start date is March 9, 2026.

Delivery date: _____ Bidder is urged to state earliest guaranteed delivery.

EXECUTION

In compliance with this Invitation for Bids, and subject to all the conditions herein, the undersigned offers and agrees to furnish and deliver any or all items upon which prices are bid, at the prices set opposite each item within the time specified herein. By executing this bid, I certify that this bid is submitted competitively and without collusion (G.S. 143-54).

Unless stated otherwise within this document, Wake County, upon mutual agreement with the vendor, may purchase additional quantities at the same or better pricing for one (1) year from date of contract award.

Failure to execute/sign bid prior to submittal shall render bid invalid.

| | | | |
|---|-------|-----------------------------------|-------------------------|
| BIDDER: | | FEDERAL ID OR SOCIAL SECURITY NO. | |
| STREET ADDRESS: | | P.O. BOX: | ZIP: |
| CITY & STATE & ZIP: | | TELEPHONE NUMBER: | TOLL FREE TEL. NO (800) |
| TYPE OR PRINT NAME & TITLE OF PERSON SIGNING: | | FAX NUMBER: | |
| AUTHORIZED SIGNATURE: | DATE: | E-MAIL: | |

Offer valid for 60 days from date of bid opening unless otherwise stated herein. Prompt Payment Discount: _____ %
 _____ days (See Instructions to Bidders, Item 7).

MAILING INSTRUCTIONS: Mail only one fully executed bid document, unless otherwise instructed, and only one bid per envelope. Address envelope and insert bid number as shown below. It is the responsibility of the bidder to have the bid in this office by the specified time and date of opening. If sending via USPS, allow one extra day for Wake County internal processing.

BID NO. _____
 Wake County Procurement Services
 Wake County Justice Center - Ste 2900
 301 S. McDowell Street
 Raleigh, NC 27601

TABULATIONS: Tabulations will normally be available not later than three (3) working days after opening.

TRANSPORTATION CHARGES:

FOB Destination: Freight, handling and distribution charges shall be included in the total price of each item listed. Any additional charges included on the invoice shall not be honored for payment, unless authorized by change order by the Wake County. In cases where materials are shipped against this order by parties, other than the Contractor, the shipper must be instructed to show the purchase order number on all packages and shipping manifests to ensure proper identification and payment of invoices. Complete packing list must accompany each shipment.

ADDENDA

It is solely the bidder’s responsibility to ensure they have all necessary information prior to submitting a bid/proposal. This includes any and all addenda. Bidder is to acknowledge all addenda or risk rejection of bid or proposal.

Addenda One _____ Addenda Two _____ Addenda Three _____
 Addenda Four _____ Addenda Five _____ Addenda Six _____

Furnish and Deliver:

| ITEM # | QTY | UNIT | DESCRIPTION | UNIT COST | EXTENDED COST |
|--------|-----|------|---|-----------|---------------|
| | 1 | LOT | Telecommunications Equipment, Wiring and Installation | | |

All Bidders must fill out the detailed bid form included with the bid documents.

INSTRUCTIONS TO BIDDERS

- READ, REVIEW AND COMPLY:** It shall be the bidder’s responsibility to read this entire document, review all enclosures and attachments, and comply with all requirements specified herein.
- DEFINITIONS:**
 - THE COUNTY:** Is the County of Wake, North Carolina and its agencies.
 - OFFEROR:** Company, firm, corporation, partnership, individual, etc., submitting a response to a solicitation.
- NOTICE TO BIDDERS:** All bids are subject to the provisions of the Instructions to Bidders, special terms and conditions specific to this Invitation for Bids, the specifications, and the Terms and Conditions. The County objects to and will not evaluate or consider any additional terms and conditions submitted with a bidder response. This applies to any language appearing in or attached to the document as part of the bidder’s response. **DO NOT ATTACH ANY ADDITIONAL TERMS AND CONDITIONS.** By execution and delivery of this document, the bidder agrees that any additional terms and conditions, whether submitted purposely or inadvertently, shall have no force or effect.
- EXECUTION:** Failure to sign the bid response will render bid invalid.
- ORDER OF PRECEDENCE:** In cases of conflict between specific provisions in this bid, the order of precedence shall be (1) special terms and conditions specific to this bid, (2) specifications, (3) Terms and Conditions, and (4) Instructions to Bidders.
- TIME FOR CONSIDERATION:** Unless otherwise indicated on the first page of this document, bidder’s offer shall be valid for 60 days from the date of bid opening. Preference may be given to bids allowing not less than 60 days for consideration and acceptance.
- PROMPT PAYMENT DISCOUNTS:** Bidders are urged to compute all discounts into the price offered. If a prompt payment discount is offered, it will not be considered in the award of the contract except as a factor to aid in resolving cases of identical prices.
- SPECIFICATIONS:** Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and bidder will be held responsible therefore. Deviations shall be explained in detail. **The bidder shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.**
- INFORMATION AND DESCRIPTIVE LITERATURE:** Bidder is to furnish all information requested and in the spaces provided in this document. Further, if required elsewhere in this bid, each bidder must submit with their bid sketches, descriptive literature and/or complete specifications covering the products offered. Reference to literature submitted with a previous bid will not satisfy this provision. Bids which do not comply with these requirements will be subject to rejection.

10. **RECYCLING AND SOURCE REDUCTION:** It is the policy of this County to encourage and promote the purchase of products with recycled content to the extent economically practicable, and to purchase items which are reusable, refillable, repairable, more durable, and less toxic to the extent that the purchase or use is practicable and cost-effective. We also encourage and promote using minimal packaging and the use of recycled/recyclable products in the packaging of commodities purchased. However, no sacrifice in quality of packaging will be acceptable. The company remains responsible for providing packaging that will protect the commodity and contain it for its intended use. Companies are strongly urged to bring to the attention of the purchasers those products or packaging they offer which have recycled content and that are recyclable.
11. **CLARIFICATIONS/INTERPRETATIONS:** Any and all questions regarding this document must be addressed to the purchaser named on the cover sheet of this document. Do not contact the user directly. Any and all revisions to this document shall be made only by written addendum from Wake County Procurement Services. The bidder is cautioned that the requirements of this bid can be altered only by written addendum and that verbal communications from whatever source are of no effect.
12. **ACCEPTANCE AND REJECTION:** The County reserves the right to reject any and all bids, to waive any informality in bids and, unless otherwise specified by the bidder, to accept any item in the bid. If an extended price is obviously in error, the unit price will control.
13. **REFERENCES:** The County reserves the right to require a list of users of the exact item offered. The County may contact these users to determine acceptability of the bid. Such information may be considered in the evaluation of the bid.
14. **TAXES:**
- **FEDERAL:** All agencies participating in this contract are exempt from Federal Taxes, such as excise and transportation. Exemption forms submitted by the contractor will be executed and returned by the using agency.
 - **OTHER:** Prices offered are not to include any personal property taxes, nor any sales or use tax (or fees) unless required by the North Carolina Department of Revenue.
15. **AWARD OF CONTRACT:** The County will consider such factors as: prices offered; the quality of the articles offered; the general reputation and performance capabilities of the bidders; the substantial conformity with the specifications and other conditions set forth in the bid; the suitability of the articles for the intended use; the related services needed; the date or dates of delivery and performance; and such other factors deemed by the County to be pertinent or peculiar to the purchase in question. Unless otherwise specified by the County or the bidder, the County reserves the right to accept any item or group of items on a multi-item bid. In addition, Wake County reserves the right to make partial, progressive or multiple awards: where it is advantageous to award separately by items; or where more than one supplier is needed to provide the contemplated requirements as to quantity, quality, delivery, service, geographical areas; other factors deemed by Wake County to be pertinent or peculiar to the purchase in question.
16. **HISTORICALLY UNDERUTILIZED BUSINESSES:** The County invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled.
17. **CONFIDENTIAL INFORMATION:**
Wake County is subject to North Carolina's Public Records Act located in Chapter 132 of the North Carolina General Statutes. As a result, information submitted to and received by Wake County in response to a Request for Proposal/Request For Bid/Request For Quote/Request for Qualifications, or any other procurement method (collectively "Procurement Process"), is considered public record and may be released for public inspection after the contract award, or as otherwise permitted under NCGS § 143, without further notice to the proposer. The County does not intend to elicit confidential or trade secret information in response to a Procurement Process and assumes no responsibility for the submission of such information. Wake County reserves the right to share any information submitted in response to a Procurement Process with any person(s) or firm(s) involved in the review and evaluation phase of the Procurement Process.

If a proposer nonetheless submits information in a bid proposal or other response to a Procurement Process and it considers such information to be confidential, then all four requirements of [NCGS 132-1.2](#) "Confidential Information" must be met for the County to consider withholding the information from public inspection in response to a public records request. **Among other legal requirements, information deemed to be "confidential" or "trade secret" by proposer must be clearly marked as such on the face of the document(s) at the time of the initial disclosure/submittal of RFP.** In addition, although not required by law, Wake County requests that any proposer who submits a proposal or response containing any such designation of confidentiality also submit a second copy of the proposal or response with the respective page(s) or section(s) redacted. The County will not agree to withhold an entire proposal or response from public inspection, thus proposers should refrain from including blanket restrictions on disclosure or all-encompassing claims of confidentiality.

When a public records request is made for information contained in or attached to a proposal or response that has been clearly marked as "trade secret" or "confidential" upon its submission, Wake County may, in its discretion and without further notice, release the redacted copy of the proposal or response to the requester if one has been previously submitted. Otherwise, the proposer will be notified of the request and given an opportunity to provide within a reasonable period a written explanation of the basis for claiming protection under N.C.G.S. 66-152 and N.C.G.S. 132-1 and/or a redacted proposal or response. The County shall make the final determination on release of the information. Should any civil action be brought against the County in an effort to compel or prevent the disclosure of information contained in a proposal or response that is deemed confidential by a proposer,

the proposer may participate at its own expense; and by deeming any information in a proposal or response confidential, proposer further agrees to indemnify and hold harmless the County for and against any costs incurred by the County as a result of such litigation, including but not limited to fees or expenses arising out of N.C.G.S. 66-153 and N.C.G.S. 132-9.

18. **SAMPLES:** Sample of items, when required, must be furnished as stipulated herein, free of expense, and if not destroyed will, upon request be returned at the bidder's expense. Written request for the return of samples must be made within 10 days following date of bid opening. Otherwise the samples will become the property of the County. Each individual sample must be labeled with the bidder's name, bid number, and item number. A sample, on which an award is made, will be retained until the contract is completed, and then returned, if requested, as specified above.
19. **MISCELLANEOUS:** Masculine pronouns shall be read to include feminine pronouns and the singular of any word or phrase shall be read to include the plural and vice versa.
20. **IRAN DIVESTMENT ACT:** By signing this agreement or acceptance of this contract/purchase order or by submission of any bid, proposal, etc, vendors, contractors certify that as of the date of execution, receipt, or submission they are not listed on the Final Divestment List created by the NC Office of State Treasurer pursuant to [NCGS 147 Article 6E, Iran Divestment Act](#), Iran Divestment Act Certification. Vendors and contractors shall not utilize any subcontractor that is identified on the Final Divestment List. In addition, any organization defined under NCGS 147-86.80(2), Divestment from Companies Boycotting Israel, shall not engage in business totaling more than \$1,000 with any company/business, etc. that boycotts Israel. A list of companies that boycott Israel is maintained by the NC Office of State Treasurer, pursuant to NCGS 147-86.81(a)(1). Any company listed as boycotting Israel is not eligible to do business with any State agency or political subdivision of the State.
21. **E-VERIFY:** To ensure compliance with the E-Verify requirements of the General Statutes of North Carolina, all contractors, including any subcontractors employed by the contractor(s), by submitting a bid, proposal or any other response, or by providing any material, equipment, supplies, services, etc., attest and affirm that they are aware and in full compliance with Article 2 of Chapter 64, (NCGS64-26(a)) relating to the E-Verify requirements.
22. **FEDERAL UNIFORM GUIDANCE:** If the source of funds for this contract is federal funds, the following federal provisions apply pursuant to 2 C.F.R. § 200.326 and 2 C.F.R. Part 200, Appendix II (as applicable):

Equal Employment Opportunity (41 C.F.R. Part 60); Davis-Bacon Act (40 U.S.C. 3141-3148); Copeland "Anti-Kickback" Act (40 U.S.C. 3145); Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708); Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387); Debarment and Suspension (Executive Orders 12549 and 12689); Byrd Anti-Lobbying Amendment (31 U.S.C. 1352); Procurement of Recovered Materials (2 C.F.R. § 200.322); and Record Retention Requirements (2 CFR § 200.324)
23. **ANTI-DISCRIMINATION:** In consideration of signing this Agreement, the Parties hereby agree not to discriminate in any manner on the basis of race, natural hair or hairstyles, ethnicity, creed, color, sex, pregnancy, marital or familial status, sexual orientation, gender identity or expression, national origin or ancestry, marital or familial status, pregnancy, National Guard or veteran status, religious belief or non-belief, age, or disability with reference to the subject matter of this Contract. The Parties agree to comply with the provisions and intent of Wake County Ordinance SL 2017-4. This anti-discrimination provision shall be binding on the successors and assigns of the Parties with reference to the subject matter of this Contract.

General Terms and Conditions for Goods and Services

1. **Default and Performance:** In the event any equipment, software, or service furnished by the contractor in the performance of any contract awarded by the county should fail to conform to the contract specifications, the County may cancel and procure the articles or services from other sources and hold the Contractor responsible for any excess costs occasioned thereby. The County reserves the right to require performance bond or other acceptable alternative guarantees from the Contractor without expense to the County, if so indicated in the bid. The rights and remedies of the County provided above shall not be exclusive and are in addition to any other rights and remedies provided by law or under the contract.
2. **Governmental Restrictions:** In the event any governmental restrictions are imposed that necessitate alteration of the material, quality, workmanship, or performance of the items offered prior to their delivery, it shall be the responsibility of the Contractor to notify the County in writing, at once, indicating the specific regulation that required such alterations. The County reserves the right to accept any such alterations, including any price adjustments occasioned thereby, or to cancel the contract.
3. **Availability of Funds:** Any and all payments to the Contractor are dependent upon and subject to the availability of funds to the agency for the purpose set forth in this agreement. If funds to affect such payment are not available, the Contractor agrees to take back any affected equipment and products furnished under this contract, terminate any services supplied to the County under this contract, and relieve the County of any further obligation thereof.
4. **Taxes:** The County of Wake is exempt from Federal excise taxes and no payment will be made for any personal property taxes levied on the contractor or on any taxes levied on employee wages. Applicable State or local sales taxes shall be invoiced as a separate item.
5. **Situs:** The place of this contract or purchase order, its situs and forum, shall be Wake County, North Carolina, where all matters, whether sounding in contract or in tort, relating to its validity, construction, interpretation and enforcement shall be determined.

6. **Governing Laws:** This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.
7. **Inspection at Contractor's Site:** The County reserves the right to inspect, at a reasonable time, the equipment/item, plant or other facilities of a prospective contractor prior to contract award, and during the contract term as necessary for determination that such equipment/item, plant or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the contract.
8. **Payment Terms:** Payment terms are Net 30 days after receipt of correct invoice or acceptance of goods, whichever is later. Payment terms for services are due and payable the month following the month for which charges accrue, or in accordance with the contract payment schedule. The using agency is responsible for all payments under the contract.
9. **Affirmative Action:** The contractor will take affirmative action in complying with all Federal and State requirements.
10. **Condition and Packaging:** Unless otherwise provided by special terms and conditions or specifications, it is understood and agreed that any item offered or shipped has not been sold or used for any purpose and shall be in first class condition. All containers/packaging shall be suitable for handling, storage or shipment.
11. **Standards:** All manufactured items and/or fabricated assemblies subject to operation under pressure, operation by connection to an electric source, or operation involving a connection to a manufactured, natural, or LP gas source shall be constructed and approved in a manner acceptable to the appropriate state inspector, which customarily requires identification marking of the appropriate safety standard organization; such as the American Society of Mechanical Engineers for pressure vessels; the Underwriters Laboratories and/or National Electrical Manufacturers' Association for electrically operated assemblies; or the American Gas Association for gas operated assemblies, where such approvals of listings have been established for the type of device offered and furnished. Further, all items furnished shall meet all requirements of the Occupational Safety and Health Act (OSHA), and state and federal requirements relating to clean air and water pollution.
12. **General Indemnity:** The contractor shall hold and save the County of Wake, its officers, agents and employees, harmless from liability of any kind, including all claims and losses, accruing or resulting to any other person, firm or corporation furnishing or supplying work, services, materials or supplies in connection with the performance of this contract, and from any and all claims and losses accruing or resulting to any person, firm or corporation that may be injured or damaged by the Contractor in the performance of this contract and that are attributable to the negligence or intentionally tortuous acts of the Contractor.
13. **Advertising/Press Release:** The contractor shall not publicly disseminate any information concerning the contract without prior written approval from the County of Wake or its agent.
14. **Patent, Copyright, and Trade Secret Protection:**
 - a. No deliverable(s) produced, in whole or in part, under this contract, shall be the subject of an application for copyright or patent by or on behalf of the Contractor, its employees, agents, officers, assigns, or subcontractor(s). The Contractor, at its own expense, shall defend any action brought against the County to the extent that such action is based upon a claim that the equipment or software supplied by the Contractor, or the operation of such equipment pursuant to a current version of Contractor-supplied operating software, infringes a United States patent, or copyright or violates a trade secret. The Contractor shall pay those costs and damages finally awarded against the County in any such action. Such defense and payment shall be conditioned on the following:
 - 1) That the Contractor shall be notified within a reasonable time in writing by the County of any such claim; and,
 - 2) That the Contractor shall have the sole control of the defense of any action on such claim and all negotiations for its settlement or compromise provided, however, that the County shall have the option to participate in such action at its own expense.
 - b. Should the machines, or software, or the operation thereof become, or in the Contractor's opinion are likely to become, the subject of a claim of infringement of a United States patent, copyright, or a trade secret, the County shall permit the Contractor, at its option and expense, either to procure for the County the right to continue using the equipment or software, or to replace or modify the same so that they become noninfringing and continue to meet bid specifications. If neither of these options can reasonably be taken, or if the use of such equipment or software by the County shall be prevented by injunction, the Contractor agrees to take back such equipment or software, and refund any sums the County has paid Contractor less any reasonable amount for use or damage and make every reasonable effort to assist the County in procuring substitute equipment or software. If, in the sole opinion of the County, the return of such infringing equipment or software makes the retention of other items of equipment or software acquired from the Contractor under this contract impractical, the County shall then have the option of terminating the contract, or applicable portions thereof, without penalty or termination charge. The Contractor agrees to take back such equipment or software and refund any sums the County has paid Contractor less any reasonable amount for use or damage.
15. **Access to Persons and Records:** Pursuant to N.C. General Statutes, and Federal law, the County Auditor, appropriate federal officials, and their respective authorized employees or agents are authorized to examine all books, records, and accounts of the Contractor insofar as they relate to transactions with any department, board, officer, commission, institution, or other agency of Wake County Government pursuant to the performance of this contract or to costs charged to this contract. The Contractor shall retain any such books, records, and accounts for a minimum of three (3) years after the completion of this contract.
16. **Assignment:** No assignment of the contractor's obligations or right to receive payment hereunder shall be permitted. However, upon written request and approval by the issuing purchasing authority, the Agency may:
 - a. Forward the contractor's payment check(s) directly to any person or entity designated by the contractor, or
 - b. Include any person or entity designated by contractor as a joint payee on the contractor's payment check(s).

In no event shall such approval and action obligate the County to anyone other than the contractor and the contractor shall remain responsible for fulfillment of all contract obligations.

17. **Termination for Convenience (Service and Indefinite Quantity Contracts Only):** The County may terminate this contract, in whole or in part, by giving 30 days prior notice in writing to the Contractor. Such notice of cancellation, as required herein, shall be transmitted via US Mail, email or fax, with receipt confirmed. The 30 days notice for termination shall begin on the day the receipt is confirmed.
18. **Limitation of Liability:**
 - a. Where equipment is under the County's exclusive management and control, the Contractor shall not be liable for any damages caused by the county's failure to fulfill any County responsibilities of assuring the proper use, management and supervision of the equipment and programs, audit controls, operating methods, office procedures, or for establishing all proper checkpoints necessary for the County's intended use.
 - b. The liability amount may be adjusted by the issuing agency based upon a documented total risk assessment, but in no event shall the liability for damages be less than the total value of the contract. The foregoing limitation of liability shall not apply to the payment of costs and damage awards referred to in the Paragraph entitled "Patent, Copyright, and Trade Secret Protection", to claims covered by other specific provisions calling for liquidated damages or specifying a different limit of liability, or to claims for injury to persons or damage to property caused by Contractor's negligence or willful or wanton conduct. This limitation of liability does not apply to the receipt of court costs or attorney's fees that might be awarded by a court in addition to damages after litigation based on this contract.
19. **Contractor's Liability for Injury to Persons or Damage to Property:**
 - a. The Contractor shall be liable for damages arising out of injury to the person and/or damage to the property of the County, employees of the County, persons designated by the County for training, or any other person(s) other than agents or employees of the Contractor, designated by the County for any purpose, prior to, during, or subsequent to delivery, installation, acceptance, and use of the equipment either at the Contractor's site or at the County's place of business, provided that the injury or damage was caused by the fault or negligence of the Contractor.
 - b. Contractor shall not be liable for damages arising out of or caused by an alteration or an attachment not made or installed by the Contractor, or for damage to alterations or attachments that may result from the normal operation and maintenance of the Contractor's equipment.
20. **Changes:** This order or contract is awarded subject to shipment of quantities, qualities, and prices indicated by the order or contract, and all conditions and instructions of the order and the contract or proposal on which it is based. Any changes made to this order or contract proposed by the contractor is hereby rejected unless accepted in writing by the County. The County shall not be responsible for goods or services delivered without a written purchase order or authorization from the applicable County purchasing authority.

Where the County requests a change, the contractor may submit a request for contract adjustment, which shall be in the form of a complete change proposal fully supported by factual information and shall separately identify all increases and all decreases in costs. The request shall be submitted by a senior official authorized to bind the Contractor in a signed writing.
21. **Price Adjustments (Term Contracts Only):** Any price changes, downward or upward, which might be permitted during the contract period, must be general, either by reason of market change or on the part of the Contractor to other customers.
 - a. **Notification:** Must be given to the issuing purchasing authority, in writing, concerning any proposed price adjustments. Such notification shall be accompanied by copy of manufacturer's official notice or other acceptable evidence that the change is general in nature.
 - b. **Decreases:** Shall receive full proportionate benefit immediately at any time during the contract period.
 - c. **Increases:** All prices shall be firm against any increase for 180 days from the effective date of the contract. After this period, a request for increase may be submitted with the county reserving the right to accept or reject the increase, or cancel the contract. Such action by the county shall occur not later than 15 days after the receipt of a properly documented request for price increase. Any increases accepted shall become effective not later than 30 days after the expiration of the original 15 days reserved to evaluate the request for increase.
 - d. **Invoices:** It is understood and agreed that orders will be shipped at the established contract prices in effect on dates orders are placed. Invoicing at variance with this provision will subject the contract to cancellation. Applicable North Carolina sales tax shall be invoiced as a separate item.
22. **Transportation:** Transportation of goods shall be FOB Destination. Freight, handling, hazardous material charges, and distribution and installation charges shall be included in the total price of each item. Any additional charges shall not be honored for payment unless authorized in writing by the County.
23. **Signature Warranty:** Each individual signing warrants that he or she is duly authorized by the Party to sign this contract and bind the Party to the terms and conditions of this contract.
24. **Compliance with Laws:** The Contractor shall comply with all laws, ordinances, codes, rules, regulations, and licensing requirements that are applicable to the conduct of its business, including those of federal, state, and local agencies having jurisdiction and/or authority.
25. **Severability:** In the event that a court of competent jurisdiction holds that a provision or requirement of this contract violates any applicable law, each such provision or requirement shall be enforced only to the extent it is not in violation of law or is not otherwise unenforceable and all other provisions and requirements of this contract shall remain in full force and effect.

26. **Federal Intellectual Bankruptcy Act:** The Parties agree that Wake County shall be entitled to all rights and benefits of the Federal Intellectual Bankruptcy Act, Public Law 100-506, and any amendments thereto.

**FORMAT OF BID
WAKE COUNTY
SHERIFF'S OPERATION CENTER
COMMUNICATION/DATA, PATHWAYS, AND WIRING**

Bidding Company _____

Date: _____

| Qty. | Mfg. | Part No. | Description | Unit Price | Extended Price |
|------|------|----------|---|------------|----------------|
| | | | Plenum rated Cat 6 Cable - Green | \$ | \$ |
| | | | Water Blocked Cat 6 Cable | \$ | \$ |
| | | | Plenum rated Cat 6a Cable - Gray | \$ | \$ |
| | | | 4 position SS Faceplates | \$ | \$ |
| | | | Faceplate for Systems Furniture | \$ | \$ |
| | | | Faceplate for wall phone | \$ | \$ |
| | | | Cat 6 Modular Jacks | \$ | \$ |
| | | | RF45 Jacks | \$ | \$ |
| | | | Rack-mounted 48-port CAT 6 angled patch panels | \$ | \$ |
| | | | Rack-mounted 48-port CAT 5E flat patch panels | \$ | \$ |
| | | | Rack-mounted 24-port CAT 6 angled patch panels | \$ | \$ |
| | | | Special-Use 24 port patch panel (wifi) | \$ | \$ |
| | | | Cat 6a port jack module inserts | \$ | \$ |
| | | | Special-Use 24-port Cat 6 flat patch panel (telco interface) | \$ | \$ |
| | | | 25-pair amphenol connector | \$ | \$ |
| | | | 24-strand interlocked armored multi-mode OM3 fiber optic cable | \$ | \$ |
| | | | 12-strand interlocked armored single mode OM3 fiber optic cable | \$ | \$ |
| | | | Rack-mounted fiber optic enclosure | \$ | \$ |
| | | | 12-fiber, duplex LC-style adapter panels | \$ | \$ |
| | | | EIA standard (7' x 19") equipment rack | \$ | \$ |
| | | | 6" Chatsworth vertical wire manager | \$ | \$ |
| | | | 4" Chatsworth vertical wire manager | \$ | \$ |
| | | | Horizontal power strip | \$ | \$ |
| | | | 2RU horizontal wire manager | \$ | \$ |
| | | | 7 ft. CAT 6 Patch Cords | \$ | \$ |
| | | | 10 ft. CAT 6 Patch Cords | \$ | \$ |
| | | | 12 ft. CAT 6 Patch Cords | \$ | \$ |
| | | | CAT 5E patch cords | | |
| | | | Subtotal: | \$ | \$ |

**FORMAT OF BID
WAKE COUNTY
SHERIFF'S OPERATION CENTER
COMMUNICATION/DATA, PATHWAYS, AND WIRING**

| | | | | | |
|----------------|--|--|----------------------------------|----|----|
| | | | J-hooks | \$ | \$ |
| | | | Waterfall transition ladder rack | \$ | \$ |
| | | | Blanks | \$ | \$ |
| | | | Other misc. materials | \$ | \$ |
| Page Subtotal: | | | | \$ | |
| Total: | | | | \$ | |
| Taxes: | | | | \$ | |
| Labor: | | | | \$ | |
| Grand Total: | | | | \$ | |

Bid Amount _____ Dollars
 _____ (\$ _____)

Signed: _____ Date: _____

Title: _____

Division 27 – COMMUNICATION/DATA, PATHWAYS, AND WIRING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Voice, Data, and Fiber Cable Product materials
- B. Voice, Data, and Fiber Cable Execution directions

1.2 RELATED SECTIONS

- A. Electrical specifications included on Peak Systems Engineering drawing sheet E0.1 of the Issued for Construction set of drawings dated 12/19/2025

1.3 RELATED DOCUMENTS

- A. Contract terms are included in the invitation to bid

1.4 SYSTEM DESCRIPTION

- A. A cable system consisting of copper cables, and fiber backbone cables, routed between various telecommunications outlets and their designated telephone rooms, and between the primary telephone room (MDF) and intermediate telephone rooms (IDF's), as shown on the Drawings.

1.5 CONTRACTOR DELIVERABLES/PRELIMINARY MEETINGS

- A. In the bid response, the Contractor shall provide a complete and itemized list of products intended for use, warranty documentation for the products chosen, and credentials for the personnel who will lead this project.
- B. Prior to shop drawing submittals, an Initial Planning Meeting will be held for the Contractor and the Owner to clarify all requirements (systems, services, distribution methods, etc.), to identify responsibilities, and to schedule the events that will transpire during the implementation of the project.
- C. At the subsequent Product and Design Meeting, the Contractor will bring product submittals for each component of the proposed system and be prepared to ask any questions related to installation. No material shall be ordered or installed until reviewed and approved by the Owner and Designer.

1.6 QUALITY ASSURANCE

- A. The Contractor shall be a firm with at least 5 years of experience of successful installation experience with projects utilizing unshielded twisted pair cabling (UTP), Category 5E and Category 6 in compliance with EIA/TIA-568.
- B. The Contractor shall have a permanent service organization with an office located within thirty miles of project site.
- C. The firm must have an RCDD on staff. In addition, the lead technician MUST be BICSI certified at the Technician Level prior to leading the installation of cabling on the project. The same technician must be the lead technician for the duration of the project or be replaced by a technician with the same credentials.
- D. The Contractor shall utilize certified cable technicians with approved manufacturer-specific certification.
- E. The Contractor shall perform all installation work according to the principles outlined in:
 - 1. ANSI/TIA/EIA-568B: "Commercial Building Telecommunications Cabling Standard"

2. ANSI/TIA/EIA-569: "Commercial Building Standard for Telecommunications Pathways and Spaces"
 3. ANSI/TIA/EIA-606: "Administration Standard for Telecommunications Infrastructure of Commercial Buildings"
 4. NFPA 70: "National Electrical Code"
 5. BICSI Telecommunication Distribution Methods Manual
 6. IEEE Bonding and Grounding Best Practices
 7. And generally accepted industry practices
- F. The Contractor shall provide materials that are NRTL (Nationally Recognized Testing Laboratory) listed and labeled, as defined in the "National Electrical Code," Article 100 and FCC Regulations, "Title 47 of the Code of Federal Regulations", Part 68, Chapter 1.

1.7 GENERAL REQUIREMENTS

- A. The Contractor shall provide any necessary screws, anchors, clamps, tie wraps, distribution rings, miscellaneous grounding and support hardware, etc. necessary to facilitate the installation of the system in a neat and orderly fashion.
- B. It shall be the responsibility of the Contractor to furnish any special installation equipment or tools necessary to properly complete the system. This may include, but is not limited to, tools for terminating, testing, and splicing copper cables, jack stands for cable reels, and/or cable winches.

1.8 WARRANTY/REPAIR SERVICE

- A. The Contractor shall provide a two (2) year warranty for both products and labor.
- B. The Contractor must provide repair service within sixteen business hours for routine service, and within eight business hours of notification for outages deemed by the Owner to be an Emergency, which includes but is not limited to outages of more than five stations or a critical emergency service station.

PART 2 - PRODUCTS

2.0 GENERAL

- A. All like items of products provided must be new and of the same manufacturer and meet the performance requirements for that item as shown in this specification or industry standards, whichever is more stringent.
- B. All system components must be selected and installed as a complete systems-solution, providing a manufacturer's certified warranty for a minimum of five years.
- C. Approved systems solutions manufacturers are:

| | | |
|--------------------|---------------------------|------------------------|
| 1. Essex Cable | Ortronics Station Outlets | Ortronics Patch Panels |
| 2. Commscope Cable | Uniprise Station Outlets | Uniprise Patch Panels |
| 3. General Cable | Panduit Station Outlets | Panduit Patch Panels |
- D. Assume all cable will be run within air plenums. All cables shall meet or exceed the appropriate flame retardant requirement for the area in which they are installed (NEC type-requirements).

2.1 STATION CABLE

- A. All station cables shall be CAT 6, 4-pair, UTP, non-stranded, and colored green, unless otherwise specified.
- B. Further, cables that will be placed in conduit in slab on grade must be water-blocked, indoor-outdoor rated and suitable for underground service.
- C. All cables shall be composed of 24 AWG solid copper conductors. All cables shall be Underwriter's Laboratories (UL) listed type MPR, MPP, CMR, and CMP. Cable shall also support IEEE 802.3, 10BASE-T, and IEEE 802.5 standards.
- D. Approved manufacturers are Essex, Commscope, and General.

2.2 TELECOMMUNICATIONS STATION OUTLETS

- A. Standard Wall Station Outlet: Each standard wall faceplate shall be four (4) position, brushed stainless steel, mounted on single gang outlet box, to accommodate RJ45 jacks. Each standard wall faceplate shall contain two (2) CAT 6 compliant RJ45 modular jacks, color-coded red and ivory, to accommodate two cables, plus two blank inserts.
- B. Floor Outlet: Unless otherwise specified, each floor outlet faceplate shall contain two (2) CAT 6 compliant RJ45 modular jacks, to accommodate RJ45 jacks. Each floor outlet faceplate shall contain two CAT 6 compliant RJ45 modular jacks, color-coded red and ivory, to accommodate two cables.
- C. Modular Systems Furniture Outlet: Each modular systems furniture outlet shall be two (2) position and shall contain two (2) CAT 6 compliant RJ45 modular jacks, color-coded red and ivory, to accommodate two cables. The faceplates for modular furniture outlets shall be sized to fit standard furniture knockouts, typically 2.71" x 1.38", shall be matched to furniture raceway color as closely as possible, and shall have an extended profile so that jack inserts are external to the furniture raceway.
- D. Wireless Access Point Outlet: Each access point outlet shall consist of **two** CAT 6a cables, each to be terminated in an RJ45 modular plug, and left in the ceiling with a 30' service loop. Provide support for service loop with J-hooks as needed. The second cable is for future use with WiFi 7. Cables will be terminated in the Special-Use patch panel, with RJ45 modular jack inserts, clearly labeled.
- E. Approved station outlet manufacturers are Ortronics, Uniprise, or Panduit, as specified in 2.0.C.

2.3 RISER CABLE

- A. The Contractor shall furnish one (1) CAT 3 unshielded 24 AWG 25-pair solid conductor copper voice riser cable from the primary telephone room (MDF) to each intermediate telephone room (IDF).
- B. Cable shall be plenum-rated as required for plenums, and riser-rated in all other locations. Cable shall meet or exceed the EIA/TIA Commercial Building Telecommunications Wiring Standard.
- C. Further, any cable that will be placed in conduit in a slab on grade must be water-blocked, plenum-rated and suitable for indoor/outdoor service (OSP).
- D. Approved manufacturers are Essex, Commscope and General, as described in section 2.0.C.
- E. The Contractor shall furnish six 4-pair CAT 6 unshielded 24 AWG solid conductor copper cables, colored yellow, between the primary telephone room on each floor, and every other telephone room on that floor, for network interconnection.

2.4 PATCH PANELS

- A. STANDARD station cables shall be terminated on 19" rack-mounted 48-port CAT 6 angled patch panels, with 110 crossconnect terminations, wired in the T568B configuration. The first jack of each outlet (red) will be terminated on the first patch panel, designated for red jacks. The second jack of each outlet (ivory) will be terminated on a corresponding second patch panel designated for ivory jacks. The Contractor shall provide sufficient quantity of patch panels in each telephone room to terminate all station cables shown on plans, plus 20% spare capacity for future station jacks.
- B. Data-only cables, as specified for smaller installations, shall be terminated on the patch panels designated Red or Ivory, beginning with port 48 and numbering backwards.
- C. Special-use cables such as cables between the MDF and IDF's, cables serving wireless access points and other special-use cables shall be terminated in rack-mounted 12-port or 24-port patch panels (depending on project size), which accept 6-port jack module inserts.

- D. In each MDF and IDF, the contractor shall supply one 24-port CAT 5E flat patch panel, with 110 crossconnect terminations, wired in the T568B configuration with one pair per port for the purpose of connecting the telco interface to the rack. The contractor shall also supply one (1) 25-pair amphenol connector (single-ended male) for each patch panel, length to be determined by the distance to the telco interface.
- E. Riser cables shall be terminated on 19" rack-mounted CAT 5E 48-port flat patch panels, with 110 crossconnect terminations, one pair per port.
- F. Both ends of the CAT 6 cables between the MDF and other telephone rooms shall be terminated in rack-mounted 24-port angled patch panels, which accept 6-port jack module inserts. The patch panel must be equipped with sufficient CAT 6 RJ45 jack modules to terminate the required CAT 6 cables. The module inserts must be yellow or have yellow jacks to easily distinguish use.
- G. All hardware shall meet or exceed the reliability, attenuation, and NEXT requirements of TIA-568B. The panels shall be able to accommodate 500 repeated insertions without incurring permanent deformation, and shall pass the reliability test of no more than one contact failure in 10000 connections. The panels shall be able to accommodate 24 AWG cable conductors, and be Underwriter's Laboratories (UL) listed.

2.5 FIBER CABLE

- A. The Contractor shall supply one 24-strand interlocked armored multi-mode OM3 fiber optic cables between the MDF and each TR, with 50/125-micron fibers. Cables shall be tight-buffered, OFCP or OFCR as required by the particular installation. If fiber optic cable is to be run in dedicated conduit, the interlocked armored requirement is not necessary.
- B. The Contractor shall also supply one 12-strand interlocked armored single-mode OM3 fiber optic cable between the MDF and each TR. If fiber optic cable is to be run in dedicated conduit, the interlocked armored requirement is not necessary.
- C. Approved manufacturers are Corning, Commscope, General and Mohawk.

2.6 FIBER TERMINATION EQUIPMENT

- A. Fiber cables shall be terminated in rack-mounted black metal, fiber optic enclosures, capable of handling no less than 24 ports. In each telephone room, the Contractor shall supply sufficient quantity of enclosures to terminate all specified fiber cables.
- B. Each enclosure shall be equipped with sufficient 12-fiber, duplex LC-style adapter panels to terminate all specified fibers.
- C. Acceptable models are Corning, Ortronics, Panduit and Systemax.

2.7 EQUIPMENT RACKS

- A. Unless otherwise specified, two EIA standard (7' x 19") black aluminum equipment racks are required for each telephone room. All equipment racks shall be capable of supporting 600 pounds, with type B universal mounting rail pattern.
- B. Vertical wire management shall be provided on each side of racks, with one unit between racks. Vertical wire managers shall be black 7-foot, double-sided (front and rear) units, with finger openings, hinged front cover, and all brackets and connectors necessary for a complete system.
- C. The basis of design product is Chatsworth 30095-703 (6"). Substitutions may only be submitted for approval during the pre-bid process.
- D. Each equipment rack shall be equipped with one rack-mounted horizontal power strip, providing at least six (6) 20 ampere, 120-volt receptacles, having a cord at least 10' long. In cases where 20 ampere receptacles are not available in the telephone room, power strips with 15 ampere receptacles may be substituted (field verify).

- E. Each rack shall be equipped with one 2RU section of horizontal wire management, with hinged cover, which matches the vertical wire manager.

2.8 PATCH CORDS

- A. The Contractor shall supply factory-prepared eight (8)-conductor modular CAT 6, 28-gauge patch cords with male RJ45 connector on each end, for connection of network port to patch panels. Patch cords shall have a T568B wiring/pin configuration and colored yellow. One patch cord is required for each station outlet, plus an additional 30% for future growth. Of the cords supplied, 50% shall be seven (7) feet long, 40% shall be ten (10) feet long, and 10% shall be twelve (12) feet long.
- B. The Contractor shall supply 5 factory-prepared eight (8)-conductor modular CAT 5E or CAT 6, 28-gauge, patch cords with male RJ45 connector on each end, for connection to voice patch panels. Patch cords shall have a T568B wiring/pin configuration. Patch cords shall be seven (7) feet long, and colored grey.

2.9 CABLE SUPPORTS

- A. The electrical contractor upfitting the warehouse building is providing and installing the horizontal ladder rack in each telephone room shown on the enlarged plans. The installation is intended to support cables across the longest wall of the closet, and to connect each equipment rack to the wall. The ladder rack shall be 18" wide of tubular steel, with rungs 9" on center. Due to the corridor ceiling being 10'-6" above the finished floor, the telecom wiring contractor shall provide a waterfall ladder adapter to support cables transitioning in height.

B.

2.10 HANGERS

- A. The Contractor shall use approved J-hooks or other CAT 6-rated cable support hangers in ceiling void.
- B. The contractor shall provide J-hooks for telecommunications and security at the locations shown on the low voltage system plans (E4.X). The security contractor will be responsible to pull all security cables. When telecommunications and security cables follow the same corridor path, stack the J-hooks vertically allowing for cable sag. Coordinate with owner which J-hook to use for telecom prior to pulling cable. Note that due to the 30+ feet high roof, supporting from the roof is not generally feasible.

2.11 LABELS

- A. All Labels used to mark cables, faceplates, patch panels and distribution hardware shall be of the self-laminating type, and shall be machine-printed with black ink on white background. Labels will have pressure sensitive, permanent acrylic-type adhesive. All labels will be uniform in size using the same font size on letters and numbers throughout. Label printing will be 1/8" minimum in block style.

PART 3 – EXECUTION

3.1 TELEPHONE ROOMS

- A. Prior to working in the telephone rooms, the Contractor shall ensure that, at a minimum, a #6 AWG green insulated copper grounding conductor has been provided.
- B. The ladder racks shall be placed according to the telephone room layout, and securely fastened to the wall and the equipment racks to support the weight of cables.

- C. In each closet, the equipment racks shall be bolted to the floor and top-braced by connection to the ladder rack.
- D. Each equipment rack and each section of ladder rack shall be properly bonded to an approved building ground.
- E. Electrical outlet strips should be installed in the middle of each rack. The power cord will be securely connected to the electrical outlet provided for that purpose, routing the power cord over the top of the rack, or routed through the channel to the UPS.
- F. D-rings are to be installed in telephone rooms to protect cables in transition.

3.2 COPPER CABLE INSTALLATION

- A. Layouts for all telephone rooms will be provided by the Owner, and must be received by the Contractor before work can begin. The approved closet layout should be posted in each closet.
- B. In all wiring closets, install cables parallel and at right angles to walls. Bundle, lace and train the conductors to terminal points with no excess. Use wire distribution spools at points where cables are fanned or conductors turned.
- C. Terminate conductors of cables on terminal block using tools recommended by terminal block manufacturer.
- D. All cables shall be run concealed in accessible ceiling space, unless otherwise indicated by the owner, or on the plans. No exposed copper cable will be permitted, unless written authorization is secured from the engineer.
- E. Cables shall be routed along the most direct path between the outlet and the wiring closet, however all paths shall run parallel and perpendicular to corridors. Diagonal routing shall not be permitted. All cable shall be routed in a neat and orderly manner, using installed cable tray or ladder rack whenever possible.
- F. It is imperative that all cables are properly secured to the building structure at intervals as required to prevent sagging between supports, as per NEC 800. Cables must be supported every four to five feet, and may not rest on ceiling tiles, nor be secured to improper structures such as ceiling grid or conduits. Only J-Hooks or hangers approved for CAT 6 cable may be used.
- G. Cables must not be spliced between the normal terminations of runs.
- H. Cable shall be installed without damaging conductors or jacket. The Contractor shall ensure that the manufacturer recommended maximum pulling tensions and cable bends of the specified distribution cables are not exceeded. Failure to follow the appropriate guidelines will require the Contractor to provide, in a timely fashion, the additional material and labor necessary to properly rectify the situation. This shall also apply to any and all damages sustained to existing cables by the Contractor during the implementation.
- I. The Contractor shall pull cables simultaneously where more than one is being installed in the same raceway or at the same location. Use pulling compound or lubricant where necessary. Compound used must not damage conductor or insulation. Use pulling methods that will not damage cable or raceway, including fish tape, cable, rope, and wire-cable grips.
- J. Cable routing shall avoid contact or close proximity to power lines, conduits, lighting fixtures, and other potential sources of interference, and shall not share the same conduit, channel or sleeve with any electrical apparatus.
- K. To facilitate future rearrangements, a three-foot (3') service loop shall be allowed for cables in the wiring closet, with slack routed neatly on the ladder rack. Cables installed in raceways from ceiling space to outlet boxes, shall have a 12" repair loop above the ceiling, at transition from horizontal to vertical drop. Cables installed for cubicles shall be placed with a 5" slack loop in the raceway.

- L. The amount of cable jacket removed from the end of cables shall be kept to a minimum. Never remove the jacket more than specified by the manufacturer to achieve manufacturer certification. The Contractor shall maintain the twist integrity of each cable pair up to the point of termination.
- M. Cable shall be neatly fed into modular furniture raceways where provided.
- N. The Contractor will make every effort to install cables to maintain numerical order in a clockwise sequence around each floor, according to the numbering scheme provided by the Owner.
- O. On the patch panels and punchdown blocks, sequential, numerical order shall be maintained. Numbering shall be from left to right and from top to bottom with consecutive numbers, skipping no spaces.
- P. The Contractor shall properly fire stop all penetrations through fire-rated walls with an approved material to restore the original fire rating.
- Q. Wake County reserves the right to reject workmanship that does not meet this requirement.

3.3 TELECOMMUNICATIONS STATION OUTLETS INSTALLATION

- A. STANDARD outlets terminated in a four-pair faceplate will contain two CAT 6 4-pair cables, terminated on RJ45 CAT 6 jacks, color-coded red and ivory, plus two blank inserts.
- B. Voice-only outlets will contain one (1) CAT 6 4-pair cable, terminated on a single RJ11 jack, and mounted in the center of a single-gang, stainless steel 630B-type faceplate fitted with wall-mount brackets. The corresponding cable will be terminated on the gray data-only patch panel in the last available port.
- D. Floor outlets will contain two 4-pair CAT 6 cables, terminated on CAT 6 RJ45 jacks, color-coded red and ivory.
- E. Modular systems furniture outlets will contain two 4-pair CAT 6 cables, terminated on CAT 6 RJ45 modular jacks, color coded red and ivory.
- F. Wireless access point outlets shall consist of **two** CAT 6a cables, each to be terminated in an RJ45 modular plug, and left in the ceiling with a 30' service loop. The second cable is for future use with WiFi 7. Cables will be terminated in the Special-Use patch panel, with RJ45 modular jack inserts, clearly labeled.

3.4 FIBER CABLE INSTALLATION

- A. The Contractor shall install fiber backbone cables in a star topology, terminating in the MDF at one end and in each TR at the other end. Each fiber shall be a continuous, uncut length. Cable splicing shall not be permitted.
- B. Each end of the fiber cable shall include a ten-foot (10') service loop to facilitate future rearrangements.
- C. Each fiber optic cable shall be clearly labeled with an indication of the destination telephone room at both ends and at all likely access points. The cable shall be continuously marked at regular intervals with length indications.
- D. The Contractor shall not exceed the manufacturer's requirements for minimum bend radius or maximum tensile load for the cable being installed.
- E. The Contractor shall terminate all fibers of each cable using factory-polished, splice-on connectors.
- F. The total end-to-end attenuation of any connectorized fiber path shall be no greater than 2.0 dB at the 850-nanometer wavelength and 1.4 dB at the 1300 nanometer wavelength.
- G. The Contractor shall replace any existing pull string that is removed.

3.5 LABELING

- A. Station cables shall be labeled within four inches of each end, behind the faceplate and in the wiring closet. Jack numbers shall match exactly at both ends of all cables.
- B. There will be a single label on each STANDARD faceplate. Jack numbers will be comprised of: the floor number, the destination closet, and the assigned station number. Example: Label “4W36” corresponds to a station outlet on the 4th floor, in the “West” IDF, with station number 36. In a standard faceplate, it is understood that the “red” cable will be routed to a port on the “red” patch panel and the “ivory” cable to the “ivory” patch panel. Gray data-only cables will be routed to a gray patch panel.
- C. Printed labels on the outlet faceplate shall be mounted above the jack positions, so they can be easily read when patch cords are in place.
- D. All backbone cables shall be clearly labeled with an indication of the destination closet at both ends and at all likely access points. The labels shall be placed in conspicuous locations in the vicinity of the termination fields as well as at every pull box or secondary junction point.
- E. All copper patch panels shall be labeled to identify the panel with: the floor number and closet designation, plus “Red, “Ivory”, or “Gray”. Ex: “4-West-Red” corresponds to a panel on the 4th floor, in the west closet, on the first patch panel.
- F. All fiber enclosures and panels shall be labeled to identify the panel with: the floor number and destination closet.
- G. Numbering on all panels shall be from left to right and from top to bottom, with consecutive numbers, skipping no spaces.

3.6 ACCEPTANCE TESTING

- A. The Owner shall be given the opportunity to witness testing. The Contractor shall submit a testing schedule at least three (3) business days prior to initial testing.
- B. All copper and fiber cables shall be tested. Sample testing shall not be permitted. All tests shall be performed on the completely installed system, through all terminations, in the system’s final state, as it will be turned over to Wake County.
- C. All cables shall be tested for:
 1. Continuity [pass/fail]
 2. Proper termination sequence [pass/fail]
 3. Cable length (measured electronically) [feet]
 4. Line attenuation, indicate frequency [dB @ MHz]
 5. Signal-to-noise ratio (with active hubs) [dB]
 6. Ambient line-noise level [dBm]
 7. Shorts between any two or more conductors
 8. Crossed pairs, Reversed pairs, Split pairs, and other mis-wirings
 9. Bi-Directional near-end crosstalk (NEXT) shall be tested on all six pair combinations in each four pair cable. Tests for NEXT shall be performed from both the work area outlet location and link origination point.
- D. The initial computer-generated test results, including failures, shall be submitted to the Owner, in both printed and electronic formats. All test data shall indicate the date of the test and the name of the persons that performed the test.
- E. The Contractor shall then correct deficiencies indicated by tests and completely retest work affected by such deficiencies. The Contractor shall submit computer-generated retesting results, in both formats.
- F. Test equipment shall include an optical signal source and an optical power meter, both designed specifically for the type of testing required. The manufacturer or an approved calibration service shall have calibrated the test equipment within the past twelve months. The optical signal source and the optical power meter shall be connected to opposite ends of the fiber optic circuit being tested. Loop-back testing shall not be permitted.

3.7 DOCUMENTATION

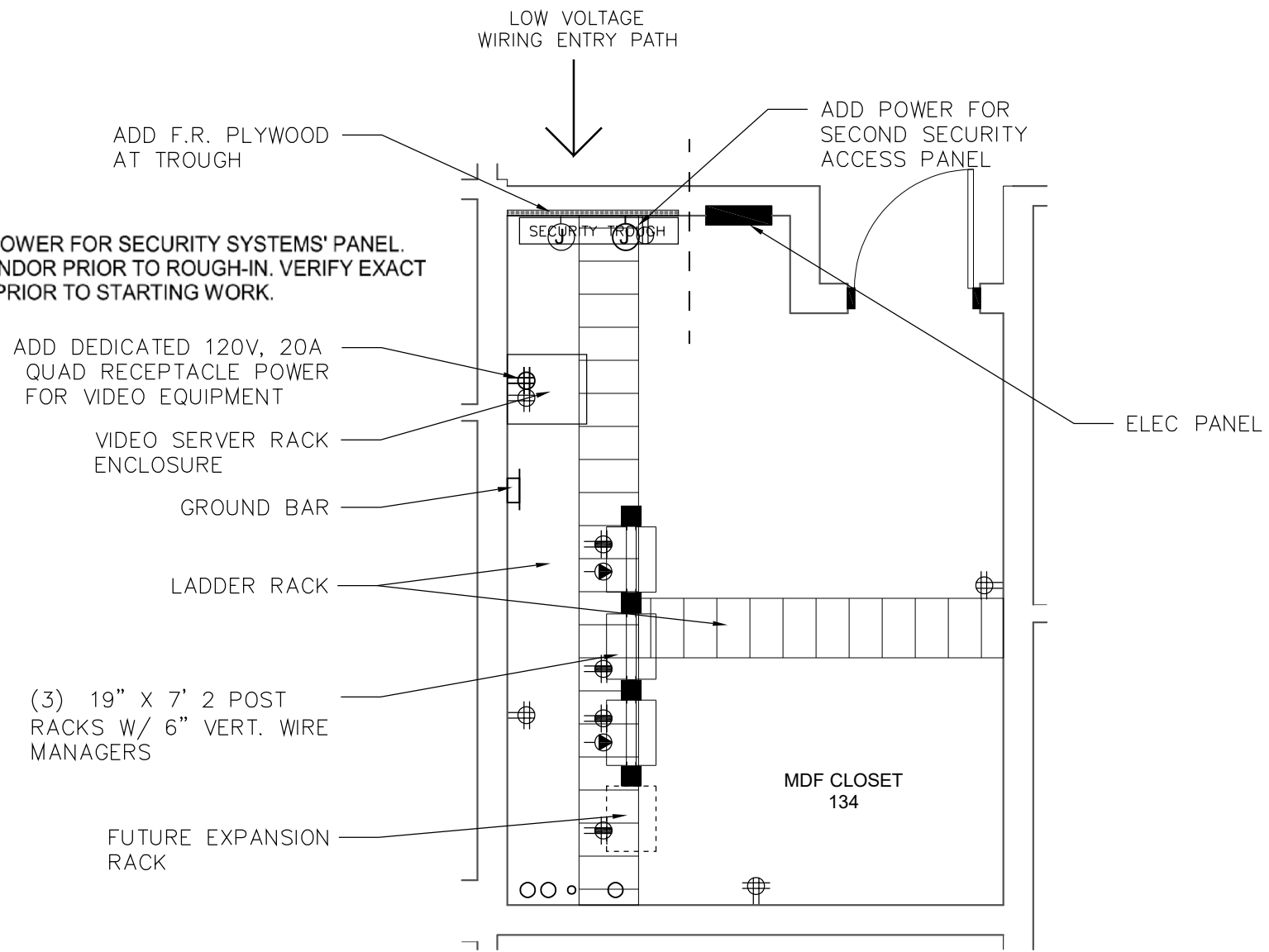
- A. The Contractor shall submit an electronic copy of equipment warranty documentation to Wake County.
- B. At the conclusion of the project, the Contractor shall furnish two hard copies of as-built floor plans for each floor, clearly indicating each outlet number and location. One copy of these documents shall be posted in each telephone room and the other provided to Wake County Telecommunications.
- C. The Contractor shall also submit this as-built document to the engineer or Wake County in .DWG or .DXF format on CD-ROM or flash drive.
- D. The documentation shall include a spreadsheet (Microsoft Excel compatible format) with information presented in the following format:

| | | |
|-----------------------------|--------------|-----------------------|
| Building Name | Wake County | West Regional Center |
| Telecom Room | Jack Numbers | Room Connected to |
| 3 rd Floor South | 3S01 | 357 |
| 5 th Floor North | 5N36 | End of hall room, lab |

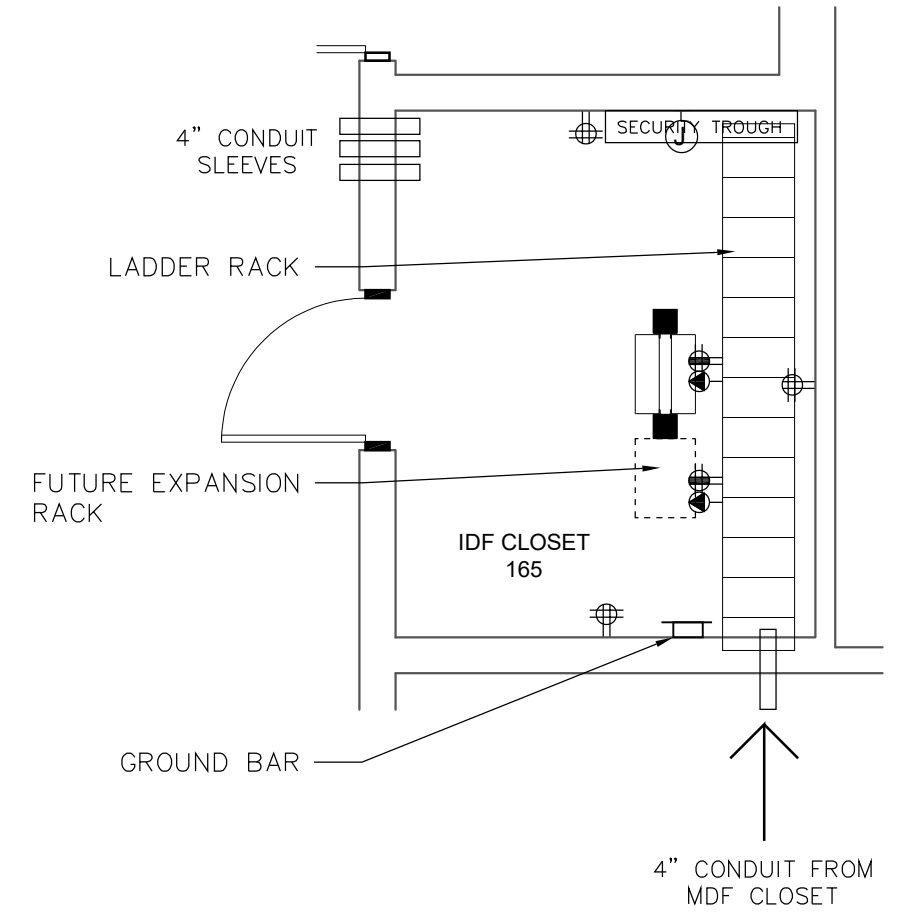
Cat6 Wiring Specifications Parts List Below

| ITEM DESCRIPTION | PANDUIT/GENERAL PARTS | ORTRONICS/ESSEX PARTS | UNIPRISE/COMMSCOPE PARTS | CHATSWORTH PART |
|-----------------------------|-----------------------|-----------------------|--------------------------|-----------------|
| FACEPLATE 4 PORT SG | CFP4SY | OR 403STJ14 | UNF-MFM-4P-ST | |
| FURNITURE BEZEL | CFPL4-1W | OR 40300633 | UNF-MF-4P-BK | |
| BLANKS FOR FACEPLATE | CMB-1W | OR 42100002 | UNDC-1W | |
| JACK CAT 6 | CJ688TG | OR TJ600 | UNJ600 | |
| PP 48 PORT ANGLED CAT 6 | DPA48688TGY | OR PHA66U48 | UNP610ANG-48P | |
| PP 24 PORT ANGLED CAT 6 | DPA24688TGY | OR PHA66U24 | UNP610ANG-24P | |
| 'GFCI' FRAME | CFG4-1W | NA | NA | |
| PATCH CABLE 7' YELLOW CAT6 | UTPSP7YLY | OR-MC607-04 | UNC6-YL-7F | |
| PATCH CABLE 7' GRAY CAT 5E | UTPCH7Y | OR-MC5E07-08 | UNC5-GY-7F | |
| VERTICAL CABLE MANAGER | NA | NA | NA | CPI 30095-703 |
| HORIZONTAL CABLE MANAGER | NA | NA | NA | CPI 30330-719 |
| CA. 4 PR. IN BOX GREEN CAT6 | GENERAL 7131806 | ESSEX 77-240-5B | 6504-GR | |
| CA. OSP CAT 6 | GENERAL 7136100 | ESSEX 04- 001-68 | COMMSCOPE 6NF4PLUS | |

PROVIDE DEDICATED 20A, 120V POWER FOR SECURITY SYSTEMS' PANEL.
COORDINATE WITH TENANT'S VENDOR PRIOR TO ROUGH-IN. VERIFY EXACT
LOCATION AND REQUIREMENTS PRIOR TO STARTING WORK.



MDF CLOSET



IDF CLOSET



WAKE COUNTY SHERIFF'S OFFICE OPERATIONS CENTER
RALEIGH, NC

DATE: 1/28/26

TELECOMMUNICATION CLOSET ENLARGED PLANS

SK-1