Addendum No. 2

Note: This addendum shall become part of the contract and contract documents and the contractor shall be responsible for each item included in this addendum.

Item No. 1 - See attached abatement items from Wynn L. White Consulting.

Item No. 2 - Clarification – Roof Insulation shall be covered in the modified bitumen membrane warranty.

Item No. 3 - See attached photos of stage curtains to be replaced in like kind.

Item No. 4 - See attached revised sheets A-2.2 & A-2.3.

Item No. 5 - See attached revised sheets A-ME1, A-ME5, A-ME6.

Item No. 6 - See attached specification 27 13 00 Voice and Data Systems.

End of Addendum No. 2
Addendum Number 2
December 7, 2023

Calcasieu Parish School Board
Rosteet Annex
Engineer’s Project Number: 23023

The following changes, additions, deletions or alterations to the Specifications or Drawings shall be incorporated into the Specifications and Drawings for the above captioned project and acknowledged in the Contractor’s Bid and in the Agreement between Owner and Contractor.

**Item 1** Delete Drawing Sheets ASB1, ASB2 and ASB3 and replace with attached Drawing Sheets ASB1, ASB2, and ASB3 dated 12/7/23.

This Addendum Number 2 contains:

- Item 1 (1 page).
- Drawing Sheets ASB1, ASB2 and ASB3, dated 12/7/23 (3 - 36” x 24” sheets)

End of Addendum Number 2

12/7/23
STORAGE
150
OFFICE
149
OFFICE
152
OFFICE
148
OFFICE
147
146
ENTRY
144
OFFICE
143
OFFICE
145
OFFICE
142
OFFICE
141
LOUNGE
140
STORAGE
139
OFFICE
138
OFFICE
137
OFFICE
136
LOUNGE
135
STOR.
134
RESTROOM
132
CLOSET
133
OFFICE
131
RECEPTION
130
OFFICE
131
OFFICE
132
OFFICE
133
KITCHEN
134
HALLWAY
135
OFFICE
136
OFFICE
137
OFFICE
138
KITCHEN
139
HALLWAY
140
OFFICE
141
OFFICE
142
OFFICE
143
KITCHEN
144
HALLWAY
145
OFFICE
146
OFFICE
147
OFFICE
148
ENTR.
149
OFFICE
150
OFFICE
151
STAIRWELL
152
OFFICE
153
OFFICE
154
OFFICE
155
KITCHEN
156
HALLWAY
157
OFFICE
158
OFFICE
159
OFFICE
160
RESTROOM
161
STAIRWELL
162
SOUTHWEST WING - 2ND FLOOR
REFER TO RMG ARCHITECT SHEET A-2.4

SOUTH WEST WING - 1ST FLOOR
REFER TO RMG ARCHITECT SHEETS A-2.1 & A-2.4

1  SOUTHWEST WING - 1ST FLOOR - NORTH ELEVATION
REFER TO RMG ARCHITECT SHEETS A-2.1 & A-2.4

2  SOUTHWEST WING - 1ST FLOOR - SOUTH ELEVATION
REFER TO RMG ARCHITECT SHEETS A-2.1 & A-2.4

3  SOUTHWEST WING - 1ST FLOOR - WEST ELEVATION
REFER TO RMG ARCHITECT SHEET A-2.1

PROJECT NORTH

NOT TO SCALE

REMOVE & DISPOSE OF FLOOR TILE/MASTIC
REMOVE & DISPOSE OF BROKEN WINDOW PANES, CAULK, SEALANT, AND GASKETS. COORDINATE WITH GENERAL CONTRACTOR.

REMOVE PLASTER TO SUBSTRATE

REMOVE CAULK/GLAZING/SEALANT

NOT TO SCALE
REFRESH MOLD IN STORAGE ROOM

REMOVE FLOOR TILE/MASTIC AT STAIRS

SOUTHEAST WING - 1ST FLOOR
REFER TO RMG ARCHITECT SHEET A-2.2

LIBRARY - SOUTH ELEVATION
REFER TO RMG ARCHITECT SHEET A-2.2

2 LIBRARY - EAST ELEVATION
REFER TO RMG ARCHITECT SHEET A-2.2

3 SOUTHEAST WING - ELEVATION 2-A
REFER TO RMG ARCHITECT SHEET A-2.2

NOT TO SCALE

PROJECT NORTH

REMOVE & DISPOSE OF FLOOR TILE/MASTIC

REMOVE & DISPOSE OF BROKEN WINDOW PANES, CAULK, SEALANT, AND GASKETS COORDINATE WITH GENERAL CONTRACTOR

REMOVE PLASTER TO SUBSTRATE

NORTHEAST WING - 1ST FLOOR
REFER TO RMG ARCHITECT SHEET A-2.3

STORAGE - EAST ELEVATION
REFER TO RMG ARCHITECT SHEET A-2.3
1 WAREHOUSE - NORTH ELEVATION
REFER TO RMG ARCHITECT SHEET A-2.3
SEE DETAIL A1
THIS SHEET

2 WAREHOUSE - EAST ELEVATION
REFER TO RMG ARCHITECT SHEET A-2.3
SEE DETAIL A1
THIS SHEET

3 WAREHOUSE - SOUTH ELEVATION
SEE DETAIL A1
THIS SHEET

4 WAREHOUSE - WEST ELEVATION
SEE DETAIL A1
THIS SHEET

REMOVE & DISPOSE OF TRANSITE PANELS

A1 WAREHOUSE WALL SECTION (TYPICAL)
REFER TO RMG ARCHITECT SHEET A-2.3
SEE DETAIL A1
THIS SHEET
CONDUIT WITH #4 CU TO (3) 3/4" X 10"
CONDUIT TO THE 20/1
CONDUIT WITH 3#6, 1#10 GND

MECHANICAL & ELECTRICAL KEYNOTES:
OUTDOOR LOADCENTER IN THIS AREA. SEE RISER.

REMOVE AND REINSTALL EXISTING ELECTRICAL PANEL MOUNTED TO SIDING THAT IS DAMAGED. SEE RISER.

NEW FEEDER. SEE RISER.

REPLACE BROKEN RV RECEPTACLE AND ASSOCIATED CIRCUIT. VERIFY EXISTING RECEPTACLE TYPE. SEE RISER.

REPLACE DAMAGED PIPE CHASE FOR SUMP PUMP CORD AND PLUG IN THIS AREA.

NEW LOAD CENTER ON RACK 120/240V 100A WITH 2 50/2 CIRCUIT BREAKERS TO REF FEED EXISTING DECOMMISSIONED AND ALL ELECTRICAL CONNECTIONS AND COMMUNICATIONS WIRING REMOVED. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL ELECTRICAL AND COMMUNICATIONS MATERIALS BEING REMOVED.


COORDINATE ALL ASPECTS OF SERVICE AND METERING WITH POWER CABINETS AND UNISTRUT RACK(S) IN CONCRETE FOOTINGS.

INSTALL LOADCENTER AND METER BASE ON UNISTRUT RACK AT POLE.

PROVIDE AND INSTALL A 100A, 12 CIRCUIT, 120/240V, 10KAIC LOADCENTER WITH NEMA 3R ENCLOSURE AND 2 50/2 CIRCUIT BREAKERS TO SERVE THE RV RECEPTACLES, AND 1 20A 120V, GFCI PROTECTED, WR TYPE CONVENIENCE OUTLET WITH WEATHERPROOF COVER AT PANEL WITH 3#12 IN ½" CONDUIT. SEE RISER.

COORDINATE WITH OWNER PRIOR TO REMOVAL OF THE COMMUNICATIONS EQUIPMENT AND CABLE AT THE TIME OF TEMPORARY BUILDING DECOMMISSIONING, DISCONNECT TEMPORARY BUILDING ELECTRICAL PANEL, AND REMOVE ASSOCIATED FEEDER CONDUIT AND WIRING COMPLETELY.

REMOVE AND REINSTALL EXISTING ELECTRICAL PANEL MOUNTED TO SIDING THAT IS DAMAGED. SEE RISER.

AT THE COMPLETION OF CONSTRUCTION, THE TEMPORARY BUILDINGS WILL BE DECOMMISSIONED AND ALL ELECTRICAL CONNECTIONS AND COMMUNICATIONS WIRING REMOVED. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL ELECTRICAL AND COMMUNICATIONS MATERIALS BEING REMOVED.

MECHANICAL & ELECTRICAL KEYNOTES:

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.

PLACE, EXISTING, DAMAGED SECONDARY UTILITY POWER POLE, METER AND BOX. REPLACE OR REINSTALL IN THE SAME LOCATION.
**ELECTRICAL KEYNOTES**

1. **1/2" CONDUIT WITH 3#12 TO A 20/1 CIRCUIT BREAKER IN ASSOCIATED TEMP BUILDING**

2. **DOUBLE DUPLEX CONVENIENCE OUTLET (18" A.F.F. OR AS NOTED)**

3. **COMMUNICATION OUTLET - DEEP 4" SQUARE BOX WITH SINGLE GANG PLASTER RING WITH CABLE/PULLSTRING IN 1" CONDUIT TO ACCESSIBLE CEILING (18" A.F.F OR AS NOTED)**

4. **TELE/POWER POLE SHALL HAVE 2 - 20A 120V DUPLEX RECEPTACLES AND 1 - 30A 120V TWIST LOCK RECEPTACLE. VERIFY 30A RECEPTACLE TYPE WITH OWNER’S EQUIPMENT. VERIFY FINAL LOCATION OF TELE/POWER POLE WITH OWNER PRIOR TO INSTALLATION.**

5. **SURVEILLANCE CAMERA - DEEP 4" SQUARE BOX WITH SINGLE GANG PLASTER RING WITH CABLE IN 3/4" CONDUIT TO ACCESSIBLE CEILING. VERIFY LOCATION OF TELE/POWER POLE WITH OWNER PRIOR TO INSTALLATION.**

6. **HOMERUN TO ELECTRIC PANEL BOARD (INDICATED NUMBER OF CIRCUIT BY NUMBER OF ARROWS) PRIOR TO INSTALLATION.**

7. **THREE (3) CONDUCTORS RUN IN CONDUIT. EVERY CIRCUIT TO HAVE A GROUND, SHARED NEUTRAL IS NOT ALLOWED.**

---

**ELECTRICAL LEGEND**

- Symbol 1: 1/2" Conduit with 3#12 to a 20/1 Circuit Breaker in Associated Temp Building
- Symbol 2: Double Duplex Convenience Outlet (18" A.F.F. or As Noted)
- Symbol 3: Communications Outlet - Deep 4" Square Box with Single Gang Plaster Ring with Cable/Pullstring in 1" Conduit to Accessible Ceiling (18" A.F.F. or As Noted)
- Symbol 4: Tele/Power Pole Shall Have 2 - 20A 120V Duplex Receptacles and 1 - 30A 120V Twist Lock Receptacle. Verify 30A Receptacle Type with Owner's Equipment. Verify Final Location of Tele/Power Pole with Owner Prior to Installation.
- Symbol 5: Surveillance Camera - Deep 4" Square Box with Single Gang Plaster Ring with Cable in 3/4" Conduit to Accessible Ceiling. Verify Location of Tele/Power Pole with Owner Prior to Installation.
Section 27 13 00 – Voice and Data Systems

PART 1 - GENERAL

1.1 SUMMARY:

A. This section includes the following: Inside station cables, multi-pair inside telephone cables, fiber optic cable, backboards, racks, inner duct, cross connects and outlets for voice and data use to each station outlet location as shown on the Drawings.

1. Conduits for voice and data between buildings as shown on the Drawings or as indicated in specifications.

2. Backboards, relay rack, mounting brackets and associated hardware for bundling, racking and cross-connecting data cables as shown on the Drawings or as indicated in specifications.

3. Fiber cables, fiber distribution panels, and associated hardware for bundling, racking and terminating fiber cable as shown on the Drawings.

4. Category 6, four-pair communications cable (for voice) and Category 6 (Cat 6), four-pair communications cable (for data) to each voice/data outlet location as indicated on Drawings. Furnish a four (4) position face plate at each location.

5. 4 position, 8 conductor (4 pair) modular voice/data jacks at each telephone/data outlet shown on Drawings and as specified herein.

6. Single, 8 conductor (4 pair) modular voice jack at each telephone only outlet shown on Drawings and as specified herein.

7. Relay racks with patch panels, and wire management frame for terminating data and voice station cables.

8. Duplex receptacles and ground bus, and connection of ground bus to building system.

1.2 QUALITY ASSURANCE:

A. All work and equipment shall conform to the applicable portions of the following specifications, codes and regulations:

1. Building Industry Consulting Services International (BICSI)
2. Telecommunications Distribution Methods Manual
3. BOCS and AT&T Plant Standards
4. ANSI/EIA/TIA Standards
5. National Electrical Code (NEC)
6. State Codes

B. Maintenance Considerations:

1. The cable and wire system shall be installed to maximize the safety, maintainability, and
performance effectiveness of maintenance personnel and minimize the demands upon skills, training, and manpower. Splices/terminations shall be placed and supported with convenient accessibility so as to maximize the efficiency and ease with which it can be maintained. No cables shall be spliced unless as shown on plans or approved by Engineer.

C. Cable and wire identification, testing, and documentation shall be specified in Part 3.00 herein.

1.3 SHOP DRAWINGS:

A. Shop drawings shall be submitted for review and shall include complete catalog and other information shown to describe the cables, wire, and equipment proposed to be furnished and numbered locations for all data and voice locations.

PART 2 - PRODUCTS

2.1 VOICE/DATA STATION CABLE:

A. Voice/Data station wiring shall be Category 6 (Cat 6) communications wire and cable. Station Cable shall be four-pair, unshielded, twisted pair, inside-station cable, and shall be constructed of solid 23 gauge annealed copper. Each conductor shall be insulated with a continuous layer of fluorinated ethylene propylene (FEP). The sheath shall be all weather, flame resistant, polyvinyl chloride. Station wire shall be constructed of 4 twisted pair sharing one sheath. Voice/Data cable shall be terminated in a 110 rack mounted patch panel. The use of 66 or 110 patch panels is not allowed for station. Cable shall have Category 6 transmission characteristics as specified by ANSI/EIA/TIA-568B and meet the following performance characteristics. General Cable GenSpeed 6500, Hubbell NEXTSPEED or prior approved equal.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Test Freq.</td>
<td>350 MHz</td>
</tr>
<tr>
<td>Min. 10dB ACR Power Sum</td>
<td>100 MHz</td>
</tr>
<tr>
<td>Min. 0dB ACR Power Sum</td>
<td>165 MHz</td>
</tr>
<tr>
<td>Attenuation less than/equal to</td>
<td></td>
</tr>
<tr>
<td>33dB at 200 MHz</td>
<td></td>
</tr>
</tbody>
</table>

B. Cables shall have a sheath and conductor insulation constructed of material so as to be classified as type CMP as defined by the NEC 800-3(b)(3).

C. Cable jacket color shall be as follows:

<table>
<thead>
<tr>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Data</td>
</tr>
<tr>
<td>Pink</td>
<td>Cameras</td>
</tr>
</tbody>
</table>

Final color shall be approved by the engineer in shop drawings. Engineer has the right to change color of the cables.

2.2 CROSS-CONNECT WIRE:

A. Cross-connect wire and fiber jumpers shall be furnished and installed by Contractor. Contractor shall provide enough patch cables and fiber jumpers for all possible connections. Cross-connect must be factory certified Category 6 for voice connections and compatible with Category 6 for data wiring. The fiber jumper shall be a duplex, buffered, graded-index fiber, Kevlar yarn over each
Hurricane Laura Storm Repairs – Rosteet Annex – Repairs

RMG No. 20042-03A

CPSB   HL-738-01, 02

fiber cladding, and a flame-retardant PVC jacket.

2.3 COMMUNICATIONS OUTLET:

A. Telephone and data outlets shall be a combination voice/data communication unit. Wall mounted outlets shall be flush mounted in a double gang utility box and covered with voice and data device plates. Raceway mounted outlets shall be flush mounted and covered with voice and data device plates. Complete outlet shall consist of utility box, communication assembly devices, cover plate, and jack inserts. All voice/data outlet inserts shall be eight (8) position/eight (8) conductor, insulation displacement, Hubbell part number HXJ6xx only, EIA/TIA 568B Category 6 compliant.

B. Communications outlets shall be furnished by one manufacturer. Outlet shall be furnished with 4-position, Category 6 compliant, RJ-45 modular jacks. Each outlet shall consist of voice jacks and data jacks in the locations as shown on Drawings. Voice only outlets shall consist of one (1) voice jack. Data jacks shall be compatible with Category 6 wiring.

C. Outlets shall consist of the following items:

   1. Face Plate.
   2. Data Jack Inserts.
   5. Outlets shall have circuit identification holders and labels.

D. The device plate colors shall be as selected by architect per space.

2.4 CONNECTING BLOCKS:

A. Voice feeder and station cables shall be terminated on Category 6 compliant, type 110 patch panels. All panels shall be 48-port type.

B. The patch panels shall support 100 MHz cross connect transmission for UTP cabling systems utilizing Category 6 performance rated cable. Terminations shall use 110-IDC (Insulating Displacement Connector) field made continuous to the 8-pin modular jack on front of panel via Printed Circuit interconnections. The panel shall mount on nineteen (19") inch rack and be fully EIA/TIA568B compliant. Panels will be T568B wiring.

2.5 RELAY RACK:

A. Relay rack shall be an enclosed, lockable network cabinet with dual fans for ventilation -CPI CUBE.IT+Wallmount Cab and Plexi-Glass Door with CUBE.IT rack fan kit.

2.6 FIBER BREAK-OUT KIT:

A. Fiber break-out kits shall be used to terminate fiber into protective buffer tubes. Kit permits separation and protection of individual fiber elements. Kits shall be Siecor, Belden, AT&T, Corning or approved equal.

2.7 PATCH PANELS:
A. The patch panels shall be Panduit NetKey Modular Faceplate Patch Panel – 2U, 19”.

2.8 FIBER OPTIC CABLE:

A. Fiber optic cable shall be as shown on the Drawings, breakout style suitable for indoor/outdoor applications. Each individually jacketed fiber shall contain Kevlar strength member to allow direct termination of cable. Cable shall be UL listed and constructed in accordance with EIA/TIA 568 requirements.

B. Fiber optic cables shall meet the following requirements:
   Multi-Mode shall be OM3 for up to 500 meters and OM4 for over 500 meters

2.9 FIBER CONNECTORS

A. Fiber cable connectors shall be LC style connectors.

B. Provide the following: Gbic/SFP – Dell SFP-10G-SR-SO – SDP0 Dell-compatible, 10GBASE-SR-SFP+ for multimode fiber, 850nm, 550m, LC duplex connector, DOM, Solid Optics Dell-SFP-10G-SR-SO-10G-SR-SO.

PART 3 - EXECUTION

3.1 INSTALLATION:

A. Unless otherwise specified, all communications systems shall be permanently installed and connected to the wiring systems. The systems must be installed according to manufacturer standards and recommendations.

3.2 TELEPHONE/DATA SYSTEM GENERAL REQUIREMENTS:

A. All cables, wires, and equipment shall be securely and neatly installed. Inside routing shall be installed parallel and perpendicular to existing structural lines and members.

B. Each station wire shall be plainly marked at its patch panel end with the room number to which it is connected, and terminated on the termination blocks or patch panel.

C. Voice/data cables shall be routed above ceilings utilizing cable hooks. Cables must not be secured to hooks. Provide hooks a minimum of four feet on center.

D. Contractor shall maintain recommended Category 6 bending radius, pulling tension, and cable support requirements. Cable ties may be finger tight, however, not so tight so they distort the outer jacket of the cable.

E. Cable suspended above an open ceiling shall not rest on ceiling tiles or lighting fixtures, and shall be supported from roof structure at 4’ intervals.

F. Voice/data system wiring shall be installed in accordance with NEC Article 800-5 and 6 requirements.

3.3 TELEPHONE/DATA CABLE INSTALLATION:
Station cable installation shall consist of the following:

1. All conduits stubbed up in ceiling spaces shall have conduit bushing at end of conduit.

2. From the outlet location to the telephone backboard, Contractor shall furnish and install voice and data cables as per Drawings. Voice only stations shall have one (1), four (4) pair station cable.

3. Each cable shall also be labeled per face plate detail.

4. Voice jack shall be installed in top left position at each location.

5. At modular furniture locations contractor shall provide outlets and cable indicated on the drawings. Cable shall be installed and terminated in the modular furniture complete from outlet to patch panel. Contractor to install cable in modular furniture raceway then to flexible conduit and to a junction box in adjacent wall. Refer to detail on drawings.

6. Provide 4’-0” of slack at each outlet location. Slack shall be in ceiling space.

3.4 FIBER CABLE INSTALLATION:

A. Fiber cables shall be terminated using SC type connectors. Connectors shall be attached using hot melt, ultraviolet, epoxy or heat curable.

B. All multi-mode fiber cables shall be terminated at both ends and Contractor shall coordinate termination of fibers at source end.

3.5 COMMUNICATIONS SYSTEM QUALIFICATIONS:

A. The communications system installer shall be experienced in the design, fabrication and installation of communications premise distribution systems of similar size and scope to this project. Installation technicians shall be manufacturer certified in At & T Systimax Structured Cabling System, AMP Netconnect Cabling System, Siecor wiring systems, or equal.

3.6 CABLE/WIRE IDENTIFICATION:

A. The following labeling procedure shall be completed by the Contractor after each cable has been installed and connected:

1. Each cable pair shall be plainly marked at the patch panel end.

2. All outlets shall be permanently marked or labeled on the jack faceplate ID number.

3. All cables shall be legibly and permanently labeled at each end using wrap-around/stick-on label systems or approved equal.

4. In rooms where more than one jack exists, the jacks shall be labeled per the faceplate detail.

5. All conduits, except those used for individual station jacks, shall be clearly and permanently
marked or labeled at both ends, indicating the location of the other end of the conduit.

B. All cable and wiring identification shall be in compliance with ANSI/TIA/EIA 606 Structured Cabling System standards. No hand-written labels will be accepted on face place and patch panels.

3.7 DOCUMENTATION AND TESTING:

A. Upon completion of construction, the Contractor shall provide “as installed” drawings showing the exact placement of all outlets, cables, conduits and connecting hardware called for in this section.

B. Voice and data wiring shall be tested upon completion of installation. In order for any voice cable to be accepted, the number of defective pairs shall be limited to a maximum of one percent (1%) of the total number of pairs in the cable. Any cable having more than the maximum acceptable number of defective pairs shall be replaced at the Contractor’s expense. The cable test results shall be provided with the “as installed” drawings upon the completion of construction.

C. Voice and Data station cables shall contain no defective pairs.

D. Testing Procedures

1. Testing shall be performed in the presence of a representative as designated by the architect or engineer. Sufficient advanced notice of test dates shall be provided to coordinate test dates.

2. All voice (station, riser & outside plant) cables and associated connection hardware shall be tested and documented by the Contractor. The test procedure shall demonstrate as a minimum:

   a. Continuity (more than 2,600 ohms is considered an open)
   b. Shorts (60,000 ohms or less is considered a short)
   c. Proper polarity (tip and ring correct)
   d. Proper termination (splits & wrong terminations)
   e. Proper ground and shield bonding
   f. Grounded conductors (60,000 ohms or less to ground is considered a fault)
   g. Detection of A/C or DC power on any conductor (power fault test)
   h. User’s equipment must function normally when connected to the installed wiring

3. All UTP data station and riser cables and associated connection hardware shall be tested to certify the performance category of the link as installed. All Category 6 station cables shall be tested in accordance with procedures laid out in EIA/TIA 568B.2-1. Written (printed) test results for each cable shall include all of the field test parameter results. Any cable that fails testing shall be reported along with the procedures used to rectify the failure (IE. Replaced cable, re-terminated the jack, etc.). Contractor tests shall utilize a category six (6) complaint cable tester. Fluke and HP are approved tester. Electronic results for each UTP Category 6 four pair cable shall be submitted as a part of the Contractors as built project performance acceptance records. In addition to the above information the documentation shall include a pass/fail indication for the specified cable, the test date, the serial number and software version of the scanner used, and a copy of the calibration certificate of the scanner. Necessary applications for reading the results shall be provided by the Contractor. This document can be found in the EIA/TIA Telecommunications Building Wiring Standards.
The Contractor shall test, certify and document each fiber optic conductor to meet the following attenuation specifications:

a. Power meter test: (cable length per 1000 times 1.22) + connector loss + splice loss = acceptable loss in dB@850 nm, nominal. End-to-end testing shall include all connectors and jumpers. The Contractor shall supply all required meters, jumpers and light sources for this test.

b. OTDR Test shall be performed by the Contractor on each fiber strand and on each fiber segment installed at both 850 nm and 1300 nm for multimode cable. If single mode cable is installed OTDR tests shall be performed at both 1310 nm and 1510 nm. Two sets of hard copy printouts of the OTDR graphs for each fiber strand shall be presented to the A/E. Fiber termination made on site shall be of factory quality and tested for attenuation loss not to exceed 0.5 dB per mated connection at 1300 nm for multimode fiber and 1550 nm for single mode fiber. Fiber connector terminations shall be made by a factory trained technician with ample field experience. Fiber technician certification shall be submitted to the A/E with the fiber test documentation.

E. Prior to testing of any communications cable/wire and hardware, the Contractor shall notify The Architect in writing, at least two (2) weeks in advance of testing. Contractor shall furnish hard copy of all test reports to Architect for approval prior to completion and final acceptance of project.

F. Submit documentation regarding the manufacturer’s extended warranty. The length of the extended warranty shall be a minimum of twenty (20) years. The documentation shall include a sample of the warranty that shall be provided to the Owner when the installation is complete, as well as procedures for handling warranty issues. The warranty shall be for the complete system.

END OF SECTION 27 13 00
INTENTIONALLY LEFT BLANK