



ADDENDUM #1

Project: New Elementary School, Maynard School District
Project No.: 14-19
ARKANSAS DPSAFT #: 1415-6102-001
Date: January 4, 2017
From: Dille & Traxel, LLC
4061 Highway PP, Suite 2
Poplar Bluff, MO 63901

To: All plan holders

Re: Addendum No.1 to the Drawings and Specifications of the material and labor to be used and employed in the construction of the:

New Elementary School, Maynard School District

THIS ADDENDUM FORMS A PART OF THE BIDDING DOCUMENTS AND MODIFIES THE ORIGINAL BIDDING DOCUMENTS ISSUED DATED OCTOBER 27, 2016 HEREIN.

This Addendum supersedes all conflicting portions of the Drawings and Specifications. The Contractors shall include all omissions, additions and adjustments of all trades as may be necessary because of each change, substitution or omission.

This Addendum consists of **Twenty three** pages.

Revisions and Clarifications to the Project Manual and Drawings:

1. **Clarification** - Bid Time is at 11:00am, January 10, 2017.
2. **Change** - Construction Period shall be 360 calendar days in lieu of 330 calendar days.
3. **Change** - Refer to included Revised Bid Form. Contractor to use revised form. (three pages)
4. **Change** - Refer to included revised Section 01210 ALLOWANCES (two pages).
5. **Change** - Refer to included new Section 01270 UNIT PRICES (two pages).
6. **Change** - Reference Section 06402. 2.5, 2.6 - Cabinets/Tops grade to be "Custom" in lieu of "Premium."
7. **Change** - Reference 07531, 1.2-B - Delete reference to acoustical roof deck rib insulation strips.
8. **Change** - Refer to Section 27-1005 Structured Cabling - Cost to be provided as a Deduct Alternate. Reference Revised Bid Form.
9. **Clarification** - Reference Sheet C2 - "Trailer" as schedule to be removed, is not trailer, but wood framed structure on conventional footing/slab, and is to be removed.



10. **Clarification** - Reference A2.0 - North and East walls in Multi-Purpose Room 123 are 12" CMU; refer to sections.
11. **Clarification** - Reference A2.0 - Floor Plan references "M" (Marker Board) and "T" (Tack Board) in Classrooms and Lab. Contractor to provide solid blocking in metal framed walls as required. Coordinate all locations with Owner.
12. **Clarification** - Reference A2.1 - ROOFING MATERIAL KEY - Roof membrane to be 60 mil.
13. **Change** - Reference A2.1 - Delete reference to "Pre-finished Architectural Louver, non-vented, in gable" on the south end of the gabled section of the building. Refer to Building Section 1/A4.0 for additional information.
14. **Clarification** - Reference A3.0 - See included drawings for stone medallions. 3'-8" dia. medallion is located at the North end of gabled building; the 2'-9" dia. medallion is located at the entry. (2 pages)
15. **Change** - Reference A7.0 - Room Finish Schedule - Multi-Purpose Room 124 ceiling/structure/deck to be painted black. Corridor 126 to be painted, with base. All base to be vinyl base.
16. **Clarification** - Reference Sheets A2.0, A8.0 - Classroom millwork to be as per Interior Elevations on Sheet A8.0; Plan view per A2.0 shows incorrect layout. Coordinate rough-ins with layout per A8.0
17. Refer to included drawing from Horner & Shifrin (one drawing, C4).
18. Refer to included Addendum 01 from Toth & Associates (one sheet)
19. Refer to included MPE Addendum #1 from Strickland Engineering (ten sheets, including one drawing, E1.1).

End of Addendum

BID FORM

OWNER: Maynard School District
74 Campus Drive
Maynard, AR. 72444

PROJECT: NEW ELEMENTARY SCHOOL

NAME & ADDRESS OF BIDDER:

Telephone No. _____

ACKNOWLEDGMENT OF ADDENDA:

Addendum no.1: Y / N Dated _____ Addendum no.2: Y / N Dated _____

BASE BID:

Scope of work as per the Project Manual as prepared by Dille and Traxel, LLC dated **October 27, 2016**. Undersigned agrees to complete this project for lump sum as follows:

\$ _____
(figure form)

\$ _____
(written form)

BID ALTERNATE #1. Delete Finish Casework in Rooms 100, 101, 102, 103, 104, 106, 110, 120, 121. Plumbing and electrical rough-in to remain in base bid.

#1 (DEDUCT) \$ _____

BID ALTERNATE #2. Delete Structured cabling for Voice and Data per Section 27-1005. Electrical rough-in to remain in base bid.

#2 (DEDUCT) \$ _____

UNIT PRICES (Refer to Section 01270)

- Unit Price #1: \$ _____/cu. yd. for excavation, removal and disposal from site of unclassified or unsuitable materials.

- Unit Price #2: \$ _____/cu. yd. to furnish and place compacted engineered fill or structural fill – from off-site material.
- Unit Price #3: \$ _____/cu. yd. to furnish and place compacted drainage fill (clean, ¾” crushed stone).
- Unit Price #4: \$ _____/cu. yd. to furnish and place compacted granular fill (base rock and gravel for base rock and gravel, building pad).
- Unit Price #5a: \$ _____/cu. yd. for Mass Rock Excavation.
- Unit Price #5b: \$ _____/cu. yd. for Footing & Trench Rock Excavation, less than 10 feet below existing grade.
- Unit Price #5c: \$ _____/cu. yd. for Pit Rock Excavation.

ALLOWANCES (Refer to Section 01210)

- Allowance #1 – Building Plaque Allowance: \$ _____
- Allowance #2 – Contingency Allowance: \$ _____
- Allowance #3 – 1500 cu. yds. of excavation, removal and disposal from site of unclassified/unsuitable materials: \$ _____
- Allowance #4 – 1500 cu. yds. to furnish and place compacted engineered/structural fill – from off-site material: \$ _____
- Allowance #5 – 350 cu. yd. of compacted drainage fill (clean, ¾” crushed stone), in place. \$ _____
- Allowance #6 – 350 cu. yd. of compacted drainage fill (clean, ¾” crushed stone), in place. \$ _____

CONTRACT LENGTH:

Contractor guarantees work to be substantially complete and occupancy permit granted within Three Hundred Sixty (360) calendar days. If completed beyond this time, liquidated damages will be assessed against the contractor in accordance with the Supplemental General Conditions.

SUBCONTRACTOR LISTING:

List of the major subcontractors proposed to be used:

1. HVAC _____

2. Electrician _____

3. Plumber _____

4. Roofer _____

5. Masonry _____

INFORMATION:

Contractor to begin work within 10 days of the date the “Notice to Proceed” is granted.

The bid security attached without endorsement in the sum of 5% of the base bid is to become the property of the owner in the event the contract and bond are not executed within the time set forth in the bid documents, as liquidated damages for the delay and additional work caused thereby.

Upon receipt of Notice of Acceptance of this bid, the contractor will execute the formal contract (AIA Document A101-1997 *Standard Form of Agreement Between Owner and Contractor*) within ten (10) days and deliver a Surety Bond for the faithful performance of the Contract. (A letter of credit or cash deposit will not be accepted in lieu of a bond.)

The undersigned, having examined the proposed contract documents dated: October 27, 2016 for the project and having visited the site and examined the conditions agrees to perform the work required at the prices specified above in strict accordance with the terms of these contract documents, if this offer is accepted by the Maynard School District within 60 calendar days after the date offers are due.

NAME & TITLE OF PERSON AUTHORIZED TO SIGN OFFER:

(Signature)

(Date)

(Type or Print Name and Title)

SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. Certain materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
 - 1. Lump-sum Allowances
 - 2. Contingency Allowances
 - 3. Quantity Allowances
 - 4. Unit Cost Allowances
- C. Related Sections include the following:
 - 1. Refer to the General Conditions to the Contract for procedures for submitting and handling Change Orders.

1.2 CONTINGENCY ALLOWANCE

- A. Use the Contingency Allowance only as directed by the Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the Allowance.
- B. Contractor's overhead, profit and related costs for products and equipment ordered by the Owner under the contingency allowance are included in the allowance and are not a part of the Contract Sum. These costs include delivery, installation, insurance, equipment rental and similar costs., all in accordance with the General Conditions.
- C. Change Orders authorizing the use of funds from the contingency allowance will include the Contractor's related costs and overhead and profit as defined in the General Conditions.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to the Owner by Change Order. Such credit will not include any mark-ups or mark-downs.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.4 SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES / UNIT COST

- A. ALLOWANCE #1 - Building Plaque Allowance: \$1,500.00.
- B. ALLOWANCE #2 - Contingency Allowance: \$35,000.00
- C. ALLOWANCE #3: Quantity Allowance - Include 1500 cu. yds. of excavation, removal and disposal from site of unclassified or unsuitable materials. Provide Unit Price per cu. yd. to add/delete from quantity.
- D. ALLOWANCE #4: Quantity Allowance – Include 1500 cy. Yds. to furnish and place compacted engineered fill or structural fill – from off-site material. Provide Unit Price per cu. yd to add/delete from quantity.
- E. ALLOWANCE #5: Quantity Allowance: Include 350 cu. yd. of compacted drainage fill (clean, ¾” crushed stone), in place. Provide Unit Price per cu. yd to add/delete from quantity.
- F. ALLOWANCE #6: Quantity Allowance: Include 350 cu. yd. of compacted granular fill (base rock and gravel for base rock and gravel, building pad). Provide Unit Price per cu. yd to add/delete from quantity allowance.

END OF SECTION 01210

SECTION 01270 - UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. See Division 1 Section "Allowances" for procedures for using unit prices to adjust quantity allowances.

1.2 DEFINITIONS

- A. Unit price is an amount proposed by bidders, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: Refer to individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A list of unit prices is included in Part 4. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

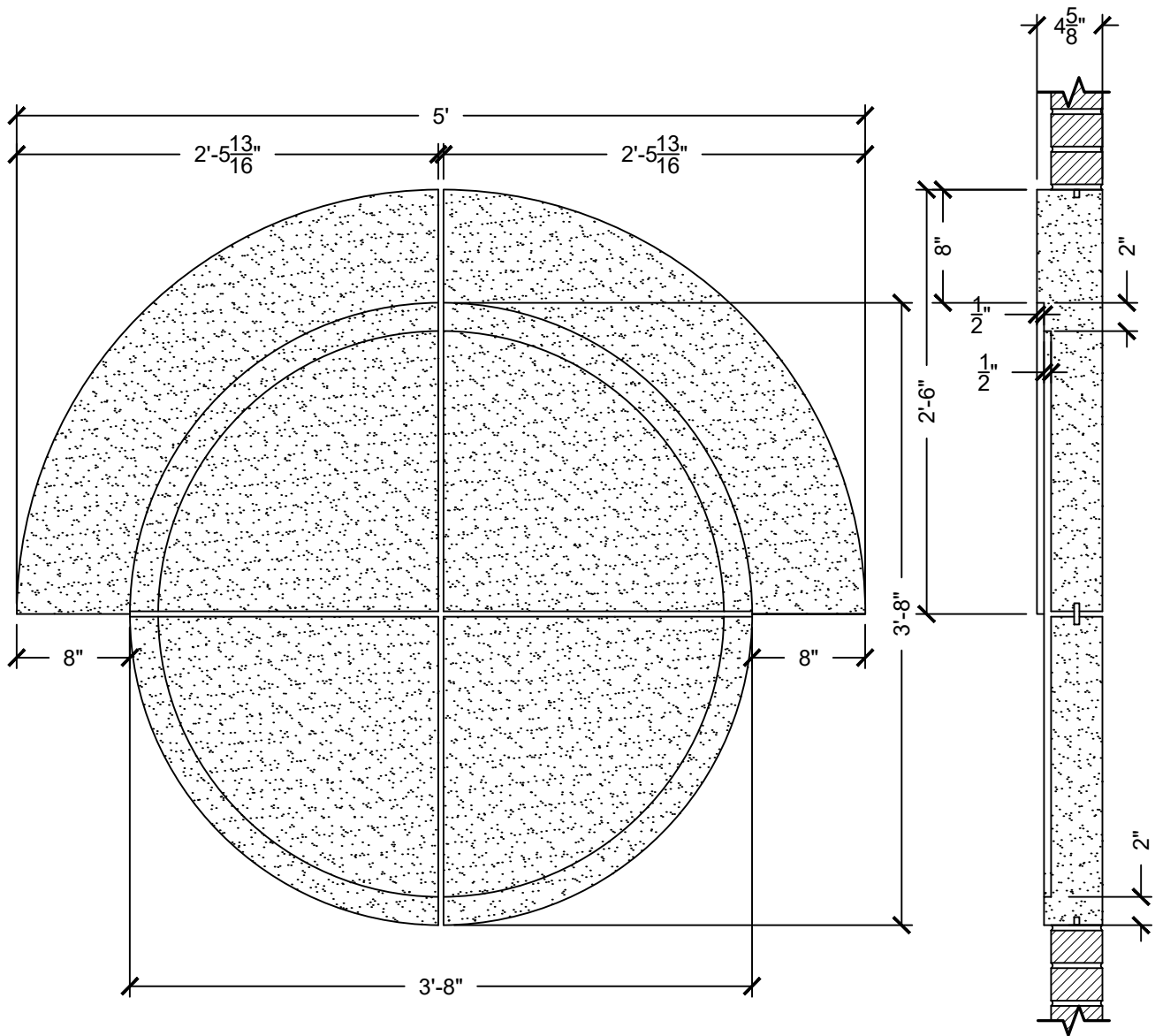
PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - LIST OF UNIT PRICES – TO BE INCLUDED ON BID FORM

- A. Unit Prices: Unit costs identified below for are for unanticipated conditions which may arise during excavations that are not part of the work required by the Contract Documents. Contractor shall include in the base bid all work required and that can be reasonably anticipated based on the Contract Documents and on-site observations. Unit prices shall be listed only to determine prices of changes to the work. Contractor shall notify Architect and Owner immediately upon uncovering any unanticipated conditions before proceeding with removal and/or replacement of any items identified below under unit cost schedule.:
1. Unit Price #1: Provide Unit Price per cu. yd. to add/delete from quantity allowance for excavation, removal and disposal from site of unclassified or unsuitable materials.
 2. Unit Price #2: Provide Unit Price per cu. yd. to add/delete from quantity allowance to furnish and place compacted engineered fill or structural fill – from off-site material.
 3. Unit Price #3: Provide Unit Price per cu. yd. to add/delete from quantity allowance to furnish and place compacted drainage fill (clean, ¾” crushed stone).
 4. Unit Price #4: Provide Unit Price per cu. yd. to add/delete from quantity allowance to furnish and place compacted granular fill (base rock and gravel for base rock and gravel, building pad).
 5. Unit Price #5: Provide Unit Price per cu. yd. for rock excavation:
 - a. Mass Rock
 - b. Footing & Trench Rock less than 10 feet below existing grade.
 - c. Pit Rock
- B. Unit of Measurement: Cubic Yard Excavated, based upon survey of volume removed (in-situ).
- C. Quantity Allowance: Coordinate Unit Price with allowance adjustment requirements of Division 01 Section “Allowances”.

END OF SECTION 01270



STONE MEDALLION

SCALE: 1" = 1'-0"

NEW ELEMENTARY SCHOOL
MAYNARD, ARKANSAS



DILLEX

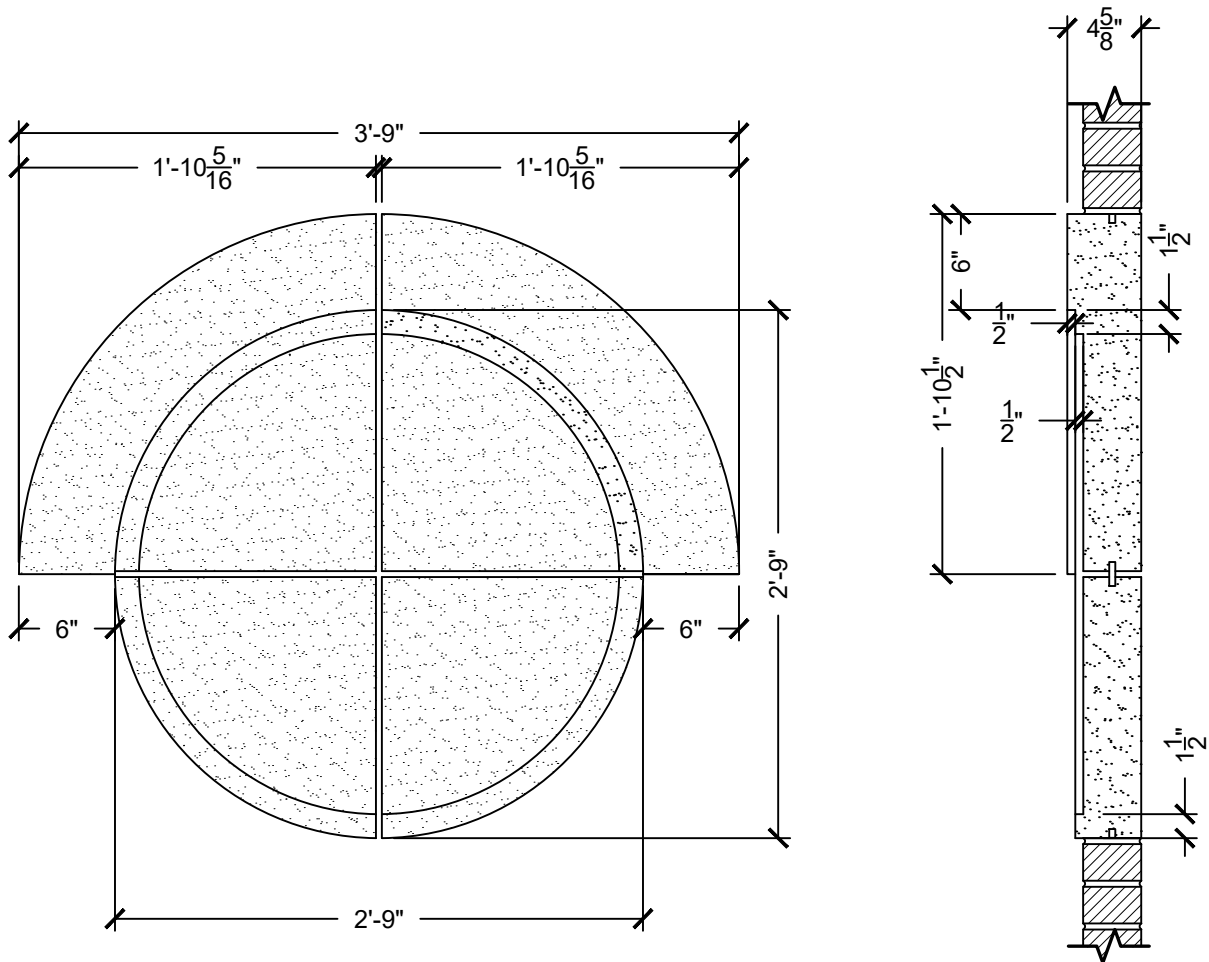
ARCHITECTURE

4061 HWY PP, Suite 2 (p) 573 - 778 - 0033
 POPLAR BLUFF MO 63901 (fx) 573 - 778 - 0057
 info@dtplans.com www.dtplans.com

ADDENDUM DATE: 1/4/2017


JOB NO. 14-19

ADDENDUM #1



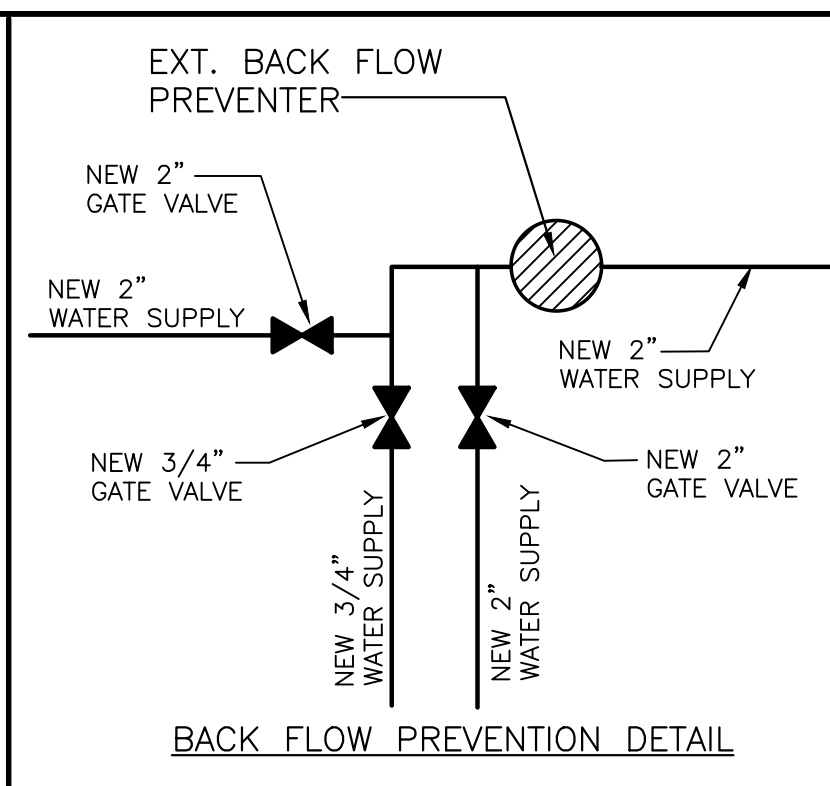
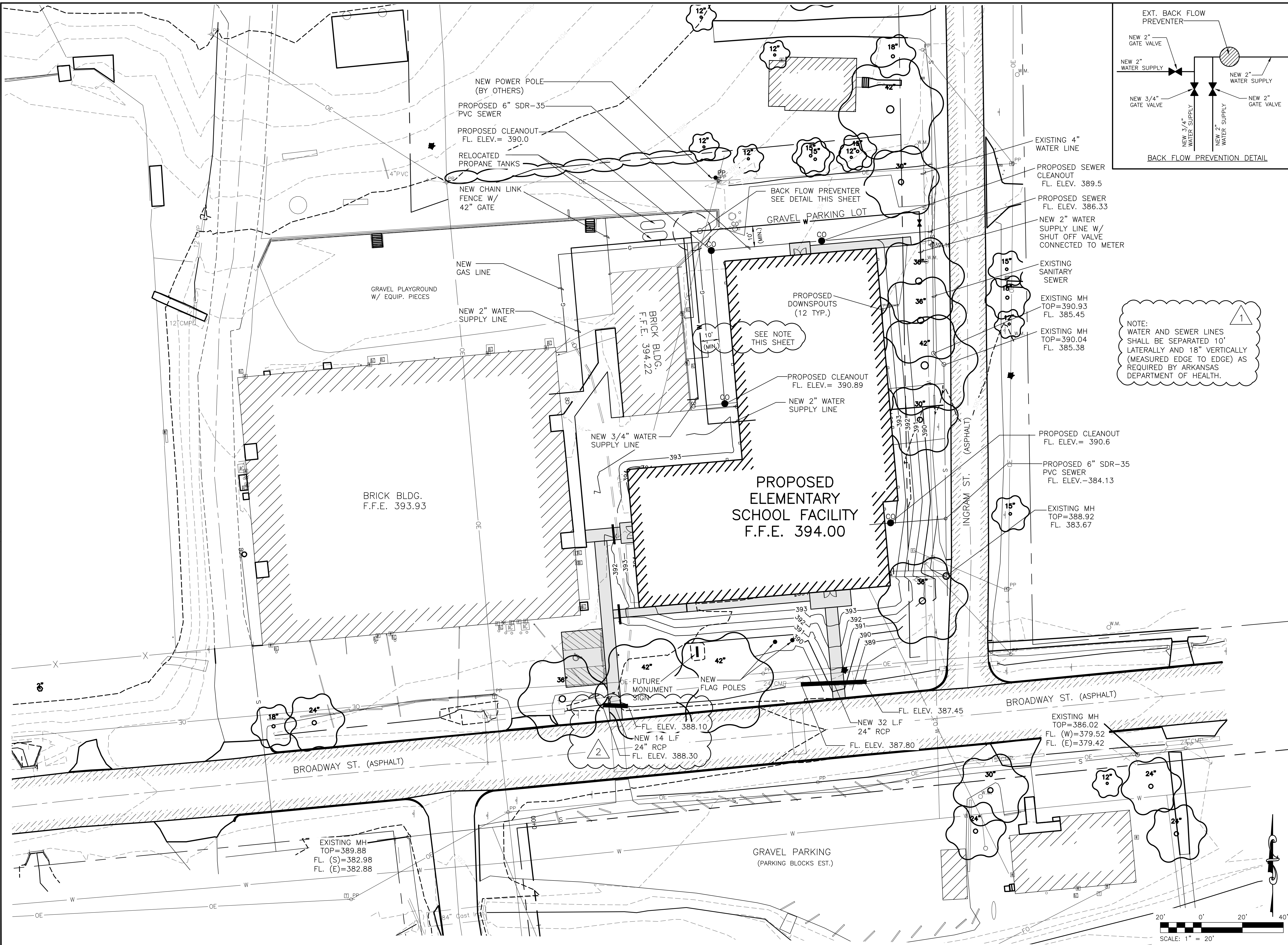
STONE MEDALLION

SCALE: 1" = 1'-0"

| | | |
|--|--|---------------|
|  DILLETRAXEL ARCHITECTURE | NEW ELEMENTARY SCHOOL MAYNARD, ARKANSAS | |
| | ADDENDUM DATE: 1/4/2017 | JOB NO. 14-19 |
| | ADDENDUM #1 | |
| 4061 HWY PP, Suite 2 (p) 573 - 778 - 0033 POPLAR BLUFF MO 63901 (fx) 573 - 778 - 0057 info@dtplans.com www.dtplans.com | | |

DWG: A:\1421500-MaynardAR\Code\C\142150004-ES.dwg
 SAVE DATE: 12/29/2016 4:44:58 PM PLOT DATE: 12/29/2016 4:46:31 PM OPERATOR: ROBARRETT

NOTICE: CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS IN THE DRAWING OR SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.

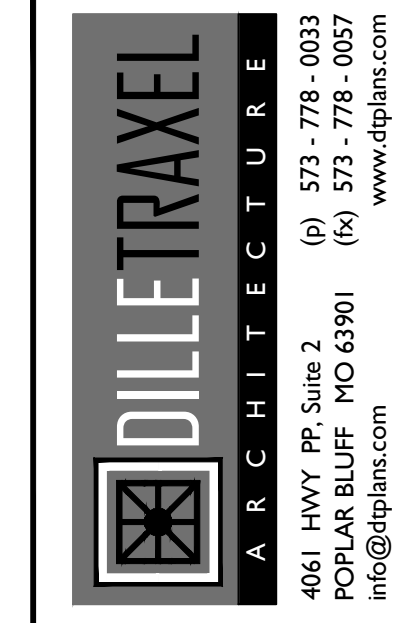


NOTE:
 WATER AND SEWER LINES
 SHALL BE SEPARATED 10'
 Laterally AND 18" VERTICALLY
 (MEASURED EDGE TO EDGE) AS
 REQUIRED BY ARKANSAS
 DEPARTMENT OF HEALTH.

| REVISIONS | |
|-----------|--------------------------|
| 11-16-16 | ADD WATER AND SEWER NOTE |
| 01-03-17 | ADD RCP |



LICENSE NO. PE-2004017257
 EXPIRATION DATE: 12/31/16



CONSULTING ARCHITECT
 DILLE & TRAVEL, LLC
 4061 HWY PP SUITE 2
 POPLAR BLUFF, MO 63901
 (P) 573-778-0033
 (F) 573-778-0057

CIVIL ENGINEER:
 HORNER AND SHIFRIN
 4061 HIGHWAY PP, STE 1
 POPLAR BLUFF, MO 63901
 (P) 573-727-9666
 (F) 573-727-9668

STRUCTURAL ENGINEER:
 TOTH ENGINEERING, INC.
 830 PRINCETON SUITE 209
 SPRINGFIELD, MO 65807
 (P) 417-888-8445

MECH / ELEC ENGINEER:
 STRICKLAND ENGINEERING
 113 W. MAIN STREET, STE. 1
 JACKSON, MO 63753
 (P) 573-243-4080
 (F) 573-243-2191

NEW ELEMENTARY SCHOOL MAYNARD SCHOOL DISTRICT

CONFIDENTIAL
 THESE PLANS ARE THE CONFIDENTIAL PROPERTY AND CONTAIN EXCLUSIVE DESIGN INFORMATION OF DILLE & TRAVEL, LLC. ANY USE OF THESE DRAWINGS OR THE INFORMATION CONTAINED HEREIN FOR ANY REASON OTHER THAN AS EXPRESSLY AUTHORIZED BY DILLE & TRAVEL, LLC IS STRICTLY PROHIBITED. THESE DRAWINGS HAVE BEEN DISTRIBUTED WITH THE UNDERSTANDING THAT ANYONE RECEIVING OR OTHERWISE OBTAINING POSSESSION OF THEM WILL BE EXPRESSLY NOTIFIED OF THEIR CONFIDENTIAL NATURE.

DATE: 10-27-2016
 SHEET TITLE: PROPOSED UTILITY PLAN
 JOB NO.: 14-19
 SHEET

C4



417.888.0645
tothassociates.com
830 E. Primrose, Suite 200
Springfield, Missouri 65807

ADDENDUM 01

DATE: January 4, 2017

ISSUED BY: Toth and Associates Inc.
Structural Engineer of Record

PROJECT: New Elementary School for Maynard School District

The attached revisions hereby supersede any and all information for which they may conflict as indicated on the Drawings, Specifications and related documents issued in the original contract set. The contractor and any affected sub-contractor is responsible for modifications to their work caused by changes in the work of other trades. This addendum is a part of and shall be attached to the original set of plans and specifications for the work.

GENERAL:

1. Based on the Geotechnical Engineering Report provided by Terracon Consultants, Inc. dated October 21, 2014, the anticipated soils in the location of the proposed Elementary School could be considered low- to moderate-strength lean to fat clay and clayey sand soils which is deemed to be "unsuitable for supporting new fill, foundations, on-grade floor slabs, and pavements and should be corrected by removing and replacing them with new engineered fill, if they cannot be improved in place." Cuts of one foot and fills up to four feet are anticipated in the elementary school building pad. A geotechnical Engineer should be present at time of excavation to determine soil conditions and any recommendations for soil remediation to ensure that the Design Allowable Bearing Pressure of 2000 psf is met. This pressure, per the Report, is based on bearing on stiff lean clay soils or new engineered fill. Based on the observation of fat clay soils, a 2-foot thick low volume change layer of new engineered fill should be placed under the slab (please refer to Section 4.2.3 for Compaction Requirements.). A Geotechnical Engineer will need to be present to provide observation and testing services during construction to ensure the bearing capacity of the soils under shallow foundations meet the Design Allowable Bearing Pressure. Per section 4.2.2 Ground Improvement in the Report, the Geotechnical Engineer has given recommendations for improving soils in the event that unsuitable soils are encountered. This is a summation of the Geotechnical Engineering Report mentioned above and should be implemented in its entirety based on recommendations contained therein.

END OF ADDENDUM 01





ADDENDUM

ADDENDUM: MPE Addendum #1

DATE: 01/04/17

PROJECT: New Elementary School
Maynard School District
Maynard, Arkansas

| ITEM | SECTION | DESCRIPTION |
|------|---------------|---|
| 1 | 23 0200, 2.03 | <p>CLARIFICATION - Clarify that temporary heating, ventilating, and air conditioning is the responsibility of the general contractor.</p> <p>2.03 TEMPORARY HEATING, VENTILATING, AND AIR CONDITIONING</p> <p>A. The general contractor shall provide, maintain and pay for all temporary ventilation of enclosed Work areas to cure materials, disperse humidity, remove fumes, and to prevent accumulation of dust, irritants, or gases.</p> <p>B. It is the responsibility of the general contractor to maintain manufacturer required levels of room and/or space temperature, humidity and ventilation necessary to install products, materials and/or systems of the Work.</p> <p>C. The general contractor shall remove, extend and/or relocate temporary heating and ventilating systems as rapidly as required in order to provide for progress of the Work.</p> <p>D. The permanent HVAC system will not be allowed to be operated until construction has reached Substantial Completion and dust generating work is completed.</p> |
| 2 | 27 1005 | <p>ADDITION - Section 27 1005 Structured Cabling for Voice and Data shall be added in its entirety to the project specifications. See attached specifications.</p> |
| 3 | E1.1 | <p>MODIFICATION - Notes were modified to indicate that the telephone/data system is the contractor's responsibility and shall be included under the base bid. See attached drawing E1.1.</p> |

END OF ADDENDUM

SECTION 27 1005
STRUCTURED CABLING FOR VOICE AND DATA

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Communications system design requirements.
- B. Communications pathways.
- C. Copper cable and terminations.
- D. Communications equipment room fittings.
- E. Communications outlets.
- F. Communications grounding and bonding.
- G. Communications identification.

1.02 RELATED REQUIREMENTS

- A. Section 07 8400 - Firestopping.
- B. Section 26 0526 - Grounding and Bonding for Electrical Systems.
- C. Section 26 0534 - Conduit.
- D. Section 26 0536 - Cable Trays for Electrical Systems.
- E. Section 26 0537 - Boxes.
- F. Section 26 2726 - Wiring Devices.

1.03 REFERENCE STANDARDS

- A. EIA/ECA-310 - Cabinets, Racks, Panels, and Associated Equipment; Electronic Industries Alliance/Electrical Components Association; Revision E, 2005.
- B. ICEA S-90-661 - Category 3, 5, & 5e Individually Unshielded Twisted Pair Indoor Cables (With or Without An Overall Shield) For Use in General Purpose and LAN Communications Wiring Systems Technical Requirements; 2012.
- C. NECA/BICSI 568 - Standard for Installing Building Telecommunications Cabling; National Electrical Contractors Association; 2006.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. TIA-568 (SET) - Commercial Building Telecommunications Cabling Standard Set; 2015.
- F. TIA-568-C.2 - Balanced Twisted-Pair Telecommunications Cabling and Components Standards; Rev C, 2009 (with Addenda; 2014).
- G. TIA-569-C - Commercial Building Standard for Telecommunications Pathways and Spaces; Rev C, 2012 (with Addenda; 2013).
- H. TIA-606-B - Administration Standard for the Telecommunications Infrastructure; Rev B, 2012.
- I. TIA-607-B - Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises; Rev B, 2012 (with Addenda; 2013).
- J. ANSI/J-STD-607 - Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications; Rev A, 2002.
- K. UL 444 - Communications Cables; Current Edition, Including All Revisions.
- L. UL 514C - Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers; Current Edition, Including All Revisions.
- M. UL 1863 - Communications-Circuit Accessories; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:

STRUCTURED CABLING FOR VOICE AND DATA

1. Coordinate requirements for service entrance and entrance facilities with Communications Service Provider.
 2. Coordinate the work with other trades to avoid placement of other utilities or obstructions within the spaces dedicated for communications equipment.
 3. Coordinate arrangement of communications equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 4. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Arrange for Communications Service Provider to provide service.
- C. Preinstallation Meeting: Convene one week prior to commencing work of this section to review service requirements and details with Communications Service Provider representative.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product.
- C. Shop Drawings: Show compliance with requirements on isometric schematic diagram of network layout, showing cable routings, telecommunication closets, rack and enclosure layouts and locations, service entrance, and grounding, prepared and approved by BICSI Registered Communications Distribution Designer (RCDD).
- D. Evidence of qualifications for installer.
- E. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and operation of product.
- F. Field Test Reports.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: At least 3 years experience manufacturing products of the type specified.
- B. Installer Qualifications: A company having at least 3 years experience in the installation and testing of the type of system specified, and:
1. Employing a BICSI Registered Communications Distribution Designer (RCDD).
 2. Supervisors and installers factory certified by manufacturers of products to be installed.
 3. Employing BICSI Registered Cabling Installation Technicians (RCIT) for supervision of all work.
- C. Products: Listed, classified, and labeled as suitable for the purpose intended.
- D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Keep stored products clean and dry.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a 2 year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 SYSTEM DESIGN

- A. Provide a complete permanent system of cabling and pathways for voice and data communications, including cables, conduits and wireways, pull wires, support structures, enclosures and cabinets, and outlets.

1. Comply with TIA-568 (SET) (cabling) and TIA-569-C (pathways), latest editions (commercial standards).
 2. Comply with Communications Service Provider requirements.
 3. Provide fixed cables and pathways that comply with NFPA 70 and TIA-607-B and are UL listed or third party independent testing laboratory certified.
 4. Provide connection devices that are rated for operation under conditions of 32 to 140 degrees F at relative humidity of 0 to 95 percent, noncondensing.
 5. In this project, the term plenum is defined as return air spaces above ceilings, inside ducts, under raised floors, and other air-handling spaces.
- B. System Description:
1. Building Entrance Cable: By others.
 2. Backbones - Between Buildings: Copper, 100-pair.
 3. Horizontal Cabling: Copper.
- C. Main Distribution Frame (MDF): Centrally located support structure for terminating horizontal cables that extend to telecommunications outlets, functioning as point of presence to external service provider.
1. Locate main distribution frame as indicated on the drawings.
 2. Capacity: As required to terminate all cables required by design criteria plus minimum 25 percent spare space.
- D. Cabling to Outlets: Specified horizontal cabling, wired in star topology to distribution frame located at center hub of star; also referred to as "links".

2.02 PATHWAYS

- A. Conduit: As specified in Section 26 0534; provide pull cords in all conduit.
- B. Cable Trays: As specified in Section 26 0536.
- C. Overhead Service Entrance: Weatherhead or service entrance fitting located on outside of building with galvanized rigid steel or intermediate metallic conduit running to entrance facility.
- D. Underground Service Entrance: Rigid polyvinyl chloride (PVC) conduit, Schedule 40.

2.03 COPPER CABLE AND TERMINATIONS

- A. Copper Backbone Cable:
1. Description: 100 ohm, balanced twisted pair cable complying with TIA-568-C.2, ICEA S-90-661, and listed and labeled as complying with UL 444; arranged in 25-pair binder groups.
 2. Cable Type: TIA-568 Category 5e UTP (unshielded twisted pair); 24 AWG.
 3. Cable Capacity: 100-pair.
 4. Cable Applications:
 - a. Plenum Applications: Use listed NFPA 70 Type CMP plenum cable.
 - b. Riser Applications: Use listed NFPA 70 Type CMR riser cable or Type CMP plenum cable.
- B. Copper Horizontal Cable:
1. Description: 100 ohm, balanced twisted pair cable complying with TIA-568-C.2 and listed and labeled as complying with UL 444.
 2. Cable Type - Voice and Data: TIA-568 Category 6 UTP (unshielded twisted pair); 23 AWG.
 3. Cable Capacity: 4-pair.
 4. Cable Applications:
 - a. Plenum Applications: Use listed NFPA 70 Type CMP plenum cable.
 - b. Riser Applications: Use listed NFPA 70 Type CMR riser cable or Type CMP plenum cable.
 - c. General Purpose Applications: Use listed NFPA 70 Type CM/CMG general purpose cable, Type CMR riser cable, or Type CMP plenum cable.
 5. Cable Jacket Color -Data Cable: Blue.

STRUCTURED CABLING FOR VOICE AND DATA

6. Cable Jacket Color - Voice Cable: Gray.
- C. Copper Cable Terminations: Insulation displacement connection (IDC) type using appropriate tool; use screw connections only where specifically indicated.
- D. Jacks and Connectors: Modular RJ-45, non-keyed, terminated with 110-style insulation displacement connectors (IDC); high impact thermoplastic housing; suitable for and complying with same standard as specified horizontal cable; UL 1863 listed.
 1. Performance: 500 mating cycles.
 2. Voice and Data Jacks: 8-position modular jack, color-coded for both T568A and T568B wiring configurations.
- E. Copper Patch Cords:
 1. Description: Factory-fabricated 4-pair cable assemblies with 8-position modular connectors terminated at each end.
 2. Patch Cords for Patch Panels:
 - a. Quantity: One for each pair of patch panel ports.
 - b. Length: 4 feet.

2.04 COMMUNICATIONS EQUIPMENT ROOM FITTINGS

- A. Copper Cross-Connection Equipment:
 1. Connector Blocks for Category 5e and Up Cabling: Type 110 insulation displacement connectors; capacity sufficient for cables to be terminated plus 25 percent spare.
 2. Patch Panels for Copper Cabling: Sized to fit EIA/ECA-310 standard 19 inch wide equipment racks; 0.09 inch thick aluminum; cabling terminated on Type 110 insulation displacement connectors; printed circuit board interface.
 - a. Jacks: Non-keyed RJ-45, suitable for and complying with same standard as cable to be terminated; maximum 48 ports per standard width panel.
 - b. Capacity: Provide ports sufficient for cables to be terminated plus 25 percent spare.
 - c. Labels: Factory installed laminated plastic nameplates above each port, numbered consecutively; comply with TIA-606-B.
 - d. Provide incoming cable strain relief and routing guides on back of panel.
- B. Backboards: Interior grade plywood without voids, 3/4 inch thick; UL-labeled fire-retardant.
 1. Size: As indicated on drawings.
 2. Do not paint over UL label.
- C. Equipment Racks and Cabinets: EIA/ECA-310 standard 19 inch wide component racks.
 1. Wall Mounted Racks: Steel construction, hinged to allow access to back of installed components.
 2. Floor Mounted Racks: Aluminum or steel construction with corrosion resistant finish; vertical and horizontal cable management channels, top and bottom cable troughs, and grounding lug.
 3. Freestanding Cabinets: Front and rear doors with locks; removable side panels with locks; vented top and rear door; adjustable leveling feet; cable access in roof and base; grounding bar.
 4. Wall Mounted Cabinets: Front doors with locks, louvered side panels, top and bottom cable access, and ground lug.
 5. Cabinets: Steel construction with corrosion resistant finish.
 6. Locks: Keyed alike.

2.05 COMMUNICATIONS OUTLETS

- A. Outlet Boxes: Comply with Section 26 0537.
 1. Provide depth as required to accommodate cable manufacturer's recommended minimum conductor bend radius.
 2. Minimum Size, Unless Otherwise Indicated:
 - a. Voice Only Outlets: 4 inch by 2 inch by 2-1/8 inch deep (100 by 50 by 54 mm) trade size.

- b. Data or Combination Voice/Data Outlets: 4 inch square by 2-1/8 inch deep (100 by 54 mm) trade size.
- B. Wall Plates:
 - 1. Comply with system design standards and UL 514C.
 - 2. Accepts modular jacks/inserts.
 - 3. Capacity:
 - a. Voice Only Outlets: 1 ports.
 - b. Data or Combination Voice/Data Outlets: 2 ports.
 - 4. Wall Plate Material/Finish - Flush-Mounted Outlets: Match wiring device and wall plate finishes specified in Section 26 2726.

2.06 GROUNDING AND BONDING COMPONENTS

- A. Comply with TIA-607-B.

2.07 IDENTIFICATION PRODUCTS

- A. Comply with TIA-606-B.

2.08 SOURCE QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Factory test cables according to TIA-568.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Comply with latest editions and addenda of TIA-568 (SET) (cabling), TIA-569-C (pathways), TIA-607-B (grounding and bonding), NECA/BICSI 568, NFPA 70, and SYSTEM DESIGN as specified in PART 2.
- B. Comply with Communication Service Provider requirements.
- C. Grounding and Bonding: Perform in accordance with TIA-607-B and NFPA 70.
- D. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.

3.02 INSTALLATION OF PATHWAYS

- A. Install pathways with the following minimum clearances:
 - 1. 48 inches from motors, generators, frequency converters, transformers, x-ray equipment, and uninterruptible power systems.
 - 2. 12 inches from power conduits and cables and panelboards.
 - 3. 5 inches from fluorescent and high frequency lighting fixtures.
 - 4. 6 inches from flues, hot water pipes, and steam pipes.
- B. Conduit, in Addition to Requirements of Section 26 0534:
 - 1. Arrange conduit to provide no more than the equivalent of two 90 degree bend(s) between pull points.
 - 2. Conduit Bends: Inside radius not less than 10 times conduit internal diameter.
 - 3. Arrange conduit to provide no more than 100 feet between pull points.
 - 4. Do not use conduit bodies.
 - 5. Minimum Cover - Underground Service Entrance: Comply with NFPA 70 and Communications Service Provider requirements.
- C. Outlet Boxes:
 - 1. Coordinate locations of outlet boxes provided under Section 26 0537 as required for installation of telecommunications outlets provided under this section.
 - a. Mounting Heights: Unless otherwise indicated, as follows:
 - 1) Telephone and Data Outlets: 18 inches above finished floor.
 - 2) Telephone Outlets for Side-Reach Wall-Mounted Telephones: 54 inches above finished floor to top of telephone.

STRUCTURED CABLING FOR VOICE AND DATA

- 3) Telephone Outlets for Forward-Reach Wall-Mounted Telephones: 48 inches above finished floor to top of telephone.
- b. Orient outlet boxes for vertical installation of wiring devices unless otherwise indicated.
- c. Provide minimum of 24 inches horizontal separation between flush mounted outlet boxes installed on opposite sides of fire rated walls.
- d. Unless otherwise indicated, provide separate outlet boxes for line voltage and low voltage devices.
- e. Locate outlet boxes so that wall plate does not span different building finishes.
- f. Locate outlet boxes so that wall plate does not cross masonry joints.

3.03 INSTALLATION OF EQUIPMENT AND CABLING

- A. Cabling:
 1. Do not bend cable at radius less than manufacturer's recommended bend radius; for unshielded twisted pair use bend radius of not less than 4 times cable diameter.
 2. Do not over-cinch or crush cables.
 3. Do not exceed manufacturer's recommended cable pull tension.
 4. When installing in conduit, use only lubricants approved by cable manufacturer and do not chafe or damage outer jacket.
- B. Service Loops (Slack or Excess Length): Provide the following minimum extra length of cable, looped neatly:
 1. At Distribution Frames: 120 inches.
 2. At Outlets - Copper: 12 inches.
- C. Copper Cabling:
 1. Category 5e and Above: Maintain cable geometry; do not untwist more than 1/2 inch from point of termination.
 2. For 4-pair cables in conduit, do not exceed 25 pounds pull tension.
 3. Use T568B wiring configuration.
- D. Wall-Mounted Racks and Enclosures:
 1. Install to plywood backboards only, unless otherwise indicated.
 2. Mount so height of topmost panel does not exceed 78 inches above floor.
- E. Floor-Mounted Racks and Enclosures: Permanently anchor to floor in accordance with manufacturer's recommendations.
- F. Identification:
 1. Use wire and cable markers to identify cables at each end.
 2. Use manufacturer-furnished label inserts, identification labels, or engraved wallplate to identify each jack at communications outlets with unique identifier.
 3. Use identification nameplate to identify cross-connection equipment, equipment racks, and cabinets.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Comply with inspection and testing requirements of specified installation standards.
- C. Visual Inspection:
 1. Inspect cable jackets for certification markings.
 2. Inspect cable terminations for color coded labels of proper type.
 3. Inspect outlet plates and patch panels for complete labels.
- D. Testing - Copper Cabling and Associated Equipment:
 1. Test backbone cables after termination but before cross-connection.
 2. Test backbone cables for DC loop resistance, shorts, opens, intermittent faults, and polarity between connectors and between conductors and shield, if cable has overall shield.
 3. Test operation of shorting bars in connection blocks.

STRUCTURED CABLING FOR VOICE AND DATA

4. Category 5e and Above Backbone: Perform near end cross talk (NEXT) and attenuation tests.
 5. Category 5e and Above Links: Perform tests for wire map, length, attenuation, NEXT, and propagation delay.
- E. Final Testing: After all work is complete, including installation of telecommunications outlets, and telephone dial tone service is active, test each voice jack for dial tone.

END OF SECTION

STRUCTURED CABLING FOR VOICE AND DATA

REVISIONS

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| ADDENDUM 1 - 01/04/17 |
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MARK D. STRICKLAND, P.E.
ENGINEER LICENSE NO. 11871

STRICKLAND ENGINEERING, L.C.
ARKANSAS LICENSE NO. 1005

STRICKLAND ENGINEERING
CIVIL MECHANICAL ELECTRICAL ENGINEERING
113 WEST MAIN STREET JACKSON, MISSISSIPPI 39205
TEL: 662-542-4680 FAX: 662-542-2691
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**NEW ELEMENTARY SCHOOL
MAYNARD SCHOOL DISTRICT
MAYNARD, ARKANSAS 72444**

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DATE: 10/27/2016
SHEET TITLE: POWER WIRING
JOB NO.: 14-089
SHEET: E1.1

ELECTRICAL SYMBOLS

- PENDANT LIGHT FIXTURE, CEILING MOUNT
- RECESSED DOWNLIGHT FIXTURE, CEILING MOUNT
- INCANDESCENT LIGHT FIXTURE, CEILING MOUNT
- INCANDESCENT LIGHT FIXTURE, WALL MOUNT
- FLUORESCENT LIGHT FIXTURE
- EXIT LIGHT, WALL MOUNT
- EXIT LIGHT, CEILING MOUNT
- EMERGENCY LIGHT, WALL MOUNT
- SPEAKER
- ELECTRIC MOTOR
- TELEPHONE OUTLET
- DATA OUTLET
- TELEPHONE/DATA OUTLET
- SAFETY SWITCH
- SINGLE POLE SWITCH
- THREE-WAY SWITCH
- FOUR-WAY SWITCH
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- A.F.F. ABOVE FINISHED FLOOR
- A.F.R. ABOVE FINISHED ROOF
- DUPLEX RECEPTACLE OUTLET, MFG. HT.
- DUPLEX RECEPTACLE, WATER PROOF
- DUPLEX RECEPTACLE, SURFACE MOUNT
- DUPLEX RECEPTACLE, CEILING MOUNT
- DUPLEX RECEPTACLE OUTLET WITH ISOLATED & INSULATED GROUND
- QUADPLEX RECEPTACLE
- QUADPLEX RECEPTACLE OUTLET WITH ISOLATED & INSULATED GROUND
- SIMPLEX RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE OUTLET
- CABLE TELEVISION OUTLET
- CIRCUIT BREAKER PANEL BOX
- METER
- CONCEALED CABLE OR CONDUIT WITH CONDUCTORS. CROSSMARKS DENOTE NUMBER OF CONDUCTORS. DASHED LINE REPRESENTS CONCEALED BELOW FINISHED FLOOR OR GRADE. SOLID LINE REPRESENTS CONCEALED ABOVE FINISHED FLOOR OR GRADE. SHORT CROSSMARKS REPRESENT INSULATED PHASE CONDUCTORS. LONG CROSSMARKS REPRESENT INSULATED NEUTRAL CONDUCTORS. LONG CROSSMARKS WITH A DOT REPRESENT EQUIPMENT GROUND CONDUCTORS. UNLESS OTHERWISE NOTED, CABLE OR CONDUIT INCLUDES (1) PHASE, (1) NEUTRAL, AND (1) GROUND.
- WIRING HOME RUN WITH CIRCUIT NO. NOTED
- SEE ELECTRICAL SYMBOL NOTE 1
- PANEL (A,B,C,ETC.)
- FIXTURE TYPE (A,B,C,ETC.)
- SWITCHING CIRCUIT (a,b,c,ETC.)
- SEE ELECTRICAL SYMBOL NOTE 2
- PANEL (A,B,C,ETC.)
- SWITCHING CIRCUIT (a,b,c,ETC.)
- SEE ELECTRICAL SYMBOL NOTE 3
- SWITCH TYPE: 1-SINGLE-POLE, 2-THREE-WAY, 3-FOUR-WAY

ELECTRICAL SYMBOL NOTES:

- TYPICAL RECEPTACLE WIRING DESIGNATION. POWER WIRING TO THE RECEPTACLE SHALL BE ROUTED FROM THE PANEL AND CIRCUIT AS INDICATED. ALL DEVICES INDICATED WITH THE SAME POWER CIRCUIT SHALL BE WIRED TOGETHER WITH A SINGLE HOME RUN TO THE DESIGNATED PANEL. ALL WIRING SHALL BE INSTALLED TO MEET ALL NEC REQUIREMENTS AND FOR EASE OF INSTALLATION.
- TYPICAL LIGHT FIXTURE WIRING DESIGNATION. LIGHT FIXTURE TYPE IS A LETTER DESIGNATION THAT CORRESPONDS TO THE FIXTURE TYPE AS LISTED ON THE LIGHTING FIXTURE SCHEDULE. THE SWITCHING CIRCUIT DESIGNATION INDICATES WHICH LIGHT SWITCH(ES) CONTROL POWER TO THE FIXTURE. POWER WIRING TO THE LIGHT FIXTURE SHALL BE ROUTED FROM THE PANEL AND CIRCUIT AS INDICATED. ALL LIGHT FIXTURES WITH THE SAME SWITCHING CIRCUIT AND POWER CIRCUIT DESIGNATIONS SHALL BE WIRED TOGETHER AND CONTROLLED BY THE SAME SWITCH(ES). ALL SWITCHING CIRCUITS INDICATED WITH THE SAME POWER CIRCUIT SHALL BE WIRED TOGETHER WITH A SINGLE HOME RUN TO THE DESIGNATED PANEL. ALL SWITCH WIRING SHALL BE INSTALLED AS REQUIRED TO ACHIEVE PROPER OPERATION OF LIGHTING FIXTURES AS INDICATED ON PLANS. ALL WIRING SHALL BE INSTALLED TO MEET ALL NEC REQUIREMENTS AND FOR EASE OF INSTALLATION.
- TYPICAL SWITCH WIRING DESIGNATION. THE SWITCHING CIRCUIT DESIGNATION INDICATES WHICH LIGHT FIXTURES ARE CONTROLLED BY THE SWITCH. ALL LIGHT FIXTURES IN THE AREA OF THE SWITCH WITH A CORRESPONDING SWITCHING CIRCUIT DESIGNATION SHALL BE WIRED TOGETHER AND CONTROLLED BY THE SWITCH. ANY ADDITIONAL SWITCHES IN THE AREA WITH THE SAME SWITCHING CIRCUIT DESIGNATION SHALL BE WIRED TO THE SWITCHING CIRCUIT TO PROVIDE ADDITIONAL CONTROL AS INDICATED. ALL SWITCH WIRING SHALL BE INSTALLED AS REQUIRED TO ACHIEVE PROPER OPERATION OF LIGHTING FIXTURES AS INDICATED ON PLANS. ALL WIRING SHALL BE INSTALLED TO MEET ALL NEC REQUIREMENTS AND FOR EASE OF INSTALLATION.

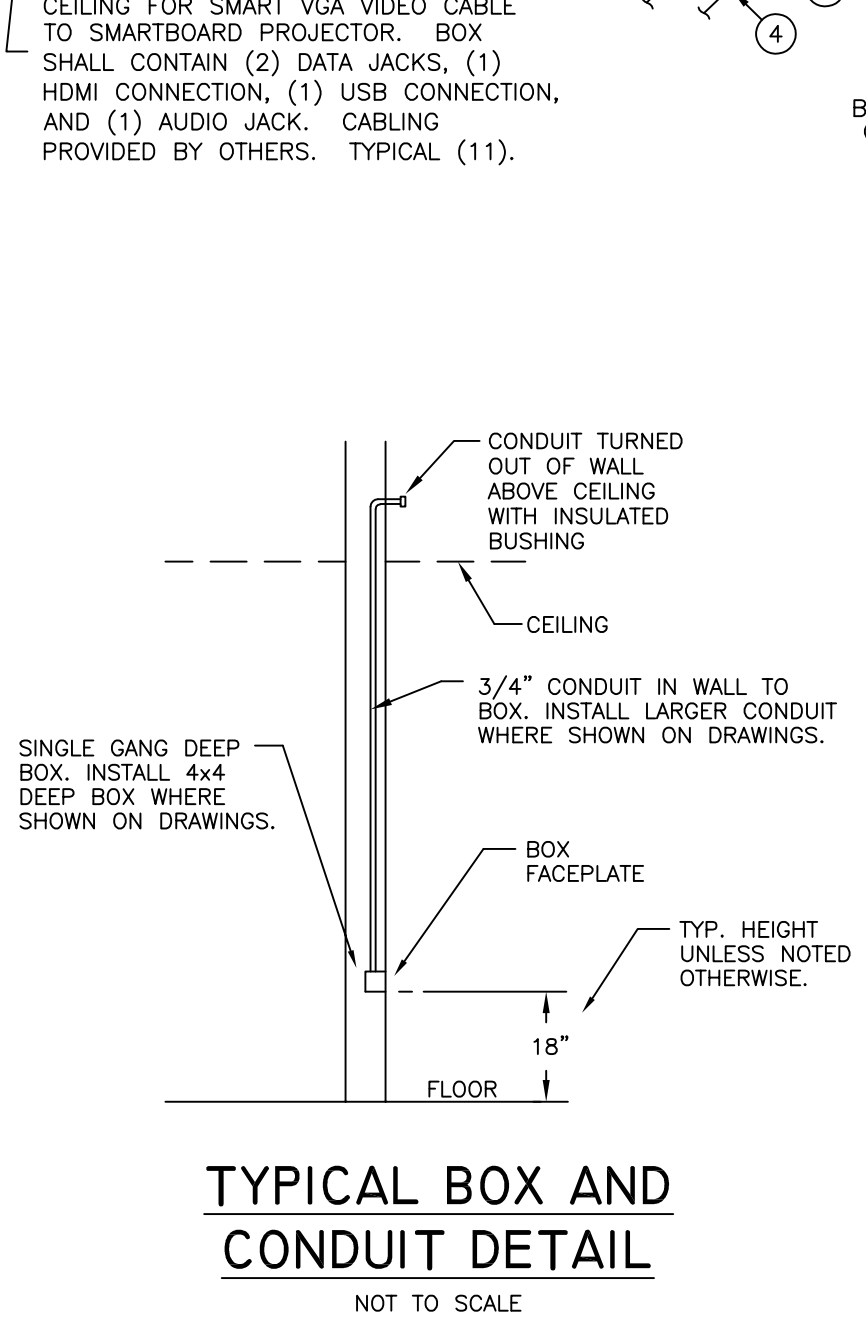
KEYED ELECTRICAL NOTES

- GFCI DUPLEX RECEPTACLE. CONCEAL GFCI DUPLEX RECEPTACLE BEHIND WATER COOLER PER MANUFACTURER'S SHOP DRAWINGS.
- FURNISH AND INSTALL CONTROLS FOR CIRCULATING PUMP. SEE DETAIL ON DRAWING E1.2 FOR WIRING INFORMATION.
- TWO-PIECE MULTI CHANNEL NONMETALLIC SURFACE RACEWAY EQUAL TO WIREMOLD TYPE 5400 WITH TWO-COMPARTMENT BASE. INSTALL BOTTOM OF RACEWAY @ 24" A.F.F. INSTALL DUPLEX RECEPTABLES AND DATA OUTLETS IN RACEWAY AS INDICATED.
- NEW UNDERGROUND ELECTRIC SERVICE FEEDER. SEE RISER DIAGRAM AND CIVIL PLAN FOR DETAILS.
- INSTALL (2) EMPTY 2" CONDUITS THRU STUD WALL FROM ABOVE CORRIDOR DROP CEILING TO ABOVE CLASSROOM FOR COMMUNICATIONS CABLEING. CONDUIT SHALL STUB OUT 6" ON THE CLASSROOM SIDE OF THE WALL AND SHALL STUB OUT 6" ON THE CORRIDOR SIDE OF THE WALL. BOTH ENDS OF THE CONDUIT SHALL INCLUDE A BUSHING TO PREVENT DAMAGE TO CABLES. CABLEING SHALL BE INSTALLED BY OTHERS. CONTRACTOR SHALL INSTALL FIRE PROOFING AS REQUIRED TO MAINTAIN FIRE RATING OF FIRE WALL.
- FLUSH MOUNT SINGLE GANG BOX BEHIND RACEWAY FOR POWER TO RACEWAY WITH 3/4" CONDUIT ROUTED FROM TOP OF BOX TO ABOVE CEILING.
- FLUSH MOUNT SINGLE GANG BOX BEHIND RACEWAY FOR DATA CABLEING TO RACEWAY WITH 3/4" CONDUIT ROUTED FROM TOP OF BOX TO ABOVE CEILING.
- NEW UNDERGROUND FEEDER TO REFEED EXISTING SPECIAL ED BUILDING. SEE RISER DIAGRAM AND CIVIL PLAN FOR DETAILS.
- MOUNT BUTTON FOR PAGING SYSTEM AT 54" A.F.F. AND MOUNT SPEAKER FOR PAGING SYSTEM AT 12" BELOW CEILING. VERIFY LOCATION WITH OWNER.
- MOUNT PHONE/DATA OUTLET AND DUPLEX RECEPTACLE ABOVE BOARD AT 12" BELOW CEILING. COORDINATE HEIGHT AND LOCATION WITH OWNER.
- ELECTRICAL CONTRACTOR SHALL INSTALL NEW 50A THREE PHASE TWIST LOCK RECEPTACLE TO MATCH KILN PLUG.
- EXTERIOR MAIN DISCONNECT. 1000A, 3 POLE, NEMA 3R, NF DISCONNECT SWITCH
- UNIT MOUNTED RECEPTACLE PROVIDED WITH ROOFTOP UNIT. WIRE TO CIRCUIT INDICATED. INSTALL CONDUIT CONCEALED UP THRU CURB TO UNIT.
- WIRE TO UNIT MOUNTED DISCONNECT FURNISHED WITH ROOFTOP UNIT. INSTALL CONDUIT CONCEALED UP THRU CURB TO UNIT.
- TELEPHONE PANEL SHALL BE A 4"x4"x3/4" PAINTED PLYWOOD PANEL MOUNTED ON WALL AT LOCATION SHOWN ON PLANS. TELEPHONE PANEL SHALL BE USED FOR MOUNTING TELEPHONE SYSTEMS EQUIPMENT WHICH SHALL BE FURNISHED AND INSTALLED BY OTHERS. (2) 2" CONDUITS SHALL BE INSTALLED UNDERGROUND FROM THE PHONE PANEL AND STUBBED OUT 10" OUTSIDE THE BUILDING FOR TELEPHONE AND CABLE SERVICE. VERIFY LOCATION OF CONDUITS.
- CONTRACTOR SHALL INSTALL CONDUIT THROUGH WALL TO EXISTING ELEMENTARY SCHOOL BUILDING ABOVE CANOPY FOR COMMUNICATIONS. VERIFY SIZE AND QUANTITY OF CONDUITS REQUIRED WITH OWNER. MINIMUM OF (2) 3" CONDUITS.

SECURITY SYSTEM NOTES:

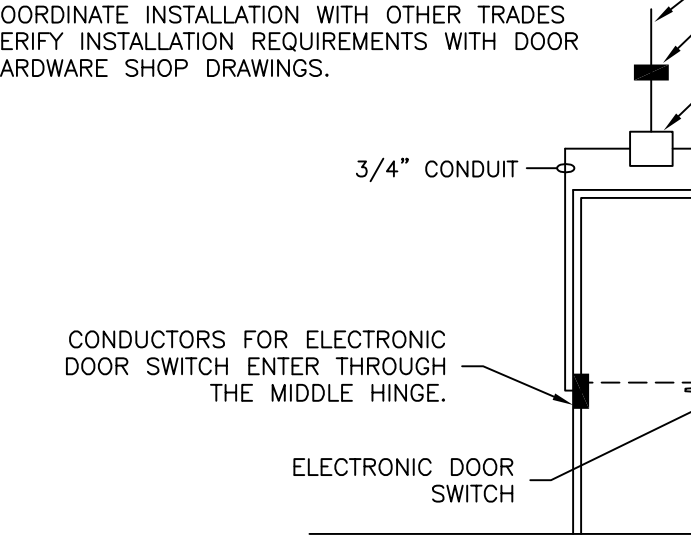
- GENERAL: INSTALL NEW AIPHONE AX SERIES DOOR SECURITY SYSTEM. SYSTEM SHALL BE USED FOR FRONT DOOR ACCESS CONTROL. CONTRACTOR SHALL PROVIDE ALL COMPONENTS FOR A COMPLETE INSTALLATION.
- INSTALL AIPHONE AX-8MV MASTER STATION ON WALL. VERIFY LOCATION WITH OWNER.
 - INSTALL AIPHONE AX-DV DOOR STATION ON WALL. INSTALL AT ADA HEIGHT. VERIFY LOCATION WITH OWNER.
 - INSTALL CONTROLS/RELAYS AS REQUIRED TO RELEASE DOOR LOCK AND ENABLE ADA DOOR OPERATOR. DOOR HARDWARE BY OTHERS.

TYPICAL BOX AND CONDUIT DETAIL

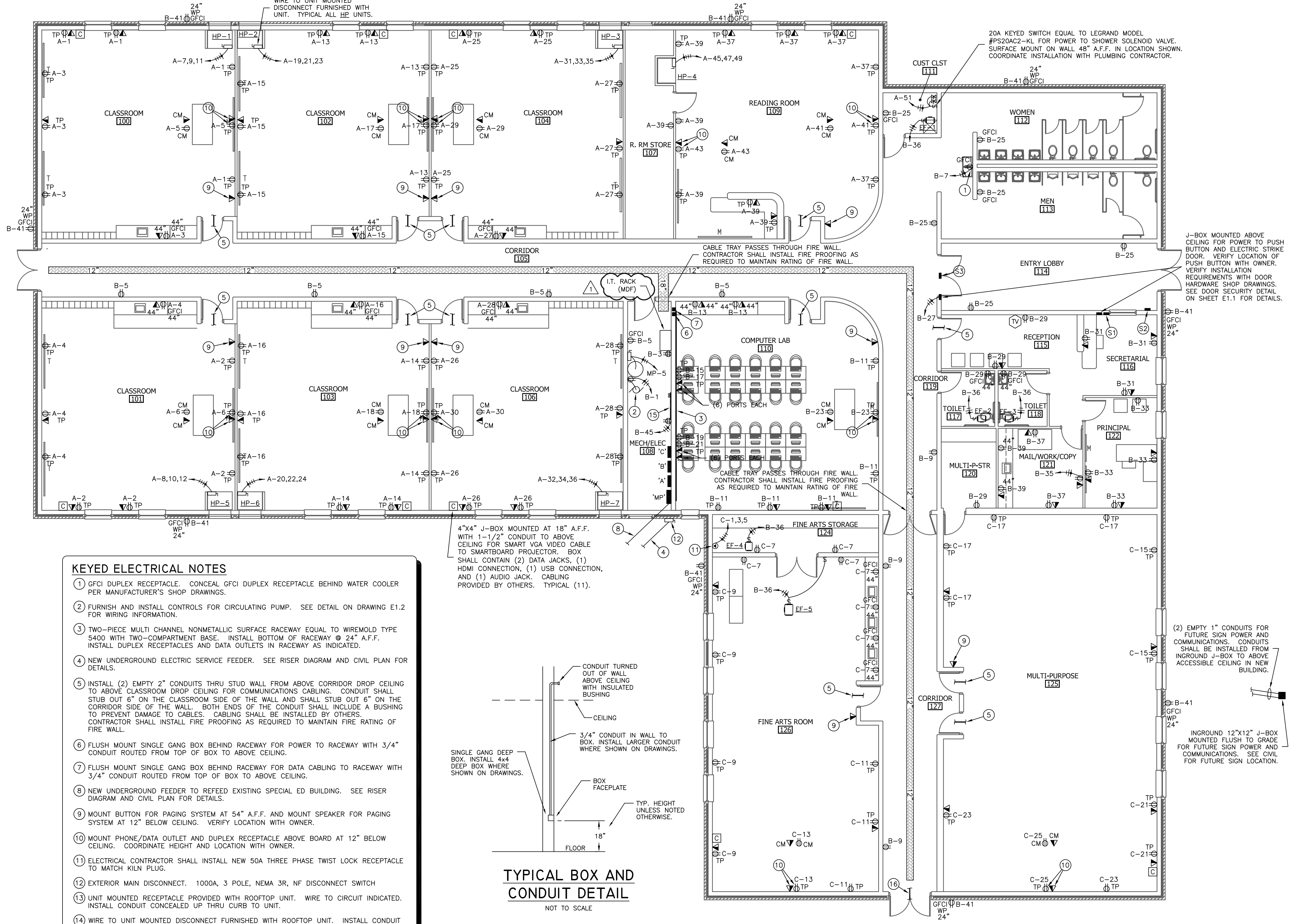


TYPICAL BOX AND CONDUIT DETAIL
NOT TO SCALE

DOOR SECURITY DETAIL



DOOR SECURITY DETAIL
NOT TO SCALE



FLOOR PLAN - POWER WIRING
SCALE: 1/8" = 1'-0"

NOTE: CONTRACTOR SHALL BE REQUIRED TO HAVE A PRE-INSTALLATION CONFERENCE WITH THE ARCHITECT, ENGINEER, AND OWNER TO DISCUSS DATA LOCATIONS.

NOTE: ALL TELEPHONE/DATA CABLEING, OUTLETS, EQUIPMENT AND TERMINATIONS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNDER THE BASE BID. SEE SECTION 27 1005 OF THE PROJECT SPECIFICATIONS FOR SYSTEM DETAILS. ALSO SEE PROJECT BID DOCUMENTS FOR ALTERNATE DEDUCT PRICING ASSOCIATED WITH THE TELEPHONE/DATA SYSTEM.

CABLE TRAY GENERAL NOTES:

- THE CABLE TRAY SHALL BE INSTALLED ABOVE THE CEILING AT LOCATIONS SHOWN.
- ALL CABLES FOR EACH TYPE OF SYSTEM (VIDEO, PHONE/DATA, FIRE ALARM, ETC.) SHALL BE GROUPED TOGETHER IN THE CABLE TRAYS USING CABLE TIES.
- ALL OTHER PARTS NECESSARY TO CREATE A COMPLETE CABLE TRAY SYSTEM SHALL BE PROVIDED AS NEEDED.
- COORDINATE CABLE TRAY INSTALLATION WITH ALL OTHER TRADES.
- SEISMIC SUPPORT AND BRACING SHALL BE PROVIDED AS SPECIFIED. SEE SPECIFICATION SECTION 26 0548.

NOTIFY ARCHITECT IN EVENT OF DISCREPANCIES, OMISSIONS, AND/OR CONFLICTS IN THE DRAWINGS OR SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDITIONS IN REFERENCE TO THE CONTRACT DOCUMENTS. SHALL BE INSTALLED AS REQUIRED TO ACHIEVE PROPER OPERATION OF LIGHTING FIXTURES AS INDICATED ON PLANS. ALL WIRING SHALL BE INSTALLED TO MEET ALL NEC REQUIREMENTS AND FOR EASE OF INSTALLATION.